Tino Villarreal, Commissioner At-large "A"
Bryan L. Martinez, Commissioner District 1
Gustavo De Leon, Commissioner District 3

Nurith Galonsky, Commissioner At-large "B"
Linda C. Macias, Commissioner District 2
Pedro E. Cardenas, Commissioner District 4

John Cowen, Jr, Mayor

NOTICE OF A PUBLIC MEETING OF THE
CITY COMMISSION OF THE CITY OF BROWNSVILLE

Pursuant to Chapter 551, Title 5 of the Texas Government Code, the Texas Open Meetings Act, notice is hereby given that the City Commission of the City of Brownsville, Texas, in accordance with Article V, Section 12, of the Charter of said City, will convene a **Regular Meeting**, on **October 06, 2026**, at **5:00 p.m.**, in the Commission Chambers, on the Second Floor of the Brownsville City Hall - Old Federal Building, located at 1001 East Elizabeth Street, Brownsville, Cameron County, Texas, 78520.

Pursuant to Section 551.127, Texas Government Code, one or more Commissioners or employees may attend this meeting remotely using videoconferencing technology. The video and audio feed of the videoconferencing equipment can be viewed and heard by the public at the address posted above as the location of the meeting. Members of the public, employees, and the City Commission may join via the Webex Teleconference Meeting by logging on at:

https://brownsvilletx.webex.com/brownsvilletx/j.php?MTID=mb0f8d1240d8f166059ae34c036f78f88

Meeting number: 2532 697 4533

Password: commission (26664774 when dialing from a video system)

Join by video system

Dial 25326974533@brownsvilletx.webex.com

You can also dial 173.243.2.68 and enter your meeting number.

Join by phone

1-844-621-3956 United States Toll Free

+1-650-479-3208 United States Toll

Access code: 253 269 74533

This Notice and Meeting Agenda are posted online at: https://brownsvilletx.gov/129/Agendas-Minutes Members of the public who submitted a "Public Comment Form" will be permitted to offer public comments as provided by the agenda and as permitted by the presiding officer during the meeting. A recording of the meeting will be made and will be available to the public in accordance with the Open Meetings Act. At any time during the course of the posted meeting, the Brownsville City Commission may retire into Executive Session under Texas Government Code 551.071 to confer with legal counsel on any subject matter on this agenda in which the duty of the attorney to the City Commission under Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas clearly conflicts with Chapter 551 of the Texas Government Code. Further, at any time during this meeting, the City Commission may retire to deliberate on any subject slated for discussion at this meeting, as may be permitted under one or more exceptions to the Texas Open Meetings Act set forth in Title 5, Subtitle A, Chapter 551, Subchapter D of the Texas Government Code.

CALL TO ORDER

a) ROLL CALL

b) INVOCATION

c) PLEDGE OF ALLEGIANCE TO THE FLAGS OF THE UNITED STATES OF AMERICA AND STATE OF TEXAS

PROCLAMATION(S)

1) National Disability Employment Awareness Month (Commissioner B. Martinez; Mayor J. Cowen Jr.)

2) Recognizing Faulk Middle School (Commissioner B. Martinez; Commissioner L. Macias)

PUBLIC COMMENT PERIOD

- **Non-Agenda Items:** Kindly submit a "Public Comment Form" stating the City business or City policy you wish to speak to an hour before the start of the scheduled meeting time with the City Secretary. Forms are not reserved for anyone nor may time be deferred to anyone. PowerPoint presentations may not be accommodated. This period is limited to five (5) speakers with a time limit of three (3) minutes per speaker.
- **Agenda Items:** Kindly submit a "Public Comment Form" stating which item(s) on the agenda you wish to speak to an hour before the start of the scheduled meeting time with the City Secretary. Speakers will be allowed to address the Commission on the agenda item before it is to be considered. The speaker is limited to three (3) minutes.
- **Time Limits:** The City Commission shall have the discretion to modify its regulations regarding time limits on public comment if necessary. For example, the time limit may be shortened to accommodate a lengthy agenda or it could be lengthened to allow additional time for discussion on a complicated matter or if there is a need for an interpreter.

CITY MANAGER(S)

1) Youth Advisory Board Update

PRESENTATION(S)

1) Presentation on Hotel Occupancy Tax Applicants and Timeline Overview for Fiscal Year 2027 (Convention & Visitors Bureau)

CONSENT AGENDA ITEM(S)

The following are considered to be routine by the City Commission and will be approved by one motion. There will be no separate discussion of these items unless a City Commissioner so requests, in which event the item will be removed from the Consent Agenda and considered in its normal sequence on the Agenda.

1) Consideration of approval of minutes from the City Commission Regular Meeting held on September 1, 2026 and September 22, 2026. (Office of the City Secretary)

2) Consideration and **ACTION** to Authorize Contracts with Waste Solutions USA LLC and Alamo Environmental, Inc. dba Alamo1. For Contract No. 263-26-PLN-IFB, Building Demolition Services On An As-Needed Basis, for an initial term of three (3) years with two (2) optional one-year renewal periods. (Planning and Redevelopment Services Department)

3) Consideration and **ACTION** to approve Free Fare Service on Brownsville Metro Fixed-Route and Paratransit Service on November 3, 2026 Election Day, May 1, 2027 Election Day, and the H-E-B Feast of Sharing Event on November 11, 2026. (Brownsville Metro)

4) Consideration and **ACTION** to approve a cooperative purchase from SHI Government Solutions, Inc. for CrowdStrike Cyber Defense Software in the amount of $331,074.28, as budgeted. (Information Technology Department)

5) Consideration and **ACTION** to Authorize a Contract with ETA Phi Systems, Inc. in the amount of $475,773 for Contract No. 358-26-BMT-CP, for a term of Five (5) Years, for the purchase and implementation of a Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System for Brownsville Metro fixed-route buses (Brownsville Metro)

6) Consideration and **ACTION** to approve an amendment to the Services Agreement between the City of Brownsville and The University of Texas Health Science Center at Houston on behalf of the School of Public Health in Brownsville to renew the Tu Salud ¡Si Cuenta! Program. (Department of Health, Wellness & Animal Services)

7) Consideration and **ACTION** to approve the Second Amendment to the American Rescue Plan Act (ARPA) Interlocal Agreement between the City of Brownsville (City) and the Brownsville Public Utilites Board (BPUB) to the existing agreement for the Downtown Water and Wastewater Project, ARPA-2021-1112. (Engineering and Public Works Department)

8) Consideration and **ACTION** to reject all bids received for Solicitation No. 145-26-EPW-IFB for the 12th Street Traffic Signal Improvements Project. (Engineering and Public Works Department).

9) Consideration and **ACTION** to Authorize a Contract with Rio Grande Hauling for Excavation, Loading and Hauling Services on an as needed basis for Contract No.288-26-EPW-IFB, for a term not to exceed 5 Years. (Engineering and Public Works Department).

10) Consideration and **ACTION** to award the second and final renewal to contract #GTS-67-0622 for Geotechnical and Construction Material Testing Services, by and between the City of Brownsville, a Texas municipal corporation, and the following firms: B2Z Engineering LLC., Millennium Engineers Group, Raba Kistner, Inc., and Terracon Consultants, Inc., for the Street and Drainage Capital Improvements Projects and Miscellaneous Projects for the City of Brownsville. (Engineering and Public Works Department)

11) Consideration and **ACTION** to Authorize Task Order No. 8 with Jviation, a Woolpert Company, LLC, under Master Agreement RFQ PES-63-0523, in the amount of $321,646.00, for Airfield Signage Upgrade Design, Bidding, Construction Administration, and Construction Coordination Services at the Brownsville South Padre Island International Airport. (Airport Department)

12) Consideration and **ACTION** to Authorize a Contract with ClearGov, Inc in the amount of $171,966 for Contract No. 371-26-FIN-CP, for a term of Three (3) Years, approximately $57,322 per year, for budgeting and financial management software services. (Financial Services Department)

13) Consideration and **ACTION** to execute an Interlocal Agreement between the City of Brownsville and Cameron County regarding the Fiscal Year 2026 Edward Byrne Memorial Justice Assistance Grant (JAG) Program Local Solicitation application for the amount of $90,450, which will allow the City of Brownsville and Cameron County to purchase equipment items. (Police Department)

14) Consideration and **ACTION** to approve the renewal of one (1) year contract with TRIPPP Consulting that provides Transportation Rideshare company service with Uber to the City of Brownsville and Cameron County for Brownsville Metro's Route 30 for $149,230, as budgeted. (Brownsville Metro)

15) Consideration and **ACTION** to approve an Administrative Services Agreement between the City of Brownsville and the Brownsville Community Improvement Corporation (BCIC). (City Manager's Office)

16) Consideration and **ACTION** to approve **Resolution Number 2026-129** for the agreement between the Texas Department of Transportation (TxDOT) and the City of Brownsville to authorize the street closure(s) for the 26th Annual Veterans Day Parade. (Engineering & Public Works Department).

17) Consideration and **ACTION** on **Resolution Number 2026-134** in supporting the submission of the FY 2027 Crime Victims Notification Systems Grant #6010001 for $73,359.00 through the Office of the Governor, Public Safety Office and accept the terms and conditions of said grant for the City of Brownsville. (Police Department)

18) Consideration and **ACTION** to approve **Resolution Number 2026-130** for the agreement between the Texas Department of Transportation (TxDOT) and the City of Brownsville to authorize the street closure(s) for the Christmas Parade.(Engineering & Public Works Department)

19) Consideration and **APPROVAL** on **SECOND** and **FINAL READING** on **Ordinance Number 235-2026-021-PD**, to establish a Planned Development District (PD) to establish development-specific zoning regulations that would permit reduced setbacks, detached accessory structures in the front yard, and unique design standards for the proposed residences, for 2.817 acres, being all of Common Area 1 of Butterfly Grove Subdivision, Cameron County, Texas, located at 1903 Grove Lane, Brownsville, Texas 78526, as shown in Exhibit "A". (District 3) (Planning & Redevelopment Department)

20) Consideration and **APPROVAL** on **SECOND** and **FINAL READING** on **Ordinance Number 235-2026-019**, to rezone from Residential Estate (RE) to Residential Single-Family (R-1) to allow a single-family residential development for a 1.00-acre tract of land out of Lot 4, Block 307, El Jardin Re-Subdivision, Cameron County, Texas, located at 835 South Indiana Avenue, Brownsville, Texas 78521, as shown in Exhibit "A". (District 1) (Planning & Redevelopment Department)

21) Consideration and **APPROVAL** on **SECOND** and **FINAL READING** on **Ordinance Number 235-2026-022-S**, to request a Specific Use Permit in a Regional Center (RC) zoning district to allow an event center for Suite G, Lot 3, Block 1, Springmart I Subdivision Replat #2, Cameron County, Texas, located at 3231 Pablo Kisel Boulevard, Brownsville, Texas 78526, as shown in Exhibit "A". (District 3) (Planning & Redevelopment Department)

PUBLIC HEARING(S)

1) Public Hearing and **ACTION** to authorize the City of Brownsville Police Department to apply for the FY 2026 Edward Byrne Memorial Justice Assistance Grant (JAG) Program Local Solicitation application for the amount of $90,450. (Police Department)

2) Public Hearing and **ACTION** on **SECOND** of **THREE PUBLIC HEARINGS** on imposing a temporary moratorium on the acceptance, processing, and approval of applications for High-Intensity Data Processing Facilities within the City of Brownsville and its extraterritorial jurisdiction, pursuant to Texas Local Government Code §§ 212.131–212.139. (City Manager's Office/ Office of the City Attorney/ Planning and Redevelopment Department)

3) Public Hearing and **ACTION** on **FIRST READING** on **Ordinance No. 2026-1824** amending the Code of Ordinances by amending Chapter 102 “Utilities,” to add Article XII “Municipal Drainage Utility System,” Division 1 “Creation and Administration” to establish a municipal drainage utility system; providing for drainage service, billing, exemptions, drainage charges, and an appeal process. (Engineering and Public Works Department)

4) Public Hearing and **ACTION** on **FIRST READING** on **Ordinance No. 2026-1825** amending Chapter 102 “Utilities” of the Code of Ordinances by amending Article III, “Rates and Charges,” by adding Division 5 “Drainage Utility Fees”; establishing a municipal drainage utility system fee; providing for exemptions and credits. (Engineering and Public Works Department)

5) Public Hearing and **ACTION** on **FIRST READING** on **Ordinance Number 2026-1827** to amend Chapter 98 "Traffic and Vehicles", Article IV, "Speed Restrictions" Establishing Speed Limits at FM 1419 in the City of Brownsville and Dealing with Related Matters. (Engineering and Public Works Department)

ITEMS FOR INDIVIDUAL CONSIDERATION(S)

1) Consideration and **ACTION** to Authorize a Contract with 4X Construction Group, LLC for the construction of Landfill Cell #6 and other site improvements, for an amount not to exceed $3,733,577.47 for Contract No. 296-26-EPW-IFB, for a term of 150 consecutive calendar days, as budgeted. (Engineering and Public Works Department)

2) Consideration and **ACTION** to Authorize a Contract with Austin Traffic Signal Construction CO LLC in the amount of $4,405,513.30 for Contract No #146-26-EPW-IFB, for a term of 720 Consecutive Calendar Days for the International Blvd Traffic Signal Improvements Project. (Engineering and Public Works Department)

3) Consideration and **ACTION** to Authorize a Contract with The Levy Company in the amount of $7,134,576.30 for the Contract No #144-26-EPW-IFB on Traffic Signals Communication Development, for a term of 260 days commencing upon approval. (Engineering and Public Works Department).

4) Consideration and **ACTION** to Authorize a Contract with Austin Traffic Signal Construction CO, LLC in the amount of $2,537,330 for Contract No #143-26-EPW-IFB, for a term of 220 Consecutive Calendar Days for the Brownsville Traffic Monitoring & Management of Signalized Roads Project. (Engineering and Public Works Department).

BOARD APPOINTMENT(S)

1) Consideration and **ACTION** on **Resolution Number 2026-132** to appoint members of the City of Brownsville Sports Commission Advisory Board. (Convention & Visitors Bureau and Office of Space Commerce)

2) Consideration and **ACTION** on **Resolution Number 2026-131-A** to appoint members to the City of Brownsville Environmental and Conservation Task Force pursuant to Resolution Number 2026-121-A. (City Manager's Office/ Office of the City Attorney/ Planning and Redevelopment Department)

EXECUTIVE SESSION

1) Closed Session pursuant to Tex. Gov't. Code Section 551.071 (Consultation with Attorney) related to Project Boundary. (Office of the City Attorney/ City Manager's Office)

2) Closed Session pursuant to Tex. Gov't. Code Section 551.071 (Consultation with Attorney, including Contemplated or Pending Litigation and/or Settlement Offer) related to Cause Number 2026-DCL-03624. (Office of the City Attorney/ City Manager's Office)

POSSIBLE ACTION ON ANY ITEM(S) AS DISCUSSED IN EXECUTIVE SESSION

NOTE: The City Commission of the City of Brownsville reserves the right to discuss any items in Executive Session whenever authorized under the Texas Open Meetings Act, Chapter 551 of the Texas Government Code.

1) Consideration and **ACTION**, if any, related to Cause Number 2026-DCL-03624. (Office of the City Attorney)

2) Public Hearing and **ACTION**, if any, on **FIRST READING** on **Ordinance No. 2026-1828** amending Chapter 1, “General Provisions”, Section 1-13, “General penalty” of the Code of Ordinances to update the penalty provisions for violations of the City's Code of Ordinances. (Office of the City Attorney)

3) Public Hearing and **ACTION**, if any, on **FIRST READING** on **Ordinance No. 2026-1829** repealing and restating Ordinance Nos. 2026-1795, 2026-1795-A, and 2026-1795-B, to repeal and restate regulations for the "Brownsville Entertainment Districts". (Office of the City Attorney)

ADJOURNMENT

NOTE: The City of Brownsville does not discriminate on the basis of disability in the admission of, access to, treatment of, or employment in its programs, activities, or public meetings. Any individual with a disability in need of an accommodation is encouraged to contact the Organizational Development & Human Resources Department at 956/548-6037 (voice or Relay TX) by Monday, no later than 12:00 P.M., to make proper arrangements.

By: John Cowen, Jr.
Mayor of the City of Brownsville

I, **Mayra A. Rios**, hereby certify that a copy of the Notice for the **October 6, 2026** Meeting of the Brownsville City Commission was posted on the designated bulletin board at City Hall – Federal Building, 1001 Elizabeth Street, a location readily accessible to the public, for at least three (3) business days prior to the scheduled meeting date, in compliance with Chapter 551 of the Texas Government Code. I further certify that the Agenda was posted on the City's website and can be downloaded by accessing: https://brownsvilletx.gov/129/Agendas-Minutes

Mayra A. Rios, TRMC
City Secretary

I certify that the attached notice and agenda of items to be considered by the Brownsville City Commission was removed by me from the Brownsville City Hall – Old Federal Building bulletin areas on the _____ day of _____, 2026.

_____
Employee Name and Signature Date

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Malinalli Montesam, Assistant Director Convention and Visitors Bureau, Nathan Burkhart, Convention and Visitors Bureau and Office of Space Commerce Director
Date:	Tuesday, October 6, 2026
Agenda #:	Presentation on Hotel Occupancy Tax Applicants and Timeline Overview for Fiscal Year 2027 (Convention & Visitors Bureau)

Summary:
The presentation will provide an overview of the Hotel Occupancy Tax (HOT) timeline, including the application, review, and recommendation process.

Project Scope and Analysis:

Funding:

Source:
Amount:
Local Contribution if Applicable:

Recommendation:

Commission Pillar:
Quality of Life & Vibrancy, Economic Development

Attachments:
None

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Mayra Rios, City Secretary
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration of approval of minutes from the City Commission Regular Meeting held on September 1, 2026 and September 22, 2026. (Office of the City Secretary)

Summary:
Attached for your review and consideration are minutes from the City Council Meeting.

Roberts Rules of Order defines "minutes" as "the record of the proceedings of a deliberative assembly . . . they should contain mainly a record of what actions were done at the meeting."

Project Scope and Analysis:

Funding:

Source:
Amount:
Local Contribution if Applicable:

Recommendation:
Staff recommends approval, as presented.

Commission Pillar:
Governance

Attachments:
1. M-09-01-2026
2. M-09-22-2026

THE STATE OF TEXAS §
CITY OF BROWNSVILLE §
COUNTY OF CAMERON §

MINUTES of a **Regular Meeting** of the City Commission of the City of Brownsville, Texas, held on **Tuesday, September 1, 2026**, at **5:00 p.m.** at the **City Commission Chambers,** located at **1001 East Elizabeth Street** and **via Webex Teleconference Meeting by logging on at:**

https://brownsvilletx.webex.com/brownsvilletx/j.php?MTID=mb0f8d1240d8f166059ae34c036f78f88

The following City Commission members were present:

JOHN COWEN, JR. Mayor

COMMISSIONERS:

TINO VILLARREAL, At-Large "A"
NURITH GALONSKY, At-Large "B"

BRYAN L. MARTINEZ, District 1

LINDA C. MACIAS, District 2

GUSTAVO DE LEÓN, District 3

PEDRO E. CARDENAS, District 4

The following staff members were present:

ALAN GUARD City Manager

FELIX SAUCEDA Deputy City Manager/Chief of Police

DOROTEO GARCIA Deputy City Manager
WILL TREVINO, City Attorney

JENNIFER AVENDANO, First Assistant City Attorney

MARINA ZOLEZZI, Interim Assistant City Manager

EFREN TRUJILLO, Interim Chief of Staff

MAYRA A. RIOS City Secretary

CALL TO ORDER

a) ROLL CALL

A quorum being present, Mayra Rios, City Secretary, read the call to order to consider the matters as posted and filed for the record in the Office of the City Secretary pursuant to the Texas Open Meetings Act.

Mayor John Cowen Jr., called the meeting to order at 5:00 p.m.

DRAFT

Mayor John Cowen Jr., Commissioner Tino Villarreal, Commissioner Nurith Galonsky, Commissioner Gustavo De Leon, and Commissioner Pedro Cardenas attended the meeting in person.
At 05:01 p.m. Commissioner Bryan L. Martinez attended the meeting in person.
At 05:04 p.m. Commissioner Linda C. Macias attended the meeting in person.

b) INVOCATION

Pastor Brad Burkes delivered the invocation.

c) PLEDGE OF ALLEGIANCE TO THE FLAGS OF THE UNITED STATES OF AMERICA AND STATE OF TEXAS

The Pledge of Allegiance to the United States Flag and the Texas Flag was led by Iker Herrera, Troop 11 Scouting America.

PROCLAMATION(S)

1) Recognizing Ruben Hernandez (Commissioner G. De Leon; Commissioner B. Martinez)

Commissioner Gustavo De Leon recognized the City of Brownsville's proclamation honoring Ruben Hernandez for his commitment to community service.

2) Recognizing the PossAble Dream Adult High School at the Brownsville Campus (Mayor J. Cowen Jr.; Commissioner G. De Leon)

Mayor John Cowen Jr. Mayor recognized the Possible Dream Adult High School at the Brownsville campus for its mission of providing adults with a second opportunity to earn a Texas high school diploma.

PUBLIC COMMENT PERIOD

Mayra A. Rios, City Secretary, reported that 62 forms were received by the deadline, of which 32 were designated for Public Hearing No. 5 regarding data centers, and further noted that 25 individuals signed up to speak while 5 did not wish to speak, with written comments to be recorded in the minutes.

Motion: Motion was made by City Commissioner Bryan Martinez, seconded by City Commissioner Linda C. Macias, to suspend the number of speakers to allow all registered individuals to address the City Commission. The vote was cast 7 for, 0 against. The motion carried unanimously.
Susan Gutierrez, 4 Augusta Road, Brownsville, Texas, expresses opposition to the removal of four heritage trees at Boca Chica, Willard, and Central Ave. They request a hold on removal, exploration of alternatives, and the opportunity to participate in future discussions.

DRAFT

Victoria Osegarda, 175 Downs Dr. Brownsville, Texas, expressed strong concern over AI, claiming federal courts allow certain harmful AI generated content.

Christian Estrada, Brownsville resident, thanked the commission for fiscal responsibility. Requested more collaboration among major organizations, better coordination on infrastructure projects to avoid redundancy, and involvement of technical personnel in planning discussions.

Ricki Oberoi,5402 Bordley Drive, Brownsville, Texas, submitted a Public Comment Form, but he was not present to express his comments to the Commission.

Kris Wood, 134 Candlewick Ct. Brownsville, Texas, thanked the commission for their decision regarding the SpaceX agreement.

Gilberto Salinas, 500 E St Charles St in Brownsville, Texas, praised leadership for focusing on water security. Emphasized water as a foundational necessity for future development and economic prosperity.

Jerry Briones, 500 E St Charles St in Brownsville, Texas, thanked leadership for approving the agreement. Emphasized reduced burden on ratepayers, less dependence on the river, and the importance of acting before shortages become crises.

Jovanna Rangel, 500 E St Charles St in Brownsville, Texas, supported the partnership as a way to strengthen water infrastructure without adding financial burden on families.

Herendida Martinez, 500 E St Charles St in Brownsville, Texas, thanked officials for supporting economic growth.

Griselda Munoz, 500 E St Charles St in Brownsville, Texas, praised the city's forward looking approach. Emphasized the necessity of reliable infrastructure for businesses and residents, stating that investment prevents future bottlenecks and supports responsible growth.

Jason Medina, 500 E St Charles St in Brownsville, Texas, business owner who supports the MOU with SpaceX, Emphasized rapid growth, the need for stronger infrastructure, and described the agreement as essential to preparing Brownsville for expanding economic opportunities.

Jane Lozano, 500 E St Charles St in Brownsville, Texas, thanked commissioners and described the agreement's major impact on water capacity.

Esmeranda Villarreal, 1600 University Blvd, Brownsville, Texas, supported the city's water sustainability investments. Supported diversification of water resources and planning for long-term business competitiveness.

Rafael Vela, 501 E St Charles Brownsville, Texas, described Workforce Solutions' role in preparing residents for opportunities from the SpaceX project. Emphasized the importance of sustained infrastructure investment for workforce stability and long-term job growth.

Francisco Orozco, 502 E St Charles, Brownsville, Texas, thanked commissioners for approving the water infrastructure agreement.

Anna Oquin, 500 E St Charles St., Brownsville, Texas, submitted a Public Comment Form, but she was not present to express her comments to the Commission.

Benjamin Peña, 500 E St Charles St in Brownsville, Texas, supported expansion of SRWA and described current water supply challenges.

DRAFT

Eliud Cavazos, 4877 Western Rd., Brownsville, Texas, thanked commissioners for approving the infrastructure investment. Stated the investment stimulates regional advancement and opportunities.

Alexis Diaz, 1744 Carthage Ct., Brownsville, Texas, expressed frustration over the Saturday decision. Opposed giving land or property under perceived pressure.

Jesse Gonzalez, 1100 E Elizabeth St., Brownsville, Texas, expressed feeling betrayed by leadership. Connected local decisions to global injustices.

Jackson Yuen, 8700 Houston Rd., Brownsville, Texas, represented the youth perspective, thanking commissioners. Viewed the MOU as securing Brownsville's future amid concerns about development in Louisiana.

Jack Yuen, 8700 Houston Rd., Brownsville, Texas, on behalf of his wife, encouraged solutions rather than name-calling. Acknowledged concerns about affordability and gentrification but thanked commissioners for making a difficult decision.

Mary Gallegos, 3160 North Buckingham Court, Brownsville, Texas, submitted a Public Comment Form but wished to register her comments directly to the Commission expressing opposition to the Data Center.

Victor Zamora, 511 E Brecha Dr. Brownsville, Texas, submitted a Public Comment Form but wished to register his comments directly to the Commission expressing opposition to the Data Center.

Nicole Logan, 32518 Edgewater Isle Dr. Brownsville, Texas, submitted a Public Comment Form but wished to register her comments directly to the Commission expressing opposition to the Data Center.

Veronica Medrano, 980 Plantation St. Brownsville, Texas, submitted a Public Comment Form but wished to register her comments directly to the Commission expressing opposition to the Data Center.

Shoda Leggett, 3148 Basque Drive, Brownsville, Texas, submitted a Public Comment Form, but he was not present to express his comments to the Commission.

Irvin Martinez, 3148 Basque Dr. Brownsville, Texas, thanked commissioners for the MOU with the South Texas Afghanistan Veterans Association, recognizing its importance to veterans and the broader Brownsville community.

Miguel Altamirano, 519 E Madison St. Brownsville, Texas, submitted a Public Comment Form, but he was not present to express his comments to the Commission.

Mark Hodgson, 5434 Dragonwick, Brownsville, Texas, highlighted water resource management as a top issue discussed with businesses. Thanked leadership for their vision.

PRESENTATION(S)

1) **Presentation by the Brownsville Public Utilities Board providing an Annual Report on the Progress of Collaboration with the City of Brownsville, as required by the City Charter. (Brownsville Public Utilities Board)**

DRAFT

Gerardo Martinez, Chair of the Brownsville Public Utilities Board (BPUB), provided an annual update to the Mayor and City Commission. He outlined organizational and policy changes implemented over the past year, including separating electric and water/wastewater service policies, conducting cost of service studies, creating an internal legal team, and expanding in house engineering capacity. Mr. Martinez also highlighted BPUB's partnerships with BPUB Camp, the Greater Brownsville EDC, and the Port of Brownsville, emphasizing coordinated planning to support regional growth.

He described internal organizational improvements such as restructuring under new leadership, recruiting director level talent, strengthening cybersecurity, enhancing asset management, and establishing an enterprise project management office to better oversee capital projects. Mr. Martinez noted several policy updates, including flexible work arrangements, community partnership leave, cost of living adjustment parameters, performance evaluations, retirement enhancements, and leadership training. He also reported on cost reduction efforts such as the line extension policy, AMI meter deployment, recent grant awards, and OSA CAFÉ savings.

Mr. Martinez provided a high level explanation of ERCOT operations and BPUB rate structures, clarifying that local generation is sold into the grid while PUB purchases power separately, making rates more complex than a single kilowatt hour charge. He encouraged accurate rate comparisons through PowerToChoose.org. In response to questions, he confirmed that AMI deployment is underway and will apply system wide without requiring customer requests, with project completion anticipated around May 2027.

Marilyn Gilbert, General Manager and CEO of BPUB, delivered her report alongside members of her executive team. She thanked the City Commission for approving the Memorandum of Understanding, noting that it is central to the annual charter required report covering fiscal years 2025–2026. Ms. Gilbert highlighted continued collaboration between BPUB and the City, particularly through coordinated infrastructure investments such as recent joint projects. She also emphasized long term planning efforts, including the long anticipated expansion of the SRWA plant and the advancement of the state supported infrastructure reuse program. Ms. Gilbert outlined BPUB's work in eliminating duplication of services, improving coordination on roadway and utility projects, and ensuring state compliance through backflow testing performed at no cost to the City. She reviewed administrative efficiency improvements implemented over the past year. Additional updates included customer satisfaction studies, shared digital workflow tools with City departments, extensive street lighting maintenance, underground cable replacement projects, fiber optic collaboration with the City, and significant reliability upgrades completed at the Brownsville–SPI Airport. She further reported on emergency preparedness coordination with the City, enhanced communication channels, and formal committee meetings that support ongoing project alignment. Ms. Gilbert reiterated the importance of drought preparedness and the long term value of current water resiliency projects. She concluded with updates on strategic planning documents, resource plans, ongoing rate studies, and new asset management systems.

Brief discussion among the City Commission and City staff.

CITY MANAGER'S UPDATE(S)

1) **"National Preparedness Month" (Commissioner N. Galonsky; Commissioner L. Macias)**

DRAFT

Alan Guard, City Manager, introduced the Emergency Operations Department, led by Odee Leal, who provided a brief presentation in recognition of "National Preparedness Month", emphasizing community readiness, regional partnerships, and the importance of family emergency planning before a disaster.

CONSENT AGENDA ITEM(S)

1) Consideration of approval of minutes from the City Commission Regular Meetings held on August 4, 2026, and August 18, 2026. (Office of the City Secretary)
2) Consideration and **ACTION** to approve the City of Brownsville holiday schedule for Fiscal Year 2026-2027. (Organizational Development & Human Resources Department)
3) Consideration and **ACTION** to approve amendments to the City of Brownsville Employee Handbook to revise the Orientation Policy and establish a Bereavement Leave Policy, with an effective date of October 1, 2026. (Organizational Development & Human Resources)
4) Consideration and **ACTION** to approve Cooperative Service Agreement No. 355-26-ODHR-CP with Octagon Staffing, LLC, for temporary personnel services on an as-needed basis, for an initial nine-month term with the option to extend for up to three additional months, not to extend beyond September 30, 2027. (Organizational Development and Human Resources).
5) Consideration and **ACTION** to approve the Memorandum of Understanding (MOU) between the Lower Rio Grande Valley Development Council (LRGVDC) and the City of Brownsville establishing a formal framework for regional cooperation during declared emergencies and disasters. (Office of Emergency Management & Homeland Security)
6) Consideration and **ACTION** to approve the Brownsville Community Resource Center lease agreements between the City of Brownsville & South Texas Afghanistan Iraq Veteran Association (STAIVA) and Community Action Corporation of South Texas (CACOST) for a three-year term. (Grants & Community Development Department)
7) Consideration and **ACTION** to authorize the City Manager to execute a Memorandum of Understanding (MOU) between the City of Brownsville and the City of Harlingen for participation in the FY 2025 FEMA Assistance to Firefighters Grant (AFG) Regional Project. (Brownsville Fire Department)
8) Consideration and **ACTION** to approve the contract with Borderless Studio LLC for the completion of the Southmost Corridor Study and related services to be rendered during the eight-month project period, in an amount not to exceed $169,995. (Planning & Redevelopment Services)
9) Consideration and **ACTION** to approve the purchase of Information Technology (IT) network hardware, wireless equipment, software, licensing, and related services from SHI Government Solutions, Inc. for the Cummings Building in an amount not to exceed $129,571.85, as budgeted. (Information Technology)
10) Consideration and **ACTION** to adopt and enter into an Interlocal Agreement with Cameron County for certain administrative, financial, and other matters concerning City and County participation in the GBEDC Tech Park Reinvestment Zone Number Five, City of Brownsville, and authorize the City Manager to execute the same. (Office of the City Attorney/ Planning and Redevelopment Department)
11) Consideration and **ACTION** to Authorize a Contract with RM Walsdorf Inc. for the Abilene Trail Storm Sewer Improvements Project (246-26-EPW-IFB), in the amount not to exceed $104,911.70, as budgeted. (Engineering and Public Works Department)

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12) Consideration and **ACTION** to authorize a Professional Services Agreement with Oscar Alvarado for the Public Art Monument at the Brownsville South Padre Island International Airport, in an amount not to exceed $250,000, as budgeted. (Airport Department)
13) Consideration and **ACTION** to apply for The US Department of Justice FY2026 Model Cities Initiative Grant. (Police Department)
14) Consideration and **ACTION** to approve the submission of Brownsville Metro's application to the Federal Transit Administration (FTA) FY 2026 Innovative Coordinated Access and Mobility (ICAM) Pilot Program in the amount of $2,000,000 with $300,000 in local funds for the proposed project of replacing Paratransit vehicles that have surpassed their useful life. (Brownnsville Metro)
15) Consideration and **ACTION** to Authorize a Contract with Galiguer Corporation DBA Xtreme Security & Fire in the amount of $100,769 for Contract No.348-26-EPMO-CP, for a term of 30 Days, for Verkada Cameras and Door Access controls for the Cannery Public Market. (Enterprise Project Management Office Department)
16) Consideration and **ACTION** to approve a Contract with ARGIO Roofing & Construction, LLC in the amount of $285,131.87 for Contract No. 346-26-ISD-CP, for repairs to the Market Square Dome, as budgeted. (Internal Services Department)
17) Consideration and **ACTION** to approve **Resolution Number 2026-118** supporting proposed state legislation that would require county election officials to offer annual election services contracts to municipalities conducting May municipal elections, while preserving each municipality's discretion whether to contract for those services. (Office of the City Secretary)
18) Consideration and **ACTION** on **Resolution Number 2026-117**A to appoint or reappoint members to the Youth Advisory Board. (Office of the City Manager)
19) Consideration and **ACTION** on **Resolution Number 2026-120**, to authorize the execution of an Advance Funding Agreement (AFA) between the City of Brownsville and the Texas Department of Transportation to implement major traffic signal improvement at the intersection of Palm Blvd and Jefferson St. (Engineering & Public Works Department).
20) Consideration and **ACTION** to approve **Resolution Number 2026-124** the submission of Brownsville Metro's application to the Federal Transit Administration (FTA) FY 2026 Grants for Low or No Emissions Program $12,967,600 with $2,288,400 in local funds for the proposed project of vehicle expansion and replacement of vehicles. (Brownsville Metro)
21) Consideration and **ACTION** to approve **Resolution Number 2026-126** supporting Brownsville Metro's competitive grant application to the Federal Transit Administration (FTA) under the Bus and Bus Facilities Competitive grant program in the amount of $5,645,700 with local support of $1,411,425 to support the development of a Mulitmodal Transit Facility (Brownsville Metro)
22) Consideration and **APPROVAL on SECOND and FINAL READING on Ordinance Number 235-2026-012**, to rezone from Residential Single-Family (R-1) to Residential Transition (R-3) to allow a townhome development for 3.205 acres out of Share 4, Espiritu Santo Grant, Cameron County, Texas, located at Vasquez Ranch Road, Brownsville Texas 78520, as shown in Exhibit "A". (District 4) (Planning & Redevelopment Department)
23) Consideration and **APPROVAL on SECOND and FINAL READING on Ordinance Number 235-2026-018**, to rezone from Agriculture (AG) to Residential Single-Family (R-1) to allow a single-family residential subdivision for all of Summer Lakes Subdivision Phase 4, Cameron County, Texas, located at Summerhill Boulevard, Brownsville, Texas 78520, as shown in Exhibit "A". (District 4) (Planning & Redevelopment Department)
24) Consideration and **ACTION on SECOND READING on Ordinance Number 2026-1817** to adopt the City of Brownsville's Downtown Renaissance's Master Plan. (Planning & Redevelopment)

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25) Consideration and **APPROVAL on SECOND and FINAL READING on Ordinance Number 235-2026-903-S**, to request a Specific Use Permit (SUP) in a Commercial Corridor (CC) zoning district to allow a commercial plaza and establish reduced setbacks for Lots 16, 17, and 18, Block 1, Naranja Vista Subdivision, Cameron County, Texas located at 9935 Naranjo Road, Brownsville, Texas 78521, as shown in Exhibit "A". (District 3) (Planning & Redevelopment Department)
26) Consideration and **APPROVAL on SECOND and FINAL READING on Ordinance Number 235-2026-904**, to rezone from Residential Single-Family (R-1) to Residential Suburban (R-2) to allow an existing duplex subdivision for all of Hidden Meadows Subdivision Section 2, Cameron County, Texas, located at Hidden Meadows Boulevard, Brownsville, Texas 78520, as shown in Exhibit "A". (District 4) (Planning & Redevelopment Department)
27) Consideration and **APPROVAL on SECOND and FINAL READING on Ordinance Number 235-2026-905**, to rezone from Commercial Corridor (CC) to Residential Transition (R-3) to allow an existing single-family development for an approximate 2.09 acres out of Lots 1, 2, 5, 6, 7, and 8, Block 40, out of Share 28 of the Brownell Tract, coming from a portion of El Jardin Subdivison, located at Lester Drive, Brownsville, Texas 78521, as shown in Exhibit "A". (District 2) (Planning & Redevelopment Department)
28) Consideration and **APPROVAL on SECOND and FINAL READING on Ordinance Number 2026-1818** accepting and approving an update to the Madeira Espiritu Santo Public Improvement District Number One (PID) Operations and Maintenance Service and Assessment Plan; accepting and approving the updated assessment roll for the PID; making a finding of special benefit to property within the PID; levying special assessments against such property and establishing a lien on such property; providing for the method of assessment and the payment of the assessments levied against the PID assessed property; providing penalties and interest on delinquent Assessments; and, also providing official notice of the PID's updated SAP to the Cameron County Clerk in accordance with Chapter 372 of the Texas Local Government Code, as amended. (Planning & Redevelopment Department/Office of the City Attorney/City Manager's Office)
29) Consideration and **APPROVAL on SECOND and FINAL READING of Ordinance Number 2025-1781-B** to adopt an end-of-year amendment to amend the Fiscal Year 2026 Budget. (Financial Services Department)
30) Consideration and **APPROVAL on SECOND and FINAL READING of Ordinance Number 2026-1815** to adopt the Fiscal Year 2027 Annual Budget for the Brownsville Community Improvement Corporation. (BCIC)
31) Consideration and **APPROVAL on SECOND and FINAL READING of Ordinance Number 2026-1816** to adopt the Fiscal Year 2027 Annual Budget for the Greater Brownsville Economic Development Corporation. (GBEDC)
32) Consideration and **APPROVAL on SECOND and FINAL READING of Ordinance Number 2024-223-D**, to amend Chapter 86, "Streets, Sidewalks, and Certain other Public Places," to adopt an encroachment licensing fee and right of way management regulations. (Engineering and Public Works Department)

Motion: Motion was made by City Commissioner Pedro Cardenas, seconded by City Commissioner Tino Villarreal, to approve Items 1 through 32 for the consent agenda items. The vote was cast 7 for, 0 against. The motion carried unanimously.

City Staff requested to alter the agenda to consider item 5, under Public Hearing, as the next item.

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PUBLIC HEARING(S)

1) **Consideration and APPROVAL on SECOND and FINAL READING of Ordinance Number 2026-1820 to adopt the Fiscal Year 2027 Annual Budget. (Financial Services Department)**

Stephen Muse, Financial Services Director, presented a brief summary of the 2027 operating budget during its second and final reading. He reported that the largest increase was in the General Fund, totaling 3.2 million dollars. The Fleet and Facilities Fund reflects an increase of approximately 1.1 million dollars, and the Landfill Fund shows a similar increase of about 1.1 million dollars. Mr. Muse also noted that two new operating funds are being adopted this year. The Stormwater Drainage Maintenance Fund carries a proposed budget of 2.8 million dollars, based on the residential unit rate of $4.99. Additionally, the Fiber Fund includes operational expenses and identifies the amount of revenue needed from leases to cover those costs.

Brief discussion among the City Commission and City staff.

Mayor John Cowen Jr. opened the public hearing.

There were no speakers.

Motion: Motion made by City Commissioner Tino Villarreal, seconded by City Commissioner Pedro Cardenas, to close the public hearing. The vote was cast 7 for, 0 against. The motion carried unanimously.

Motion: Motion made by City Commissioner Tino Villarreal, seconded by City Commissioner Nurith Galonsky, to approve first reading of Ordinance 2026-1820. The vote was cast 7 for, 0 against. The motion carried unanimously.

2) **Consideration and APPROVAL on SECOND and FINAL READING of Ordinance Number 2026-1821 to ratify the Fiscal Year 2027 budget that will raise more total property taxes than last year's budget. (Financial Services Department)**

Stephen Muse, Financial Services Director, the Texas Local Government Code requires a separate vote to ratify the revenue generated from the adopted tax rate, in addition to the vote on the budget itself and the separate vote on the tax rate.

Brief discussion among the City Commission and City staff.

Mayor John Cowen Jr. opened the public hearing.

There were no speakers.

Motion: Motion made by City Commissioner Tino Villarreal, seconded by City Commissioner Nurith Galonsky, to close the public hearing. The vote was cast 7 for, 0 against. The motion carried unanimously.

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Motion: Motion made by City Commissioner Tino Villarreal, seconded by City Commissioner Nurith Galonsky, to approve first reading of Ordinance 2026-1821. The vote was cast 7 for, 0 against. The motion carried unanimously.

Roll Call Votes Summary:
Ayes: Mayor John Cowen Jr., Commissioner Tino Villarreal, Commissioner Nurith Galonsky, Commissioner Bryan Martinez, Commissioner Linda Macias, Commissioner Gustavo De Leon, and Commissioner Pedro Cardenas.

3) **Consideration and APPROVAL on SECOND and FINAL READING of Ordinance Number 2026-1822 levying ad valorem taxes for the Tax Year 2026 for the use and support of the Municipal Government of the City of Brownsville, Texas, for the Fiscal Year 2027, providing for the interest and sinking fund for the Fiscal Year 2027 City of Brownsville, Texas, General Obligation Debt. (Financial Services Department)**

Stephen Muse, Financial Services Director, explained that the item under consideration is the adoption of the tax rate used in the budget. He noted that the current tax rate is $0.60, while the voter approval tax rate calculated for the year was $0.61. The City elected to keep the existing $0.60 tax rate, resulting in no increase from the current rate. Muse added that the breakdown between the portion dedicated to debt service and the portion allocated to the General Fund is provided in the materials below. He also stated that the State requires the commission to adopt this item using specific statutory language.

Brief discussion among the City Commission and City staff.

Mayor John Cowen Jr. opened the public hearing.

There were no speakers.

Motion: Motion made by City Commissioner Nurith Galonsky, seconded by City Commissioner Gustavo De Leon, to close the public hearing. The vote was cast 7 for, 0 against . The motion carried unanimously.

Motion: Motion made by Commissioner Nurith Galonsky, seconded by Commissioner Pedro Cardenas, to approve that the property tax rate be increased by the adoption of a tax rate of $0.603504, which is effectively an 8.06 % increase in the tax rate. The vote was cast 7 for, 0 against. The motion carried unanimously.

Roll Call Votes Summary:
Ayes: Mayor John Cowen Jr. , Commissioner Tino Villarreal, Commissioner Nurith Galonsky, Commissioner Bryan Martinez, Commissioner Linda Macias, Commissioner Gustavo De Leon, and Commissioner Pedro Cardenas.

4) **Public Hearing and ACTION on FIRST READING of Ordinance Number 2026-1761-B of the City of Brownsville, Texas, to update the Master Fee Schedule of the City of Brownsville and**

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amend pertinent sections of the Code of Ordinances to reflect those updates, and dealing with related matters. (Financial Services Department)

Stephen Muse, Financial Services Director, presented an overview of proposed fee updates across City departments. The proposal includes 114 new fees, 122 increases, 104 eliminations, and 48 reductions. He summarized key departmental changes, noting fee adjustments within the City Secretary's Office, Health, Wellness, and Animal Services, BARC, Planning and Redevelopment, Landfill, Health Department, Parks and Recreation, Golf Center, Event Center, Sports Park, Airport, Library, and the Convention and Visitors Bureau. Highlights included various permit related increases, new fees for departmental services, multiple eliminations of outdated fees, reductions for certain programs, and standardization of resident versus non resident pricing in several divisions. Mr. Muse also noted significant updates such as event related permit changes, youth program rental adjustments, Airport fee modifications, and new vendor registration fees through the CVB.
Commissioners raised questions about the shift away from resident and non resident fee structures. Mr. Muse stated that standardizing fees simplifies online registration systems but agreed to follow up with Parks on concerns that resident fees may increase as a result. Additional concerns were raised about landfill pricing for non residents and airport parking fees.

City staff committed to reviewing those items during the second reading of the ordinance.

Brief discussion among the City Commission and City staff.

Mayor John Cowen Jr. opened the public hearing.

There were no speakers.

Motion: Motion made by City Commissioner Bryan L. Martinez, seconded by City Commissioner Tino Villarreal, to close the public hearing. The vote was cast 5 for, 0 against [De Leon and Cardenas absent]. The motion carried unanimously.

Motion: Motion made by City Commissioner Bryan L. Martinez, seconded by City Commissioner Tino Villarreal, to approve first reading of Ordinance 2026-176-B. The vote was cast 5 for, 0 against [De Leon and Cardenas absent]. The motion carried unanimously.

5) **Public Hearing and ACTION on FIRST of THREE PUBLIC HEARINGS on imposing a temporary moratorium on the acceptance, processing, and approval of applications for High-Intensity Data Processing Facilities, Event Centers, Private Game Clubs, Automotive Quick Lube Facilities, and Self-Storage Facilities within the City of Brownsville and its extraterritorial jurisdiction, pursuant to Texas Local Government Code §§ 212.131–212.139; and ACTION on Resolution Number 2026-121 directing the City Manager to initiate the process to adopt a 90-day moratorium on the aforementioned uses and ratifying direction to the City Manager to reactivate the City of Brownsville Environmental and Conservation Task Force that was tasked with providing advice and recommendations to the City Council regarding data center policies and development regulations. (City Manager's Office/ Office of the City Attorney/ Planning and Redevelopment Department)**

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Will Trevino City Attorney, presented the process for adopting a moratorium primarily focused on data centers, prompted by a July 1, 2026, zoning application for a facility at the former Walmart site. Staff determined that current City regulations do not adequately address data centers, leading to initiation of the moratorium procedure. The first public hearing was held following the required 30 day notice, and Resolution No. 2026 01 21 was presented to initiate the 90 day moratorium allowed under state law. A second public hearing is scheduled for October 6, 2026, after which the City Commission must make a final determination within 12 days.

The moratorium ordinance will undergo two readings: October 13th and November 17th, with approval requiring a three fourths vote of the full Commission. The initial moratorium would run from November 18, 2026, through February 16, 2027. A single extension—up to an additional 90 days—is permitted, with required notices and hearings, potentially extending the moratorium until May 17, 2027.

Mr. Trevino explained that state law requires written findings, an appeal process, and adoption of final regulations once the moratorium concludes. He outlined the current interpretation of data centers under the UDC and noted the Governor's temporary pause on new data center connections to the ERCOT grid. He also reviewed industrial zoning areas and highlighted different types of data centers with varying impacts on water, energy, and noise.

The proposed resolution directs the City to conduct a comprehensive regulatory review and reactivate the Environmental and Conservation Task Force to evaluate impacts and provide recommendations. Four additional uses—poker lounges, quick lube facilities, event centers, and self storage—are also included in the moratorium process, with proposed amendments already moving through Planning and Zoning review.

Commissioner Bryan L. Martinez also requested clarification on the required appeal process.

Mr. Trevino explained that state law mandates an appeal mechanism and that the City proposes designating the City Commission as the appellate body. The City Attorney stated that legislative priorities vary and that, based on interim reports, zoning does not appear to be a primary focus this session. He noted ongoing concerns about state level actions reducing local regulatory authority and cited recent statutory changes that lengthened the moratorium adoption process from five days after publication to a 90 day timeline.

Commissioner Martinez emphasized that the lack of statewide regulations makes it difficult for cities to manage data centers effectively and expressed hope that the Legislature will prioritize the issue.

Mr. Trevino emphasized that adopting anything longer than 90 days initially would violate state law and expose the City to legal challenges. The City must follow all statutory steps, including publishing a notice and holding required hearings before extending the moratorium.

Mr. Trevino noted that staff has already scheduled all necessary dates: publication on December 30, 2026; the first extension hearing on January 19; and the second reading on February 2. This timeline ensures there is no lapse in coverage, allowing the City to reach the full 180 day period permitted by law. Even if regulations are finalized earlier, the moratorium would still remain in effect.

Mayor John Cowen Jr. asked to confirm that the moratorium timeline presented is the fastest allowed under state law, which the City Attorney affirmed. The Mayor also asked when a draft ordinance regulating data centers could be presented.

Mr. Trevino noted that a draft is already prepared and can be brought forward at the next meeting.

Commissioner Pedro Cardenas questioned whether special meetings could accelerate the moratorium schedule by adjusting hearing dates.

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Mr. Trevino agreed to review the dates but explained that publication requirements may limit the ability to compress the timeline.
The Commission then discussed whether certain land use categories—other than data centers—could be removed from the moratorium since related UDC amendments are already in progress.
Mr. Trevino confirmed that categories can be adjusted, though the data center portion would remain due to the task force's role.
The Environmental and Conservation Task Force was also discussed. Staff explained that it can meet as often as needed, meetings can be streamed, and work should ideally be completed within the 90 day moratorium period, with the full 180 days available if necessary.
Finally, commissioners requested clarification on task force membership and appointment procedures.
Mr. Trevino stated that representation can be modified before adoption and that appointments may occur immediately or through the standard application process.
Commissioner Cardenas suggests ensuring each commissioner has at least one appointment to the task force.

Mayor John Cowen Jr. opened the public hearing.

Elisa Babron, 5307 Nicholstone St Brownsville, Texas, submitted a Public Comment Form, but she was not present to express her comments to the Commission.
Uriel Gavito, 5527 Southmost Blvd in Brownsville, Texas, expressed concerns about the democratic process, questioned the police presence and intimidation of media, criticized lack of media coverage, and urged transparency and engagement regarding SpaceX and data centers.
Pablo Esquivel, District 4 resident, criticized the annexation and water deal, stated that the commission disregarded public concerns, and requested a ban on data centers due to their environmental, privacy, and societal impacts.
Yolanda Speece, 305 West Madison Brownsville, Texas, described an incident involving police aggression, criticized Brownsville Police Department conduct, and questioned the city's handling of public safety and accountability.
Gustavo Sanchez, 1001 E Elizabeth St #234, Brownsville, Texas, warned of environmental harm and lack of regard for human life, and urged adoption and extension of a data center moratorium.
Julia Ferrel, 221 W 2nd St, Brownsville, Texas, spoke as a mother, warning of heat, pollution, water shortages, and the impact of data centers on children's health. She urged approval of the moratorium.
Leah Hollingshead, 4200 Las Palmas Cir. Brownsville, Texas, she objected to the potential data center, highlighted nationwide data center impacts, questioned the rushed MOU, and argued that Brownsville residents should not bear data center harms.
Dr. Laura Cisneros, 384 las rosas, ave. Brownville, Texas, she emphasized existing water shortages, pollution, respiratory illnesses, and noise concerns. She urged the commission to consider location, families, and community health.
Dr. Etienne Rosas, 704 Paredes Ln Rd. Brownsville, Texas, accused SpaceX of dictating terms, criticized the rushed process, warned of water shortages linked to AI data center expansion, and urged strong regulation and community involvement.
Jacqueline Morales, 704 Paredes Ln Rd. Brownsville, Texas, recounted attending a state Senate hearing on data centers, raising concerns about water and electricity usage, criticized the rushed deal with SpaceX, and urged a long-term moratorium and learning from other Texas cities.

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Brandy Garcia,2964 Stanolind ave. Brownsville, Texas, expressed confusion about supporting water access while considering data centers, stated loss of trust in officials, and urged officials to reflect on their decisions.
Rebekah Hinojosa, 1249 E Adams St. Browsville, Texas, opposed the 444-acre de-annexation and the MOU, criticized the lack of transparency, and demanded a community-led moratorium and a task force free of corporate influence.
Viviana Trevino, 1900 University Blvd, Apt 2009 Brownsville, Texas, submitted a Public Comment Form, but she was not present to express her comments to the Commission.
Nathan Watson, 51, Alberta Dr. Brownsville, Texas, compared the SpaceX deal to a "shake down," warned of future demands, and explained prior instances of SpaceX attempting to gain long-term control of public infrastructure.
Dr. Christopher Basaldu, 651 Old Port Isabel Rd. Brownsville, Texas, criticized SpaceX's impact on sacred lands, called data centers harmful and unnecessary, and condemned the commission for enabling environmental and cultural destruction.
Martha Ramirez, 6315 Penjamo St. Brownsville, Texas, argued that corporations do not pay the true environmental costs, explained water and electricity concerns, and urged rejection of additional data centers.
Annelisa Rosas 25 fireside dr. Brownsville, Texas, described an incident of inappropriate behavior from a SpaceX supporter during a meeting, argued that corporations are not community members, and demanded a moratorium.
Josette Hinojosa, 1225 W. Washington Brownsville, Texas, highlighted national support for moratoriums, described community organizing, criticized the commission's alignment with corporations, and argued for a community-led process.
Jonathan Berg, 613 West Saint Charles St. Brownsville, Texas, emphasized data centers' strain on electricity and water, linked them to pollution, and urged approval of the moratorium to protect Brownsville.
Hermilio Hernandez, 411 E 9th St. Brownsville, Texas, voiced disappointment and frustration with recent decisions and stated loss of trust in city leadership.
Adhelmy Sanchez Martinez,478 Rey Juan Carlos St. Brownsville, Texas, represented several organizations, did not oppose water investment but questioned SpaceX's role, and urged creation of permanent protections and stronger zoning regulations.
Hugo Izaguirre, 2964 stanolind ave. Brownsville, Texas, he expressed support for a full 180-day moratorium, criticized the commission for allowing SpaceX influence, and urged placing residents above corporate interests.
Melani Velasquez, 5401 Amatista Dr. Brownsville, Texas, warned of environmental strain from AI data centers, heat impacts, climate fears among young people, and urged prioritizing sustainable technology.
Desto Huerta, 801 Tropical Drive, Brownsville, Texas, criticized corporate influence, emphasized water access concerns, urged a community-led task force, and advocated limiting utility access for data centers.
John Cuviller,801 Tropical Drive Apt 3, Brownsville, Texas, criticized the commission for siding with billionaires, urged excluding corporate interests from the task force, and requested representation from local labor unions.
Gloria Galindo, 4926 Camino Verde St. Brownsville, Texas, submitted a Public Comment Form, but she was not present to express her comments to the Commission.

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Keyla Garcia, 624 pera ave Brownsville, Texas, submitted a Public Comment Form, but she was not present to express her comments to the Commission.
Rodrigo Guerera, 34, Shadowbrook Ln, Brownsville, Texas, submitted a Public Comment Form, but he was not present to express his comments to the Commission.
Amelia Murillo, Brownsville resident, urged officials to reconsider decisions, highlighted community and environmental vulnerability, and described disrespectful behavior from a SpaceX representative.
Alfredo Medrano Jr. a Brownsville resident, highlighted Brownsville's rare biodiversity, criticized neglect of native plants, warned of heat impacts from development, and advocated for strong native plant ordinances.
Angel Reyna, a Brownsville resident, questioned the motives of city leadership, criticized support for SpaceX, and argued that data centers primarily benefit wealthy investors, not the community.
Juan Perez, a Brownsville resident cautioned against unchecked data center development, noted an economic bubble forming around AI infrastructure, urged reliance on community sustainability rather than corporate-driven development.
Ernesto Casas Brownsville resident, described data centers as contributing to surveillance, labor displacement, noise pollution, and rising utility costs; warned they primarily benefit corporations.

Motion: Motion made by City Commissioner Pedro Cardenas, seconded by City Commissioner Nurith Galonsky, to close the public hearing. The vote was cast 7 for, 0 against. The motion carried unanimously.

Motion: Motion made by City Commissioner Tino Villarreal, seconded by City Commissioner Pedro Cardenas, to approve Resolution No. 2020 6 121 directing the City Manager to initiate the process to adopt a 90 day moratorium and to reactivate the City of Brownsville Environmental and Conservation Task Force. The motion included specifying that the moratorium applies to high intensity data processing facilities and excludes event centers, private game clubs, automotive quick lube facilities, and self storage facilities. The vote was cast 7 for, 0 against. The motion carried unanimously.

ITEMS FOR INDIVIDUAL CONSIDERATION(S)

1) **Consideration and ACTION to acknowledge the financial statements and cash investment report for the City of Brownsville for the third quarter ended June 30, 2026. (Financial Services Department)**

Stephen Muse, Financial Services Director, presented the Q3 Financial Report as of June 30. General Fund revenues totaled 116.3 million and expenditures were 108.1 million. Sales tax revenues increased to 37.2 million, and property tax collections reached 68.6 million. Landfill revenues totaled 13.7 million, the PUB cash transfer was 8.7 million, and veterans bridge revenues were approximately 2.9 million. Fund balances remained stable, with a General Fund balance of 55 million. Veterans bridge traffic and revenues increased, building permit values rose significantly, and investment earnings improved. Enterprise funds continued showing positive performance.

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Motion: Motion was made by Commissioner Bryan L. Martinez, seconded by City Commissioner Nurith Galonsky, to acknowledge the financial statement and cash investment report. The vote was cast 6 for, 0 against [De Leon absent]. The motion carried unanimously.

2) **Consideration and ACTION to award contract number 141-26-BMT-IFB to 2GS LLC dba Earthworks Enterprise in the amount of $1,539,579 for the Southmost Nature Trail Phase III, as budgeted. (Multimodal Transportation)**

Juan Pena, Transit and Mobility Planner, presented the Southmost Nature Trail Phase III construction project for consideration. The project covers approximately two miles, beginning at the South most Public Library and extending east and north around Morningside Park, ending at Morningside Elementary School. Improvements include lighting, enhanced pedestrian crosswalks, safety features, and new walkways connecting the library, park, and school. The project was advertised in April, with bids collected in May. Earthworks Enterprise submitted the second lowest but most responsible bid at 1.5 million. If approved, construction is expected to begin in October and last approximately 98 working days. Staff recommended awarding the project, citing its value for community connectivity and recreation.

Motion: Motion was made by Commissioner Bryan L. Martinez, seconded by City Commissioner Linda C. Macias, to award contract number 141-26-BMT-IFB to 2GS LLC dba Eartworks Enterprise. The vote was cast 7 for, 0 against. The motion carried unanimously.

3) **Consideration and ACTION to authorize the approval of a Tree Removal Permit as an alternative to the preservation of Protected and Heritage Trees under the Unified Development Code, Section: 5.1.3.B – Heritage Tree, for a proposed fuel station and convenience store development on the property described as being a 2.272-acre tract of land situated in the Jose Salvador De La Garza Survey, Abstract No. 2, comprised of a portion of Block 19, Share 27, El Jardin Subdivision; and all of a called 1.08-acre tract out of a certain 1.584-acre tract in Block 19, El Jardin Subdivision, Share 27, E.S. Gt., Cameron County, located at 4660 Boca Chica Boulevard, Brownsville, Texas 78521 (Planning & Redevelopment Department / Office of the City Forester) (District 1).**

Martin Vega, Assistant Director of the Planning and Redevelopment Department, presented a request for a tree removal permit for protected and heritage trees at 4660 Boca Chica Boulevard. The project began prior to the adoption of updated June regulations and is therefore reviewed under the previous provisions. The 2.12 acre property, zoned Commercial Corridor, is proposed for development as a convenience store and fuel station. A total of 187.5 caliper inches of protected and heritage trees will be removed. Under the prior code, protected trees require one to one mitigation and heritage trees require three to one mitigation. The applicant proposes planting 39 new trees on site—including Chinese pastiche, live oaks, and cedar elms—totaling 156 caliper inches. The remaining 289.5 inches will be addressed through a fee in lieu of approximately $67,000, based on nursery estimates reviewed and verified by the City Forester. Two protected trees will remain on site, which grants the developer six mitigation credits under the code.
Commissioners discussed allowable uses of tree mitigation funds, noting that such funds can support tree planting in parks, along trails, and in areas needing canopy—such as the dog park.

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Staff also clarified that recent code amendments limiting one gas station per intersection do not apply, as this application is vested under the prior code.

Motion: Motion was made by Commissioner Nurith Galonsky, seconded by City Commissioner Bryan L. Martinez, to deny the permit. The vote was cast 7 for, 0 against. The motion carried unanimously.

4) **Consideration and ACTION on SECOND and FINAL READING on Ordinance Number 2026-1823 of the City of Brownsville, Texas, to disannex, and hereinafter reduce the City of Brownsville corporate and extraterritorial jurisdiction boundary limits, a property described as being 444.45 acre tract of land, more or less, out of Tract "A", Share 7 of the San Martin Grant, Cameron County, Texas, together with all adjacent right-of-way, as shown in Exhibit "A" to the Ordinance. (District 2) (City Manager's Office)**

No action.

EXECUTIVE SESSION

Motion: Motion made by Commissioner Tino Villarreal, seconded by City Commissioner Bryan Martinez to enter into Executive Session at 9:52 p.m. The vote was 7 for, 0 against. The motion carried unanimously.

1) **Closed session pursuant to Tex. Gov't. Code Sections 551.071 (Consultation with Attorney), 551.072 (Deliberation regarding real property), and 551.087 (Deliberation regarding Economic Development Negotiations) related to Project Fulcrum. (Office of the City Attorney/ City Manager's Office)**
2) **Closed session pursuant to Tex. Gov't. Code Section 551.071 (Consultation with Attorney) related to Collective Bargaining Agreement with Brownsville Police Officers' Association, Charter 290577-01 (Office of the City Attorney/ City Manager's Office)**
3) **Closed session pursuant to Tex. Gov't. Code Section 551.071 (Consultation with Attorney) regarding Ordinance No. 2026-1797, City Code Section 2-26, public comment regulations. (Office of the City Attorney/ Office of the City Secretary)**
4) **Closed session pursuant to Tex. Gov't. Code Section 551.071 (Consultation with Attorney) related to Project Quantum. (Office of the City Attorney/ City Manager's Office)**
5) **Closed session pursuant to Tex. Gov't. Code Section 551.071 (Consultation with Attorney) related to Project Tune-Up. (Office of the City Attorney/ City Manager's Office)**

Items 1, 3, and 5 scheduled for discussion in Executive Session were addressed, and a certified agenda was maintained. Items 2 and 4 were tabled and were not discussed during Executive Session.

Upon the conclusion of the Executive Session, Mayor John Cowen Jr. reconvened the Regular Meeting at 10:34 pm.

POSSIBLE ACTION ON ANY ITEM(S) AS DISCUSSED IN EXECUTIVE SESSION

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1) **Consideration and ACTION, if any, related to Collective Bargaining Agreement with Brownsville Police Officers' Association, Charter 290577-01. (Office of the City Attorney/ City Manager's Office)**

No Action.

2) **Consideration and ACTION, if any, related to Project Tune-Up. (Office of the City Attorney/ City Manager's Office)**

Motion: Motion was made by Commissioner Bryan L. Martinez, seconded by Commissioner Pedro Cardenas, to proceed as discussed in executive session. The vote was cast 7 for, 0 against. The motion carried unanimously.

ADJOURNMENT

There being no further business to come before the Commission, upon duly made motion the meeting adjourned at 10:35 PM.

Approved 6th day of October 2026.

_____
John Cowen, Jr.
Mayor

ATTEST:

_____
Mayra A. Rios,
City Secretary

Respectfully submitted by: Blanca E. Gonzalez, Administrative Assistant, MPA, TRMC

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THE STATE OF TEXAS §
CITY OF BROWNSVILLE §
COUNTY OF CAMERON §

MINUTES of a **Special Meeting** of the City Commission of the City of Brownsville, Texas, held on **Tuesday, September 22, 2026**, at **5:00 p.m.** at the **City Commission Chambers,** located at **1001 East Elizabeth Street** and **via Webex Teleconference Meeting by logging on at:**

https://brownsvilletx.webex.com/brownsvilletx/j.php?MTID=mb0f8d1240d8f166059ae34c036f78f88

The following City Commission members were present:

JOHN COWEN, JR. Mayor

COMMISSIONERS:

TINO VILLARREAL, At-Large "A"

BRYAN L. MARTINEZ, District 1

LINDA C. MACIAS, District 2

GUSTAVO DE LEÓN, District 3

PEDRO E. CARDENAS, District 4

The following City Commission members were absent:

NURITH GALONSKY, At-Large "B"

The following staff members were present:

FELIX SAUCEDA Deputy City Manager/Chief of Police

DOROTEO GARCIA Deputy City Manager
WILL TREVINO, City Attorney

JENNIFER AVENDANO, First Assistant City Attorney

MARINA ZOLEZZI, Interim Assistant City Manager

EFREN TRUJILLO, Interim Chief of Staff

MAYRA A. RIOS City Secretary

The following staff members were present:

ALAN GUARD City Manager

CALL TO ORDER

a) **ROLL CALL**

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Mayra A. Rios, City Secretary, introduced Blanca Gonzalez, Interim Deputy City Secretary, who will proceed to lead the meeting.
A quorum being present, Blanca Gonzalez, Interim Deputy City Secretary, read the call to order considering the matters as posted and filed for the record in the Office of the City Secretary pursuant to the Texas Open Meetings Act.
Mayor John Cowen, Jr., called the meeting to order at 5:00 p.m.
Mayor John Cowen, Jr., Commissioner Tino Villarreal, Commissioner Bryan L. Martinez, Commissioner Linda C. Macias, Commissioner Gustavo De Leon, and Commissioner Pedro Cardenas attended the meeting in person.

b) INVOCATION

Pastor Carlos Navarro delivered the invocation.

c) PLEDGE OF ALLEGIANCE TO THE FLAGS OF THE UNITED STATES OF AMERICA AND STATE OF TEXAS

The Pledge of Allegiance to the United States Flag and the Texas Flag was led by member of the Girls Scouts Troop 2139, Julissa Ramos, along with Mayor and City Commission.

PRESENTATION(S)

1) Presentation of Brownsville Housing Master Plan progress updates — Public Engagement & Housing Needs Assessments (Planning & Redevelopment Department)

Daniel Leal, Planning and Redevelopment Department Director, addressed the Mayor and City Commission and introduced the presentation. Mr. Leal explained that the Planning and Redevelopment Services team is pleased to present two projects that contribute to strengthening the city's long term planning efforts.
He noted that Brownsville is at an important moment in shaping its long term housing future. Over recent months, the department has collaborated with residents, community partners, and local leadership to better understand current housing conditions, challenges, and opportunities. The housing plan reflects this input by pairing data driven analysis with community perspectives to ensure the path forward aligns with the needs and aspirations of Brownsville's families and neighborhoods.
Mr. Leal then introduced the project team, including Jasmine Harper, Director at HR&A Advisors, who specializes in place based economic development, real estate, and retail strategies, and previously served with Denver's Office of Economic Development and Opportunity. He also introduced José Eduardo Sánchez, Cultural Organizer and Civic Infrastructure Strategist with more than 15 years of experience working alongside multicultural working class communities to expand civic participation and build community partnerships.

During the presentation, Jasmine Harper, Director of HR&A Advisors, and José Eduardo Sánchez of Tecolotl provided an overview of the Brownsville Housing Plan's analysis and community engagement progress.

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Ms. Harper began by explaining that HR&A Advisors have spent the past several months working closely with the City's Planning and Redevelopment Department to understand Brownsville's current housing needs. She reviewed the housing needs assessment, which examined trends across the city and resulted in four major findings. These included significant population growth and increasing income divergence between new and long term residents; the continued accessibility of homeownership for a range of income groups; a persistent shortage of affordable rental housing for lower income households; and uneven housing investment across neighborhoods, with downtown and Southmost areas experiencing less reinvestment compared to the city's outer edges. She noted that these findings will guide the development of future policies, tools, and recommendations. Ms. Harper then transitioned the presentation to community engagement updates.

Mr. Sánchez reported that the engagement efforts have reached residents across the city through open houses, surveys, and outreach events. Since June, the team has hosted two open house events, collected 242 surveys, and facilitated more than one thousand resident interactions at various community gatherings, including the Farmer's Market, First Friday, Fourth of July celebrations, and the Lunada Artisan Market. He shared that residents consistently raised four main themes: concerns about affordability and homeownership as costs outpace incomes; the importance of quality neighborhood infrastructure; the desire for growth that strengthens existing communities; and interest in long term housing stability. Mr. Sánchez noted that this feedback directly informs HR&A's draft recommendations. He invited the public to attend the upcoming community open house on October 29 at the Brownsville Public Library Main Branch, where residents will be able to review draft recommendations and provide input before final policies are shaped.

Commissioner Bryan L. Martinez asked the project team whether demographics related to seniors and individuals with special needs were being considered in the housing plan, noting that two families had approached him during a recent engagement event expressing concern about these populations.
Samuel Nunez, Senior Planner, responded that the plan is indeed addressing the needs of seniors, individuals with accessibility concerns, and other specific demographic groups. He explained that the recommendation phase of the plan will include targeted strategies for different populations, including college students, seniors, and households with varying accessibility needs. Mr. Nunez added that one key concern raised by senior residents is the ability to age in place. Rising property values have created pressure for some longtime homeowners who feel compelled to sell their homes and relocate to more affordable options. The team is evaluating how the housing plan can provide solutions that support aging in place and housing stability for these residents.

Mayor John Cowen then expressed appreciation to all involved in the housing plan, noting that it is one of the most impactful initiatives the City has undertaken and reiterating the City's commitment to ensuring that Brownsville remains a viable option for all residents.

2) Introduction and Overview of the Brownsville Design Guidelines and Standards (Planning & Redevelopment Department)

Daniel Leal, Planning and Redevelopment Department Director, introduced the Brownsville Historic Design Standards and Guidelines project, describing it as a collaborative effort aimed at enhancing architectural quality, reinforcing the city's historic character, and providing clearer, more

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consistent guidance for property owners, developers, and City staff. He noted that the project directly supports the Downtown Revitalization Plan by helping promote compatible residential and commercial development in the historic core. Mr. Leal introduced the project team, including Caitlin Admire of Freeze and Nichols, Justin Newhart of Terracon, and additional historic preservation staff, emphasizing their expertise in urban design, sustainability, and preservation.

Caitlin Admire provided an overview of the purpose and intended users of the new guidelines. The goal is to set clearer expectations for applicants, property owners, developers, and reviewers, reducing uncertainty and improving the alignment of design decisions made by staff and the Historic Preservation Commission (HPC). She explained that the guidelines will apply within the mapped historic overlay area, which contains approximately 440 vacant properties. Once adopted, the standards are expected to replace the existing historic overlay regulations.
Ms. Admire clarified the distinction between standards, requirements comparable to ordinance specifications—and guidelines, which outline recommended practices and intentions. She noted that the document will include both, with standards defining measurable requirements and guidelines offering flexible, encouraged approaches.

Justin Newhart described the framework of the draft document, including how it will interact with existing ordinances, outline design review processes, and provide clear, visual guidance for property owners and applicants. He reported that the guidelines will cover site design, building form, signage, and public realm elements to ensure compatibility with Brownsville's architectural and cultural identity. He highlighted community and stakeholder feedback calling for clarity, visual examples, predictability, and enforceability. The project is approximately halfway complete, with final adoption anticipated in December. During the question period, a commissioner asked how the HPC would be involved when projects fall outside the guidelines. Mr. Newhart explained that a waiver process would allow the HPC to review such requests based on the overall intent of the guidelines. The commissioner emphasized the importance of a fact based, standardized process to support consistent decision making.
The Commission expressed appreciation for the clarity and direction the guidelines will bring to Brownsville's historic development efforts.

PUBLIC COMMENT PERIOD

Blanca Gonzalez, Interim Deputy City Secretary, noted that 7 preregistered speakers were identified, with five indicating they did not wish to speak.

Motion: Motion was made by City Commissioner Bryan Martinez, seconded by City Commissioner Pedro Cardenas, to approve suspending the speaker limit and allow all speakers to address the Commission, each with a three-minute time limit. The vote was cast 6 for, 0 against [Galonsky absent]. The motion carried unanimously.

Tony Garcia, of 5159 Dale Iden Drive, Brownsville, Texas, founder of Warriors United in Arms, highlighted his group's $70,000 in donated improvements to the veterans park and outlined plans to honor Sergeant José M. Mendoza with a park renaming and proposed statue, inviting the Commission to the October 17th fundraiser.

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Dr. Christopher Busaldu,651 Old Port Isabel Rd. Brownsville, Texas, addressed concerns regarding the proposed environmental task force resolution. He stated that its language appears to assume data center development is inevitable and urged the Commission to consider that data centers may not be economically viable.

Uriel Gavito, 5527 Southmost Rd. Brownsville, Texas, cautioned the Commission against allowing the task force to become a vehicle for "greenwashing." He emphasized that genuine ecological improvement requires the right members, adequate resources, and authority to enact real change.

Diablo Velez, 1254E. Tyler st. Brownsville, Texas, spoke regarding the Coca Cola mural downtown. He expressed concern that the mural did not reflect American Revolutionary themes and criticized its appropriateness and purpose.

Dr. Etennie Rosas, 33 Shadowbrook Lane, Brownsville, Texas, expressed support for a community led environmental task force, emphasizing the importance of clean water, air, housing, healthcare, and community integrity. He encouraged the Commission to adopt a research based sustainability framework that evaluates development projects proactively.

Rebekha Hinojosa, 3005 Old Alice Rd APT 1500A, Brownsville, Texas, resident and member of the South Texas Environmental Justice Network, advocated for transparency in the task force appointment process. She requested that the Commission publish candidate names before voting and allow public comment on nominees.

Kevin Collins, 5409 Austin Road, Brownsville, Texas, presented concerns regarding a proposed municipal drainage fee ordinance scheduled for future Commission consideration. He requested that religious organizations be included in the list of eligible exemptions, citing state statute and examples from Houston's ordinance.

CITY MANAGER'S UPDATE(S)

1) **Pet of the Month Adoption Spotlight**

Joanna Medina, Assistant Director of the Brownsville Animal Shelter presented the Pet of the Month and introduced Jordan Wally, the adoption specialist. They introduced Faith, a three month old lab mix who arrived at Bark as a stray. Faith was described as playful, sweet, curious, and full of typical puppy energy. The month of August was highlighted due to Bark's participation in the Clear the Shelters campaign.

2) **Introduction and welcome of the City's new Assistant Finance Director, Rodrigo Gimenez.**

Doro Garcia, Acting City Manager, welcomed the City's new Assistant Finance Director, Rodrigo Jimenez, with over 20 years of governmental accounting experience. Mr. Jimenez expressed gratitude for the warm welcome he received from day one and thanked the HR team and Finance Director for their support. He stated he looked forward to serving the community and contributing to the city's mission.

3) **Recognition of Service, Jorge Cardenas, Chief Information Officer.**

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Doro Garcia, Acting City Manager, recognized the service of Jorge Cardenas, Chief Information Officer, for his nearly three years of work with the City of Brownsville. His leadership was acknowledged for advancing the city's fiber network, private 5G network, and cybersecurity protocols. Mr. Cardenas highlighted the growth of the IT Department from three staff members to 22 highly skilled and efficient team members. He thanked city leadership for their support and noted that maintaining technology is essential, much like nurturing a relationship. He expressed confidence in the department's future and gratitude for the opportunity to serve.

CONSENT AGENDA ITEM(S)

1) Consideration of approval of minutes from the City Commission Special Meetings held on August 17, 2026, August 21, 2026 and August 29, 2026. (Office of the City Secretary)
2) Consideration and **ACTION** to approve the Interlocal Agreement between the City and the Brownsville Independent School District for the use of their property to install and maintain a bus shelter located at 2477 Price Road. (Brownsville Metro)
3) Consideration and **ACTION** to approve Tokio Marine HCC for Stop Loss Services for the City of Brownsville for Fiscal Year 2027, in the amount not to exceed $1,059,730, as budgeted. (Organizational Development and Human Resources)
4) Consideration and **ACTION** to approve the CPI Rate Adjustment for Redfish Recycling effective October 1, 2026, not to exceed 3.53%. (Internal Services Department)
5) Consideration and **ACTION** to approve the CPI Rate Adjustment for Republic Services effective October 1, 2026, not to exceed 4.70%. (Internal Services Department)
6) Consideration and **ACTION** to approve a three-year purchase of VMware Cloud Foundation and VMware vDefend licensing and support from SHI Government Solutions, Inc., through Texas Department of Information Resources Contract DIR-CPO-5241, in a total amount not to exceed $263,502.72, payable in three annual installments of $87,834.24. (Information Technology Department)
7) Consideration and **ACTION** to approve the first renewal of Contract No. 093-24-FIN-RFP with Deep Blue Investment Advisors for Investment Advisory Services for $34,500. (Financial Services Department)
8) Consideration and **ACTION** to approve TRIPPP Consulting's Change Order #1, which would address the unforeseen success of increased trips for Fiscal Year 2026 with the Uber Rideshare Pilot program on Brownsville Metro's Route 30 in the amount not to exceed $40,000, as budgeted. (Brownsville Metro).
9) Consideration and **ACTION** to adopt **Resolution Number 2026-114**, reviewing, amending, and readopting all the provisions listed in the documents titled "City of Brownsville, Texas Amended Investment Policy" and "City of Brownsville, Texas, Amended Investment Strategy Statement". (Financial Services Department)
10) Consideration and **ACTION** to approve **Resolution Number 2026-128** supporting Cameron County's acquisition of the B&M International Bridge and related facilities and recognizing its importance to regional transportation, international trade, and economic development. (Engineering and Public Works)

Blanca Gonzalez, Interim Deputy City Secretary, noted that Item Number 8 had been requested to be removed, and no action was required.
The City Commission requested to pull Item 10 and placed on the next meeting agenda.
City Commissioner requested to pull consent items 5 and 9.

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Motion: Motion was made by Commissioner Bryan L. Martinez, seconded by Commissioner Linda C. Macias to approve consent agenda items 1 through 7 and 9. The vote was cast 6 for, 0 against [Galonsky absent]. The motion carried unanimously.

Motion: Motion was made by Commissioner Tino Villarreal, seconded by Commissioner Linda C. Macias to table Item number 10 for a future meeting. The vote was cast 6 for, 0 against [Galonsky absent]. The motion carried unanimously.

PUBLIC HEARING(S)

1) **Public Hearing and ACTION on FIRST READING on Ordinance Number 235-2026-019, to rezone from Residential Estate (RE) to Residential Single-Family (R-1) to allow a single-family residential development for a 1.00-acre tract of land out of Lot 4, Block 307, El Jardin Re-Subdivision, Cameron County, Texas, located at 835 South Indiana Avenue, Brownsville, Texas 78521, as shown in Exhibit "A". (District 1) (Planning & Redevelopment Department)**

Samuel Nunez, Senior Planner of the Planning and Zoning Department, presented a request to rezone a property along South Indiana Avenue from Residential Estate (RE) to Residential Single Family (R 1). The proposed rezoning would allow for a future single family residential development, preliminarily envisioned as four residential lots with two access points from South Indiana Avenue. No subdivision application has yet been submitted. All required public hearing notifications were completed, including posting a sign at the property and mailing seven notices to adjacent property owners. No opposition was received. Mr. Nunez reviewed existing zoning in the surrounding area, noting that properties east of the site lie outside city limits under county jurisdiction. Nearby properties include residential estate, agricultural, residential suburban, and light industrial uses. Staff found the request consistent with the Comprehensive Plan and Future Land Use Plan and recommended approval. The Planning and Zoning Commission also recommended approval. The item was then opened for questions or comments from the commission.

Mayor John Cowen opened the public hearing.

There were no speakers.

Motion: Motion made by Commissioner Tino Villarreal, seconded by Commissioner Linda C. Macias, to close the public hearing. The vote was cast 6 for, 0 against [Galonsky absent]. The motion carried unanimously.

Motion: Motion made by Commissioner Tino Villarreal, seconded by Commissioner Linda C. Macias, to approve first reading on Ordinance 235-2026-019. The vote was cast 6 for, 0 against [Galonsky absent]. The motion carried unanimously.

2) **Public Hearing and ACTION on FIRST READING on Ordinance Number 235-2026-021-PD, to establish a Planned Development District (PD) to establish development-specific zoning regulations that would permit reduced setbacks, detached accessory structures in the front yard, and unique design standards for the proposed residences, for 2.817 acres, being all of Common Area 1 of Butterfly Grove Subdivision, Cameron County, Texas, located at 1903**

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Grove Lane, Brownsville, Texas 78526, as shown in Exhibit "A". (District 3) (Planning & Redevelopment Department)

Carlos Guerra, Senior Planner of the Planning and Redevelopment Department, presented a request to establish a Planned Development District (PDD) for approximately 2.817 acres along Grove Lane. The PDD would permit reduced front setbacks, increased rear setbacks, detached accessory structures in the front yard, and unique design standards for a nine lot single family subdivision with two common green space areas. Required public notices were issued, including a sign posted on the property and 26 mailed notices to nearby owners. One letter was received expressing concern about potential on street parking and its impact on emergency access.
Mr. Guerra explained that the requested modifications are consistent with the Comprehensive Plan and represent a continuation of a PDD approved in 2018. He noted that each home would include a two car garage and double driveway, providing up to four off street parking spaces and helping mitigate curb parking concerns.
Staff clarified that parking restrictions cannot be imposed through the rezoning action but may be addressed during the plat review process. The Fire Department may recommend no parking zones if emergency vehicle access is affected, and the Traffic Department can apply striping or restrictions as needed.

Mayor John Cowen opened the public hearing.

There were no speakers.

Motion: Motion made by Commissioner Pedro Cardenas, seconded by Commissioner Gustavo De Leon, to close the public hearing. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

Motion: Motion made by Commissioner Pedro Cardenas, seconded by Commissioner Gustavo De Leon, to approve first reading on Ordinance 235-2026-021-PD. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

3) **Public Hearing and ACTION on FIRST READING on Ordinance Number 235-2026-022-S, to request a Specific Use Permit in a Regional Center (RC) zoning district to allow an event center for Suite G, Lot 3, Block 1, Springmart I Subdivision Replat #2, Cameron County, Texas, located at 3231 Pablo Kisel Boulevard, Brownsville, Texas 78526, as shown in Exhibit "A". (District 3) (Planning & Redevelopment Department)**

Carlos Guerra, Senior Planner of the Planning and Redevelopment Department, presented a request for a Specific Use Permit (SUP) to allow an event center within a Regional Center zone in the Pablo Kisel/Morrison area, located inside the Midtown Entertainment District Overlay. Public hearing notices were posted, and four mailed notices were sent; no opposition was received. The proposed event center would occupy a 2,800 square foot suite formerly used as a Christian bookstore, operating primarily during daytime hours and closing around 8–9 p.m. The venue would host small, family oriented events and would not sell alcohol. The plaza contains 190 parking spaces, and the maximum occupancy for the venue is 80 people. The request is consistent with the Comprehensive

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Plan, and staff recommended approval with sound mitigation conditions. The Planning and Zoning Commission also recommended approval.

Mayor John Cowen opened the public hearing.

The business owner expressed her desire to change the zoning to a classification that better meets current needs without affecting surrounding businesses.

Motion: Motion made by Commissioner Linda C. Macias, seconded by Commissioner Tino Villarreal, to close the public hearing. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

Motion: Motion made by Commissioner Tino Villarreal, seconded by Commissioner Linda C. Macias, to approve first reading of Ordinance 235-2026-022-S. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

4) **Public Hearing and ACTION on FIRST READING on Ordinance Number 2026-235.130, to amend the City of Brownsville Unified Development Code (UDC, Article 4 – Zoning Regulations, Subsection 4.4.3 – Permitted Use Chart, Subsection 4.4.4 – Additional Use Standards, and Article 6 – Definitions) to regulate poker lounges, event centers, quick lube facilities, self-storage facilities; and dealing with related matters, as shown in Exhibit "A". (Planning & Redevelopment Department)**

Carlos Guerra, Senior Planner of the Planning and Redevelopment Department, presented a series of proposed amendments to the Unified Development Code intended to clarify land use definitions, add use specific standards, and better protect adjacent neighborhoods. The amendments addressed four use categories: quick lube/oil change facilities, event centers, poker lounges, and self storage facilities. Mr. Guerra explained that current regulations do not adequately distinguish these uses or address their impacts on surrounding residential areas. Proposed changes included updated definitions, revised permitted use charts, separation requirements, restrictions on adjacency to residential properties, building placement standards, and operational conditions.

Mr. Guerra noted that several uses have begun to encroach into residential areas, prompting a need to proactively safeguard neighborhood character and preserve corridor properties for future high value development. For quick lube facilities, staff proposed removing the Traditional Neighborhood Corridor zone from permitted areas, establishing 600 foot residential buffers, and requiring 1,000 foot separation between similar facilities.

Commissioners discussed the rationale for prohibiting locations on primary and secondary arterials and requested additional consideration of distance standards.

For event centers, staff proposed requiring an SUP in designated commercial districts, implementing two year renewal periods, separation from residential zones, and time restrictions for indoor and outdoor events. Commissioners expressed concerns about proposed operating hour limits and the potential impact on downtown development.

Samuel Nunez, Senior Planner of the Planning and Zoning Department, presented proposed regulations for poker lounges, including establishing a new definition, requiring SUP approval, separation requirements, limits on clustering within commercial plazas, and compliance with applicable state laws. For self storage facilities, Mr. Nunez proposed allowing indoor storage in the

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Regional Center, Light Industrial, and Heavy Industrial zones, limiting outdoor storage to industrial districts, and requiring a 600 foot residential separation and 2,500 foot separation between facilities. Commissioners questioned the impact of the spacing requirements on future supply as the city grows.
Staff recommended approval of the proposed ordinance and indicated willingness to incorporate Commission feedback.
Staff acknowledged the concerns and indicated that the proposed standards could be adjusted based on Commission direction.
Mayor John Cowen opened the public hearing.

There were no speakers.

Motion: Motion made by Commissioner Pedro Cardenas, seconded by Commissioner Tino Villarreal, to close the public hearing. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

Commissioner Tino Villarreal stated that he wished to table the item until November 3,2026, explaining that he needed additional information before taking action. He requested clarity on several points, including whether staff had met with commercial property owners to gather input, whether any economic analysis had been conducted, and whether the uses should be considered separately rather than grouped under one ordinance. He also noted that the proposed regulations might unintentionally advantage existing businesses over new entrants.
Will Trevino City Attorney asked whether the motion should be amended to reopen and continue the public hearing.

Motion: Motion made by Commissioner Tino Villarreal, seconded by Commissioner Pedro Cardenas, to amend the previus motion and keep open the public hearing and table the Ordinance 2026-235.130 until November 3, 2026. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

ITEMS FOR INDIVIDUAL CONSIDERATION(S)

1) **Consideration and ACTION on SECOND and FINAL READING of Ordinance Number 2026-1761-B of the City of Brownsville, Texas, to update the Master Fee Schedule of the City of Brownsville and amend pertinent sections of the Code of Ordinances to reflect those updates, and dealing with related matters. (Financial Services Department)**

Stephe Muse, Financial Services Director, presented the second reading of proposed fee schedule updates and clarified corrections from the previous presentation. He outlined several new and adjusted fees, including:
- A hookah lounge permit fee of $250
- New fees for background discrimination services, vacant lot fees, and tire related business permits
- A First Friday event tote bag fee of $30 under Planning and Redevelopment Services
- Parks and Recreation fee changes, including revised rental fees, an increased exclusive park rental rate, a reduced event cleaning fee, and removal of the non motorized watercraft rental fee.

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- A new water safety instructor certification fee and increases to youth program registration and maintenance overtime fees
- Gulf Center golf course fees ($20 standard, $30 for educators, $20 employee rate) and elimination of the 10×10 screen fee
- Sports Park additions, including a new full dome rental rate and increased fees for full shutdowns and traffic cone replacement

Mr. Muse clarified that resident and non resident rates will remain separate, correcting a prior misstatement. He also elaborated on the $50 lost ticket fee proposed for airport parking, noting it is intended to prevent revenue loss and will serve as a temporary measure until a license plate recognition system is implemented.

Motion: Motion made by Commissioner Pedro Cardenas, seconded by Commissioner Tino Villarreal, to approve the second and final reading of Ordinance Number 2026-1761-B. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

2) **Consideration and ACTION on Resolution Number 2026-121-A amending Resolution Number 2026-121 ratifying direction to the City Manager to reactivate the City of Brownsville Environmental and Conservation Task Force that was tasked with providing advice and recommendations to the City Commission regarding data center policies and development regulations. (City Manager's Office/ Office of the City Attorney/ Planning and Redevelopment Department)**

Will Treviño, City Attorney, stated that the resolution had been approved at the prior meeting and was now being brought forward with amendments based on commissioner feedback and citizen input. The amended structure of the task force includes seven community representatives with voting rights, aligning with the structure of other City boards and commissions. Each City Commissioner will appoint one member. Additionally, four ex officio non voting members will serve in advisory roles. The primary areas of review remain unchanged. However, the task force will be required to utilize clearly defined data and methodologies, publicly present its findings, develop a public facing dashboard, and conduct community engagement activities such as public meetings or town halls.
During discussion, commissioners inquired about the process for converting the task force into a permanent standing committee.
Mr. Trevino clarified that such action would require adoption of a separate resolution.
Commissioners expressed concerns that a three month timeframe was insufficient due to the volume of expected data, the upcoming holiday season, and the need for community participation. Suggestions included extending the working period to six months, allowing flexibility in meeting frequency, and ensuring adequate time for publication and hearing requirements related to any potential amendments to development regulations.
Following deliberation, the Commission agreed that the task force should provide an initial report with recommendations by 15 December 2026, followed by a final report due 15 March 2027, allowing the month of April for required public processes.

Motion: Motion made by Commissioner Tino Villarreal, seconded by Commissioner Pedro Cardenas, to approve Resolution Number 2026 121 A, directing that the initial report containing recommendations on data center policies and regulations be submitted to the City Commission by

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15 December 2026, and that the final report be submitted by 15 March 2027. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

Motion: Motion made by Commissioner Pedro Cradenas, seconded by Commissioner Tino Villarreal, to reconsider Resolution 2026 121 A for the purpose of making amendments consistent with the earlier discussion.
The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

Motion: Motion made by Commissioner Pedro Cradenas, seconded by Commissioner Linda C. Macias, to approve the resolution as previously amended, with the exception that the BPUB representative would be designated at a later date. The motion also reaffirmed the earlier amendment establishing the reporting deadlines by December 15, 2026 for the initial report and March 15, 2027 for the final report. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

3) **Consideration and ACTION to adopt Resolution Number 2026-127 identifying qualifying projects described in Exhibit "A" to the Memorandum of Understanding between Space Exploration Technologies Corp. (SpaceX) and the City of Brownsville dated August 29, 2026; and ratifying an escrow agreement between the City, PlainsCapital Bank, and SpaceX for the benefit of Brownsville Public Utilities Board and Southmost Regional Water Authority. (City Manager's Office/ Office of the City Attorney)**

Will Trevino, City Attorney, presented an update on the regional water expansion project involving the Brownsville Public Utilities Board (BPUB), the South Resaca Water Authority (SRWA), SpaceX, and the City of Brownsville. The project aims to increase the City's water capacity. He reminded the Commission that SpaceX's commitment of $220 million would fund two major water renewal initiatives. The first is the Indirect Potable Reuse Initiative, projected to increase water supply by approximately 8 million gallons per day. This project is currently underway at BPUB and is expected to be completed by 2030. The SpaceX funding will cover remaining financial gaps. The second initiative is the optimization and expansion of SRWA facilities to increase capacity to 10 million gallons per day. This includes reconstructing 20 wells, constructing two new wells, and performing various infrastructure upgrades. The resolution under consideration also approves the escrow agreement between SpaceX, the City of Brownsville, and Plains Capital Bank.
Mr. Trevino outlined the payment structure: an initial $40 million deposit upon execution of the agreement, anticipated on 28 September 2026, followed by six quarterly deposits of $30 million each. All escrow funds must be invested following public fund investment regulations. He emphasized that SpaceX receives no capacity rights, ownership interest, rate benefits, or preferential permitting or utility treatment. Disbursement of funds will require joint written instructions from SpaceX and the City. Expedited arbitration procedures are included to resolve any disputes. Escrow account fees will be paid by SpaceX, ensuring that all funds remain available strictly for project use. The agreement will terminate once all funds are disbursed. The anticipated project completion timeline aligns with the MOU's seven year term, with major milestones expected by 2030.
Commissioners asked about the transparency features of the upcoming website, including dashboards showing deposits, progress milestones, links for public information requests, and integration with BPUB's project tracking tools. Mr. Trevino confirmed that the intent is to provide

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comprehensive and accessible information to ensure accountability for project execution and public reporting.

Motion: Motion made by Commissioner Tino Villarreal, seconded by Commissioner Pedro Cardenas, to approve Resolution Number 2026-127. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

BOARD APPOINTMENT(S)

1) **Consideration and ACTION on Resolution Number 2026-131 to appoint members to the City of Brownsville Environmental and Conservation Task Force pursuant to Resolution Number 2026-121-A. (City Manager's Office/ Office of the City Attorney/ Planning and Redevelopment Department)**

Motion: Motion made by Commissioner Tino Villarreal, seconded by Commissioner Linda C. Macias, to appoint Dr. Etienne Rosas, as a member of the Enviromatal & Conservation Task Force. The vote was cast 5 for, 0 against. [Galonsky and Martinez absent] The motion carried unanimously.

Motion: Motion made by Commissioner Gustavo De Leon, seconded by Commissioner Linda C. Macias, to appoint Carolyn Wood, as a member of the Enviromatal & Conservation Task Force. The vote was cast 5 for, 0 against. [Galonsky and Martinez absent] The motion carried unanimously.

Motion: Motion made by Mayor John Cowen Jr., seconded by Commissioner Tino Villarreal, to appoint Lisa Mithcel Bennet, as a member of the Enviromatal & Conservation Task Force. The vote was cast 5 for, 0 against. [Galonsky and Martinez absent] The motion carried unanimously.

Motion: Motion made by Commissioner Pedro Cardenas, seconded by Commissioner Linda C. Macias, to appoint Dr. Joseph Hollmann, as a member of the Enviromatal & Conservation Task Force. The vote was cast 5 for, 0 against. [Galonsky and Martinez absent] The motion carried unanimously.

Commissioner Pedro Cardenas expressed his desire to nominate Dr. Joseph Holdman as his appointee to the task force. He noted that Dr. Holdman was listed as a non voting ex officio member but requested that he be moved into a voting position. Commissioner Cardenas asked whether another individual could be designated to fill the non voting role instead.
Mr. Trevino responded that such a change was permissible and recommended that the Commission proceed without replacing the ex officio position, noting that Dr. Holdman brings valuable expertise from SRWA and BPUB.
Mayor John Cowen Jr. commented that it may still be beneficial to include someone from BPUB with electrical expertise in a staff capacity. He noted that this could be addressed later.

Motion: Motion made by Commissioner Linda C. Macias, seconded by Commissioner Gustavo De Leon, to appoint Scott Fry, as a member of the Environmental and Conservation Task Force. The vote was cast 5 for, 0 against. [Galonsky and Martinez absent]. The motion carried unanimously.

DRAFT

The appointments of Commissioners Galonsky and Martinez were tabled for the next City Commission meeting.

The City Commission request to alter the agenda to go back to Items for Individual Consideration Number Two to amend the approved body of the board.

EXECUTIVE SESSION

Motion: Motion made by Commissioner Pedro Cardenas, seconded by Commissioner Linda C. Macias to convene into Executive Session at 7:29 p.m. The vote was cast 5 for, 0 against [Galonsky and Martinez absent]. The motion carried unanimously.

1) **Closed session pursuant to Tex. Gov't. Code Section 551.071 (Consultation with Attorney) related to Collective Bargaining Agreement with Brownsville Police Officers' Association, Charter 290577-01. (Office of the City Attorney/ City Manager's Office)**
2) **Closed session pursuant to Tex. Gov't. Code Section 551.071 (Consultation with Attorney, including Contemplated or Pending Litigation and/or Settlement Offer) related to: TMLIRP Claim No. TX260469. (Office of the City Attorney)**
3) **Closed session pursuant to Tex. Gov't. Code Section 551.071 (Consultation with Attorney) related to the attorney-client privilege. (Office of the City Attorney)**

All items scheduled for discussion in the Executive Session were addressed, and a certified agenda was maintained.

Upon the conclusion of the Executive Session, Mayor John Cowen Jr. reconvened the Special Meeting at 8:27 pm.

POSSIBLE ACTION ON ANY ITEM(S) AS DISCUSSED IN EXECUTIVE SESSION

1) **Consideration and ACTION, if any, related to Collective Bargaining Agreement with Brownsville Police Officers' Association, Charter 290577-01. (Office of the City Attorney/ City Manager's Office)**

Jennifer Avendano, First Assistant City Attorney, addressed the City Commission, requesting that the Brownsville Police Officers Association (BPOA) and CLEAT representatives be provided the opportunity to speak on behalf of their membership.
Representatives of the BPOA thanked the Mayor, Commissioners, and City staff for their support throughout the negotiation process. He expressed appreciation for the collaborative effort and thanked Ms. Avendano for her assistance.
The Mayor and Commissioners expressed gratitude to the officers, BPOA, CLEAT, and City staff for their service, partnership, and professionalism. Several commissioners emphasized the importance of public safety to the community and commended the police department's engagement with residents and its commitment to maintaining Brownsville as one of the safest cities in the nation.

DRAFT

Motion: Motion made by Commissioner Tino Villarreal, seconded by Commissioner Linda C. Macias, to approve the collective bargaining agreement with the Brownsville Police Officers Association, Charter 290577 01 S. The vote was cast 5 for, 0 against [Galonsky, Martinez, and De Leon were absent]. The motion carried unanimously.

2) **Consideration and ACTION, if any, related to a limited waiver of the attorney-client privilege. (Office of the City Attorney)**

Motion: Motion made by Commissioner Tino Villarreal seconded by Commissioner Pedro Cardenas to proceed as discussed in executive session. The vote was cast 5 for, 0 against [Galonsky, Martinez and De Leon absent]. The motion carried unanimously.

ADJOURNMENT

There being no further business to come before the Commission, upon duly made motion the meeting adjourned at 8:33 PM.

Approved 6th day of October 2026.

_____
John Cowen, Jr.
Mayor

ATTEST:

_____
Mayra A. Rios,
City Secretary

Respectfully submitted by: Blanca E. Gonzalez, Administrative Assistant, MPA, TRMC

DRAFT

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Omar Ochoa, Assistant Director of Building Inspections and Permitting/Building Official
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to Authorize Contracts with Waste Solutions USA LLC and Alamo Environmental, Inc. dba Alamo1. For Contract No. 263-26-PLN-IFB, Building Demolition Services On An As-Needed Basis, for an initial term of three (3) years with two (2) optional one-year renewal periods. (Planning and Redevelopment Services Department)

Summary:

The Planning and Redevelopment Services Department requested a term contract for building demolition services to address unsafe, substandard, and dilapidated structures throughout the City. The contract will allow the City to obtain demolition, debris removal, site clearing, and related services on an as-needed basis through individual task orders.

- Procurement Method: IFB
- Submittals Received: Four (4)
- Contract Number: 263-26-PLN-IFB
- Vendor: Waste Solutions USA LLC and Alamo Environmental, Inc. dba Alamo1.
- Contract Amount: As Needed – based on unit prices for authorized Task Orders; no minimum amount of work guaranteed.
- Term: Five (5) Years – three (3) year initial term plus two (2) optional one-year renewals

Project Scope and Analysis:

The term contract for building demolition services is needed to streamline the process to demolish dilapidated residential structures that have deteriorated to the point that they pose a threat to public health, safety, and welfare. These structures may be vacant, abandoned, unsecured, fire-damaged, structurally unstable, or otherwise unsafe for occupancy. To ensure efficient and controlled execution, task orders will be issued on an as-needed basis and will be strictly aligned with official enforcement orders issued by the Building and Standards Commission.

Funding:

Source: Item does not require Fiscal approval

Amount: N/A

Local Contribution if Applicable: N/A

Recommendation:
The Planning and Redevelopment Services Department recommends that the City Commission authorize multiple award contracts with Waste Solutions USA LLC and Alamo Environmental, Inc. dba Alamo1 under IFB No. 263-26-PLN-IFB, Building Demolition Services On An As-Needed Basis, with compensation based on the unit prices submitted by each contractor for authorized Task Orders.

Commission Pillar:
Public Safety, Quality of Life & Vibrancy, Economic Development, Planning & Zoning

Attachments:
1. 263-26-PLN-IFB ; Procurement Analysis
2. 263-26-PLN-IFB Contract ; Alamo 1
3. 263-26-PLN-IFB Contract ; Waste Solutions USA LLC

PROCUREMENT ANALYSIS

Date: Wednesday, August 19, 2026
To: Mr. John Cowen Jr., City Mayor
From: Mr. Alan Guard, Interim City Manager
CC: Mr. Damian Espinoza, Procurement Director
Mr. Daniel Leal, Planning & Redevelopment Services Director

Agenda Title:
Agenda Item for the City Commission meeting of Tuesday, September 22, 2026.
"Consideration and Action to Authorize Contracts with Waste Solutions USA LLC and Alamo Environmental, Inc. dba Alamo1. for Contract No. 263-26-PLN-IFB, Building Demolition Services On An As-Needed Basis, for an initial term of three (3) years with two (2) optional one-year renewal periods, Planning and Redevelopment Services Department."

Executive Summary:

- Department: Planning and Redevelopment Department
- Procurement Method: IFB
- Submittals Received: Four (4)
- Contract Number: 263-26-PLN-IFB
- Vendor: Waste Solutions USA LLC and Alamo Environmental, Inc. dba Alamo1.
- Contract Amount: As Needed – based on unit prices for authorized Task Orders; no minimum amount of work guaranteed
- Term: Five (5) Years – three (3) year initial term plus two (2) optional one-year renewals

Background:
The Planning and Redevelopment Services Department requested a term contract for building demolition services to address unsafe, substandard, and dilapidated structures throughout the City. The contract will allow the City to obtain demolition, debris removal, site clearing, and related services on an as-needed basis through individual task orders.

Procurement Process:
The Procurement Department issued an **Invitation for Bids (IFB)** in compliance with the Texas Local Government Code. The solicitation was advertised in the local newspaper and posted on the City's electronic bidding platform. **Four (4) bids** were received.

This procurement is governed by the following statute:

- **IFB (Competitive Sealed Bidding): Texas Local Government Code Chapter 252, Subchapter C – Competitive Sealed Bidding (§252.041).**

Results
A total of **four (4) bids** were received. After review of the submissions and unit pricing, **Waste Solutions USA LLC** submitted the lowest unit price on the majority of bid items, followed by **Alamo Environmental, Inc. dba Alamo1**. Both vendors were determined to be responsive and responsible and are recommended for a **multiple award**.

Services will be provided on an as-needed basis through individual Task Orders, with compensation based on the applicable unit prices submitted by each awarded contractor. The bid tabulation is provided as **Exhibit A**.

Vendor Information:

Waste Solutions USA LLC
2434 LCR 656
Thornton, TX 76687
Point of Contact: Fabricio Lima
Phone: (832) 405-6296
Email: fabricio@wastesolutionsusa.com

Alamo Environmental, Inc. dba Alamo1
2900 Nacogdoches Road
San Antonio, Texas 78217
Point of Contact: Jacob Robles
Phone: (210) 240-5554
Email: Jacob.robles@alamo1.com

Exhibits & Supporting Documents:
- Exhibit A – Bid Tabulation (lowest responsive/responsible bidder).
- Exhibit B – Form 2 - Statement of Conflict of Interest
- Exhibit C – Form 3 - Texas Ethics Commission Certificate of Interested Parties (1295)

Recommendation:
The Procurement Department recommends that the City Commission authorize multiple award contracts with Waste Solutions USA LLC and Alamo Environmental, Inc. dba Alamo1 under IFB No. 263-26-PLN-IFB, Building Demolition Services On An As-Needed Basis, with compensation based on the unit prices submitted by each contractor for authorized Task Orders.

The contracts will have an initial term of three (3) years, with two (2) optional one-year renewal periods, for a total potential term of five (5) years.
Approval of this agenda item will authorize the full contract value, including the renewal option. The City Manager will be authorized to execute renewal(s) if exercised.

"Exhibit A"

CITY OF BROWNSVILLE BUILDING DEMOLITION S ON AN AS-NEEDED BASIS
263-26-PLN-IFB
July 29, 2026, at 3:00PM

Lowest unit price per line in green

		Vendor:	Alamo1	Camacho Demolition, LLC	Tamitco	Waste Solutions USA LLC
Item No.	**ITEM NAME**		Unit Price	Unit Price	Unit Price	Unit Price
	SECTION A – STRUCTURE DEMOLITION – SINGLE STORY	**Unit**				
A-1	Residential Structure Demolition – Wood Frame	SF	$6.00	$7.84	$5.25	$3.25
A-2	Residential Structure Demolition – Masonry	SF	$5.00	$7.84	$8.25	$4.75
A-3	Commercial Structure Demolition – Wood Frame	SF	$5.00	$7.84	$5.25	$3.75
A-4	Commercial Structure Demolition – Masonry	SF	$5.50	$7.84	$8.25	$6.00
A-5	Multifamily Structure Demolition – Wood Frame	SF	$5.00	$7.84	$5.55	$3.85
A-6	Multifamily Structure Demolition – Masonry	SF	$5.50	$7.84	$8.55	$5.75
A-7	Accessory Structure Demolition (Garage/Shed/Carport) – Wood Frame	SF	$6.00	$7.84	$4.50	$2.75
A-8	Accessory Structure Demolition (Garage/Shed/Carport) – Masonry	SF	$6.00	$7.84	$5.50	$4.00
A-9	Mobile Home Demolition	SF	$6,000.00	$7.84	$5,250.00	$2,500.00
	SECTION A – STRUCTURE DEMOLITION – MUILTIPLE STORIES					
A-1	Residential Structure Demolition – Wood Frame	SF	$6.50	$7.84	$5.75	$3.90
A-2	Residential Structure Demolition – Masonry	SF	$5.50	$7.84	$8.75	$5.70
A-3	Commercial Structure Demolition – Wood Frame	SF	$6.00	$9.37	$5.75	$4.50
A-4	Commercial Structure Demolition – Masonry	SF	$6.50	$9.37	$8.75	$7.20
A-5	Multifamily Structure Demolition – Wood Frame	SF	$5.50	$9.37	$6.00	$4.60
A-6	Multifamily Structure Demolition – Masonry	SF	$6.00	$9.37	$9.00	$6.90
A-7	Accessory Structure Demolition (Garage/Shed/Carport) – Wood Frame	SF	$6.00	$7.84	$5.00	$3.30
A-8	Accessory Structure Demolition (Garage/Shed/Carport) – Masonry	SF	$6.00	$7.84	$8.00	$4.80
	SECTION B – FOUNDATION REMOVAL					
B-1	Concrete Slab Foundation Removal	SF	$3.00	$6.10	$4.20	$1.75
B-2	Pier-and-Beam Foundation Removal	SF	$5.00	$5.90	$5.25	$1.25
B-3	Masonry Wall Foundation Removal	SF	$2.50	$6.10	$4.20	$2.25
B-4	Partial Foundation Removal	SF	$6.00	$6.10	$4.20	$1.50
B-5	Entry Porch Foundation Removal	SF	$7.00	$10.00	$1.75	$1.25
	SECTION C – DEBRIS / DISPOSAL					
C-1	Demolition Debris Haul-Off and Disposal	CY	$31.56	$50.00	$49.55	$25.00
C-2	Trash and Rubbish Removal	CY	$45.00	$250.00	$49.55	$22.00
C-3	Tire Disposal	EA	$50.00	$25.00	$30.00	$15.00
C-4	Illegal Dumping Cleanup	CY	$45.00	$250.00	$49.55	$27.50
	SECTION D – SITE RESTORATION / FINAL GRADING					
D-1	Backfill	CY	$35.00	$19.00	$25.00	$20.00
D-2	Rough Grading	SF	$0.35	$15.00	$2.75	$0.35
D-3	Final Site Grading	SF	$0.40	$20.00	$3.25	$0.55
D-4	Lot Clearing and Site Cleanup	EA	$500.00	$2,500.00	$2,500.00	$450.00
	SECTION E – SAFETY / SITE CONTROL					
E-1	Temporary Barricades/Fencing	LF	$10.00	$7.50	$0.50	$6.00
E-2	Traffic Control	DAY	$200.00	$350.00	$2,500.00	$400.00
E-3	Dust Control Measures	DAY	$50.00	$500.00	$500.00	$250.00
E-4	Emergency Site Securing	EA	$500.00	$1,500.00	$5,000.00	$750.00
	SECTION F – EMERGENCY RESPONSE					
F-1	Emergency Demolition Mobilization	EA	$800.00	$500.00	$6,000.00	$1,500.00
F-2	After-Hours Mobilization	EA	$1,000.00	$750.00	$5,000.00	$1,000.00
F-3	Expedited Response (<24 Hours)	EA	$1,000.00	$1,000.00	$4,000.00	$2,000.00

Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent vendor must describe any conflicts of interest related to the goods and/or services associated with this solicitation.

The Respondent shall complete and submit **Form CIQ (Form 2)** indicating any conflicts of interest for the service provider or key employees. If no conflicts exist, the Respondent must indicate "N/A" on the form and submit it as part of their response.

A conflict of interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s).

The Entity reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict of interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1001 East Elizabeth Street, Brownsville, Texas 78520
Email: citysecretary@brownsvilletx.gov
Phone: (956) 548-6000

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Chapter 176, Texas Local Government Code, and that the appropriate Conflict of Interest Questionnaire (Form CIQ) has been filed or will be filed as required.

Signature: Fabricio Lima

Printed Name: Fabricio Lima

Title: Owner

Date: 07/28/2026

Company Name: Waste Solutions USA LLC

Phone: (832) 405-6296

Email: fabricio@wastesolutionsusa.com

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

Waste Solutions USA LLC

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

N/A - No known relationship with any City of Brownsville officer

Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

Fabricio Lima

Signature of vendor doing business with the governmental entity

07/28/2026

Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent vendor must describe any conflicts of interest related to the goods and/or services associated with this solicitation.

The Respondent shall complete and submit **Form CIQ (Form 2)** indicating any conflicts of interest for the service provider or key employees. If no conflicts exist, the Respondent must indicate "N/A" on the form and submit it as part of their response.

A conflict of interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s).

The Entity reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict of interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1001 East Elizabeth Street, Brownsville, Texas 78520
Email: citysecretary@brownsvilletx.gov
Phone: (956) 548-6000

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Chapter 176, Texas Local Government Code, and that the appropriate Conflict of Interest Questionnaire (Form CIQ) has been filed or will be filed as required.

Signature: 

Printed Name: Jacob Robles

Title: Senior Estimator

Date: 7/28/26

Company Name: Alamo Environmental, Inc. dba Alamo1

Phone: 210-240-5554

Email: jacob.robles@alamo1.com

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print, sign, and notarize the TEC Form 1295 and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC’s website in accordance with state law.

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed and notarized in accordance with TEC requirements**.**

Signature: Fabricio Lima

Printed Name: Fabricio Lima

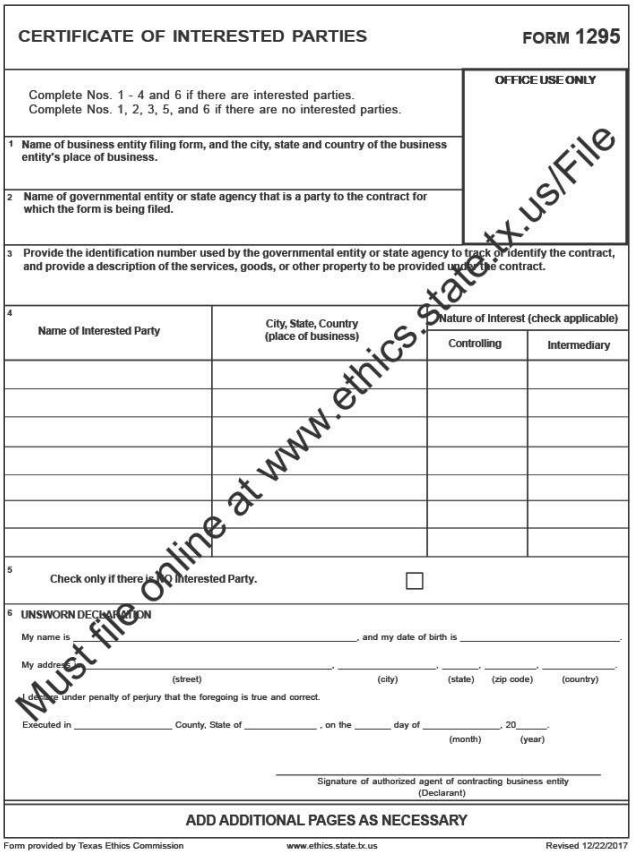
Title: Owner

Date: 07/28/2026

Company Name: Waste Solutions USA LLC

Phone: (832) 405-6296

Email: fabricio@wastesolutionsusa.com



CERTIFICATE OF INTERESTED PARTIES — FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1504459

Date Filed:
08/19/2026

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Waste Solutions USA LLC
Thornton, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

263-26-PLN-IFB
On call demolition services.

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is Fabricio Lima, and my date of birth is October 1, 1983.

My address is 2434 LCR 656, Thornton, TX 76687, USA
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Limestone County, State of Texas, on the 19 day of August, 2026.
(month) (year)

Fabricio Lima

Signature of authorized agent of contracting business entity
(Declarant)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1504459

Date Filed:
08/19/2026

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Waste Solutions USA LLC
Thornton, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

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263-26-PLN-IFB
On call demolition services.

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print, sign, and notarize the TEC Form 1295 and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC's website in accordance with state law.

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed and notarized in accordance with TEC requirements.

Signature: _____

Printed Name: Jacob Robles

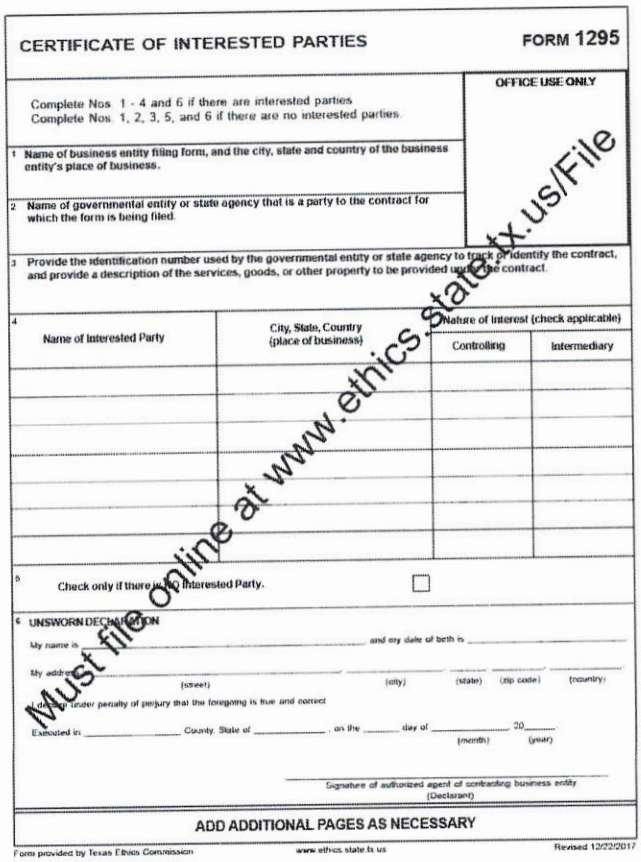
Title: Senior Estimator

Date: 7/28/26

Company Name: Alamo Environmental, Inc. dba Alamo1

Phone: 210-240-5554

Email: jacob.robles@alamo1.com



CERTIFICATE OF INTERESTED PARTIES — FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____ and my date of birth is _____

My address is _____ (street) _____ (city) _____ (state) _____ (zip code) _____ (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____ (month) 20_____ (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1494434

Date Filed:
07/28/2026

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Alamo Environmental, Inc. dba Alamo1
San Antonio, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

IFB#263-26-PLN-IFB
Building Demolition Services on an as-needed basis

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is Jacob Robles, and my date of birth is 5/31/85.

My address is 2900 Nacogdoches Road, San Antonio, (city) Texas (state) 78217 (zip code) US (country).

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Bexar County, State of Texas, on the 28th day of July (month), 2026 (year).

Signature of authorized agent of contracting business entity
(Declarant)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1494434

Date Filed:
07/28/2026

Date Acknowledged:
08/12/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Alamo Environmental, Inc. dba Alamo1
San Antonio, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

IFB#263-26-PLN-IFB
Building Demolition Services on an as-needed basis

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

Contract Summary Form
Contract No. 263-26-PLN-IFB

Procurement Info	
Procurement Method:	**IFB, RFP, RFQ**
New Contract:	**Yes ☒ No ☐**
Advertisement Dates, if any:	**June 20, 2026 and June 27, 2026**
Award Date:	**City Commission Tuesday, September 22, 2026**
Contractor Information	
Name:	Alamo Environmental, Inc. dba Alamo1
Address:	2900 Nacogdoches Road, San Antonio, Texas 78217
Point of Contact:	Jacob Robles
Phone Number & Email Address :	Jacob.robles@alamo1.com ; (210) 240-5554
City Contact Information	
Department:	**Omar Ochoa**
Point of Contact / Project Manager:	Planning and Redevelopment Services Department
Email Address:	omar.ochoa@brownsvilletx.gov
Contract Amount:	As Needed – Compensation shall be based on the unit prices submitted in the Contractor's Bid Price Form for authorized Task Orders. No minimum amount of work is guaranteed.
Contract Base/Primary Term:	Three (3) Years
Renewal Periods (if any):	Two (2) additional one-year renewal optional
Total Term of Contract:	Five (5) Years
Important	
No Guarantee of Work	The City does not guarantee any minimum quantity of work under this Agreement. Work shall be assigned on an as-needed basis through individual Task Orders.
Cooperative Use	Vendor Authorized Cooperative Use ; 3% Administrative Fee
Compensation	Contractor shall be compensated in accordance with the unit prices submitted in the Bid Price Form for each authorized Task Order.
Task Orders	Services shall be performed only upon issuance of a written Task Order by the City. Each Task Order will define the scope, schedule, and location of the work.
CDBG Compliance	CDBG funds may be used under this Agreement. Contractor shall comply with all applicable CDBG and federal requirements incorporated into the Agreement or applicable Task Order.
Payment & Performance Bonds	Bonds shall be required on an individual Task Order basis when the value of the Task Order meets the thresholds established under Texas Government Code Chapter 2253. The Contractor shall furnish the required bonds prior to commencement of work for the applicable Task Order.
Licenses, Permits & Certifications	Contractor shall obtain and maintain all licenses, permits, certifications, and approvals required to perform the Work.
Internal Use	
Signature Sections	**Signature Page: 7**
State or Federal Funds:	**Yes ☒ No ☐ - CDBG Funds may be used.**

MASTER SERVICE AGREEMENT FOR BUILDING DEMOLITION SERVICES ON AN AS-NEEDED BASIS
Contract No. 263-26-PLN-IFB

This Agreement shall commence upon the approval of the City Commission and executed by the City of Brownsville's Mayor or designee. This agreement is between The City of Brownsville, Texas, hereinafter referred to as ("CITY") and Alamo Environmental, Inc. dba Alamo1 hereinafter referred to as ("Contractor"), collectively referred to as "Parties" and individually as "Party".

1. **Documents**
   a. The following documents (collectively, "Contract Documents") are hereby incorporated into and made part of this Agreement.

      i. Scope of Services, Conditions and Additional Services (Exhibit A)
      ii. Term of Agreement (Exhibit B)
      iii. Compensation and Fees Schedule (Exhibit C)
      iv. Sample Task Order with Instructions (Exhibit D)
      v. Form 2 - Statement of Conflict of Interest (Exhibit E)
      vi. Form 3 - Texas Ethics Commission Certificate of Interested Parties (1295) (Exhibit F)
      vii. Insurance (Exhibit G)
      viii. Form 10 – Cooperative Use Authorization Form (Exhibit H)
      ix. Form 12 – CDBG Federal Clauses Certification Form (Exhibit I)
      x. Form 13 – Acknowledgment and Intent to Comply (Exhibit J)
      xi. Form 14 – BABA Contractor Certification (Exhibit K)

2. **Scope of Services**
   a. Contractor shall perform the Services under this agreement upon written request orders by CITY. Unless otherwise specified in a project request, Contractor and CITY agree that the scope of work is deemed to include preliminary considerations and prerequisites, and all tasks which are an integral and inseparable part of the work described in the Contract Documents or by separate written request.
   b. Contractor will perform such Services in a diligent and workmanlike manner consistent with industry standards.
   c. By signing this Agreement, Contractor represents that it has thoroughly reviewed the Contract Documents incorporated into this Agreement, including but not limited to "Exhibit A" Scope of services and that it accepts the description of the Work and the conditions under which the Work is to be performed and completed.

3. **Independent Contractor; Personnel**
   a. The Contractor enters into this Agreement as, and shall remain, an independent contractor. Nothing in this Agreement shall be construed to create a relationship of employer–employee, partnership, or agency between the City and the Contractor. Neither the Contractor nor its employees or subconsultants shall be entitled to any benefits accorded to City employees, including, without limitation, workers' compensation, disability insurance, vacation or sick leave. The Contractor shall be solely responsible, at its own expense, for providing all required insurance, licenses, and permits, and for paying all applicable local, state, and federal taxes.
   b. The Contractor represents and warrants that all personnel and subconsultants performing services hereunder shall be properly trained, experienced, and, where required, licensed or registered to perform such services in the State of Texas.

4. **Term of Agreement.**

   a. The initial contract period shall commence upon approval by the City Commission and when executed by the City of Brownsville's Mayor or designee and shall end or be extended upon the terms specified in Contract Documents "Exhibit B". The term or any continuation of this Agreement shall be subject to both the appropriation and the availability of funds by CITY.

5. **Compensation**

   a. The Contractor shall be compensated for services as provided in Exhibit C of this Agreement, and as further defined in each Task Order issued hereunder. The compensation described in Exhibit C represents the City's maximum obligation for each authorized scope of services, but does not obligate the City to issue any minimum amount of work. The Contractor shall only be required to perform services specifically authorized by the City through a written Task Order.
   b. The Contractor may submit invoices no more often than monthly for Work satisfactorily completed under an authorized Task Order. Each invoice shall identify the applicable Task Order, the bid item(s) performed, the actual quantities completed, the applicable unit price(s), and the total amount requested for payment. Invoices shall include all supporting documentation required by the City, including disposal tickets, manifests, photographs, or other records, as applicable. Invoices shall be submitted within fifteen (15) days after the end of each month. The final invoice shall be submitted no later than sixty (60) days after expiration or termination of this Agreement. Electronic submission of invoices shall be permitted.
   c. The City may withhold payment, in whole or in part, if (i) services are defective or materially noncompliant with the Agreement and have not been remedied, (ii) the Contractor has failed to comply with material terms of this Agreement, or (iii) withholding is otherwise authorized by law. Any withholding shall be limited to the amount reasonably necessary to protect the City. Payment terms shall otherwise be governed by the Texas Prompt Payment Act (Tex. Gov't Code Ch. 2251).

6. **Inspection and Review of Work**

   a. The City may inspect the Work at any time to verify that the Work is being performed in accordance with this Agreement, the applicable Task Order, and all applicable requirements.
   b. The Contractor shall provide the City and its authorized representatives reasonable access to the project site for purposes of inspection, observation, and verification of the Work.
   c. The Contractor shall promptly correct, at its own expense, any Work determined by the City to be defective, incomplete, or not in compliance with the Contract Documents or applicable Task Order.
   d. Inspection, observation, review, or acceptance by the City shall not relieve the Contractor of responsibility for the proper performance and completion of the Work.

7. **Documentation, Invoicing, and Acceptance of Work**

   a. The Contractor shall maintain and submit documentation required by the City for each Task Order, which may include permits, disposal tickets or manifests, photographs, inspection records, certifications, and other supporting documentation applicable to the Work.
   b. Invoices shall identify the applicable Task Order and shall include sufficient supporting documentation to verify the quantities of Work satisfactorily completed and the amount requested for payment.
   c. Payment shall be based upon Work satisfactorily completed and accepted by the City in accordance with the applicable Task Order and the unit prices established in Exhibit C.

d. The City may require correction of incomplete or nonconforming Work before final acceptance and payment. Payment or acceptance by the City shall not relieve the Contractor of its obligations under this Agreement.

8. Records and Documentation

a. The Contractor shall maintain complete and accurate records relating to Work performed under this Agreement and each Task Order, including invoices, disposal documentation, permits, photographs, certifications, and other records required by the City or applicable law.
b. The Contractor shall provide copies of such records to the City upon request and shall retain records for the period required by applicable federal, state, and local law and any funding requirements applicable to the Work.
c. All reports, photographs, manifests, certifications, and other project-specific documentation prepared or submitted to the City in connection with a Task Order shall become part of the City's project records.
d. For Task Orders funded in whole or in part with federal or state funds, the Contractor shall comply with any additional recordkeeping, retention, access, audit, or documentation requirements incorporated into the applicable Task Order.

9. Insurance

a. The Contractor shall furnish proof of insurance requirements as specified in Contract Documents "Exhibit G". The coverage is to remain in force at all times during the contract period and the minimum insurance coverage is required. The commercial general liability insurance policy shall name the City of Brownsville, Texas, as an "additional insured." This MUST be written in the description section of the insurance certificate, even if there is a check-off box on the insurance certificate. Any costs for adding the City as "additional insured" shall be at the Contractor's expense.
b. The CITY shall be given notice 10 days prior to cancellation or modification of any required insurance. The insurance provided shall be endorsed or amended to comply with this notice requirement. In the event that the insurer is unable to accommodate, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested and addressed to the Procurement Department.
c. The Contractor's insurance must be provided by an A.M. Best's "A-"rated or better insurance company authorized to issue insurance policies in the State of Texas, subject to approval by the City of Brownsville Department of Safety and Risk Management. Any exclusions or provisions in the insurance maintained by the Contractor that excludes coverage for work contemplated in this solicitation shall be deemed unacceptable, and shall be considered breach of contract.

10. Termination

a. *Termination for Cause.* The aggrieved party may terminate this Agreement for cause if the party in breach has not corrected the breach within ten (10) days after written notice from the aggrieved party identifying the breach. CITY may also terminate this Agreement upon such notice as the City of Brownsville's City Manager deems appropriate under the circumstances in the event the City Manager determines that termination is necessary to protect the public health or safety. The parties agree that if the CITY erroneously, improperly or unjustifiably terminates for cause, such termination shall be deemed a termination for convenience, which shall be effective thirty (30) days after such notice of termination for cause is provided.

This Agreement may be terminated for cause for reasons including, but not limited to, Contractor's repeated (whether negligent or intentional) submission for payment of false or incorrect bills or invoices, failure to perform the Work to CITY's satisfaction; or failure to continuously perform the work in a manner calculated to meet or accomplish the objectives as set forth in this Agreement.

b. *Termination for Convenience.* CITY reserves the right, in its best interest as determined by the City of Brownsville's City Manager, to cancel this contract for convenience by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. In the event this Agreement is terminated for convenience, Contractor shall be paid for any services performed to CITY's satisfaction pursuant to the Agreement through the termination date specified in the written notice of termination. Contractor acknowledges and agrees that he/she/it has received good, valuable and sufficient consideration from CITY, the receipt and adequacy of which are hereby acknowledged by the Contractor, for CITY's right to terminate this Agreement for convenience.

c. *Cancellation for Non-appropriated Funds.* CITY reserves the right, in its best interest as determined by the City of Brownsville's City Manager, to cancel this contract for non-appropriated funds or unavailability of funds by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. The obligation of CITY for payment to the Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise provided by law.

d. *Force Majeure.* CITY and Contractor will be excused from the performance of their respective obligations under this agreement when and to the extent that their performance is delayed or prevented by any circumstances beyond their control including, fire, flood, explosion, strikes or other labor disputes, act of God or public emergency, war, riot, civil commotion, malicious damage, act or omission of any governmental authority, delay or failure or shortage of any type of transportation, equipment, or service from a public utility needed for their performance, provided that:

    i. The non performing party gives the other party prompt written notice describing the particulars of the Force Majeure including, but not limited to, the nature of the occurrence and its expected duration, and continues to furnish timely reports with respect thereto during the period of the Force Majeure;

    ii. The excuse of performance is of no greater scope and of no longer duration than is reasonably necessary when considered in light of the Force Majeure;

    iii. No obligations of either party that arose before the Force Majeure causing the excuse of performance are excused as a result of the Force Majeure; and

    iv. The non-performing party uses its best efforts to remedy its inability to perform.

    v. Notwithstanding the above, performance shall not be excused under this Section for a period in excess of sixty (60) days, provided that in extenuating circumstances, CITY may excuse performance for a longer term. Economic hardship of the Contractor will not constitute Force Majeure. The term of the agreement shall be extended by a period equal to that during which either party's performance is suspended under this Section.

11. Materiality and Waiver of Breach.

a. The Parties agree that each requirement, duty, and obligation set forth in this Agreement is material to its performance. The City's failure at any time to enforce any provision of this Agreement shall not be construed as a waiver of that provision, or as a waiver of the City's right thereafter to enforce each and every provision of this Agreement. A waiver of any breach by the City shall be effective only if made in writing and shall not be deemed a waiver of any subsequent breach, nor shall it constitute a modification of the terms of this Agreement.

12. **Indemnification.**

a. **TO THE FULLEST EXTENT PERMITTED BY LAW, THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE CITY, ITS OFFICERS, OFFICIALS, EMPLOYEES, AND REPRESENTATIVES FROM AND AGAINST CLAIMS, DAMAGES, LOSSES, AND EXPENSES, INCLUDING REASONABLE ATTORNEYS' FEES, TO THE EXTENT CAUSED BY THE NEGLIGENT ACTS, ERRORS, OR OMISSIONS OF THE CONTRACTOR, ITS EMPLOYEES, OR ITS SUBCONSULTANTS IN THE PERFORMANCE OF SERVICES UNDER THIS AGREEMENT.**

b. **THIS INDEMNITY SHALL NOT APPLY TO THE EXTENT THAT A CLAIM ARISES FROM THE NEGLIGENCE OR WILLFUL MISCONDUCT OF THE CITY OR ANY OTHER PERSON OR ENTITY NOT UNDER THE CONTRACTOR'S CONTROL.**

c. **THE CONTRACTOR SHALL NOTIFY THE CITY IN WRITING WITHIN 24 HOURS OF ANY CLAIM OR DEMAND MADE AGAINST THE CITY OR THE CONTRACTOR THAT IS RELATED TO THE SERVICES PROVIDED UNDER THIS AGREEMENT. THE CONTRACTOR SHALL COOPERATE FULLY IN THE INVESTIGATION AND DEFENSE OF SUCH CLAIMS. THE CITY MAY, AT ITS OWN EXPENSE, PARTICIPATE IN THE DEFENSE WITHOUT RELIEVING THE CONTRACTOR OF ITS INDEMNIFICATION OBLIGATIONS.**

d. **THIS INDEMNIFICATION OBLIGATION SHALL SURVIVE TERMINATION OR EXPIRATION OF THIS AGREEMENT.**

13. **Miscellaneous Provisions.**

a. *Successors and Assigns.* All of the provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, if any, successors, and assigns.

b. *Choice of Law.* The laws of the state of Texas shall govern the validity of this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties hereto.

c. *No Waiver of Governmental Immunity.* NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED TO WAIVE CITY'S GOVERNMENTAL IMMUNITY FROM LAWSUIT, WHICH IMMUNITY IS EXPRESSLY RETAINED TO THE EXTENT IT IS NOT CLEARLY AND UNAMBIGUOUSLY WAIVED BY STATE LAW.

d. *Assignment.* Contractor shall not assign any of Contractor's rights under this Agreement or delegate the performance of any of Contractor's duties hereunder, without the prior consent of CITY.

e. *Modification or Amendment.* No amendment, change or modification of this Agreement shall be valid unless in writing signed by the parties hereto.

f. *Venue.* This Agreement and any and all matters arising directly or indirectly here from shall be governed by and construed and enforced in accordance with the Laws of the State of Texas, in the Federal and State Courts of Cameron County, Texas having jurisdiction. (b) If at any time there is a dispute between or among the Parties with respect to any matter arising directly or indirectly from this Agreement (an "Agreement Matter"), the Parties agree that, prior to seeking judicial remedy, they will

engage in face-to-face negotiations in an attempt to resolve such dispute and shall, upon failing to negotiate a mutually-satisfactory resolution, choose a mutually agreeable neutral third party to mediate such dispute. Mediation shall be non-binding and shall be confidential.

g. *Notices.* Any and all notices, demands, or other communications required or desired to be given hereunder by any party shall be in writing and shall be validly given or made to another party if personally served, or if deposited in the United States mail, certified or registered, postage prepaid, return receipt requested. If such notice or demand is served personally, notice shall be deemed constructively made at the time of such personal service. If such notice, demand or other communication is given by mail, such notice shall be conclusively deemed given five days after deposit thereof in the United States mail addressed to the party to whom such notice, demand or other communication is to be given as follows:

If to Contractor:	Alamo Environmental, Inc. dba Alamo1 2900 Nacogdoches Road San Antonio, Texas 78217
If to CITY:	City of Brownsville 1001 E. Elizabeth St. Brownsville, Texas, 78521

Any party hereto may change its address for purposes of this paragraph by written notice given in the manner provided above.

h. *Entire Understanding.* This document and any exhibit attached constitute the entire understanding and agreement of the parties, and any and all prior agreements, understandings, and representations are hereby terminated and canceled in their entirety and are of no further force and effect.

i. *Unenforceability of Provisions.* If any provision of this Agreement, or any portion thereof, is held to be invalid and unenforceable, then the remainder of this Agreement shall nevertheless remain in full force and effect.

IN WITNESS WHEREOF the undersigned have executed this Agreement as of the day and year first written above.

CITY OF BROWNSVILLE	CONTRACTOR
Signature: _____	Signature: _____
Print Name: _____	Print Name: Jacob Robles
Title: _____	Title: Senior Estimator
Date: _____	Date: 8/17/26

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

"EXHIBIT A" – Scope of Services, Conditions and Additional Services

Task Orders: All services under this Agreement shall be performed on an as-needed basis through written Task Orders issued by the City. Each Task Order shall identify the specific property or location, scope of work, applicable pricing or compensation, required completion timeframe, and any project-specific requirements. The execution of this Agreement does not guarantee the Contractor any minimum quantity of work, number of Task Orders, or minimum amount of compensation. The Contractor shall perform only those services specifically authorized by the City through an approved Task Order. The requirements and procedures governing Task Orders are set forth in **Exhibit D – Sample Task Order**.

Contractor shall provide all labor, materials, equipment, supervision, transportation, disposal, permits, safety measures, and related services necessary to complete assigned demolition projects. Major deliverables shall include, but are not limited to, demolition of assigned structures, removal of applicable foundations, clearing of trash and construction debris, lawful disposal of materials, site cleanup, and final grading of the property.

Demolition work may include, but is not limited to, residential, accessory, commercial, or other structures determined by the City to be unsafe, substandard, dilapidated, or otherwise subject to demolition pursuant to an order issued by the Building & Standards Commission.

Work shall be performed in accordance with all applicable federal, state, and local laws, rules, regulations, ordinances, permit requirements, safety standards, and environmental requirements.

1. **Project Assignment Information**
   For each demolition assignment, the City will provide the project information available to the contractor, which may include, but is not limited to:
   - Property address or location;
   - Approximate building area or square footage;
   - Type of structure;
   - Number of stories;
   - Foundation type, including whether the foundation is concrete, wood, pier-and-beam, slab-on-grade, or another type;
   - Known site conditions;
   - Required timeline;
   - Presence of accessory structures, fencing, flatwork, or debris;
   - Any special instructions or limitations related to the property.

2. **Minimum Work Requirements**
   Unless otherwise directed in writing by the City, each demolition assignment shall include the following:

   A. Structure Demolition

   The contractor shall demolish and remove the structure or structures identified by the City. Demolition shall include the removal of all building components, materials, and related debris associated with the assigned structure. The contractor shall account for relevant project characteristics, including:
   - Building area;
   - Number of stories;
   - Construction type;
   - Foundation type;
   - Site access;
   - Proximity to neighboring structures, utilities, sidewalks, streets, alleys, or public rights-of-way.

The contractor shall be responsible for verifying site conditions before beginning work and shall notify the City of any discrepancy, hazard, access limitation, or condition that may affect the demolition scope, cost, or schedule.

B. Foundation Removal

The contractor shall remove the foundation as directed by the City. Foundation types may include, but are not limited to:

- Concrete slab foundations;
- Concrete pier systems;
- Wood foundations;
- Pier-and-beam foundations;
- Other foundation systems encountered on site.

Where full foundation removal is required, the contractor shall remove foundation materials, associated debris, and any exposed or resulting hazards. Any exceptions or limitations to foundation removal must be approved by the City in writing before work proceeds.

C. **Clearing of Trash, Rubbish, and Construction Debris**

The contractor shall remove and properly dispose of all demolition debris, construction debris, trash, rubbish, and related materials from the property, unless otherwise directed by the City. This may include, but is not limited to:

- Demolished building materials;
- Loose trash and rubbish within the demolition area;
- Construction debris;
- Wood, metal, concrete, roofing materials, glass, fixtures, and similar materials;
- Debris resulting from demolition activities.

All materials shall be disposed of at the City of Brownsville landfill facility in accordance with applicable laws and regulations. The Contractor shall provide disposal tickets, manifests, photographs, or other documentation as required by the City to verify proper disposal.

D. Site Clearing and Final Grading

Upon completion of demolition and debris removal, the contractor shall leave the property in a clean, safe, and orderly condition. Final site work shall include:

- Removal of demolition-related debris;
- Elimination of unsafe holes, depressions, or hazards caused by demolition;
- Rough grading or final grading of the disturbed area;
- Leveling of the site to promote positive drainage where feasible;
- Leaving the site in a condition acceptable to the City.

The contractor shall not leave the property in a condition that creates a safety hazard, drainage issue, or nuisance.

E. **Protection of Adjacent Property and Public Infrastructure**

The contractor shall take all necessary precautions to protect adjacent properties, public sidewalks, streets, curbs, alleys, utilities, drainage facilities, trees, fences, and other improvements not identified for demolition.

Any damage caused by the contractor's operations shall be repaired at the contractor's expense and to the satisfaction of the City.

F. **Utility Coordination**

Prior to demolition, the contractor shall coordinate with the City and applicable utility providers, as necessary, to confirm that utilities have been properly disconnected, removed, capped, or otherwise made safe.
The contractor shall not begin demolition until utility conditions have been addressed to the satisfaction of the City or the appropriate utility provider.

G. **Safety and Site Control**

The contractor shall be responsible for maintaining a safe work site at all times. This includes providing appropriate barricades, fencing, signage, traffic control, dust control, and other safety measures necessary to protect workers, City personnel, neighboring properties, pedestrians, and the general public.
All work shall comply with applicable OSHA requirements and other safety standards.

3. Permits, Licenses, and Compliance

The Contractor shall perform all Work in accordance with all applicable federal, state, and local laws, ordinances, regulations, and codes. The Contractor shall obtain and maintain all permits, licenses, certifications, and approvals necessary to perform the Work.

The Contractor shall maintain all required licenses, permits, and certifications throughout the term of the Agreement and shall provide updated documentation upon the City's request.

4. Response Time and Availability

The Contractor shall maintain sufficient personnel, equipment, and resources to respond to demolition assignments in a timely manner. The Contractor shall mobilize and commence Work within the timeframe established in each Task Order or Notice to Proceed. The City may consider the Contractor's availability, capacity, and ability to meet required schedules when assigning Work under this Agreement.

5. Performance Requirements

- Timely completion of demolition services in accordance with work order schedules and City-established response times.
- Comply with all applicable federal, state, and local laws, regulations, permits, and requirements, including applicable OSHA and TCEQ requirements, Community Development Block Grant (CDBG) requirements, and all federal requirements incorporated into the Agreement or applicable Task Order.
- Performance of demolition, debris removal, disposal, and site restoration activities in a safe and professional manner consistent with industry standards.
- Maintenance of proper traffic control, site security, and public safety measures throughout the duration of the work.
- Coordination with City staff, utility providers, regulatory agencies, and other contractors as necessary.
- Submission of all required documentation, including permits, disposal manifests, photographs, inspection records, and closeout documents, as required by the City.
- Restoration of the site to a clean, safe, and acceptable condition upon completion of work.

6. Federal and CDBG Compliance

The Contractor acknowledges that CDBG funds may be used for Work performed under this Agreement and shall comply with all applicable federal requirements associated with such funding. Applicable federal provisions, including labor standards, wage requirements, reporting requirements, certifications, and other funding-specific conditions, shall be incorporated into the applicable Task Order when required.

7. Payment and Performance Bonds

Payment and Performance Bonds shall **not** be required upon execution of this Master Service Agreement. For each individual Task Order that constitutes a public works construction project and meets the bonding thresholds established under **Chapter 2253 of the Texas Government Code**, the Contractor shall furnish Payment and Performance Bonds in the amount required by law prior to commencement of Work.

All bonds shall:

1. Be issued by a surety authorized to conduct business in the State of Texas;
2. Comply with the requirements of Chapter 2253, Texas Government Code, and all other applicable state and federal laws;
3. Be submitted to and approved by the City before issuance of the Notice to Proceed for the applicable Task Order.

When a Task Order is funded in whole or in part with state or federal funds, the Contractor shall also comply with any additional bonding requirements contained in the applicable Task Order.

8. Davis Bacon

For all Davis-Bacon covered activities, the most current applicable Wage Determination published by the U.S. Department of Labor and available at the time of each new Purchase Order issuance shall be incorporated and used.

"EXHIBIT B" – Contract Term

Contract Term Details: The Contract, pending City Commission approval, includes a Base Period, Optional Renewal Periods, and a Total Contract Term as follows:

- **Base Period:** This initial period will begin upon City Commission approval and end on **September 30, 2029**

- **Optional Renewal Periods:** There are two (2) optional one-year renewal periods. If exercised, these periods will extend the contract as follows:
  - **First Renewal Period:** October 1, 2029, to September 30, 2030
  - **Second Renewal Period:** October 1, 2030 to September 30, 2031

- **Total Term of the Contract:** Including the Base Period and both optional renewals, the total contract term shall not exceed five (5) years, with a final end date of **September 30, 2031**, if all renewals are exercised.

"EXHIBIT C" – Compensation Structure

The City shall compensate the Contractor for Work performed under this Agreement in accordance with the unit prices submitted in the Contractor's Bid Price Form, which is incorporated herein by reference and made a part of this Agreement.

Compensation shall be based solely on the actual quantities of Work satisfactorily completed and accepted by the City under individual Task Orders issued pursuant to this Agreement.

The unit prices shall include all labor, supervision, materials, equipment, tools, transportation, permits, traffic control, mobilization, disposal, overhead, profit, insurance, taxes, and all other incidentals necessary to complete the Work in accordance with the Contract Documents, unless otherwise specifically provided in the applicable Task Order.

The City shall have no obligation to pay for Work performed without an authorized Task Order or for Work exceeding the authorized scope of a Task Order unless approved in writing by the City.

BUILDING DEMOLITION SERVICES ON AN AS-NEEDED BASIS

BID PRICE FORM

BIDDER INFORMATION

Item	Response
Company Name	Alamo Environmental, Inc. dba Alamo1
Address	2900 Nacogdoches Road, San Antonio, Texas 78217
Contact Person	Jacob Robles
Phone Number	210-240-5554
Email Address	jacob.robles@alamo1.com

SECTION A – STRUCTURE DEMOLITION – SINGLE STORY

Item No.	Description	Unit	Unit Price
A-1	Residential Structure Demolition – Wood Frame	SF	$6.00
A-2	Residential Structure Demolition – Masonry	SF	$5.00
A-3	Commercial Structure Demolition – Wood Frame	SF	$5.00
A-4	Commercial Structure Demolition – Masonry	SF	$5.50
A-5	Multifamily Structure Demolition – Wood Frame	SF	$5.00
A-6	Multifamily Structure Demolition – Masonry	SF	$5.50
A-7	Accessory Structure Demolition (Garage/Shed/Carport) – Wood Frame	SF	$6.00
A-8	Accessory Structure Demolition (Garage/Shed/Carport) – Masonry	SF	$6.00
A-9	Mobile Home Demolition	EA	$6,000.00

SECTION A – STRUCTURE DEMOLITION – MUILTIPLE STORIES			
Item No.	**Description**	**Unit**	**Unit Price**
A-1	Residential Structure Demolition – Wood Frame	SF	$6.50
A-2	Residential Structure Demolition – Masonry	SF	$5.50
A-3	Commercial Structure Demolition – Wood Frame	SF	$6.00
A-4	Commercial Structure Demolition – Masonry	SF	$6.50
A-5	Multifamily Structure Demolition – Wood Frame	SF	$5.50
A-6	Multifamily Structure Demolition – Masonry	SF	$6.00
A-7	Accessory Structure Demolition (Garage/Shed/Carport) – Wood Frame	SF	$6.00
A-8	Accessory Structure Demolition (Garage/Shed/Carport) – Masonry	SF	$6.00

SECTION B – FOUNDATION REMOVAL			
Item No.	**Description**	**Unit**	**Unit Price**
B-1	Concrete Slab Foundation Removal	SF	$3.00
B-2	Pier-and-Beam Foundation Removal	SF	$5.00
B-3	Masonry Wall Foundation Removal	SF	$2.50
B-4	Partial Foundation Removal	SF	$6.00
B-5	Entry Porch Foundation Removal	SF	$7.00

SECTION C – DEBRIS / DISPOSAL			
Item No.	**Description**	**Unit**	**Unit Price**
C-1	Demolition Debris Haul-Off and Disposal	CY	$31.56
C-2	Trash and Rubbish Removal	CY	$45.00
C-3	Tire Disposal	EA	$50.00
C-4	Illegal Dumping Cleanup	CY	$45.00

SECTION D – SITE RESTORATION / FINAL GRADING			
Item No.	**Description**	**Unit**	**Unit Price**
D-1	Backfill	CY	$ 35.00
D-2	Rough Grading	SF	$ 0.35
D-3	Final Site Grading	SF	$ 0.40
D-4	Lot Clearing and Site Cleanup	EA	$ 500.00

SECTION E – SAFETY / SITE CONTROL			
Item No.	**Description**	**Unit**	**Unit Price**
E-1	Temporary Barricades/Fencing	LF	$ 10.00
E-2	Traffic Control	DAY	$ 200.00
E-3	Dust Control Measures	DAY	$ 50.00
E-4	Emergency Site Securing	EA	$ 500.00

SECTION F – EMERGENCY RESPONSE			
Item No.	Description	Unit	Unit Price
F-1	Emergency Demolition Mobilization	EA	$ 800.00
F-2	After-Hours Mobilization	EA	$ 1,000.00
F-3	Expedited Response (<24 Hours)	EA	$ 1,000.00

The Vendor shall prepare and submit this Task Order form, with all required exhibits, as part of its proposal for services when requested by the City. No services shall be performed without an executed Task Order issued by the City of Brownsville under the Master Services Agreement.

"EXHIBIT D" – Sample Task Order with Instructions"

Master Service Agreement # 263-26-PLN-IFB

TASK ORDER # _____
(Building Demolition Services On An As-Needed Basis Only)

The City will assign the Task Order number.

This **TASK ORDER** is issued under the **Master Services Agreement #263-26-PLN-IFB** between the City of Brownsville and **Alamo Environmental, Inc. dba Alamo1** for services for Bore and Trenching On-Call Services. Terms and Conditions in accordance with the Master Services Agreement #263-26-PLN-IFB.

All Exhibits must be completed and individually label.

1.	Project Information, Scope of Work, and Location :	Exhibit A
	a. Estimated time for completion:	
	b. Compensation (Detailed Breakdown):	
2.	Certificate of Insurance:	Exhibit B
3.	Form 2 - Statement of Conflict of Interest:	Exhibit C
4.	Payment and Performance Bonds (If applicable)	Exhibit D
5.	Federal or State Provisions (If applicable)	Exhibit E

For projects funded by State or Federal sources, the City will provide the applicable contract provisions, which shall be attached as Exhibit E and incorporated into the Task Order.

All terms and conditions of the Master Services Agreement #263-26-PLN-IFB shall continue in full force and effect.

All terms and conditions of the MSA remain in effect and govern each Task Order. No additional terms may be added to a Task Order.

IN WITNESS WHEREOF, the patties hereto have set their hands and herein stated.

IN WITNESS WHEREOF the undersigned have executed this Agreem above.

NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESSED OR IMPLIED, TO AMEND THIS CONTRACT, EXCEPT SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE CITY COMMISION OF THE CITY OF BROWNSVILLE.

EXECUTED THIS _____ DAY OF _____, 20__.

Contractor / Contractor
Company name:
Authorized representative:
Company address:
Phone Number:
Email:

_____
Name:
Date:

Owner
City of Brownsville
City Manager/Mayor.
1001 E. Elizabeth St Brownsville Tx 78520
956-548-6000
Purchasing@brownsvilletx.gov

_____
Name:
Date:

Master Service Agreement # 263-26-PLN-IFB

TASK ORDER #_____

(Building Demolition Services On An As-Needed Basis Only)

This **TASK ORDER** is issued under the **Master Services Agreement # 263-26-PLN-IFB** between the City of Brownsville and **Alamo Environmental, Inc. dba Alamo1** for services for Bore and Trenching On-Call Services. Terms and Conditions in accordance with the Master Services Agreement #263-26-PLN-IFB

1. Project Information & Scope of Service and Location: Exhibit A
   a. Estimated time for completion:
   b. Compensation (Detailed Breakdown):
2. Certificate of Insurance: Exhibit B
3. Form 2 - Statement of Conflict of Interest Exhibit C
4. Payment and Performance Bonds (If applicable) Exhibit D
5. Federal or State Provisions (If applicable) Exhibit E

All terms and conditions of the Master Services Agreement #263-26-PLN-IFB shall continue in full force and effect.

IN WITNESS WHEREOF, the patties hereto have set their hands and seals on the day and year herein stated.

IN WITNESS WHEREOF the undersigned have executed this Agreement as of the day and year first written above.

NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESSED OR IMPLIED, TO AMEND THIS CONTRACT, EXCEPT SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE CITY COMMISSION OF THE CITY OF BROWNSVILLE.

EXECUTED THIS _____ DAY OF _____, 20__.

Architect / Contractor		**Owner**
Company name:	_____	City of Brownsville
Authorized representative:	_____	City Manager/Mayor.
Company address:	_____	1001 E. Elizabeth St Brownsville Tx 78520
Phone Number:	_____	956-548-6000
Email:	_____	Purchasing@brownsvilletx.gov

_____

Name:
Date:

_____

Name:
Date:

Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent vendor must describe any conflicts of interest related to the goods and/or services associated with this solicitation.

The Respondent shall complete and submit **Form CIQ (Form 2)** indicating any conflicts of interest for the service provider or key employees. If no conflicts exist, the Respondent must indicate "N/A" on the form and submit it as part of their response.

A conflict of interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s).

The Entity reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict of interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1001 East Elizabeth Street, Brownsville, Texas 78520
Email: citysecretary@brownsvilletx.gov
Phone: (956) 548-6000

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Chapter 176, Texas Local Government Code, and that the appropriate Conflict of Interest Questionnaire (Form CIQ) has been filed or will be filed as required.

Signature: 

Printed Name: Jacob Robles

Title: Senior Estimator

Date: 7/28/26

Company Name: Alamo Environmental, Inc. dba Alamo1

Phone: 210-240-5554

Email: jacob.robles@alamo1.com

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print, sign, and notarize the TEC Form 1295 and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC's website in accordance with state law.

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed and notarized in accordance with TEC requirements.

Signature: _____

Printed Name: Jacob Robles

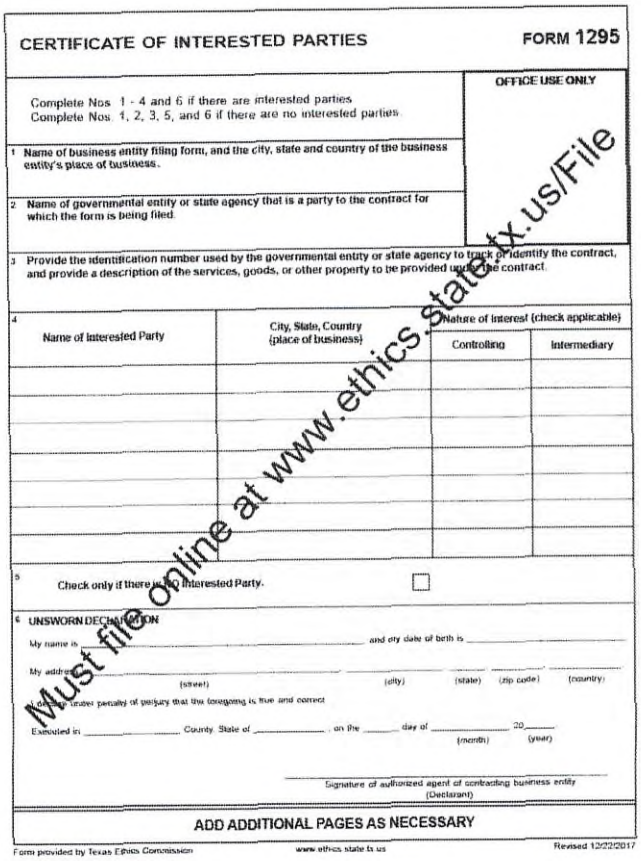
Title: Senior Estimator

Date: 7/28/26

Company Name: Alamo Environmental, Inc. dba Alamo1

Phone: 210-240-5554

Email: jacob.robles@alamo1.com



CERTIFICATE OF INTERESTED PARTIES — FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____ and my date of birth is _____

My address is _____ (street) _____ (city) _____ (state) _____ (zip code) _____ (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____ (month) 20_____ (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1494434

Date Filed:
07/28/2026

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Alamo Environmental, Inc. dba Alamo1
San Antonio, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

IFB#263-26-PLN-IFB
Building Demolition Services on an as-needed basis

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is Jacob Robles, and my date of birth is 5/31/85.

My address is 2900 Nacogdoches Road, San Antonio, (city) Texas (state) 78217 (zip code) US (country).

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Bexar County, State of Texas, on the 28th day of July (month), 2026 (year).

Signature of authorized agent of contracting business entity
(Declarant)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1494434

Date Filed:
07/28/2026

Date Acknowledged:
08/12/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Alamo Environmental, Inc. dba Alamo1
San Antonio, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

IFB#263-26-PLN-IFB
Building Demolition Services on an as-needed basis

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

"EXHIBIT G" - Insurance Requirements

The Contractor shall carry at its sole expense and provide evidence of insurance coverage listed below to protect itself and the City from and against liability, loss, damage, expense, cost (including without limitation to litigation and court costs and attorneys' fees) arising out of or in connection with the performance of any work performed in accordance with the specifications of any related documents, whether such work is performed by the Contractor or any subconsultant or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable. Coverage must be written with insurance companies licensed in the state of Texas and shall have at least an A- rating by A.M. Best & Company. All policies shall provide a thirty (30) day advance notice of cancellation to the City.

- Workers Compensation: Coverage A: Statutory Coverage B:
- Employers Liability:
    - Bodily injury by accident $100,000 per person Bodily injury by disease $100,000 per person
    - Bodily injury by disease $500,000 aggregate
    - All states and voluntary compensation endorsements

- Commercial General Liability
    - Limits of Liability: $1,000,000 each occurrence
    - $2,000,000 general aggregate
    - $2,000,000 products/completed operations aggregate

- Auto Liability
    - Limits of Liability: $1,000,000 each accident

- Coverage:
    - The City shall be named as an additional insured.

Certificates of insurance shall be presented to the Procurement Department for approval before the successful Firm, its agents and/or employees commence any work whatsoever pursuant to the contract.

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
8/17/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Alliant Insurance Services, Inc. 16000 N. Dallas Pkwy Suite 850 Dallas TX 75248 License#: 0C36861	CONTACT NAME: Stephen Stoltz PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS: Stephen.Stoltz@alliant.com
INSURED ALAMO10-01 Alamo Environmental, Inc. dba Alamo1 2900 Nacogdoches Rd. San Antonio TX 78217	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Commerce and Industry Insuranc — 19410 INSURER B : XL Specialty Insurance Company — 37885 INSURER C : Ironshore Specialty Insurance — 25445 INSURER D : National Union Fire Ins Co of — 19445 INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 1464189534 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. *LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. LIMITS SHOWN ARE INCLUSIVE OF AMOUNTS REQUESTED BY THE CERTIFICATE HOLDER AND MAY NOT REFLECT POLICY LIMIT AMOUNTS IN EXCESS OF THOSE REQUESTED. ***Not Applicable in WY**

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
D	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	Y	Y	9925710	6/1/2026	6/1/2027	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG Self Insured Retenti	$ 5,000,000 $ 300,000 $ 10,000 $ 5,000,000 $ 10,000,000 $ 10,000,000 $ 0
D	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY X HIRED AUTOS ONLY X Form MCS-90 SCHEDULED AUTOS X NON-OWNED AUTOS ONLY	Y	Y	5425530	6/1/2026	6/1/2027	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) Comp/Coll Deducitble	$ 5,000,000 $ $ $ $ $250/$500
C	UMBRELLA LIAB [X] OCCUR X EXCESS LIAB [ ] CLAIMS-MADE DED [ ] RETENTION $	Y	Y	XSCUW0035286000	6/1/2026	6/1/2027	EACH OCCURRENCE AGGREGATE 	$ 6,000,000 $ 6,000,000 $
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N [N] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	Y	97087533	6/1/2026	6/1/2027	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 5,000,000 $ 5,000,000 $ 5,000,000
B C	Leased/Rented: Pollution Liability Professional Liability	Y Y Y	Y Y Y	UM0162706MA26A DCP7DADJ4ZG001	6/1/2026 6/1/2026	6/1/2027 6/1/2027	500,000 5,000,000 Each Occ. 5,000,000 Each Occ.	100,000 5,000,000 Agg. 5,000,000 Agg.

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Complete Named Insured Schedule:
Alamo Environmental , Inc.
Alamo Environmental, Inc. dba Alamo1
Alamo Environmental, Inc. dba Alamo 1
Alamo Environmental , Inc. dba Alamo Petroleum Exchange
Alamo Environmental, Inc. dba Alamo 1 Engineered Logistics
See Attached...

CERTIFICATE HOLDER

City of Brownsville
1001 E. Elizabeth St
Brownsville, TX 78520

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



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AGENCY CUSTOMER ID: ALAMO10-01

LOC #: _____

ADDITIONAL REMARKS SCHEDULE

AGENCY		NAMED INSURED
Alliant Insurance Services, Inc.		Alamo Environmental, Inc. dba Alamo1 2900 Nacogdoches Rd. San Antonio TX 78217
POLICY NUMBER		
CARRIER	NAIC CODE	EFFECTIVE DATE:

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: 25 **FORM TITLE:** CERTIFICATE OF LIABILITY INSURANCE

Alamo Environmental, Inc.. Dba Alamo1 Specialized Trucking
Alamo Environmental, Inc. Dba AquaLogic
Alamo Environmental, Inc. Dba A1 Facility Services
A1X, Inc. dba A1X Optics
Accion Energy, LLC dba Alamo Petroleum Exchange
ACP Management, LLC
Alamo Commercial Properties, Ltd.
Alamo1 Industrial Services, LLC
Alamo1 Materials LLC
Alamo1 Specialized Logistics, LLC
Alamo1 Specialized Trucking, Inc.
Alpha 1 Aviation, LLC
Dawson-Alamo1 JV, LLC
Fort Uno, LLC
Garrison Uno, LLC
GEO/Alamo1, LLC
Robles Services Group, LLC
Garbage Gobbler, Inc
Advanced Technological Formulations, Inc.
Diamond Environmental Management, L.P.
Excalibur Management, Inc.
Salas International Management, LLC
Salas International, Ltd.
Presidio Endeavors LLC
Abilene Environmental Landfill Inc.
Southwest Texas Environmental Contracts Inc
AEL Green Logistics LLC
HASTA LA VISTA LLC
COTTONWOOD UNO LLC
PRESIDIO MANAGEMENT LLC
SWAF INC
PRESIDIO UNO, LLC
JMR
A1 PRECIOUS METALS, LLC
Baffin Cabins
Vortex Drilling
Southwestern Firearms
Blackhorn Environmental Services, LLC
Nacogdoches One Fellowship LLC
Negro Uno, LLC
Negro Dos, LLC
Negro Tres, LLC

The excess policy follows form to the underlying insurance, subject to its terms, conditions, and exclusions.

RE: 263-26-PLN-IFB Building Demolition Services On An As-Needed Basis.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement changes the policy to which it is attached effective on the inception date of the policy unless a different date is indicated below.

(The following "attaching clause" need be completed only when this endorsement is issued subsequent to preparation of the policy).

This endorsement, effective 12:01 AM 06/01/2026 forms a part of Policy No. WC 097-08-7533

Issued to ALAMO ENVIRONMENTAL, INC.

By COMMERCE AND INDUSTRY INSURANCE COMPANY

LIMITED ADVICE OF CANCELLATION PROVIDED VIA E-MAIL TO ENTITIES OTHER THAN THE NAMED INSURED (WORKERS' COMPENSATION ONLY)

This policy is amended as follows:

In the event that the **Insurer** cancels this policy for any reason other than non-payment of premium, and

1. the cancellation effective date is prior to this policy's expiration date;

2. the **Named Insured** or, if applicable, any other employers named in Item 1 of the Information Page is under an existing contractual obligation to notify a certificate holder when this policy is canceled (hereinafter, the "Certificate Holder(s)") and the **Named Insured** has provided to the **Insurer**, either directly or through its broker of record, the email address of a contact at each such entity; and

3. the **Insurer** received this information after the **Named Insured** receives notice of cancellation of this policy and prior to this policy's cancellation effective date, via an electronic spreadsheet that is acceptable to the **Insurer**,

the **Insurer** will provide advice of cancellation (the "Advice") via e-mail to each such Certificate Holders within 30 days after the **Named Insured** provides such information to the **Insurer**; provided, however, that if a specific number of days is not stated above, then the Advice will be provided to such Certificate Holder(s) as soon as reasonably practicable after the **Named Insured** provides such information to the **Insurer**.

Proof of the **Insurer** emailing the Advice, using the information provided by the **First Named Insured**, will serve as proof that the **Insurer** has fully satisfied its obligations under this endorsement.

This endorsement does not affect, in any way, coverage provided under this policy or the cancellation of this policy or the effective date thereof, nor shall this endorsement invest any rights in any entity not insured under this policy.

The following definitions apply to this endorsement:

1. **Named Insured** means the insured first named employer in Item 1 of the Information Page of this policy.

2. **Insurer** means the insurance company shown in the header on the Information Page of this policy.

All other terms, conditions and exclusions shall remain the same.



AUTHORIZED REPRESENTATIVE

WC 99 00 56
(Ed. 04/11)

ENDORSEMENT

This endorsement, effective 12:01 A.M. 06/01/2026
forms a part of Policy No. 992-57-10
issued to ALAMO ENVIRONMENTAL, INC.
by NATIONAL UNION FIRE INSURANCE COMPANY OF PITTSBURGH, PA.

LIMITED ADVICE OF CANCELLATION PROVIDED VIA E-MAIL TO ENTITIES OTHER THAN THE FIRST NAMED INSURED

This policy is amended as follows:

In the event that the **Insurer** cancels this policy for any reason other than non-payment of premium, and

1. the cancellation effective date is prior to this policy's expiration date;

2. the **First Named Insured** is under an existing contractual obligation to notify a certificate holder when this policy is canceled (hereinafter, the "Certificate Holder(s)") and has provided to the **Insurer**, either directly or through its broker of record, the email address of a contact at each such entity; and

3. the **Insurer** received this information after the **First Named Insured** receives notice of cancellation of this policy and prior to this policy's cancellation effective date, via an electronic spreadsheet that is acceptable to the **Insurer,**

the **Insurer** will provide advice of cancellation (the "Advice") via e-mail to each such Certificate Holders withi n 30 days after the **First Named Insured** provides such information to the **Insurer**; provided, however, that if a specific number of days is not stated above, then the Advice will be provided to such Certificate Holder(s) as soon as reasonably practicable after the **First Named Insured** provides such information to the **Insurer**.

Proof of the **Insurer** emailing the Advice, using the information provided by the **First Named Insured**, will serve as proof that the **Insurer** has fully satisfied its obligations under this endorsement.

This endorsement does not affect, in any way, coverage provided under this policy or the cancellation of this policy or the effective date thereof, nor shall this endorsement invest any rights in any entity not insured under this policy.

The following Definitions apply to this endorsement:

1. **First Named Insured** means the Named Insured shown on the Declarations Page of this policy.
2. **Insurer** means the insurance company shown in the header on the Declarations page of this policy.

All other terms, conditions and exclusions shall remain the same.

Authorized Representative

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US (WAIVER OF SUBROGATION)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
ELECTRONIC DATA LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART DESIGNATED SITES
POLLUTION LIABILITY LIMITED COVERAGE PART DESIGNATED SITES
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART
RAILROAD PROTECTIVE LIABILITY COVERAGE PART
UNDERGROUND STORAGE TANK POLICY DESIGNATED TANKS

SCHEDULE

Name Of Person(s) Or Organization(s):
PURSUANT TO APPLICABLE WRITTEN CONTRACT OR AGREEMENT YOU ENTER INTO.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The following is added to Paragraph **8. Transfer Of Rights Of Recovery Against Others To Us** of **Section IV – Conditions:**

We waive any right of recovery against the person(s) or organization(s) shown in the Schedule above because of payments we make under this Coverage Part. Such waiver by us applies only to the extent that the insured has waived its right of recovery against such person(s) or organization(s) prior to loss. This endorsement applies only to the person(s) or organization(s) shown in the Schedule above.

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WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

This endorsement changes the policy to which it is attached effective on inception date of the policy unless a different date is indicated below.

This endorsement, effective 6/1/2026 12:01 AM forms a part of

Policy No. WC 97087533

Issued to ALAMO ENVIRONMENTAL, INC.

By NATIONAL UNION FIRE INSURANCE COMPANY OF PITTSBURGH, PA

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.

This agreement shall not operate directly or indirectly to benefit any one not named in the Schedule.

Schedule

Any entity or organization as required by written contract or agreement, executed prior to loss.

This form is not applicable in Kansas for private construction contracts as defined in K.S.A. 16-1801 through K.S.A 16-1807 or public construction contracts as defined in K.S.A. 16-1901 through 16-1908, except where permitted by statute or other applicable law, such as for use in wrap-up insurance programs.

Any person or organization for which the employer has agreed by written contract, executed prior to loss, may execute a waiver of subrogation. However, for purposes of work performed by the employer in Missouri, this waiver of subrogation does not apply to any construction group of classifications as designated by the waiver of right to recover from others (subrogation) rule in our manual.

This form is not applicable in California, Kentucky, New Hampshire, New Jersey, Texas, or Utah.

Don Bailey

WC 00 03 13
(Ed. 04/84)

Countersigned by _____

Authorized Representative

FORMS SCHEDULE

Effective Date: 6/1/2026

NAMED INSURED: ALAMO ENVIRONMENTAL, INC.

POLICY NO: 992-57-10

CG00010413	COMMERCIAL GENERAL LIABILITY COVERAGE FORM
CG00691223	EXCLUSION - VIOLATION OF LAW ADDRESSING DATA PRIVACY
CG01030606	TEXAS CHANGES
CG02241093	EARLIER NOTICE OF CANCELLATION PROVIDED BY US
CG20011219	PRIMARY AND NONCONTRIBUTORY - OTHER INSURANCE CONDITION
CG20101219	ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS - SCHEDULED PERSON OR ORGANIZATION
CG20121219	ADDITIONAL INSURED - STATE OR GOVERNMENTAL AGENCY OR SUBDIVISION OR POLITICAL SUBDIVISION - PERMITS OR AUTHORIZATIONS
CG20151219	ADDITIONAL INSURED - VENDORS
CG20181219	ADDITIONAL INSURED - MORTGAGEE, ASSIGNEE OR RECEIVER
CG20341219	ADDITIONAL INSURED - LESSOR OF LEASED EQUIPMENT - AUTOMATIC STATUS WHEN REQUIRED IN LEASE AGREEMENT WITH YOU
CG20371219	ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS - COMPLETED OPERATIONS
CG21061223	EXCLUSION - ACCESS OR DISCLOSURE OF CONFIDENTIAL OR PERSONAL MATERIAL OR INFORMATION
CG21411219	EXCLUSION - INTERCOMPANY PRODUCTS SUITS
CG21530196	EXCLUSION - DESIGNATED ONGOING OPERATIONS
CG21861204	EXCLUSION - EXTERIOR INSULATION AND FINISH SYSTEMS
CG22790413	EXCLUSION - CONTRACTORS - PROFESSIONAL LIABILITY
CG24041219	WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US
CG26391207	TEXAS CHANGES-EMPLOYMENT RELATED PRACTICES EXCLUSION
CG40351223	EXCLUSION - CYBER INCIDENT
IL00171198	COMMON POLICY CONDITIONS
IL00210908	NUCLEAR ENERGY LIABILITY EXCLUSION ENDORSEMENT (BROAD FORM)
IL01680312	TEXAS CHANGES - DUTIES
IL02751113	TEXAS CHANGES - CANCELLATION AND NONRENEWAL PROVISIONS FOR CASUALTY LINES AND COMMERCIAL PACKAGE POLICIES

517670402	EMPLOYEE BENEFITS LIABILITY INSURANCE
583320793	TOTAL LEAD EXCLUSION
617071294	AMENDMENT OF DUTIES IN THE EVENT OF OCCURRENCE, OFFENSE, CLAIM OR SUIT
619440914	BROAD FORM NAMED INSURED
622510901	AIRCRAFT PRODUCTS EXCLUSION AND GROUNDING ENDORSEMENT
628980712	RADIOACTIVE MATTER EXCLUSION
640040712	ERISA EXCLUSION
640070405	FELLOW EMPLOYEE EXCLUSION DELETED
640091195	NONOWNED WATERCRAFT ENDORSEMENT
651570496	INCIDENTAL MEDICAL MALPRACTICE LIABILITY COVERAGE
672600397	BODILY INJURY DEFINITION EXTENSION
672660406	NEWLY ACQUIRED ENTITY COVERAGE EXTENDED
691861114	EXCLUSION FOR CONTINUING OR PROGRESSIVE "BODILY INJURY", "PERSONAL AND ADVERTISING INJURY" OR "PROPERTY DAMAGE"
786890703	FUNGUS EXCLUSION
825400712	ASBESTOS AND SILICA EXCLUSION ENDORSEMENT
862810704	WELDING EXCLUSION
866810904	AMENDMENT OF LIMITS OF INSURANCE (Per Project or Per Location Aggregate Limit)
896440613	ECONOMIC SANCTIONS ENDORSEMENT
919241206	RESIDENTIAL CONSTRUCTION OPERATIONS EXCLUSION ENDORSEMENT (With Exception For Public Streets, Roads, or Right Of Ways, or Water, Sewer, Gas, Communication, or Power Line Work)
1074140311	LIMITED ADVICE OF CANCELLATION PROVIDED VIA E-MAIL TO ENTITIES OTHER THAN THE FIRST NAMED INSURED
1192010415	CONTROLLED INSURANCE PROGRAM (CIP) EXCLUSION - WITH LIMITED EXCEPTIONS
1194830816	COMPOSITE RATING PLAN PREMIUM ENDORSEMENT

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS - SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location(s) Of Covered Operations
ANY PERSON OR ORGANIZATION WHOM YOU BECOME OBLIGATED TO INCLUDE AS AN ADDITIONAL INSURED AS A RESULT OF ANY WRITTEN CONTRACT OR AGREEMENT YOU HAVE ENTERED INTO.	PER THE WRITTEN CONTRACT OR AGREEMENT.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

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A. **Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

C. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable limits of insurance;

whichever is less.

This endorsement shall not increase the applicable limits of insurance.

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ENDORSEMENT

This endorsement, effective 12:01 A.M. 6/1/2026
forms a part of Policy No. 992-57-10
issued to ALAMO ENVIRONMENTAL, INC.
by NATIONAL UNION FIRE INSURANCE COMPANY OF PITTSBURGH, PA.

AMENDMENT OF LIMITS OF INSURANCE
(Per Project or Per Location Aggregate Limit)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

I. Your policy is amended to include either a Per Project General Aggregate Limit, a Per Location General Aggregate Limit or a Per Project and Per Location General Aggregate Limit. Please select only *one* of the following:

[X] **Per Project General Aggregate Limit**	$ 10,000,000
[ ] **Per Location General Aggregate Limit**	$
[ ] **Per Project and Per Location General Aggregate Limit**	$

IF NEITHER OF THESE BOXES ARE CHECKED, THIS ENDORSEMENT IS VOID. IF MORE THAN ONE OF THE THESE BOXES ARE CHECKED, THIS ENDORSEMENT IS VOID.

II. **SECTION III - LIMITS OF INSURANCE** , is amended to include the following:

1. The Limits of Insurance and the rules below fix the most we will pay regardless of the number of:
   a. Insureds;
   b. Claims made or "suits" brought; or
   c. Persons or organizations making claims or bringing "suits".

2. The General Aggregate Limit is the most we will pay for the sum of:
   a. Medical expenses under Coverage **C**;
   b. Damages under Coverage **A**, except damages because of "bodily injury" or "property damage" included in the products-completed operations hazard"; and
   c. Damages under Coverage **B**.

3. The Products-Completed Operations Aggregate Limit is the most we will pay under Coverage **A** for damages because of "bodily injury" and "property damage" included in the "products-completed operations hazard".

4. Subject to **2.** above, the Personal and Advertising Injury Limit is the most we will pay under Coverage **B** for the sum of all damages because of all "personal and advertising injury" sustained by any one person or organization.

5. Subject to **2.** or **3.** above, whichever applies, the Each Occurrence Limit is the most we will pay for the sum of:
   a. Damages under Coverage **A**; and
   b. Medical expenses under Coverage **C**

because of all "bodily injury" and "property damage" arising out of any one "occurrence".

6. Subject to **5.** above, the Damage to Premises Rented To You Limit is the most we will pay under Coverage **A** because of "property damage" to any one premises, while rented to you, or in the case of damage by fire, while rented to you or temporarily occupied by you with permission of the owner.

7. Subject to **5.** above, the Medical Expense Limit is the most we will pay under Coverage **C** for all medical expenses because of "bodily injury" sustained by any one person.

8. Subject to **2.**, **4.**, **5.**, **6.**, and/or **7.** above, the Per Project Aggregate Limit is the most we will pay under Coverages **A**, **B**, and **C** combined for the sum of:

   a. Damages under Coverage **A**;
   b. Damages under Coverage **B**; and
   c. Medical Expenses under Coverage **C**

   arising out of any single Project described above.

9. Subject to **2.**, **4.**, **5.**, **6.**, and/or **7.** above, the Per Location Aggregate Limit is the most we will pay under Coverages **A**, **B**, and **C** combined for the sum of:

   a. Damages under Coverage **A**;
   b. Damages under Coverage **B**; and
   c. Medical expenses under Coverage **C**

   arising out of the any single Location described above.

The Limits of Insurance of this Coverage Part apply separately to each consecutive annual period and to any remaining period of less than 12 months, starting with the beginning of the policy period shown in the Declarations, unless the policy period is extended after issuance for an additional period of less than 12 months. In that case, the additional period will be deemed part of the last preceding period for purposes of determining the Limits of Insurance.

III. The Limits of Insurance shown in the Declarations are deleted in their entirety and replaced by the Limits of Insurance set forth below.

	Limits of Insurance
General Aggregate Limit	$ 15,000,000
Each Occurrence	$ 5,000,000
Products-Completed Operations Aggregate Limit	$ 10,000,000
Personal & Advertising Injury Limit	$ 5,000,000
Damage to Premises Rented to	$ 300,000
Medical Expense Limit	$ 10,000
Per Project General Aggregate Limit, Per Location General Aggregate Limit or Per Project and Per Location General Aggregate Limit	$ 10,000,000

IV. SECTION V - DEFINITIONS, is amended to include the following:

23. "Location" means premises involving the same or connecting lots, or premises whose connection is interrupted only by a street, roadway, waterway, or right-of-way railroad.

All other terms and conditions of this policy remain the same.

Authorized Representative or Countersignature (in States Where Applicable)

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED - OWNERS, LESSEES OR CONTRACTORS - COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s)	Location And Description Of Completed Operations
ANY PERSON OR ORGANIZATION WHOM YOU BECOME OBLIGATED TO INCLUDE AS AN ADDITIONAL INSURED AS A RESULT OF ANY WRITTEN CONTRACT OR AGREEMENT YOU HAVE ENTERED INTO.	PER THE WRITTEN CONTRACT OR AGREEMENT.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. **Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to **Section III – Limits Of Insurance:**

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable limits of insurance;

whichever is less.

This endorsement shall not increase the applicable limits of insurance.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PRIMARY AND NONCONTRIBUTORY - OTHER INSURANCE CONDITION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

The following is added to the **Other Insurance** Condition and supersedes any provision to the contrary:

Primary And Noncontributory Insurance

This insurance is primary to and will not seek contribution from any other insurance available to an additional insured under your policy provided that:

(1) The additional insured is a Named Insured under such other insurance; and

(2) You have agreed in writing in a contract or agreement that this insurance would be primary and would not seek contribution from any other insurance available to the additional insured.

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FORMS SCHEDULE

EFFECTIVE DATE: 6/1/2026

NAMED INSURED: ALAMO ENVIRONMENTAL, INC.

POLICY NO: 542-55-30

CAR0010322	BUSINESS AUTO COVERAGE FORM CA 00 01 11 20 TABLE OF CONTENTS
CA00011120	BUSINESS AUTO COVERAGE FORM
CA01961120	TEXAS CHANGES
CA02431113	TEXAS CHANGES - CANCELLATION AND NONRENEWAL
CA20011120	LESSOR - ADDITIONAL INSURED AND LOSS PAYEE
CA20101013	LEASING OR RENTAL CONCERNS - CONVERSION, EMBEZZLEMENT OR SECRETION COVERAGE
CA20151120	MOBILE EQUIPMENT
CA20541120	EMPLOYEE HIRED AUTOS
CA20711013	AUTO LOAN/LEASE GAP COVERAGE
CA28330320	TEXAS AUTOS LEASED, HIRED, RENTED OR BORROWED WITH DRIVERS - PHYSICAL DAMAGE COVERAGE
CA99031013	AUTO MEDICAL PAYMENTS COVERAGE
CA99101013	DRIVE OTHER CAR COVERAGE - BROADENED COVERAGE FOR NAMED INDIVIDUALS
CA99161013	HIRED AUTOS SPECIFIED AS COVERED AUTOS YOU OWN
CA99231013	RENTAL REIMBURSEMENT COVERAGE
CA99441013	LOSS PAYABLE CLAUSE
CA99601013	AUDIO, VISUAL AND DATA ELECTRONIC EQUIPMENT COVERAGE ADDED LIMITS
CA99951013	TEXAS SUPPLEMENTARY DEATH BENEFIT
IL00171198	COMMON POLICY CONDITIONS
IL00210908	NUCLEAR ENERGY LIABILITY EXCLUSION ENDORSEMENT (BROAD FORM)
617091294	AMENDMENT OF DUTIES IN THE EVENT OF ACCIDENT, CLAIM, SUIT OR LOSS
619440914	BROAD FORM NAMED INSURED
628970695	WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US
744451099	INSURANCE PRIMARY AS TO CERTAIN ADDITIONAL INSUREDS

866790914	FELLOW EMPLOYEE EXCLUSION DELETED
879500914	ADDITIONAL INSURED - WHERE REQUIRED UNDER CONTRACT OR AGREEMENT
896440613	ECONOMIC SANCTIONS ENDORSEMENT
993070914	EARLY NOTICE OF CANCELLATION PROVIDED BY US
1074140311	LIMITED ADVICE OF CANCELLATION PROVIDED VIA E-MAIL TO ENTITIES OTHER THAN THE FIRST NAMED INSURED
1194830816	COMPOSITE RATING PLAN PREMIUM ENDORSEMENT

ENDORSEMENT

This endorsement, effective 12:01 A.M. 6/1/2026
forms a part of Policy No. 542-55-30
issued to **ALAMO ENVIRONMENTAL, INC.**
by **NATIONAL UNION FIRE INSURANCE COMPANY OF PITTSBURGH, PA.**

ADDITIONAL INSURED - WHERE REQUIRED UNDER CONTRACT OR AGREEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

SCHEDULE

ADDITIONAL INSURED:

ANY PERSON OR ORGANIZATION FOR WHOM YOU ARE CONTRACTUALLY BOUND TO PROVIDE ADDITIONAL INSURED STATUS BUT ONLY TO THE EXTENT OF SUCH PERSON'S OR ORGANIZATIONS LIABILITY ARISING OUT OF THE USE OF A COVERED AUTO.

I. **SECTION II - COVERED AUTOS LIABILITY COVERAGE, A. Coverage, 1. - Who Is Insured,** is amended to add:

d. Any person or organization, shown in the schedule above, to whom you become obligated to include as an additional insured under this policy, as a result of any contract or agreement you enter into which requires you to furnish insurance to that person or organization of the type provided by this policy, but only with respect to liability arising out of use of a covered "auto". However, the insurance provided will not exceed the lesser of:

(1) The coverage and/or limits of this policy, or

(2) The coverage and/or limits required by said contract or agreement.

AUTHORIZED REPRESENTATIVE

ENDORSEMENT

This endorsement, effective 12:01 A.M. 6/1/2026

forms a part of Policy No. 542-55-30

issued to **ALAMO ENVIRONMENTAL, INC.**

by **NATIONAL UNION FIRE INSURANCE COMPANY OF PITTSBURGH, PA.**

INSURANCE PRIMARY AS TO CERTAIN ADDITIONAL INSUREDS

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

Section IV - Business Auto Conditions, B., General Conditions, 5., Other Insurance, c., is amended by the addition of the following sentence:

The insurance afforded under this policy to an additional insured will apply as primary insurance for such additional insured where so required under an agreement executed prior to the date of accident. We will not ask any insurer that has issued other insurance to such additional insured to contribute to the settlement of loss arising out of such accident.

All other terms and conditions remain unchanged.

Authorized Representative or Countersignature (in States Where Applicable)

ENDORSEMENT

This endorsement, effective 12:01 A.M. 6/1/2026

forms a part of Policy No. 542-55-30

issued to ALAMO ENVIRONMENTAL, INC.

by NATIONAL UNION FIRE INSURANCE COMPANY OF PITTSBURGH, PA.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

Section IV - Business Auto Conditions, A. - Loss Conditions, 5. - Transfer of Rights of Recovery Against Others to Us, is amended to add:

However, we will waive any right of recover we have against any person or organization with whom you have entered into a contract or agreement because of payments we make under this Coverage Form arising out of an "accident" or "loss" if:

(1) The "accident" or "loss" is due to operations undertaken in accordance with the contract existing between you and such person or organization; and

(2) The contract or agreement was entered into prior to any "accident" or "loss".

No waiver of the right of recovery will directly or indirectly apply to your employees or employees of the person or organization, and we reserve our rights or lien to be reimbursed from any recovery funds obtained by any injured employee.

AUTHORIZED REPRESENTATIVE

EXTENSION OF ITEM 3.D. OF THE INFORMATION PAGE

Policy Number: WC 097-08-7533 Effective Date: 6/1/2026

PHNPAUD	POLHOLDER NOTE - NONPROD AUD SURCHARGE
PN990006	PH DISCL NOT TERRORISM INS COV (ISSUE)
SDEDNOTE	SMALL DED NOTE TO POLICYHOLDER
USLHPOLNOT	USL&H POLICYHOLDER NOTICE
WC000106A	LONGSHORE AND HARBOR WC ACT COVERAGE
WC000109C	OUTER CONTINENTAL SHELF LANDS ACT COV
WC000301	ALTERNATE EMPLOYER ENDORSEMENT
WC000301A	ALTERNATE EMPLOYER ENDORSEMENT
WC000302	DESIGNATED WORKPLACES EXCLUSION ENDT
WC000303C	EMPLOYERS' LIABILITY COVERAGE ENDT
WC000311A	VOLUNTARY COMP AND EMPLOYERS LIAB COV
WC000406	PREMIUM DISCOUNT ENDORSEMENT
WC000414A	90 DAY REQ NOT OF CHANGE IN OWNERSHIP
WC000421F	CATASTROPHE PREMIUM ENDORSEMENT
WC000422C	TRIPRA DISCLOSURE ENDORSEMENT
WC000425	EXPERIENCE RATING MOD FCTR REVISION ENDT
WC0FACA	NOTICE REG OFFICE OF FOREIGN ASSET CTRL
PN990008	PRIVACY POLICY
WC60904	FOREIGN COVERAGE ENDORSEMENT
WC000419	PREMIUM DUE DATE ENDORSEMENT
WC990039	ADV NOTICE OF CANC OR NON-REN BY US EXTN
WC993303	ND AMENDATORY ENDT.
WC340301C	OH EMPLOYERS LIABILITY COVERAGE
WC993402	OH - WC COVERAGE EXCLUSION ENDT
WC993403	OHIO AMENDATORY ENDORSEMENT
DNE-1A	TX - DEDUCTIBLE NOTICE OF ELECTION
PN994201	PH NOT OF AVAIL OF ACCID PREV CONSLT SVC
PN994202A	TX NOTICE
WC420301L	TX AMENDATORY ENDORSEMENT
WC420304B	TEXAS WAIVER OF OUR RIGHT TO RECOVER END
WC994207A	TX ONLY-ADV OF CANC OR NON-REN BY US EXT
WC990056	ADVICE CANC TO CERT HOLD - EMAIL ONLY
WC994603	WA STATE WORKERS COMPENSATION ENDT.
WC994604	WASHINGTON AMENDATORY ENDORSEMENT
WC420310	TX SOLE PROP, PARTNERS, OFFICERS & OTHER
WC490301	WY AMENDATORY ENDORSEMENT
WC990610	NAMED INSUREDS/ADDRESSES

TEXAS WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

This endorsement, effective 12:01 AM 6/1/2026 forms a part of Policy No. WC 097-08-7533

Issued to ALAMO ENVIRONMENTAL, INC.

By COMMERCE AND INDUSTRY INSURANCE COMPANY

This endorsement applies only to the insurance provided by the policy because Texas is shown in Item 3.A. of the Information Page.

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule, but this waiver applies only with respect to bodily injury arising out of the operations described in the Schedule where you are required by a written contract to obtain this waiver from us.

This endorsement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

The premium for this endorsement is shown in the Schedule.

Schedule

1. ( ) Specific Waiver

   Name of person or organization

   (X) Blanket Waiver

   Any person or organization for whom the Named Insured has agreed by written contract to furnish this waiver.

2. Operations: ALL TEXAS OPERATIONS

3. Premium:

   The premium charge for this endorsement shall be 2.0 percent of the premium developed on payroll in connection with work performed for the above person(s) or organization(s) arising out of the operations described.

Countersigned by Don Bailey

Authorized Representative

WC 42 03 04 B
(Ed. 6-14)

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SCHEDULE OF FORMS AND ENDORSEMENTS

Forms and Endorsements applying to and made part of this policy at the time of issuance:

NUMBER	TITLE
FORMS APPLICABLE -	COMMERCIAL EXCESS LIABILITY POLICY
XSDEC-0721	COMMERCIAL EXCESS LIABILITY POLICY DECLARATIONS
CX2101-0908	NUCLEAR ENERGY LIABILITY EXCLUSION ENDORSEMENT (BROAD FORM)
CX2119-0413	EXCLUSION - EMPLOYMENT-RELATED PRACTICES
CX2171-0615	EXCLUSION-UNMANNED AIRCRAFT
ENVXSSCHED-0212	SCHEDULE OF UNDERLYING INSURANCE
ILN001-0903	FRAUD STATEMENT
ILP001-0104	U.S. TREASURY DEPT'S "OFAC" ADVISORY NOTICE TO POLICYHOLDERS
PRIVACYNOTICE-0820	NOTICE OF INSURANCE INFORMATION PRACTICES
SIGCIC-0817	SIGNATURE PAGE
TXNOTICE-0723	IMPORTANT NOTICE
U094-0423	SERVICE OF SUIT
U1407-0723	ECONOMIC AND TRADE SANCTIONS ENDORSEMENT
XP117-0815	EXCLUSION - OCCUPATIONAL DISEASE
XP125-0815	EXCLUSION - RECORDING AND DISTRIBUTION OF MATERIAL OR INFORMATION IN VIOLATION OF LAW
XP200-0815	EXCLUSION - WAR
XP219-0815	NOTICE OF CANCELLATION OR NON-RENEWAL - DESIGNATED CERTIFICATE HOLDERS
XP23A-0520	EXCLUSION - COMMUNICABLE DISEASE, VIRUS OR BACTERIA
XP242-0815	UNDERLYING CLAIMS-MADE COVERAGE
XP260-0815	AMENDATORY - FOLLOW-FORM ASBESTOS
XP261-0815	CANCELLATION
XP280-0815	MINIMUM EARNED PREMIUM
XP330-1221	EXCLUSION – POLY- AND PERFLUOROALKYL SUBSTANCES (PFAS)
XP334-0923	EXCL-CYBER INC, ELECTR DATA, CONFID OR PERS MAT OR INFO, & VIOL OF LAW ADDR DATA PRIV
XP348-0621	EXHAUSTION OF RETAINED LIMIT
XP350-0121	TERRORISM EXCLUSION
XP40-0815	EXCLUSION - E.R.I.S.A.
XPCOVFORM-0815	COMMERCIAL EXCESS LIABILITY COVERAGE FORM

Form 10 - Cooperative Use Authorization & Administrative Fee Acknowledgment

Purpose

This form allows the Respondent to indicate whether it elects to participate in optional cooperative purchasing arrangements and acknowledges the associated administrative fee requirements if cooperative use is accepted. Cooperative use is not mandatory and is offered at the Respondent's discretion. By completing this form, the Respondent clearly identifies its intent regarding cooperative participation for contracts awarded by the City of Brownsville, Texas.

Solicitation No.: IFB# 263-26-PLN-IFB

Respondent Information

Legal Entity Name: Alamo Environmental, Inc. dba Alamo1

Primary Contact Name: Jacob Robles

Title: Senior Estimator

Telephone: 210-240-5554 **Email:** jacob.robles@alamo1.com

Optional Cooperative Use Authorization

☒ **YES** – The Respondent **agrees** to allow cooperative use

☐ **NO** – The Respondent **declines** cooperative use

If **YES** is selected, the Respondent acknowledges and agrees that:

Cooperative Use Authorization

It is the intent of the City of Brownsville, Texas ("City") that any contract resulting from this solicitation may be made available for use by other governmental entities, to the maximum extent permitted under applicable federal, state, and local laws, including but not limited to Texas Government Code Chapter 791 (Interlocal Cooperation Act) and other applicable joint purchasing statutes. The awarded contractor agrees to extend the same pricing, terms, and conditions of this contract to any eligible public agency, political subdivision, or governmental entity that elects to purchase goods or services under this contract, provided that such entity issues its own purchase order, contract, or interlocal agreement that references the City of Brownsville's contract. Each participating entity shall be solely responsible for its own contractual obligations, including but not limited to the issuance of purchase orders, receipt of goods or services, and payment of invoices. The City of Brownsville shall not be responsible for the performance, payment, or administration of any obligations incurred by participating entities under this cooperative use provision.

Administrative Fee Acknowledgment

The City of Brownsville will utilize an administrative fee, in the form of a percentage of the cost, that will apply to all contracts between the awarded contractor, the City, or participants resulting from this solicitation. The administrative fee will be remitted by the contractor to Civic Marketplace on a quarterly basis, along with required quarterly reporting. The remuneration fee for this program will be 3% of sales. The administrative fee shall be included in the contractor's pricing and shall not be invoiced separately to the City or participating entities.

Certification

By signing below, the undersigned certifies that they are duly authorized to bind the Respondent, that all statements made in this form are true and correct, and that the Respondent's selection regarding cooperative use accurately reflects its intent.

Signature: 

Printed Name: Jaocb Robles

Title: Senior Estimator

Date: 7/28/26

Company Name: Alamo Environmental, Inc. dba Alamo1

Phone: 210-240-5554

Email: jacob.robles@alamo1.com

FORM 12 CDBG
City of Brownsville Federal Clauses Certification Form

FEDERAL CERTIFICATIONS & CDBG PROVISIONS
AGREEMENT FUNDED BY U.S. FEDERAL GRANT

TO WHOM IT MAY CONCERN:

Federal and CDBG funds will be used; therefore, this form must be completed and returned.

Community Development Block Grant (CDBG)

This version of the *Federal Clauses FY2026* document includes all required federal provisions under 2 C.F.R. Part 200, along with additional clauses required to ensure full compliance with Community Development Block Grant (CDBG) or other HUD-funded contracts.

Instructions for Completing this Form
Suppliers and contractors must review each federal clause and indicate whether it applies to the specific contract. For every section below, please initial **"YES"** to confirm agreement and compliance, or **"N/A"** (Not applicable) if the clause does not apply to the scope of work or funding source.
Yes – contractor/supplier agrees to comply with the clause as written and, where applicable, will provide all required documentation or certifications.
N/A – Clause is not applicable to the contract (e.g., Davis Bacon Act for non-construction work, Buy America for non-transportation projects, etc.) Contractor/supplier must initial next to "N/A" to confirm inapplicability.
Incomplete forms or unmarked sections may disqualify contractor/supplier and/or delay contract approval.

Vendor Responsibility for Regulatory Compliance
It is the responsibility of the contractor/supplier to review, verify, and comply with the most current versions of all applicable federal provisions, clauses, and regulations referenced in this document. The contractor/supplier shall refer to official U.S. Government websites, including the Code of Federal Regulations (www.ecfr.gov), Federal Acquisition Regulation (www.acquisition.gov), and agency-specific resources (e.g., HUD, DOT, Treasury, or OMB), to ensure full and current compliance at the time of bid submission and throughout the contract term.

DEFINITIONS

Contract: A legal agreement by which a non-Federal entity purchases property or services to carry out a federally funded project.

Contractor: An entity that receives a contract as defined in Contract.

Cooperative agreement: A form of federal financial assistance used when substantial involvement is expected between the federal agency or pass-through entity and the recipient.

Federal awarding agency: The U.S. federal agency providing the funding.

Federal award: The financial assistance or cost-reimbursement contract provided directly by a federal agency or indirectly through a pass-through entity to carry out a public purpose.

Non–Federal entity (NFE): A state, local government, tribe, institution of higher education, or non-profit organization that receives and administers federal funds.

Pass-Through Entity (PTE): A Non-Federal entity that provides part of its federal award to another organization (a subrecipient) to carry out a portion of the program.

Subrecipient/Subaward: A Non-Federal entity that receives federal funds from a pass-through entity to carry out part of federal program. The legal instrument documenting this relationship is the subaward.

Recipient: A Non–Federal entity receiving funds directly from a federal agency.

Simplified acquisition threshold: The current small-purchase limit established under the FAR (presently $250,000, adjusted periodically for inflation).

Obligations: Orders placed on contracts or subawards made that require payment by the Non-Federal entity.

Termination: The ending of a federal award, in whole or in part, prior to the planned end of the period of performance. These definitions are provided for reference only. For full regulatory text, see 2 C.F.R. Part 200, Subpart A (§§ 200.0-200.1).

Certification Regarding Certain Telecommunications and Video Surveillance Services or Equipment (FAR 52.204-24 & 52.204-25)

The contractor/supplier certifies compliance with the prohibitions under Section 889 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) and the Federal Acquisition Regulation (FAR) 52.204-24 and 52.204-25.

The contractor/supplier shall not provide or use any equipment, system, or service that includes covered telecommunications equipment or services from Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, or any subsidiary or affiliate of such entities.

If the contractor/supplier identifies any covered telecommunications equipment or services during performance, it shall immediately notify the contracting agency or the City of Brownsville in writing and provide all information required under FAR 52.204-25(d).

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

APPENDIX II TO 2 CFR PART 200 – Contract Provision for Non-Federal Entity Contracts Under Federal Awards

(A) Contracts for more than the simplified acquisition threshold currently set at $250,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Pursuant to Federal Rule (A) above, when a Participating Agency expends federal funds, the Participating Agency reserves all rights and privileges under the applicable laws and regulations with respect to this procurement in the event of breach of contract by either party.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(B) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000)

Pursuant to Federal Rule (B) above, when a Participating Agency expends federal funds, the Participating Agency reserves the right to immediately terminate any agreement in excess of $10,000 resulting from this procurement process in the event of a breach or default of the agreement by Contractor/Supplier as detailed in the terms of the contract.

Does contractor/supplier agree? **YES** ____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(C) **Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 CFR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."**

Pursuant to Federal Rule (C) above, when a Participating Agency expends federal funds on any federally assisted construction contract, the equal opportunity clause is incorporated by reference herein.

Does contractor/supplier agree? **YES** ____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of $2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non- Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.
Pursuant to Federal Rule (D) above, when a Participating Agency expends federal funds during the term of an award for all contracts and subgrants for construction or repair, contractor/supplier will be in compliance with all applicable Davis-Bacon Act provisions.

Does contractor/supplier agree? **YES** ____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Pursuant to Federal Rule (E) above, when a Participating Agency expends federal funds, contractor/supplier certifies that contractor/supplier will be in compliance with all applicable provisions of the Contract Work Hours and Safety Standards Act

during the term of an award for all contracts by Participating Agency resulting from this procurement process.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Pursuant to Federal Rule (F) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (F) above.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non- Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251- 1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA)

In the event Federal Transit Administration (FTA) or Department of Transportation (DOT) funding is used by Participating Public Agency, contractor/Supplier also agrees to include Clean Air and Clean Water requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

Pursuant to Federal Rule (G) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency member resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (G) above.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(H) Prohibition on Fraud, Waste, and Abuse - The contractor/supplier certifies that it will take all reasonable steps to prevent, detect, and disclose any suspected fraud, waste, or abuse of federal funds associated with this contract, consistent with applicable laws and agency guidance. Any such activity will be promptly reported to the awarding agency, pass-through entity, or the Office of Inspector General, as appropriate.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(I) Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220 cross-reference to Treasury/OMB Guidance Subpart C) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the Executive Office of the President Office of Management and Budget (OMB) guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions

contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Pursuant to Federal Rule (H) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency. If at any time during the term of an award the contractor/supplier or its principals becomes debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency, the contractor/supplier will notify the Participating Agency.

Does contractor/supplier agree? **YES** GCS Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(J) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

Pursuant to Federal Rule (I) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term and after the awarded term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier certifies that it is in compliance with all applicable provisions of the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). The undersigned further certifies that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

(3) The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

Does contractor/supplier agree? **YES** GCS Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Procurement of Recovered Materials 2 C.F.R. § 200.323 / 40 C.F.R Part 247

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with 2 C.F.R. § 200.323

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Environmental Review (24 C.F.R. Part 58)

The contractor/supplier acknowledges that no funds shall be obligated or expended until the City of Brownsville has completed an environmental review and received a release of funds from HUD, as required under 24 C.F.R. Part 58. The contractor/supplier shall cooperate fully with the City in meeting all environmental review and mitigation requirements.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

RECORD RETENTION REQUIREMENTS FOR CONTRACTS INVOLVING FEDERAL FUNDS

When federal funds are expended by Participating Agency for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the record retention requirements detailed in 2 CFR §§ 200.334-200.337. The contractor/supplier further certifies that contractor/supplier will retain all records as required by 2 CFR § 200.334 for a period of three years after grantees or subgrantees submit final expenditure reports or quarterly or annual financial reports, as applicable, and all other pending matters are closed.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH THE ENERGY POLICY AND CONSERVATION ACT

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6321 et seq.; 49 C.F.R. Part 18). Cross-link 2 CFR § 200.323(b)

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH BUY AMERICA PROVISIONS

To the extent purchases are made with Federal Highway Administration, Federal Railroad Administration, or Federal Transit Administration funds, contractor/supplier certifies that its products comply with all applicable provisions of the Buy America Act and agrees to provide such certification or applicable waiver with respect to specific products to any Participating Agency

upon request. Purchases made in accordance with the Buy America Act must still follow the applicable procurement rules calling for free and open competition. Additionally:

(1) The Contractor agrees to comply with 49 USC 5323(j) and 49 CFR Part 661, which provide that federal funds may not be obligated unless steel, iron and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7.A general public interest waiver from the Buy America requirements applies to microprocessors, computers, microcomputers, software or other such devices, which are used solely for the purpose of processing or storing data. This general waiver does not extend to a product or device that merely contains a microprocessor or microcomputer and is not used solely for the purpose of processing or storing data. Separate requirements for rolling stock are set out at 5323(j)(2)(C) and 49 CFR 661.11.
(2) A bidder or contractor/supplier must submit to the FTA recipient the appropriate Buy America certification with all bids on FTA- funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower-tier subcontractors.

The following certificates titled FTA and DOT Buy America Certification should be completed and returned with the response as part of FTA and DOT requirements.

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT) - BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF ROLLING STOCK

CERTIFICATE OF COMPLIANCE
(select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j), and the applicable regulations of 49 CFR 661.11.
Check for YES: ☒

OR

Certificate of Non-Compliance with 49 USC §5323(j)

The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C), and the applicable regulations in 49 CFR 661.7.
Check for YES: ☐

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT)
-
BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL OR MANUFACTURED PRODUCTS

CERTIFICATE OF COMPLIANCE (select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.
Check for YES: ☐

OR

Certificate of Non-Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.
Check for YES: ☐

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.

N/A (Not applicable to this contract) _____

Contractor/Supplier's Name: Alamo Environmental, Inc. dba Alamo1
Address, City, State, and Zip Code: 2900 Nacogdoches Rd., San Antonio TX 78217
Phone Number: 210-404-1220
Fax Number: 210-820-3636

Printed Name and Title of Authorized Representative: J. Alex Salas, CEO
Email Address: alex@alamo1.com / jsoto@alamo1.com
Signature of Authorized Representative: _____
Date: 7/29/2026

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

If any portion of this project is funded with U.S Department of Transportation (DOT) funds, the contractor/supplier shall also complete a Disadvantage Business Enterprise (DBE) Certification Form in accordance with 49 C.F.R. Part 26. This requirement applies only to DOT-funded projects and is not applicable to HUD, ARPA, or Treasury-funded programs.

CERTIFICATION OF COMPLIANCE WITH BUILD AMERICA, BUY AMERICA ACT (BABA) 2 C.F.R. 184

The contractor/supplier acknowledges that certain federally funded infrastructure projects are subject to the Build America, Buy America Act (Pub. L. 117-58 §§ 70901-70927) and implementing regulations at 2 C.F.R. Part 184. When applicable, the contractor/supplier certifies that all iron, steel, manufactured products, and construction materials used in the project are produced in the United States, as required by the Act.

The contractor/supplier further agrees to provide appropriate documentation, origin certifications, or approved waivers upon request by the awarding agency or pass-through entity. Where a waiver is sought, the contractor/supplier shall support the request in writing and shall not proceed with procurement or installation of foreign materials until such waiver is granted in accordance with federal guidance.

The Build America, Buy America Act applies to all federally funded infrastructure projects, except where otherwise waived or exempted by the awarding agency.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Domestic Preference for Procurements– 2 C.F.R. § 200.322

The contractor/supplier agrees to comply with the requirements of 2 C.F.R. § 200.322, which establishes a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. To the greatest extent practicable, the contractor/supplier shall provide domestic end products, materials, and construction products that are manufactured in the United States. This preference applies to all procurements under federal awards, consistent with applicable statutes, regulations, and the Build America, Buy America Act requirements.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF ACCESS TO RECORDS – 2 C.F.R. § 200.337

Contractor/Supplier agrees that the Inspector General of the Agency or any of their duly authorized representatives shall have access to any documents, papers, or other records of contractor/supplier that are pertinent to contractor's/supplier's discharge of its obligations under the Contract for the purpose of making audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to contractor/supplier's personnel for the purpose of interview and discussion relating to such documents.

Upon project completion, the contractor/supplier shall submit a final certification of compliance and any records necessary for HUD grant closeout review.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF APPLICABILITY TO SUBCONTRACTORS

Contractor/Supplier agrees that all contracts it awards pursuant to the Contract shall be bound by the foregoing terms and conditions.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Conflict of Interest - 2 C.F.R. § 200.318(c)(1)

The Contractor/supplier affirms compliance with 2 C.F.R. § 200.318(c)(1), which requires the maintenance of written standards of conduct covering conflict of interest in the selection, award, and administration of contracts. No employee, officer, agent, or subcontractor shall participate in any procurement or contract decision where a real or apparent conflict of interest exists. The contractor/supplier further agrees to disclose in writing any potential conflicts of interest to the City of Brownsville prior to award or during contract performance.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Conflict of Interest (24 C.F.R. § 570.611) - CDBG

The contractor/supplier shall comply with 24 C.F.R. § 570.611, which prohibits any person who exercises or has exercised functions or responsibilities with respect to CDBG activities, or who is in a position to participate in decision-making or gain inside information, from obtaining a financial interest or benefit from a CDBG-assisted activity.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Executive Order 14173 (2025) – Anti-DEI Certification

The Contractor/supplier certifies compliance with Executive Order 14173 (2025), affirming that it operates in accordance with all applicable federal anti-discrimination laws and that no diversity, equity, or inclusion (DEI) program or policy maintained by the contractor violates such laws. The contractor/supplier acknowledges that compliance with these requirements is a material condition of this contract and that any false certification or noncompliance may subject the contractor/supplier to remedies available under the False Claims Act (31 U.S.C. §§ 3729-3733) and other applicable laws.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Civil Rights Compliance Assurance

The Contractor/supplier agrees to comply with all applicable federal civil rights laws and regulations, including Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq.), Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794), the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq.), the Age Discrimination Act of 1975 (42 U.S.C. § 6101 et seq.), and any other nondiscrimination provisions applicable to this contract. The contractor/supplier shall ensure that no person is excluded from participation in, denied the benefits of, or subjected to discrimination under this contract on the basis of race, color, national origin, sex, age, or disability.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Section 109 - Non-Discrimination (42 U.S.C. § 5309)

The contractor/supplier shall comply with Section 109 of the Housing and Community Development Act of 1974 (42 U.S.C. § 5309), which prohibits discrimination on the basis of race, color, national origin, sex, or religion under any program or activity funded in whole or in part with CDBG funds.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Section 504 – Accessibility for Federally Assisted Programs (24 C.F.R. Part 8)

The contractor/supplier agrees to comply with Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794) and implementing regulations at 24 C.F.R. Part 8, which prohibit discrimination based on disability in federally assisted programs or activities.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Lead-Based Paint (24 C.F.R. Part 35)

The contractor/supplier shall comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§ 4821-4846), the Residential Lead-Based Paint Hazard Reduction Act of 1992 (42 U.S.C. §§ 4851-4856), and HUD regulations at 24 C.F.R. Part 35, which prohibit the use of lead-based paint in residential construction or rehabilitation funded with CDBG assistance.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Whistleblower Protection (41 U.S.C 4712)

The contractor/supplier shall comply with the whistleblower protections established under 41 U.S.C. 4712. Employees of contractors, subcontractors, and subrecipients are protected from reprisal for disclosing evidence of gross mismanagement, waste of federal funds, abuse of authority, or violations of law related to a federal contract or grant. The contractor/supplier must inform its employees in writing of their rights and remedies under this statute. Compliance with these protections is a material condition of this contract.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Remedies for Non-Compliance - 2 C.F.R. § 200.339

The contractor/supplier acknowledges that failure to comply with the terms and conditions of this agreement or any applicable federal requirements may result in enforcement actions as provided under 2 C.F.R. § 200.339. Remedies may include, but are not limited to, temporarily withholding payments, disallowing costs, wholly or partly suspending or terminating the contract, initiating suspension or debarment proceedings, or pursuing other legally available remedies.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Termination – 2 C.F.R. § 200.340

The contractor/supplier acknowledges that this contract may be terminated in whole or in part for cause, for convenience, or by mutual agreement, in accordance with 2 C.F.R. § 200.340. The basis for termination, applicable notice, and settlement provisions shall be clearly documented in writing.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Subrecipient Monitoring – 2 C.F.R. § 200.332

The contractor/supplier acknowledges that, when acting as a pass-through entity or subrecipient of federal funds, it must comply with the requirements of 2 C.F.R. § 200.332. The contractor/supplier shall monitor the activities of any subrecipients as necessary to ensure that federal funds are used in accordance with applicable statues, regulations, and the terms and conditions of the award. This includes performing risk assessments, issuing written subaward agreements with required flow-down clauses, reviewing financial and performance reports, and taking enforcement action when necessary to address noncompliance.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

COMMUNITY DEVELOPMENT BLOCK GRANTS

Purchases made under this contract may be partially or fully funded with federal grant funds. Funding for this work may include Federal Funding sources, including Community Development Block Grant (CDBG) funds from the U.S. Department of Housing and Urban Development. When such funding is provided, Contractor/Supplier shall comply with all terms, conditions and requirements enumerated by the grant funding source, as well as requirements of the State statutes for which the contract is utilized, whichever is the more restrictive requirement. When using Federal Funding, Contractor/Supplier shall comply with all wage and latest reporting provisions of the Federal Davis-Bacon Act. HUD-4010 Labor Provisions also applies to this contract.

In addition, the Contractor/supplier shall comply with the requirements of Section 3 of the Housing and Urban Development Act of 1968 (24 C.F.R. Part 75), ensuring, to the greatest extent feasible, that employment and contracting opportunities are directed to low- and moderate-income residents and Section 3 businesses.

If the project involves acquisition, demolition, or displacement activities, the contractor/supplier shall also comply with the Uniform Relocation Assistance and Real Property Acquisition Act (49 C.F.R. Part 24), ensuring fair compensation and relocation assistance for affected persons and property owners.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Section 3 – Economic Opportunities for Low- and Very Low-Income Persons (24 C.F.R. Part 75)

The contractor/supplier shall comply with Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. § 1701u) and the implementing regulations at 24 C.F.R. Part 75, which provide employment, training, and contracting opportunities for low- and very low-income persons in connection with projects and activities funded in whole or in part by HUD financial assistance.

The contractor/supplier shall submit Section 3 compliance reports and documentation of efforts to hire or contract with Section 3 residents and businesses, as applicable.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Faith-Based Organizations (24 C.F.R. § 570.200(j))

Faith-based organizations are eligible to participate in HUD-funded programs on an equal basis with other entities. However, CDBG funds may not be used for inherently religious activities such as worship, instruction, or proselytization.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Duplication of Benefits (42 U.S.C. § 5155)

The contractor/supplier certifies that it will not receive duplicate federal financial assistance for costs incurred under this contract and shall immediately disclose any potential duplication of benefits to the City of Brownsville.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Access to Records and Closeout (2 C.F.R. § 200.337(b))

The contractor/supplier shall maintain all records pertinent to this contract for a minimum of three (3) years following the final closeout of the CDBG grant or project, or longer if required by applicable law or by the City of Brownsville.

Authorized representatives of HUD, the U.S. Department of the Treasury, the Comptroller General, the Inspector General, or other oversight agencies shall have the right of access to any pertinent records for audit, monitoring, or investigative purposes during and after the contract term.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Contractor Integrity and Ethical Conduct

The contractor/supplier shall maintain the highest standards of integrity and business ethics in connection with the performance of this contract.

The contractor/supplier shall comply with all applicable conflict-of-interest provisions, anti-fraud statutes, and procurement

regulations, and shall immediately report to the City of Brownsville any credible evidence of a violation of federal criminal law involving fraud, bribery, or gratuity violations that may affect this contract.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Executive Orders and Future Regulatory Updates

All current and future federal laws, Executive Orders, and regulations applicable to HUD- or CDBG-funded projects are hereby incorporated by reference.

The contractor/supplier acknowledges that it is responsible for compliance with any future revisions or new requirements issued by the U.S. Department of Housing and Urban Development (HUD) or the U.S. Office of Management and Budget (OMB) that affect this contract during its term.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

The City of Brownsville reserves the right to request a signed or notarized certification, affidavit, or other supporting documentation for any of the provisions or clauses contained in this document at any time during the procurement process or contract term.

By signing below, the contractor/supplier certifies that all information provided in this document is true and accurate to the best of their knowledge and understands that any false statement may be subject to penalties under the False Claims Act (31 U.S.C. §§ 3729-3733).

The contractor/supplier further agrees to comply with all applicable federal, state, and local laws, rules, regulations, and ordinances. It is acknowledged that the contractor/supplier certifies compliance with all provisions, laws, acts, and regulations specifically noted above.

Contractor's/Supplier's Name:
Alamo Environmental, Inc. dba Alamo1

Address, City, State, and Zip Code:
2900 Nacogdoches Road, San Antonio, Texas 78217

Phone Number: 210-404-1220 Fax Number 210-820-3636

Printed Name and Title of Authorized Representative:
J. Alex Salas, CEO

Email Address:
alex@alamo1.com / jsoto@alamo1.com

Signature of Authorized Representative: _____ Date: 7/29/26

Grants and Community Development

Section 3 - Acknowledgment and Intent to Comply

(HUD Regulation, 24 CFR Part 75)

The Section 3 program requires recipients of HUD funding to direct employment, training, and contracting opportunities to low-income individuals and the businesses that employ these persons within their community. Section 3 is a provision of the HUD Act of 1968 and is found at 12 U.S.C. 1701u. The regulations are found at 24 CFR Part 75.

Per this statutory language, recipients of HUD funds (i.e. grantees and contractors) ensure that "to the greatest extent feasible," when certain HUD funds are used to assist housing and community development projects, preference for construction-related training, jobs, and contracting opportunities go to low- and very-low income people and to businesses that are owned by low- and very-low income persons or businesses that hire them. These opportunities are both sex and race neutral.

Name Prime Contractor	Alamo Environmental, Inc. dba Alamo1		
Business Address, City, State, & Zip	2900 Nacogdoches Road, San Antonio, Texas 78217		
Business Phone Number	210-404-1220	**Contact Email**	jacob.robles@alamo1.com
Primary Contact Name	Jacob Robles		
Primary Contact Phone Number	210-240-5554	**Title**	Senior Estimator

Name of Subcontractor	TBD		
Business Address, City, State, & Zip			
Business Phone Number		**Contact Email**	
Primary Contact Name			
Primary Contact Phone Number		**Title**	

If awarded a HUD funded contract, I will:

A. Insert Section 3 language *(located on the next page)* into all contracts and subcontracts associated with the federal funded projects;
B. Submit and implement a Grants and Community Development Section 3 Plan which will form part of our contractual obligations;
C. Submit all required employment and contracting documentation as requested by the Section 3 Program Office after review of our Section 3 Plan; and
D. Take affirmative actions to comply with all Section 3 notifications and requests, attain and report efforts toward achieving established HUD Section 3 benchmarks for Section 3 workers and Targeted Section 3 workers.
E. Maintain documentation for a time period required for record retention or in the absence of applicable program regulations in accordance with 2 CFR Part 200.

We are (I am) committed to comply with the HUD Section 3 regulation and Grants and Community Development Section 3 requirements. It is our (my) desire to work together to ensure compliance, *to the greatest extent feasible*, through the awarding of contracts for work and services to Section 3 business concerns and to provide employment and training to Section 3 workers and Targeted Section 3 workers.

(NOTE: This page is part of your bid or RFP package.)

Prime Contractor: Alamo Environmental, Inc. dba Alamo1

Print Name: Jacob Robles Title: Senior Estimator

Signature: _____ Date: 7/28/26

Subcontractor:

Print Name: _____ Title: _____

Signature: _____ Date: _____

Section 3 Language – 24 CFR Part 75

All HUD Section 3 covered contracts shall include the following language:

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by Housing and Urban Development (HUD) assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very-low income persons.

B. The Parties to this contract agree to comply with HUD 24 CFR Part 75 regulation and City of Brownsville Grants and Community Development policy and guidelines related to the implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediments that would prevent them from complying with HUD 24 CFR Part 75 regulation or Grants and Community Development requirements.

C. The contractor agrees to include this Section 3 language in every subcontract subject to compliance with HUD 24 CFR Part 75 regulation, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 language, upon a finding that the subcontractor is in violation of HUD 24 CFR Part 75 regulation or Grants and Community Development policy and guidelines. The contractor will not subcontract with any subcontractor where the contractor has, or could be reasonably expected to have had, notice or knowledge that the subcontractor has been found in violation of HUD 24 CFR Part 75 regulation.

D. Noncompliance with HUD 24 CFR Part 75 regulation or Grants and Community Development policy and guidelines may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts at the sole discretion of the City of Brownsville Grants and Community Development.

****

For more information

Housing and Urban Development (HUD) Section 3 Regulation
https://ecfr.federalregister.gov/current/title-24/subtitle-A/part-75#section-75

HUD Section 3 Benchmarks (Section 3 Projects)
https://www.federalregister.gov/documents/2020/09/29/2020-19183/section-3-benchmarks-for-creating-economic-opportunities-for-low--and-very-low-income-persons-and#h-13

BUILD AMERICA, BUY AMERICA (BABA)

Contractor Certification Form

City of Brownsville – Grants & Community Development

Project Information

- Project Name: Building Demolition Services on an As Needed Basis
- Project Number: 263-26-PLN-IFB
- Funding Source (CDBG / ESG): _____
- Contract Number: _____
- Contractor Name: Alamo Environmental, Inc. dba Alamo1
- Contractor Address: 2900 Nacogdoches Road, San Antonio, Texas 78217

BABA CERTIFICATION

Pursuant to the Infrastructure Investment and Jobs Act and 2 CFR Part 184, the undersigned certifies the following:

☑ OPTION 1 – FULL COMPLIANCE CERTIFICATION

The Contractor certifies that all iron, steel, manufactured products, and construction materials used in the above-referenced infrastructure project:

1. Are produced/manufactured in the United States;
2. Meet the applicable domestic content requirements under the Build America, Buy America Act;

3. Have been verified through supplier/manufacturer documentation;
4. Will be incorporated into the project in compliance with federal law.

The Contractor further certifies that these requirements have been flowed down to all subcontractors and suppliers.

☐ **OPTION 2 – WAIVER REQUEST**

The Contractor is unable to certify full compliance and hereby requests a waiver for the following item(s):

Item	Manufacturer	Country of Origin	Reason for Waiver (Public Interest / Nonavailability / Unreasonable Cost)

Supporting documentation is attached.

The Contractor understands that:

- No waiver is valid unless approved in writing by Grants and Community Development Department.
- Noncompliant materials may not be installed without City of Brownsville Grants and Community Development Department approval.
- The City may withhold payment for noncompliant materials.

Certification Statement

I certify under penalty of perjury that the information provided herein is true and correct.

Authorized Signature: _____
Name & Title: Jaocb Robles, Senior Estimator
Date: 7/28/26

REQUIRED BABA CONTRACT CLAUSES

(Insert into all applicable CDBG/ESG infrastructure solicitations and contracts)

A. Build America, Buy America Compliance Clause

This project is subject to the Build America, Buy America Act (BABA), Sections 70901–70953 of the Infrastructure Investment and Jobs Act, and 2 CFR Part 184.

The Contractor agrees that:

1. **All iron and steel used in the project shall be produced in the United States.**
2. **All manufactured products shall be manufactured in the United States and meet domestic component cost requirements.**
3. **All construction materials shall be produced in the United States.**

B. Certification Requirement

Prior to contract execution, the Contractor must submit a signed BABA Certification Form.

Failure to submit certification shall render the bid nonresponsive.

C. Flow-Down Requirement

The Contractor shall include BABA requirements in all subcontracts, purchase orders, and supplier agreements related to this project.

The Contractor is responsible for ensuring subcontractor compliance.

D. Documentation and Verification

The Contractor shall:

- **Maintain documentation verifying the domestic origin of covered materials.**
- **Provide manufacturer certifications upon request.**

- **Allow access to records for City and HUD monitoring.**

E. Waivers

No foreign-sourced materials may be incorporated into the project unless:

1. **A written waiver request is submitted; and**
2. **HUD provides written approval.**

Unauthorized substitution of noncompliant materials may result in:

- **Removal and replacement at contractor expense**
- **Withholding of payment**
- **Disallowance of costs**
- **Termination for cause**

F. Remedies for Noncompliance

Failure to comply with BABA requirements may result in:

- **Disallowed costs**
- **Repayment of federal funds**
- **Contract termination**
- **Suspension or debarment**

Contract Summary Form
Contract No. 263-26-PLN-IFB

Procurement Info	
Procurement Method:	**IFB, RFP, RFQ**
New Contract:	**Yes ☒ No ☐**
Advertisement Dates, if any:	**June 20, 2026 and June 27, 2026**
Award Date:	**City Commission Tuesday, September22, 2026**
Contractor Information	
Name:	Waste Solutions USA LLC
Address:	2434 LCR 656, Thornton, TX 76687
Point of Contact:	Fabricio Lima
Phone Number & Email Address :	fabricio@wastesolutionsusa.com ; (832) 405-6296
City Contact Information	
Department:	**Omar Ochoa**
Point of Contact / Project Manager:	Planning and Redevelopment Services Department
Email Address:	omar.ochoa@brownsvilletx.gov
Contract Amount:	As Needed – Compensation shall be based on the unit prices submitted in the Contractor's Bid Price Form for authorized Task Orders. No minimum amount of work is guaranteed.
Contract Base/Primary Term:	Three (3) Years
Renewal Periods (if any):	Two (2) additional one-year renewal optional
Total Term of Contract:	Five (5) Years
Important	
No Guarantee of Work	The City does not guarantee any minimum quantity of work under this Agreement. Work shall be assigned on an as-needed basis through individual Task Orders.
Cooperative Use	Vendor Authorized Cooperative Use ; 3% Administrative Fee
Compensation	Contractor shall be compensated in accordance with the unit prices submitted in the Bid Price Form for each authorized Task Order.
Task Orders	Services shall be performed only upon issuance of a written Task Order by the City. Each Task Order will define the scope, schedule, and location of the work.
CDBG Compliance	CDBG funds may be used under this Agreement. Contractor shall comply with all applicable CDBG and federal requirements incorporated into the Agreement or applicable Task Order.
Payment & Performance Bonds	Bonds shall be required on an individual Task Order basis when the value of the Task Order meets the thresholds established under Texas Government Code Chapter 2253. The Contractor shall furnish the required bonds prior to commencement of work for the applicable Task Order.
Licenses, Permits & Certifications	Contractor shall obtain and maintain all licenses, permits, certifications, and approvals required to perform the Work.
Internal Use	
Signature Sections	**Signature Page: 7**
State or Federal Funds:	**Yes ☒ No ☐ - CDBG Funds may be used.**

MASTER SERVICE AGREEMENT FOR BUILDING DEMOLITION SERVICES ON AN AS-NEEDED BASIS

Contract No. 263-26-PLN-IFB

This Agreement shall commence upon the approval of the City Commission and executed by the City of Brownsville's Mayor or designee. This agreement is between The City of Brownsville, Texas, hereinafter referred to as ("CITY") and Waste Solutions USA LLC hereinafter referred to as ("Contractor"), collectively referred to as "Parties" and individually as "Party".

1. **Documents**
   a. The following documents (collectively, "Contract Documents") are hereby incorporated into and made part of this Agreement.

      i. Scope of Services, Conditions and Additional Services (Exhibit A)
      ii. Term of Agreement (Exhibit B)
      iii. Compensation and Fees Schedule (Exhibit C)
      iv. Sample Task Order with Instructions (Exhibit D)
      v. Form 2 - Statement of Conflict of Interest (Exhibit E)
      vi. Form 3 - Texas Ethics Commission Certificate of Interested Parties (1295) (Exhibit F)
      vii. Insurance (Exhibit G)
      viii. Form 10 – Cooperative Use Authorization Form (Exhibit H)
      ix. Form 12 – CDBG Federal Clauses Certification Form (Exhibit I)
      x. Form 13 – Acknowledgment and Intent to Comply (Exhibit J)
      xi. Form 14 – BABA Contractor Certification (Exhibit K)

2. **Scope of Services**
   a. Contractor shall perform the Services under this agreement upon written request orders by CITY. Unless otherwise specified in a project request, Contractor and CITY agree that the scope of work is deemed to include preliminary considerations and prerequisites, and all tasks which are an integral and inseparable part of the work described in the Contract Documents or by separate written request.
   b. Contractor will perform such Services in a diligent and workmanlike manner consistent with industry standards.
   c. By signing this Agreement, Contractor represents that it has thoroughly reviewed the Contract Documents incorporated into this Agreement, including but not limited to "Exhibit A" Scope of services and that it accepts the description of the Work and the conditions under which the Work is to be performed and completed.

3. **Independent Contractor; Personnel**
   a. The Contractor enters into this Agreement as, and shall remain, an independent contractor. Nothing in this Agreement shall be construed to create a relationship of employer–employee, partnership, or agency between the City and the Contractor. Neither the Contractor nor its employees or subconsultants shall be entitled to any benefits accorded to City employees, including, without limitation, workers' compensation, disability insurance, vacation or sick leave. The Contractor shall be solely responsible, at its own expense, for providing all required insurance, licenses, and permits, and for paying all applicable local, state, and federal taxes.
   b. The Contractor represents and warrants that all personnel and subconsultants performing services hereunder shall be properly trained, experienced, and, where required, licensed or registered to perform such services in the State of Texas.

4. **Term of Agreement.**

   a. The initial contract period shall commence upon approval by the City Commission and when executed by the City of Brownsville's Mayor or designee and shall end or be extended upon the terms specified in Contract Documents "Exhibit B". The term or any continuation of this Agreement shall be subject to both the appropriation and the availability of funds by CITY.

5. **Compensation**

   a. The Contractor shall be compensated for services as provided in Exhibit C of this Agreement, and as further defined in each Task Order issued hereunder. The compensation described in Exhibit C represents the City's maximum obligation for each authorized scope of services, but does not obligate the City to issue any minimum amount of work. The Contractor shall only be required to perform services specifically authorized by the City through a written Task Order.
   b. The Contractor may submit invoices no more often than monthly for Work satisfactorily completed under an authorized Task Order. Each invoice shall identify the applicable Task Order, the bid item(s) performed, the actual quantities completed, the applicable unit price(s), and the total amount requested for payment. Invoices shall include all supporting documentation required by the City, including disposal tickets, manifests, photographs, or other records, as applicable. Invoices shall be submitted within fifteen (15) days after the end of each month. The final invoice shall be submitted no later than sixty (60) days after expiration or termination of this Agreement. Electronic submission of invoices shall be permitted.
   c. The City may withhold payment, in whole or in part, if (i) services are defective or materially noncompliant with the Agreement and have not been remedied, (ii) the Contractor has failed to comply with material terms of this Agreement, or (iii) withholding is otherwise authorized by law. Any withholding shall be limited to the amount reasonably necessary to protect the City. Payment terms shall otherwise be governed by the Texas Prompt Payment Act (Tex. Gov't Code Ch. 2251).

6. **Inspection and Review of Work**

   a. The City may inspect the Work at any time to verify that the Work is being performed in accordance with this Agreement, the applicable Task Order, and all applicable requirements.
   b. The Contractor shall provide the City and its authorized representatives reasonable access to the project site for purposes of inspection, observation, and verification of the Work.
   c. The Contractor shall promptly correct, at its own expense, any Work determined by the City to be defective, incomplete, or not in compliance with the Contract Documents or applicable Task Order.
   d. Inspection, observation, review, or acceptance by the City shall not relieve the Contractor of responsibility for the proper performance and completion of the Work.

7. **Documentation, Invoicing, and Acceptance of Work**

   a. The Contractor shall maintain and submit documentation required by the City for each Task Order, which may include permits, disposal tickets or manifests, photographs, inspection records, certifications, and other supporting documentation applicable to the Work.
   b. Invoices shall identify the applicable Task Order and shall include sufficient supporting documentation to verify the quantities of Work satisfactorily completed and the amount requested for payment.
   c. Payment shall be based upon Work satisfactorily completed and accepted by the City in accordance with the applicable Task Order and the unit prices established in Exhibit C.

d. The City may require correction of incomplete or nonconforming Work before final acceptance and payment. Payment or acceptance by the City shall not relieve the Contractor of its obligations under this Agreement.

8. Records and Documentation

a. The Contractor shall maintain complete and accurate records relating to Work performed under this Agreement and each Task Order, including invoices, disposal documentation, permits, photographs, certifications, and other records required by the City or applicable law.
b. The Contractor shall provide copies of such records to the City upon request and shall retain records for the period required by applicable federal, state, and local law and any funding requirements applicable to the Work.
c. All reports, photographs, manifests, certifications, and other project-specific documentation prepared or submitted to the City in connection with a Task Order shall become part of the City's project records.
d. For Task Orders funded in whole or in part with federal or state funds, the Contractor shall comply with any additional recordkeeping, retention, access, audit, or documentation requirements incorporated into the applicable Task Order.

9. Insurance

a. The Contractor shall furnish proof of insurance requirements as specified in Contract Documents "Exhibit G". The coverage is to remain in force at all times during the contract period and the minimum insurance coverage is required. The commercial general liability insurance policy shall name the City of Brownsville, Texas, as an "additional insured." This MUST be written in the description section of the insurance certificate, even if there is a check-off box on the insurance certificate. Any costs for adding the City as "additional insured" shall be at the Contractor's expense.
b. The CITY shall be given notice 10 days prior to cancellation or modification of any required insurance. The insurance provided shall be endorsed or amended to comply with this notice requirement. In the event that the insurer is unable to accommodate, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested and addressed to the Procurement Department.
c. The Contractor's insurance must be provided by an A.M. Best's "A-"rated or better insurance company authorized to issue insurance policies in the State of Texas, subject to approval by the City of Brownsville Department of Safety and Risk Management. Any exclusions or provisions in the insurance maintained by the Contractor that excludes coverage for work contemplated in this solicitation shall be deemed unacceptable, and shall be considered breach of contract.

10. Termination

a. *Termination for Cause.* The aggrieved party may terminate this Agreement for cause if the party in breach has not corrected the breach within ten (10) days after written notice from the aggrieved party identifying the breach. CITY may also terminate this Agreement upon such notice as the City of Brownsville's City Manager deems appropriate under the circumstances in the event the City Manager determines that termination is necessary to protect the public health or safety. The parties agree that if the CITY erroneously, improperly or unjustifiably terminates for cause, such termination shall be deemed a termination for convenience, which shall be effective thirty (30) days after such notice of termination for cause is provided.

This Agreement may be terminated for cause for reasons including, but not limited to, Contractor's repeated (whether negligent or intentional) submission for payment of false or incorrect bills or invoices, failure to perform the Work to CITY's satisfaction; or failure to continuously perform the work in a manner calculated to meet or accomplish the objectives as set forth in this Agreement.

b. *Termination for Convenience.* CITY reserves the right, in its best interest as determined by the City of Brownsville's City Manager, to cancel this contract for convenience by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. In the event this Agreement is terminated for convenience, Contractor shall be paid for any services performed to CITY's satisfaction pursuant to the Agreement through the termination date specified in the written notice of termination. Contractor acknowledges and agrees that he/she/it has received good, valuable and sufficient consideration from CITY, the receipt and adequacy of which are hereby acknowledged by the Contractor, for CITY's right to terminate this Agreement for convenience.

c. *Cancellation for Non-appropriated Funds.* CITY reserves the right, in its best interest as determined by the City of Brownsville's City Manager, to cancel this contract for non-appropriated funds or unavailability of funds by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. The obligation of CITY for payment to the Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise provided by law.

d. *Force Majeure.* CITY and Contractor will be excused from the performance of their respective obligations under this agreement when and to the extent that their performance is delayed or prevented by any circumstances beyond their control including, fire, flood, explosion, strikes or other labor disputes, act of God or public emergency, war, riot, civil commotion, malicious damage, act or omission of any governmental authority, delay or failure or shortage of any type of transportation, equipment, or service from a public utility needed for their performance, provided that:

    i. The non performing party gives the other party prompt written notice describing the particulars of the Force Majeure including, but not limited to, the nature of the occurrence and its expected duration, and continues to furnish timely reports with respect thereto during the period of the Force Majeure;

    ii. The excuse of performance is of no greater scope and of no longer duration than is reasonably necessary when considered in light of the Force Majeure;

    iii. No obligations of either party that arose before the Force Majeure causing the excuse of performance are excused as a result of the Force Majeure; and

    iv. The non-performing party uses its best efforts to remedy its inability to perform.

    v. Notwithstanding the above, performance shall not be excused under this Section for a period in excess of sixty (60) days, provided that in extenuating circumstances, CITY may excuse performance for a longer term. Economic hardship of the Contractor will not constitute Force Majeure. The term of the agreement shall be extended by a period equal to that during which either party's performance is suspended under this Section.

11. Materiality and Waiver of Breach.

a. The Parties agree that each requirement, duty, and obligation set forth in this Agreement is material to its performance. The City's failure at any time to enforce any provision of this Agreement shall not be construed as a waiver of that provision, or as a waiver of the City's right thereafter to enforce each and every provision of this Agreement. A waiver of any breach by the City shall be effective only if made in writing and shall not be deemed a waiver of any subsequent breach, nor shall it constitute a modification of the terms of this Agreement.

12. **Indemnification.**

a. **TO THE FULLEST EXTENT PERMITTED BY LAW, THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE CITY, ITS OFFICERS, OFFICIALS, EMPLOYEES, AND REPRESENTATIVES FROM AND AGAINST CLAIMS, DAMAGES, LOSSES, AND EXPENSES, INCLUDING REASONABLE ATTORNEYS' FEES, TO THE EXTENT CAUSED BY THE NEGLIGENT ACTS, ERRORS, OR OMISSIONS OF THE CONTRACTOR, ITS EMPLOYEES, OR ITS SUBCONSULTANTS IN THE PERFORMANCE OF SERVICES UNDER THIS AGREEMENT.**

b. **THIS INDEMNITY SHALL NOT APPLY TO THE EXTENT THAT A CLAIM ARISES FROM THE NEGLIGENCE OR WILLFUL MISCONDUCT OF THE CITY OR ANY OTHER PERSON OR ENTITY NOT UNDER THE CONTRACTOR'S CONTROL.**

c. **THE CONTRACTOR SHALL NOTIFY THE CITY IN WRITING WITHIN 24 HOURS OF ANY CLAIM OR DEMAND MADE AGAINST THE CITY OR THE CONTRACTOR THAT IS RELATED TO THE SERVICES PROVIDED UNDER THIS AGREEMENT. THE CONTRACTOR SHALL COOPERATE FULLY IN THE INVESTIGATION AND DEFENSE OF SUCH CLAIMS. THE CITY MAY, AT ITS OWN EXPENSE, PARTICIPATE IN THE DEFENSE WITHOUT RELIEVING THE CONTRACTOR OF ITS INDEMNIFICATION OBLIGATIONS.**

d. **THIS INDEMNIFICATION OBLIGATION SHALL SURVIVE TERMINATION OR EXPIRATION OF THIS AGREEMENT.**

13. **Miscellaneous Provisions.**

a. *Successors and Assigns.* All of the provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, if any, successors, and assigns.

b. *Choice of Law.* The laws of the state of Texas shall govern the validity of this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties hereto.

c. *No Waiver of Governmental Immunity.* NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED TO WAIVE CITY'S GOVERNMENTAL IMMUNITY FROM LAWSUIT, WHICH IMMUNITY IS EXPRESSLY RETAINED TO THE EXTENT IT IS NOT CLEARLY AND UNAMBIGUOUSLY WAIVED BY STATE LAW.

d. *Assignment.* Contractor shall not assign any of Contractor's rights under this Agreement or delegate the performance of any of Contractor's duties hereunder, without the prior consent of CITY.

e. *Modification or Amendment.* No amendment, change or modification of this Agreement shall be valid unless in writing signed by the parties hereto.

f. *Venue.* This Agreement and any and all matters arising directly or indirectly here from shall be governed by and construed and enforced in accordance with the Laws of the State of Texas, in the Federal and State Courts of Cameron County, Texas having jurisdiction. (b) If at any time there is a dispute between or among the Parties with respect to any matter arising directly or indirectly from this Agreement (an "Agreement Matter"), the Parties agree that, prior to seeking judicial remedy, they will

engage in face-to-face negotiations in an attempt to resolve such dispute and shall, upon failing to negotiate a mutually-satisfactory resolution, choose a mutually agreeable neutral third party to mediate such dispute. Mediation shall be non-binding and shall be confidential.

g. *Notices.* Any and all notices, demands, or other communications required or desired to be given hereunder by any party shall be in writing and shall be validly given or made to another party if personally served, or if deposited in the United States mail, certified or registered, postage prepaid, return receipt requested. If such notice or demand is served personally, notice shall be deemed constructively made at the time of such personal service. If such notice, demand or other communication is given by mail, such notice shall be conclusively deemed given five days after deposit thereof in the United States mail addressed to the party to whom such notice, demand or other communication is to be given as follows:

If to Contractor:	Waste Solutions USA LLC 2434 LCR 656, Thornton, TX 76687
If to CITY:	City of Brownsville 1001 E. Elizabeth St. Brownsville, Texas, 78521

Any party hereto may change its address for purposes of this paragraph by written notice given in the manner provided above.

h. *Entire Understanding.* This document and any exhibit attached constitute the entire understanding and agreement of the parties, and any and all prior agreements, understandings, and representations are hereby terminated and canceled in their entirety and are of no further force and effect.

i. *Unenforceability of Provisions.* If any provision of this Agreement, or any portion thereof, is held to be invalid and unenforceable, then the remainder of this Agreement shall nevertheless remain in full force and effect.

IN WITNESS WHEREOF the undersigned have executed this Agreement as of the day and year first written above.

CITY OF BROWNSVILLE	CONTRACTOR
Signature: _____	Signature: Fabricio Lima
Print Name: _____	Print Name: Fabricio Lima
Title: _____	Title: Owner
Date: _____	Date: August 19, 2026

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

"EXHIBIT A" – Scope of Services, Conditions and Additional Services

Task Orders: All services under this Agreement shall be performed on an as-needed basis through written Task Orders issued by the City. Each Task Order shall identify the specific property or location, scope of work, applicable pricing or compensation, required completion timeframe, and any project-specific requirements. The execution of this Agreement does not guarantee the Contractor any minimum quantity of work, number of Task Orders, or minimum amount of compensation. The Contractor shall perform only those services specifically authorized by the City through an approved Task Order. The requirements and procedures governing Task Orders are set forth in **Exhibit D – Sample Task Order**.

Contractor shall provide all labor, materials, equipment, supervision, transportation, disposal, permits, safety measures, and related services necessary to complete assigned demolition projects. Major deliverables shall include, but are not limited to, demolition of assigned structures, removal of applicable foundations, clearing of trash and construction debris, lawful disposal of materials, site cleanup, and final grading of the property.

Demolition work may include, but is not limited to, residential, accessory, commercial, or other structures determined by the City to be unsafe, substandard, dilapidated, or otherwise subject to demolition pursuant to an order issued by the Building & Standards Commission.

Work shall be performed in accordance with all applicable federal, state, and local laws, rules, regulations, ordinances, permit requirements, safety standards, and environmental requirements.

1. **Project Assignment Information**
   For each demolition assignment, the City will provide the project information available to the contractor, which may include, but is not limited to:
   - Property address or location;
   - Approximate building area or square footage;
   - Type of structure;
   - Number of stories;
   - Foundation type, including whether the foundation is concrete, wood, pier-and-beam, slab-on-grade, or another type;
   - Known site conditions;
   - Required timeline;
   - Presence of accessory structures, fencing, flatwork, or debris;
   - Any special instructions or limitations related to the property.

2. **Minimum Work Requirements**
   Unless otherwise directed in writing by the City, each demolition assignment shall include the following:

   A. Structure Demolition

   The contractor shall demolish and remove the structure or structures identified by the City. Demolition shall include the removal of all building components, materials, and related debris associated with the assigned structure. The contractor shall account for relevant project characteristics, including:
   - Building area;
   - Number of stories;
   - Construction type;
   - Foundation type;
   - Site access;
   - Proximity to neighboring structures, utilities, sidewalks, streets, alleys, or public rights-of-way.

The contractor shall be responsible for verifying site conditions before beginning work and shall notify the City of any discrepancy, hazard, access limitation, or condition that may affect the demolition scope, cost, or schedule.

B. Foundation Removal

The contractor shall remove the foundation as directed by the City. Foundation types may include, but are not limited to:

- Concrete slab foundations;
- Concrete pier systems;
- Wood foundations;
- Pier-and-beam foundations;
- Other foundation systems encountered on site.

Where full foundation removal is required, the contractor shall remove foundation materials, associated debris, and any exposed or resulting hazards. Any exceptions or limitations to foundation removal must be approved by the City in writing before work proceeds.

C. **Clearing of Trash, Rubbish, and Construction Debris**

The contractor shall remove and properly dispose of all demolition debris, construction debris, trash, rubbish, and related materials from the property, unless otherwise directed by the City. This may include, but is not limited to:

- Demolished building materials;
- Loose trash and rubbish within the demolition area;
- Construction debris;
- Wood, metal, concrete, roofing materials, glass, fixtures, and similar materials;
- Debris resulting from demolition activities.

All materials shall be disposed of at the City of Brownsville landfill facility in accordance with applicable laws and regulations. The Contractor shall provide disposal tickets, manifests, photographs, or other documentation as required by the City to verify proper disposal.

D. Site Clearing and Final Grading

Upon completion of demolition and debris removal, the contractor shall leave the property in a clean, safe, and orderly condition. Final site work shall include:

- Removal of demolition-related debris;
- Elimination of unsafe holes, depressions, or hazards caused by demolition;
- Rough grading or final grading of the disturbed area;
- Leveling of the site to promote positive drainage where feasible;
- Leaving the site in a condition acceptable to the City.

The contractor shall not leave the property in a condition that creates a safety hazard, drainage issue, or nuisance.

E. **Protection of Adjacent Property and Public Infrastructure**

The contractor shall take all necessary precautions to protect adjacent properties, public sidewalks, streets, curbs, alleys, utilities, drainage facilities, trees, fences, and other improvements not identified for demolition.

Any damage caused by the contractor's operations shall be repaired at the contractor's expense and to the satisfaction of the City.

F. **Utility Coordination**

Prior to demolition, the contractor shall coordinate with the City and applicable utility providers, as necessary, to confirm that utilities have been properly disconnected, removed, capped, or otherwise made safe.
The contractor shall not begin demolition until utility conditions have been addressed to the satisfaction of the City or the appropriate utility provider.

G. **Safety and Site Control**

The contractor shall be responsible for maintaining a safe work site at all times. This includes providing appropriate barricades, fencing, signage, traffic control, dust control, and other safety measures necessary to protect workers, City personnel, neighboring properties, pedestrians, and the general public.
All work shall comply with applicable OSHA requirements and other safety standards.

3. Permits, Licenses, and Compliance

The Contractor shall perform all Work in accordance with all applicable federal, state, and local laws, ordinances, regulations, and codes. The Contractor shall obtain and maintain all permits, licenses, certifications, and approvals necessary to perform the Work.

The Contractor shall maintain all required licenses, permits, and certifications throughout the term of the Agreement and shall provide updated documentation upon the City's request.

4. Response Time and Availability

The Contractor shall maintain sufficient personnel, equipment, and resources to respond to demolition assignments in a timely manner. The Contractor shall mobilize and commence Work within the timeframe established in each Task Order or Notice to Proceed. The City may consider the Contractor's availability, capacity, and ability to meet required schedules when assigning Work under this Agreement.

5. Performance Requirements

- Timely completion of demolition services in accordance with work order schedules and City-established response times.
- Comply with all applicable federal, state, and local laws, regulations, permits, and requirements, including applicable OSHA and TCEQ requirements, Community Development Block Grant (CDBG) requirements, and all federal requirements incorporated into the Agreement or applicable Task Order.
- Performance of demolition, debris removal, disposal, and site restoration activities in a safe and professional manner consistent with industry standards.
- Maintenance of proper traffic control, site security, and public safety measures throughout the duration of the work.
- Coordination with City staff, utility providers, regulatory agencies, and other contractors as necessary.
- Submission of all required documentation, including permits, disposal manifests, photographs, inspection records, and closeout documents, as required by the City.
- Restoration of the site to a clean, safe, and acceptable condition upon completion of work.

6. Federal and CDBG Compliance

The Contractor acknowledges that CDBG funds may be used for Work performed under this Agreement and shall comply with all applicable federal requirements associated with such funding. Applicable federal provisions, including labor standards, wage requirements, reporting requirements, certifications, and other funding-specific conditions, shall be incorporated into the applicable Task Order when required.

7. Payment and Performance Bonds

Payment and Performance Bonds shall **not** be required upon execution of this Master Service Agreement. For each individual Task Order that constitutes a public works construction project and meets the bonding thresholds established under **Chapter 2253 of the Texas Government Code**, the Contractor shall furnish Payment and Performance Bonds in the amount required by law prior to commencement of Work.

All bonds shall:

1. Be issued by a surety authorized to conduct business in the State of Texas;
2. Comply with the requirements of Chapter 2253, Texas Government Code, and all other applicable state and federal laws;
3. Be submitted to and approved by the City before issuance of the Notice to Proceed for the applicable Task Order.

When a Task Order is funded in whole or in part with state or federal funds, the Contractor shall also comply with any additional bonding requirements contained in the applicable Task Order.

8. Davis Bacon

For all Davis-Bacon covered activities, the most current applicable Wage Determination published by the U.S. Department of Labor and available at the time of each new Purchase Order issuance shall be incorporated and used.

"EXHIBIT B" – Contract Term

Contract Term Details: The Contract, pending City Commission approval, includes a Base Period, Optional Renewal Periods, and a Total Contract Term as follows:

- **Base Period:** This initial period will begin upon City Commission approval and end on **September 30, 2029**

- **Optional Renewal Periods:** There are two (2) optional one-year renewal periods. If exercised, these periods will extend the contract as follows:
  - **First Renewal Period:** October 1, 2029, to September 30, 2030
  - **Second Renewal Period:** October 1, 2030 to September 30, 2031

- **Total Term of the Contract:** Including the Base Period and both optional renewals, the total contract term shall not exceed five (5) years, with a final end date of **September 30, 2031**, if all renewals are exercised.

"EXHIBIT C" – Compensation Structure

The City shall compensate the Contractor for Work performed under this Agreement in accordance with the unit prices submitted in the Contractor's Bid Price Form, which is incorporated herein by reference and made a part of this Agreement.

Compensation shall be based solely on the actual quantities of Work satisfactorily completed and accepted by the City under individual Task Orders issued pursuant to this Agreement.

The unit prices shall include all labor, supervision, materials, equipment, tools, transportation, permits, traffic control, mobilization, disposal, overhead, profit, insurance, taxes, and all other incidentals necessary to complete the Work in accordance with the Contract Documents, unless otherwise specifically provided in the applicable Task Order.

The City shall have no obligation to pay for Work performed without an authorized Task Order or for Work exceeding the authorized scope of a Task Order unless approved in writing by the City.

BUILDING DEMOLITION SERVICES ON AN AS-NEEDED BASIS

BID PRICE FORM

BIDDER INFORMATION

Item	Response
Company Name	Waste Solutions USA LLC
Address	2434 LCR 656, Thornton, TX 76687
Contact Person	Fabricio Lima
Phone Number	(832) 405-6296
Email Address	fabricio@wastesolutionsusa.com

SECTION A – STRUCTURE DEMOLITION – SINGLE STORY

Item No.	Description	Unit	Unit Price
A-1	Residential Structure Demolition – Wood Frame	SF	$3.25
A-2	Residential Structure Demolition – Masonry	SF	$4.75
A-3	Commercial Structure Demolition – Wood Frame	SF	$3.75
A-4	Commercial Structure Demolition – Masonry	SF	$6.00
A-5	Multifamily Structure Demolition – Wood Frame	SF	$3.85
A-6	Multifamily Structure Demolition – Masonry	SF	$5.75
A-7	Accessory Structure Demolition (Garage/Shed/Carport) – Wood Frame	SF	$2.75
A-8	Accessory Structure Demolition (Garage/Shed/Carport) – Masonry	SF	$4.00
A-9	Mobile Home Demolition	EA	$2,500.00

SECTION A – STRUCTURE DEMOLITION – MUILTIPLE STORIES			
Item No.	**Description**	**Unit**	**Unit Price**
A-1	Residential Structure Demolition – Wood Frame	SF	$3.90
A-2	Residential Structure Demolition – Masonry	SF	$5.70
A-3	Commercial Structure Demolition – Wood Frame	SF	$4.50
A-4	Commercial Structure Demolition – Masonry	SF	$7.20
A-5	Multifamily Structure Demolition – Wood Frame	SF	$4.60
A-6	Multifamily Structure Demolition – Masonry	SF	$6.90
A-7	Accessory Structure Demolition (Garage/Shed/Carport) – Wood Frame	SF	$3.30
A-8	Accessory Structure Demolition (Garage/Shed/Carport) – Masonry	SF	$4.80

SECTION B – FOUNDATION REMOVAL			
Item No.	**Description**	**Unit**	**Unit Price**
B-1	Concrete Slab Foundation Removal	SF	$1.75
B-2	Pier-and-Beam Foundation Removal	SF	$1.25
B-3	Masonry Wall Foundation Removal	SF	$2.25
B-4	Partial Foundation Removal	SF	$1.50
B-5	Entry Porch Foundation Removal	SF	$1.25

SECTION C – DEBRIS / DISPOSAL			
Item No.	**Description**	**Unit**	**Unit Price**
C-1	Demolition Debris Haul-Off and Disposal	CY	$25.00
C-2	Trash and Rubbish Removal	CY	$22.00
C-3	Tire Disposal	EA	$15.00
C-4	Illegal Dumping Cleanup	CY	$27.50

SECTION D – SITE RESTORATION / FINAL GRADING			
Item No.	**Description**	**Unit**	**Unit Price**
D-1	Backfill	CY	$20.00
D-2	Rough Grading	SF	$0.35
D-3	Final Site Grading	SF	$0.55
D-4	Lot Clearing and Site Cleanup	EA	$450.00

SECTION E – SAFETY / SITE CONTROL			
Item No.	**Description**	**Unit**	**Unit Price**
E-1	Temporary Barricades/Fencing	LF	$6.00
E-2	Traffic Control	DAY	$400.00
E-3	Dust Control Measures	DAY	$250.00
E-4	Emergency Site Securing	EA	$750.00

SECTION F – EMERGENCY RESPONSE			
Item No.	Description	Unit	Unit Price
F-1	Emergency Demolition Mobilization	EA	$1,500.00
F-2	After-Hours Mobilization	EA	$1,000.00
F-3	Expedited Response (<24 Hours)	EA	$2,000.00

The Vendor shall prepare and submit this Task Order form, with all required exhibits, as part of its proposal for services when requested by the City. No services shall be performed without an executed Task Order issued by the City of Brownsville under the Master Services Agreement.

"EXHIBIT D" – Sample Task Order with Instructions"

Master Service Agreement # 263-26-PLN-IFB

TASK ORDER # _____
(Building Demolition Services On An As-Needed Basis Only)

The City will assign the Task Order number.

This **TASK ORDER** is issued under the **Master Services Agreement #263-26-PLN-IFB** between the City of Brownsville and **Waste Solutions USA LLC** for services for Bore and Trenching On-Call Services. Terms and Conditions in accordance with the Master Services Agreement #263-26-PLN-IFB.

All Exhibits must be completed and individually label.

1. Project Information, Scope of Work, and Location :	Exhibit A
a. Estimated time for completion:	
b. Compensation (Detailed Breakdown):	
2. Certificate of Insurance:	Exhibit B
3. Form 2 - Statement of Conflict of Interest:	Exhibit C
4. Payment and Performance Bonds (If applicable)	Exhibit D
5. Federal or State Provisions (If applicable)	Exhibit E

For projects funded by State or Federal sources, the City will provide the applicable contract provisions, which shall be attached as Exhibit E and incorporated into the Task Order.

All terms and conditions of the Master Services Agreement #263-26-PLN-IFB shall continue in full force and effect.

All terms and conditions of the MSA remain in effect and govern each Task Order. No additional terms may be added to a Task Order.

IN WITNESS WHEREOF, the patties hereto have set their hands and herein stated.

IN WITNESS WHEREOF the undersigned have executed this Agreem above.

NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESSED OR IMPLIED, TO AMEND THIS CONTRACT, EXCEPT SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE CITY COMMISION OF THE CITY OF BROWNSVILLE.

EXECUTED THIS _____ DAY OF _____, 20__.

Contractor / Contractor
Company name:
Authorized representative:
Company address:
Phone Number:
Email:

_____
Name:
Date:

Owner
City of Brownsville
City Manager/Mayor.
1001 E. Elizabeth St Brownsville Tx 78520
956-548-6000
Purchasing@brownsvilletx.gov

_____
Name:
Date:

Master Service Agreement # 263-26-PLN-IFB

TASK ORDER #_____

(Building Demolition Services On An As-Needed Basis Only)

This **TASK ORDER** is issued under the **Master Services Agreement # 263-26-PLN-IFB** between the City of Brownsville and **Waste Solutions USA LLC** for services for Bore and Trenching On-Call Services. Terms and Conditions in accordance with the Master Services Agreement #263-26-PLN-IFB

1. Project Information & Scope of Service and Location: Exhibit A
   a. Estimated time for completion:
   b. Compensation (Detailed Breakdown):
2. Certificate of Insurance: Exhibit B
3. Form 2 - Statement of Conflict of Interest Exhibit C
4. Payment and Performance Bonds (If applicable) Exhibit D
5. Federal or State Provisions (If applicable) Exhibit E

All terms and conditions of the Master Services Agreement #263-26-PLN-IFB shall continue in full force and effect.

IN WITNESS WHEREOF, the patties hereto have set their hands and seals on the day and year herein stated.

IN WITNESS WHEREOF the undersigned have executed this Agreement as of the day and year first written above.

NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESSED OR IMPLIED, TO AMEND THIS CONTRACT, EXCEPT SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE CITY COMMISSION OF THE CITY OF BROWNSVILLE.

EXECUTED THIS _____ DAY OF _____, 20__.

Architect / Contractor		**Owner**
Company name:	_____	City of Brownsville
Authorized representative:	_____	City Manager/Mayor.
Company address:	_____	1001 E. Elizabeth St Brownsville Tx 78520
Phone Number:	_____	956-548-6000
Email:	_____	Purchasing@brownsvilletx.gov

_____

Name:
Date:

_____

Name:
Date:

Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent vendor must describe any conflicts of interest related to the goods and/or services associated with this solicitation.

The Respondent shall complete and submit **Form CIQ (Form 2)** indicating any conflicts of interest for the service provider or key employees. If no conflicts exist, the Respondent must indicate "N/A" on the form and submit it as part of their response.

A conflict of interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s).

The Entity reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict of interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1001 East Elizabeth Street, Brownsville, Texas 78520
Email: citysecretary@brownsvilletx.gov
Phone: (956) 548-6000

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Chapter 176, Texas Local Government Code, and that the appropriate Conflict of Interest Questionnaire (Form CIQ) has been filed or will be filed as required.

Signature: Fabricio Lima

Printed Name: Fabricio Lima

Title: Owner

Date: 07/28/2026

Company Name: Waste Solutions USA LLC

Phone: (832) 405-6296

Email: fabricio@wastesolutionsusa.com

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

Waste Solutions USA LLC

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

N/A - No known relationship with any City of Brownsville officer

Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7 Fabricio Lima

Signature of vendor doing business with the governmental entity

07/28/2026

Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print, sign, and notarize the TEC Form 1295 and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC's website in accordance with state law.

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed and notarized in accordance with TEC requirements**.**

Signature: Fabricio Lima

Printed Name: Fabricio Lima

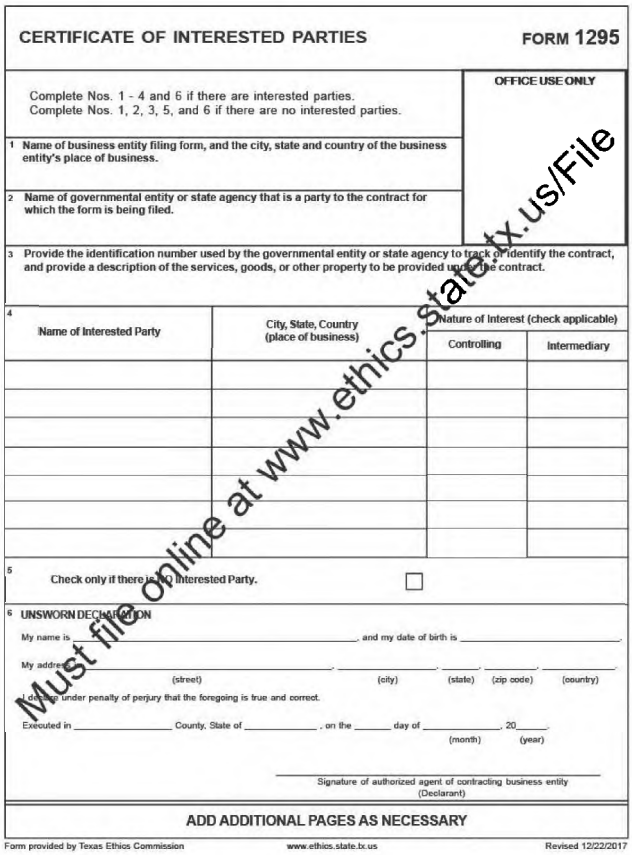
Title: Owner

Date: 07/28/2026

Company Name: Waste Solutions USA LLC

Phone: (832) 405-6296

Email: fabricio@wastesolutionsusa.com



CERTIFICATE OF INTERESTED PARTIES — FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4

Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is no Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1504459

Date Filed:
08/19/2026

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Waste Solutions USA LLC
Thornton, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

263-26-PLN-IFB
On call demolition services.

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is Fabricio Lima, and my date of birth is October 1, 1983.

My address is 2434 LCR 656, Thornton, TX 76687, USA
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Limestone County, State of Texas, on the 19 day of August, 2026.
(month) (year)

Fabricio Lima

Signature of authorized agent of contracting business entity
(Declarant)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1504459

Date Filed:
08/19/2026

Date Acknowledged:
08/19/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Waste Solutions USA LLC
Thornton, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

263-26-PLN-IFB
On call demolition services.

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

"EXHIBIT G" - Insurance Requirements

The Contractor shall carry at its sole expense and provide evidence of insurance coverage listed below to protect itself and the City from and against liability, loss, damage, expense, cost (including without limitation to litigation and court costs and attorneys' fees) arising out of or in connection with the performance of any work performed in accordance with the specifications of any related documents, whether such work is performed by the Contractor or any subconsultant or by anyone directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable. Coverage must be written with insurance companies licensed in the state of Texas and shall have at least an A- rating by A.M. Best & Company. All policies shall provide a thirty (30) day advance notice of cancellation to the City.

- Workers Compensation: Coverage A: Statutory Coverage B:
- Employers Liability:
    - Bodily injury by accident $100,000 per person Bodily injury by disease $100,000 per person
    - Bodily injury by disease $500,000 aggregate
    - All states and voluntary compensation endorsements

- Commercial General Liability
    - Limits of Liability: $1,000,000 each occurrence
    - $2,000,000 general aggregate
    - $2,000,000 products/completed operations aggregate

- Auto Liability
    - Limits of Liability: $1,000,000 each accident

- Coverage:
    - The City shall be named as an additional insured.

Certificates of insurance shall be presented to the Procurement Department for approval before the successful Firm, its agents and/or employees commence any work whatsoever pursuant to the contract.

WASTSOL-01 JRLOVE/APINTO

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 8/20/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Securance Corporation Agency 10205 Westheimer Rd., Ste. 1100 Houston, TX 77042	PHONE (A/C, No, Ext): (713) 977-6606	FAX (A/C, No): (713) 785-6722
	E-MAIL ADDRESS: info@securancecorp.com	
	INSURER(S) AFFORDING COVERAGE	NAIC #
	INSURER A : Cumis Specialty Insurance Company, Inc.	12758
INSURED	INSURER B :	
Waste Solutions USA, LLC 2434 Lcr 656 Thornton, TX 76687-2202	INSURER C : Texas Mutual	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			CSCU0104127	3/12/2026	3/12/2027	EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
							MED EXP (Any one person)	$ 5,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	X POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	ANY AUTO						BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	N / A		0002142807	03/12/2026	03/12/2027	E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

City of Brownsville IS NAMED AS ADDITIONAL INSURED ON THE GENERAL LIABILITY POLICY WITH WAIVER OF SUBROGATION. THE TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHER TO US CONDITION DOES NOT APPLY TO THE PERSONS OR ORGANIZATIONS SHOWN ABOVE.

CERTIFICATE HOLDER

City of Brownsville
1001 E. Elizabeth St
Brownsville, TX 78520

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE



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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
08/19/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER **GEICO** One GEICO Blvd. Fredericksburg, VA 22412	**CONTACT NAME:** GEICO **PHONE (A/C, No, Ext):** 1-866-509-9444 **FAX (A/C, No):** **E-MAIL ADDRESS:** R1COMMEND@GEICO.COM
	INSURER(S) AFFORDING COVERAGE — **NAIC #**
	INSURER A : GEICO County Mutual Insurance Company — 29181
INSURED **WASTE SOLUTIONS USA, LLC** 2434 LCR 656 THORNTON, TX 76687	**INSURER B :**
	INSURER C :
	INSURER D :
	INSURER E :
	INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	[ ] CLAIMS-MADE [ ] OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	[ ] POLICY [ ] PRO-JECT [ ] LOC						PRODUCTS - COMP/OP AGG	$
	[ ] OTHER:							$
A	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	[ ] ANY AUTO						BODILY INJURY (Per person)	$
	[ ] OWNED AUTOS ONLY [X] SCHEDULED AUTOS			9300360045-00	08/07/2026	02/07/2027	BODILY INJURY (Per accident)	$
	[ ] HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB [ ] OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB [ ] CLAIMS-MADE						AGGREGATE	$
	[ ] DED [ ] RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						[ ] PER STATUTE [ ] OTH-ER	
	ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ]	N / A					E.L. EACH ACCIDENT	$
	(Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

City of Brownsville IS NAMED AS ADDITIONAL INSURED WITH WAIVER OF SUBROGATION. THE TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHER TO US CONDITION DOES NOT APPLY TO THE PERSONS OR ORGANIZATIONS SHOWN ABOVE.

CERTIFICATE HOLDER	**CANCELLATION**
City of Brownsville 1001 E. Elizabeth St. Brownsville Brownsville, TX 78520	**SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.** **AUTHORIZED REPRESENTATIVE**

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Form 10 - Cooperative Use Authorization & Administrative Fee Acknowledgment

Purpose

This form allows the Respondent to indicate whether it elects to participate in optional cooperative purchasing arrangements and acknowledges the associated administrative fee requirements if cooperative use is accepted. Cooperative use is not mandatory and is offered at the Respondent's discretion. By completing this form, the Respondent clearly identifies its intent regarding cooperative participation for contracts awarded by the City of Brownsville, Texas.

Solicitation No.: 263-26-PLN-IFB

Respondent Information

Legal Entity Name: Waste Solutions USA LLC

Primary Contact Name: Fabricio Lima

Title: Owner

Telephone: (832) 405-6296 **Email:** fabricio@wastesolutionsusa.com

Optional Cooperative Use Authorization

▣ **YES** – The Respondent **agrees** to allow cooperative use

☐ **NO** – The Respondent **declines** cooperative use

If **YES** is selected, the Respondent acknowledges and agrees that:

Cooperative Use Authorization

It is the intent of the City of Brownsville, Texas ("City") that any contract resulting from this solicitation may be made available for use by other governmental entities, to the maximum extent permitted under applicable federal, state, and local laws, including but not limited to Texas Government Code Chapter 791 (Interlocal Cooperation Act) and other applicable joint purchasing statutes. The awarded contractor agrees to extend the same pricing, terms, and conditions of this contract to any eligible public agency, political subdivision, or governmental entity that elects to purchase goods or services under this contract, provided that such entity issues its own purchase order, contract, or interlocal agreement that references the City of Brownsville's contract. Each participating entity shall be solely responsible for its own contractual obligations, including but not limited to the issuance of purchase orders, receipt of goods or services, and payment of invoices. The City of Brownsville shall not be responsible for the performance, payment, or administration of any obligations incurred by participating entities under this cooperative use provision.

Administrative Fee Acknowledgment

The City of Brownsville will utilize an administrative fee, in the form of a percentage of the cost, that will apply to all contracts between the awarded contractor, the City, or participants resulting from this solicitation. The administrative fee will be remitted by the contractor to Civic Marketplace on a quarterly basis, along with required quarterly reporting. The remuneration fee for this program will be 3% of sales. The administrative fee shall be included in the contractor's pricing and shall not be invoiced separately to the City or participating entities.

Certification

By signing below, the undersigned certifies that they are duly authorized to bind the Respondent, that all statements made in this form are true and correct, and that the Respondent's selection regarding cooperative use accurately reflects its intent.

Signature: Fabricio Lima

Printed Name: Fabricio Lima

Title: Owner

Date: 07/28/2026

Company Name: Waste Solutions USA LLC

Phone: (832) 405-6296

Email: fabricio@wastesolutionsusa.com

FORM 12 CDBG
City of Brownsville Federal Clauses Certification Form

FEDERAL CERTIFICATIONS & CDBG PROVISIONS
AGREEMENT FUNDED BY U.S. FEDERAL GRANT

TO WHOM IT MAY CONCERN:

Federal and CDBG funds will be used; therefore, this form must be completed and returned.

Community Development Block Grant (CDBG)

This version of the *Federal Clauses FY2026* document includes all required federal provisions under 2 C.F.R. Part 200, along with additional clauses required to ensure full compliance with Community Development Block Grant (CDBG) or other HUD-funded contracts.

Instructions for Completing this Form
Suppliers and contractors must review each federal clause and indicate whether it applies to the specific contract. For every section below, please initial **"YES"** to confirm agreement and compliance, or **"N/A"** (Not applicable) if the clause does not apply to the scope of work or funding source.
Yes – contractor/supplier agrees to comply with the clause as written and, where applicable, will provide all required documentation or certifications.
N/A – Clause is not applicable to the contract (e.g., Davis Bacon Act for non-construction work, Buy America for non-transportation projects, etc.) Contractor/supplier must initial next to "N/A" to confirm inapplicability.
Incomplete forms or unmarked sections may disqualify contractor/supplier and/or delay contract approval.

Vendor Responsibility for Regulatory Compliance
It is the responsibility of the contractor/supplier to review, verify, and comply with the most current versions of all applicable federal provisions, clauses, and regulations referenced in this document. The contractor/supplier shall refer to official U.S. Government websites, including the Code of Federal Regulations (www.ecfr.gov), Federal Acquisition Regulation (www.acquisition.gov), and agency-specific resources (e.g., HUD, DOT, Treasury, or OMB), to ensure full and current compliance at the time of bid submission and throughout the contract term.

DEFINITIONS

Contract: A legal agreement by which a non-Federal entity purchases property or services to carry out a federally funded project.

Contractor: An entity that receives a contract as defined in Contract.

Cooperative agreement: A form of federal financial assistance used when substantial involvement is expected between the federal agency or pass-through entity and the recipient.

Federal awarding agency: The U.S. federal agency providing the funding.

Federal award: The financial assistance or cost-reimbursement contract provided directly by a federal agency or indirectly through a pass-through entity to carry out a public purpose.

Non–Federal entity (NFE): A state, local government, tribe, institution of higher education, or non-profit organization that receives and administers federal funds.

Pass-Through Entity (PTE): A Non-Federal entity that provides part of its federal award to another organization (a subrecipient) to carry out a portion of the program.

Subrecipient/Subaward: A Non-Federal entity that receives federal funds from a pass-through entity to carry out part of federal program. The legal instrument documenting this relationship is the subaward.

Recipient: A Non–Federal entity receiving funds directly from a federal agency.

Simplified acquisition threshold: The current small-purchase limit established under the FAR (presently $250,000, adjusted periodically for inflation).

Obligations: Orders placed on contracts or subawards made that require payment by the Non-Federal entity.

Termination: The ending of a federal award, in whole or in part, prior to the planned end of the period of performance. These definitions are provided for reference only. For full regulatory text, see 2 C.F.R. Part 200, Subpart A (§§ 200.0-200.1).

Certification Regarding Certain Telecommunications and Video Surveillance Services or Equipment (FAR 52.204-24 & 52.204-25)

The contractor/supplier certifies compliance with the prohibitions under Section 889 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) and the Federal Acquisition Regulation (FAR) 52.204-24 and 52.204-25.

The contractor/supplier shall not provide or use any equipment, system, or service that includes covered telecommunications equipment or services from Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, or any subsidiary or affiliate of such entities.

If the contractor/supplier identifies any covered telecommunications equipment or services during performance, it shall immediately notify the contracting agency or the City of Brownsville in writing and provide all information required under FAR 52.204-25(d).

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

APPENDIX II TO 2 CFR PART 200 – Contract Provision for Non-Federal Entity Contracts Under Federal Awards

(A) Contracts for more than the simplified acquisition threshold currently set at $250,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Pursuant to Federal Rule (A) above, when a Participating Agency expends federal funds, the Participating Agency reserves all rights and privileges under the applicable laws and regulations with respect to this procurement in the event of breach of contract by either party.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(B) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000)

Pursuant to Federal Rule (B) above, when a Participating Agency expends federal funds, the Participating Agency reserves the right to immediately terminate any agreement in excess of $10,000 resulting from this procurement process in the event of a breach or default of the agreement by Contractor/Supplier as detailed in the terms of the contract.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(C) **Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 CFR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."**

Pursuant to Federal Rule (C) above, when a Participating Agency expends federal funds on any federally assisted construction contract, the equal opportunity clause is incorporated by reference herein.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of $2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non- Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.
Pursuant to Federal Rule (D) above, when a Participating Agency expends federal funds during the term of an award for all contracts and subgrants for construction or repair, contractor/supplier will be in compliance with all applicable Davis-Bacon Act provisions.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Pursuant to Federal Rule (E) above, when a Participating Agency expends federal funds, contractor/supplier certifies that contractor/supplier will be in compliance with all applicable provisions of the Contract Work Hours and Safety Standards Act

during the term of an award for all contracts by Participating Agency resulting from this procurement process.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Pursuant to Federal Rule (F) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (F) above.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non- Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251- 1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA)

In the event Federal Transit Administration (FTA) or Department of Transportation (DOT) funding is used by Participating Public Agency, contractor/Supplier also agrees to include Clean Air and Clean Water requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

Pursuant to Federal Rule (G) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency member resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (G) above.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(H) Prohibition on Fraud, Waste, and Abuse - The contractor/supplier certifies that it will take all reasonable steps to prevent, detect, and disclose any suspected fraud, waste, or abuse of federal funds associated with this contract, consistent with applicable laws and agency guidance. Any such activity will be promptly reported to the awarding agency, pass-through entity, or the Office of Inspector General, as appropriate.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(I) Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220 cross-reference to Treasury/OMB Guidance Subpart C) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the Executive Office of the President Office of Management and Budget (OMB) guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions

contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Pursuant to Federal Rule (H) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency. If at any time during the term of an award the contractor/supplier or its principals becomes debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency, the contractor/supplier will notify the Participating Agency.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(J) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

Pursuant to Federal Rule (I) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term and after the awarded term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier certifies that it is in compliance with all applicable provisions of the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). The undersigned further certifies that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

(3) The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Procurement of Recovered Materials 2 C.F.R. § 200.323 / 40 C.F.R Part 247

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with 2 C.F.R. § 200.323

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Environmental Review (24 C.F.R. Part 58)

The contractor/supplier acknowledges that no funds shall be obligated or expended until the City of Brownsville has completed an environmental review and received a release of funds from HUD, as required under 24 C.F.R. Part 58. The contractor/supplier shall cooperate fully with the City in meeting all environmental review and mitigation requirements.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

RECORD RETENTION REQUIREMENTS FOR CONTRACTS INVOLVING FEDERAL FUNDS

When federal funds are expended by Participating Agency for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the record retention requirements detailed in 2 CFR §§ 200.334-200.337. The contractor/supplier further certifies that contractor/supplier will retain all records as required by 2 CFR § 200.334 for a period of three years after grantees or subgrantees submit final expenditure reports or quarterly or annual financial reports, as applicable, and all other pending matters are closed.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH THE ENERGY POLICY AND CONSERVATION ACT

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6321 et seq.; 49 C.F.R. Part 18). Cross-link 2 CFR § 200.323(b)

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH BUY AMERICA PROVISIONS

To the extent purchases are made with Federal Highway Administration, Federal Railroad Administration, or Federal Transit Administration funds, contractor/supplier certifies that its products comply with all applicable provisions of the Buy America Act and agrees to provide such certification or applicable waiver with respect to specific products to any Participating Agency

upon request. Purchases made in accordance with the Buy America Act must still follow the applicable procurement rules calling for free and open competition. Additionally:

(1) The Contractor agrees to comply with 49 USC 5323(j) and 49 CFR Part 661, which provide that federal funds may not be obligated unless steel, iron and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7.A general public interest waiver from the Buy America requirements applies to microprocessors, computers, microcomputers, software or other such devices, which are used solely for the purpose of processing or storing data. This general waiver does not extend to a product or device that merely contains a microprocessor or microcomputer and is not used solely for the purpose of processing or storing data. Separate requirements for rolling stock are set out at 5323(j)(2)(C) and 49 CFR 661.11.
(2) A bidder or contractor/supplier must submit to the FTA recipient the appropriate Buy America certification with all bids on FTA- funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower-tier subcontractors.

The following certificates titled FTA and DOT Buy America Certification should be completed and returned with the response as part of FTA and DOT requirements.

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT) - BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF ROLLING STOCK

CERTIFICATE OF COMPLIANCE
(select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j), and the applicable regulations of 49 CFR 661.11.
Check for YES: ☐

OR

Certificate of Non-Compliance with 49 USC §5323(j)

The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C), and the applicable regulations in 49 CFR 661.7.
Check for YES: ☐

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT)
-
BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL OR MANUFACTURED PRODUCTS

CERTIFICATE OF COMPLIANCE (select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.
Check for YES: ☐

OR

Certificate of Non-Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.
Check for YES: ☐

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.

N/A (Not applicable to this contract) FL

Contractor/Supplier's Name: _____
Address, City, State, and Zip Code: _____
Phone Number: _____
Fax Number: _____

Printed Name and Title of Authorized Representative: _____
Email Address: _____
Signature of Authorized Representative: _____
Date: _____

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) FL

If any portion of this project is funded with U.S Department of Transportation (DOT) funds, the contractor/supplier shall also complete a Disadvantage Business Enterprise (DBE) Certification Form in accordance with 49 C.F.R. Part 26. This requirement applies only to DOT-funded projects and is not applicable to HUD, ARPA, or Treasury-funded programs.

CERTIFICATION OF COMPLIANCE WITH BUILD AMERICA, BUY AMERICA ACT (BABA) 2 C.F.R. 184

The contractor/supplier acknowledges that certain federally funded infrastructure projects are subject to the Build America, Buy America Act (Pub. L. 117-58 §§ 70901-70927) and implementing regulations at 2 C.F.R. Part 184. When applicable, the contractor/supplier certifies that all iron, steel, manufactured products, and construction materials used in the project are produced in the United States, as required by the Act.

The contractor/supplier further agrees to provide appropriate documentation, origin certifications, or approved waivers upon request by the awarding agency or pass-through entity. Where a waiver is sought, the contractor/supplier shall support the request in writing and shall not proceed with procurement or installation of foreign materials until such waiver is granted in accordance with federal guidance.

The Build America, Buy America Act applies to all federally funded infrastructure projects, except where otherwise waived or exempted by the awarding agency.

Does contractor/supplier agree? **YES** FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Domestic Preference for Procurements– 2 C.F.R. § 200.322

The contractor/supplier agrees to comply with the requirements of 2 C.F.R. § 200.322, which establishes a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. To the greatest extent practicable, the contractor/supplier shall provide domestic end products, materials, and construction products that are manufactured in the United States. This preference applies to all procurements under federal awards, consistent with applicable statutes, regulations, and the Build America, Buy America Act requirements.

Does contractor/supplier agree? **YES** FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF ACCESS TO RECORDS – 2 C.F.R. § 200.337

Contractor/Supplier agrees that the Inspector General of the Agency or any of their duly authorized representatives shall have access to any documents, papers, or other records of contractor/supplier that are pertinent to contractor's/supplier's discharge of its obligations under the Contract for the purpose of making audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to contractor/supplier's personnel for the purpose of interview and discussion relating to such documents.

Upon project completion, the contractor/supplier shall submit a final certification of compliance and any records necessary for HUD grant closeout review.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF APPLICABILITY TO SUBCONTRACTORS

Contractor/Supplier agrees that all contracts it awards pursuant to the Contract shall be bound by the foregoing terms and conditions.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Conflict of Interest - 2 C.F.R. § 200.318(c)(1)

The Contractor/supplier affirms compliance with 2 C.F.R. § 200.318(c)(1), which requires the maintenance of written standards of conduct covering conflict of interest in the selection, award, and administration of contracts. No employee, officer, agent, or subcontractor shall participate in any procurement or contract decision where a real or apparent conflict of interest exists. The contractor/supplier further agrees to disclose in writing any potential conflicts of interest to the City of Brownsville prior to award or during contract performance.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Conflict of Interest (24 C.F.R. § 570.611) - CDBG

The contractor/supplier shall comply with 24 C.F.R. § 570.611, which prohibits any person who exercises or has exercised functions or responsibilities with respect to CDBG activities, or who is in a position to participate in decision-making or gain inside information, from obtaining a financial interest or benefit from a CDBG-assisted activity.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Executive Order 14173 (2025) – Anti-DEI Certification

The Contractor/supplier certifies compliance with Executive Order 14173 (2025), affirming that it operates in accordance with all applicable federal anti-discrimination laws and that no diversity, equity, or inclusion (DEI) program or policy maintained by the contractor violates such laws. The contractor/supplier acknowledges that compliance with these requirements is a material condition of this contract and that any false certification or noncompliance may subject the contractor/supplier to remedies available under the False Claims Act (31 U.S.C. §§ 3729-3733) and other applicable laws.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Civil Rights Compliance Assurance

The Contractor/supplier agrees to comply with all applicable federal civil rights laws and regulations, including Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq.), Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794), the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq.), the Age Discrimination Act of 1975 (42 U.S.C. § 6101 et seq.), and any other nondiscrimination provisions applicable to this contract. The contractor/supplier shall ensure that no person is excluded from participation in, denied the benefits of, or subjected to discrimination under this contract on the basis of race, color, national origin, sex, age, or disability.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Section 109 - Non-Discrimination (42 U.S.C. § 5309)

The contractor/supplier shall comply with Section 109 of the Housing and Community Development Act of 1974 (42 U.S.C. § 5309), which prohibits discrimination on the basis of race, color, national origin, sex, or religion under any program or activity funded in whole or in part with CDBG funds.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Section 504 – Accessibility for Federally Assisted Programs (24 C.F.R. Part 8)

The contractor/supplier agrees to comply with Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794) and implementing regulations at 24 C.F.R. Part 8, which prohibit discrimination based on disability in federally assisted programs or activities.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Lead-Based Paint (24 C.F.R. Part 35)

The contractor/supplier shall comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§ 4821-4846), the Residential Lead-Based Paint Hazard Reduction Act of 1992 (42 U.S.C. §§ 4851-4856), and HUD regulations at 24 C.F.R. Part 35, which prohibit the use of lead-based paint in residential construction or rehabilitation funded with CDBG assistance.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Whistleblower Protection (41 U.S.C 4712)

The contractor/supplier shall comply with the whistleblower protections established under 41 U.S.C. 4712. Employees of contractors, subcontractors, and subrecipients are protected from reprisal for disclosing evidence of gross mismanagement, waste of federal funds, abuse of authority, or violations of law related to a federal contract or grant. The contractor/supplier must inform its employees in writing of their rights and remedies under this statute. Compliance with these protections is a material condition of this contract.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Remedies for Non-Compliance - 2 C.F.R. § 200.339

The contractor/supplier acknowledges that failure to comply with the terms and conditions of this agreement or any applicable federal requirements may result in enforcement actions as provided under 2 C.F.R. § 200.339. Remedies may include, but are not limited to, temporarily withholding payments, disallowing costs, wholly or partly suspending or terminating the contract, initiating suspension or debarment proceedings, or pursuing other legally available remedies.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Termination – 2 C.F.R. § 200.340

The contractor/supplier acknowledges that this contract may be terminated in whole or in part for cause, for convenience, or by mutual agreement, in accordance with 2 C.F.R. § 200.340. The basis for termination, applicable notice, and settlement provisions shall be clearly documented in writing.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Subrecipient Monitoring – 2 C.F.R. § 200.332

The contractor/supplier acknowledges that, when acting as a pass-through entity or subrecipient of federal funds, it must comply with the requirements of 2 C.F.R. § 200.332. The contractor/supplier shall monitor the activities of any subrecipients as necessary to ensure that federal funds are used in accordance with applicable statues, regulations, and the terms and conditions of the award. This includes performing risk assessments, issuing written subaward agreements with required flow-down clauses, reviewing financial and performance reports, and taking enforcement action when necessary to address noncompliance.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

COMMUNITY DEVELOPMENT BLOCK GRANTS

Purchases made under this contract may be partially or fully funded with federal grant funds. Funding for this work may include Federal Funding sources, including Community Development Block Grant (CDBG) funds from the U.S. Department of Housing and Urban Development. When such funding is provided, Contractor/Supplier shall comply with all terms, conditions and requirements enumerated by the grant funding source, as well as requirements of the State statutes for which the contract is utilized, whichever is the more restrictive requirement. When using Federal Funding, Contractor/Supplier shall comply with all wage and latest reporting provisions of the Federal Davis-Bacon Act. HUD-4010 Labor Provisions also applies to this contract.

In addition, the Contractor/supplier shall comply with the requirements of Section 3 of the Housing and Urban Development Act of 1968 (24 C.F.R. Part 75), ensuring, to the greatest extent feasible, that employment and contracting opportunities are directed to low- and moderate-income residents and Section 3 businesses.

If the project involves acquisition, demolition, or displacement activities, the contractor/supplier shall also comply with the Uniform Relocation Assistance and Real Property Acquisition Act (49 C.F.R. Part 24), ensuring fair compensation and relocation assistance for affected persons and property owners.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Section 3 – Economic Opportunities for Low- and Very Low-Income Persons (24 C.F.R. Part 75)

The contractor/supplier shall comply with Section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. § 1701u) and the implementing regulations at 24 C.F.R. Part 75, which provide employment, training, and contracting opportunities for low- and very low-income persons in connection with projects and activities funded in whole or in part by HUD financial assistance.

The contractor/supplier shall submit Section 3 compliance reports and documentation of efforts to hire or contract with Section 3 residents and businesses, as applicable.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Faith-Based Organizations (24 C.F.R. § 570.200(j))

Faith-based organizations are eligible to participate in HUD-funded programs on an equal basis with other entities. However, CDBG funds may not be used for inherently religious activities such as worship, instruction, or proselytization.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Duplication of Benefits (42 U.S.C. § 5155)

The contractor/supplier certifies that it will not receive duplicate federal financial assistance for costs incurred under this contract and shall immediately disclose any potential duplication of benefits to the City of Brownsville.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Access to Records and Closeout (2 C.F.R. § 200.337(b))

The contractor/supplier shall maintain all records pertinent to this contract for a minimum of three (3) years following the final closeout of the CDBG grant or project, or longer if required by applicable law or by the City of Brownsville.

Authorized representatives of HUD, the U.S. Department of the Treasury, the Comptroller General, the Inspector General, or other oversight agencies shall have the right of access to any pertinent records for audit, monitoring, or investigative purposes during and after the contract term.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Contractor Integrity and Ethical Conduct

The contractor/supplier shall maintain the highest standards of integrity and business ethics in connection with the performance of this contract.

The contractor/supplier shall comply with all applicable conflict-of-interest provisions, anti-fraud statutes, and procurement

regulations, and shall immediately report to the City of Brownsville any credible evidence of a violation of federal criminal law involving fraud, bribery, or gratuity violations that may affect this contract.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Executive Orders and Future Regulatory Updates

All current and future federal laws, Executive Orders, and regulations applicable to HUD- or CDBG-funded projects are hereby incorporated by reference.

The contractor/supplier acknowledges that it is responsible for compliance with any future revisions or new requirements issued by the U.S. Department of Housing and Urban Development (HUD) or the U.S. Office of Management and Budget (OMB) that affect this contract during its term.

Does contractor/supplier agree? **YES** _FL_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

The City of Brownsville reserves the right to request a signed or notarized certification, affidavit, or other supporting documentation for any of the provisions or clauses contained in this document at any time during the procurement process or contract term.

By signing below, the contractor/supplier certifies that all information provided in this document is true and accurate to the best of their knowledge and understands that any false statement may be subject to penalties under the False Claims Act (31 U.S.C. §§ 3729-3733).

The contractor/supplier further agrees to comply with all applicable federal, state, and local laws, rules, regulations, and ordinances. It is acknowledged that the contractor/supplier certifies compliance with all provisions, laws, acts, and regulations specifically noted above.

Contractor's/Supplier's Name: Waste Solutions USA LLC

Address, City, State, and Zip Code: 2434 LCR 656, Thornton, TX 76687

Phone Number: (832) 405-6296 Fax Number_____

Printed Name and Title of Authorized Representative: Fabricio Lima, Owner

Email Address: fabricio@wastesolutionsusa.com

Signature of Authorized Representative: Fabricio Lima Date: 07/28/2026

Grants and Community Development

Section 3 - Acknowledgment and Intent to Comply

(HUD Regulation, 24 CFR Part 75)

The Section 3 program requires recipients of HUD funding to direct employment, training, and contracting opportunities to low-income individuals and the businesses that employ these persons within their community. Section 3 is a provision of the HUD Act of 1968 and is found at 12 U.S.C. 1701u. The regulations are found at 24 CFR Part 75.

Per this statutory language, recipients of HUD funds (i.e. grantees and contractors) ensure that "to the greatest extent feasible," when certain HUD funds are used to assist housing and community development projects, preference for construction-related training, jobs, and contracting opportunities go to low- and very-low income people and to businesses that are owned by low- and very-low income persons or businesses that hire them. These opportunities are both sex and race neutral.

Name Prime Contractor	Waste Solutions USA LLC		
Business Address, City, State, & Zip	2434 LCR 656, Thornton, TX 76687		
Business Phone Number	(832) 405-6296	**Contact Email**	fabricio@wastesolutionsusa.com
Primary Contact Name	Fabricio Lima		
Primary Contact Phone Number	(832) 405-6296	**Title**	Owner

Name of Subcontractor			
Business Address, City, State, & Zip			
Business Phone Number		**Contact Email**	
Primary Contact Name			
Primary Contact Phone Number		**Title**	

If awarded a HUD funded contract, I will:

A. Insert Section 3 language *(located on the next page)* into all contracts and subcontracts associated with the federal funded projects;
B. Submit and implement a Grants and Community Development Section 3 Plan which will form part of our contractual obligations;
C. Submit all required employment and contracting documentation as requested by the Section 3 Program Office after review of our Section 3 Plan; and
D. Take affirmative actions to comply with all Section 3 notifications and requests, attain and report efforts toward achieving established HUD Section 3 benchmarks for Section 3 workers and Targeted Section 3 workers.
E. Maintain documentation for a time period required for record retention or in the absence of applicable program regulations in accordance with 2 CFR Part 200.

We are (I am) committed to comply with the HUD Section 3 regulation and Grants and Community Development Section 3 requirements. It is our (my) desire to work together to ensure compliance, *to the greatest extent feasible*, through the awarding of contracts for work and services to Section 3 business concerns and to provide employment and training to Section 3 workers and Targeted Section 3 workers.

(NOTE: This page is part of your bid or RFP package.)

Prime Contractor:

Print Name: Fabricio Lima Title: Owner

Signature: Fabricio Lima Date: 07/28/2026

Subcontractor:

Print Name: _____ Title: _____

Signature: _____ Date: _____

Section 3 Language – 24 CFR Part 75

All HUD Section 3 covered contracts shall include the following language:

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by Housing and Urban Development (HUD) assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low- and very-low income persons.

B. The Parties to this contract agree to comply with HUD 24 CFR Part 75 regulation and City of Brownsville Grants and Community Development policy and guidelines related to the implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediments that would prevent them from complying with HUD 24 CFR Part 75 regulation or Grants and Community Development requirements.

C. The contractor agrees to include this Section 3 language in every subcontract subject to compliance with HUD 24 CFR Part 75 regulation, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this Section 3 language, upon a finding that the subcontractor is in violation of HUD 24 CFR Part 75 regulation or Grants and Community Development policy and guidelines. The contractor will not subcontract with any subcontractor where the contractor has, or could be reasonably expected to have had, notice or knowledge that the subcontractor has been found in violation of HUD 24 CFR Part 75 regulation.

D. Noncompliance with HUD 24 CFR Part 75 regulation or Grants and Community Development policy and guidelines may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts at the sole discretion of the City of Brownsville Grants and Community Development.

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For more information

Housing and Urban Development (HUD) Section 3 Regulation
https://ecfr.federalregister.gov/current/title-24/subtitle-A/part-75#section-75

HUD Section 3 Benchmarks (Section 3 Projects)
https://www.federalregister.gov/documents/2020/09/29/2020-19183/section-3-benchmarks-for-creating-economic-opportunities-for-low--and-very-low-income-persons-and#h-13

BUILD AMERICA, BUY AMERICA (BABA)

Contractor Certification Form

City of Brownsville – Grants & Community Development

Project Information

- Project Name: On-Call Building Demolition Services (As-Needed Basis)
- Project Number: 263-26-PLN-IFB
- Funding Source (CDBG / ESG): CDBG
- Contract Number: To be assigned upon contract award
- Contractor Name: Waste Solutions USA LLC
- Contractor Address: 2434 LCR 656, Thornton, TX 76687

BABA CERTIFICATION

Pursuant to the Infrastructure Investment and Jobs Act and 2 CFR Part 184, the undersigned certifies the following:

■ OPTION 1 – FULL COMPLIANCE CERTIFICATION

The Contractor certifies that all iron, steel, manufactured products, and construction materials used in the above-referenced infrastructure project:

1. Are produced/manufactured in the United States;
2. Meet the applicable domestic content requirements under the Build America, Buy America Act;

3. Have been verified through supplier/manufacturer documentation;
4. Will be incorporated into the project in compliance with federal law.

The Contractor further certifies that these requirements have been flowed down to all subcontractors and suppliers.

☐ **OPTION 2 – WAIVER REQUEST**

The Contractor is unable to certify full compliance and hereby requests a waiver for the following item(s):

Item Manufacturer	Country of Origin	Reason for Waiver (Public Interest / Nonavailability / Unreasonable Cost)

Supporting documentation is attached.

The Contractor understands that:

- No waiver is valid unless approved in writing by Grants and Community Development Department.
- Noncompliant materials may not be installed without City of Brownsville Grants and Community Development Department approval.
- The City may withhold payment for noncompliant materials.

Certification Statement

I certify under penalty of perjury that the information provided herein is true and correct.

Authorized Signature: Fabricio Lima

Name & Title: Fabricio Lima, Owner

Date: 07/28/2026

REQUIRED BABA CONTRACT CLAUSES

(Insert into all applicable CDBG/ESG infrastructure solicitations and contracts)

A. Build America, Buy America Compliance Clause

This project is subject to the Build America, Buy America Act (BABA), Sections 70901–70953 of the Infrastructure Investment and Jobs Act, and 2 CFR Part 184.

The Contractor agrees that:

1. **All iron and steel used in the project shall be produced in the United States.**
2. **All manufactured products shall be manufactured in the United States and meet domestic component cost requirements.**
3. **All construction materials shall be produced in the United States.**

B. Certification Requirement

Prior to contract execution, the Contractor must submit a signed BABA Certification Form.

Failure to submit certification shall render the bid nonresponsive.

C. Flow-Down Requirement

The Contractor shall include BABA requirements in all subcontracts, purchase orders, and supplier agreements related to this project.

The Contractor is responsible for ensuring subcontractor compliance.

D. Documentation and Verification

The Contractor shall:

- **Maintain documentation verifying the domestic origin of covered materials.**
- **Provide manufacturer certifications upon request.**

- **Allow access to records for City and HUD monitoring.**

E. Waivers

No foreign-sourced materials may be incorporated into the project unless:

1. **A written waiver request is submitted; and**
2. **HUD provides written approval.**

Unauthorized substitution of noncompliant materials may result in:

- **Removal and replacement at contractor expense**
- **Withholding of payment**
- **Disallowance of costs**
- **Termination for cause**

F. Remedies for Noncompliance

Failure to comply with BABA requirements may result in:

- **Disallowed costs**
- **Repayment of federal funds**
- **Contract termination**
- **Suspension or debarment**

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Gennie Garcia, B Metro Director
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to approve Free Fare Service on Brownsville Metro Fixed-Route and Paratransit Service on November 3, 2026 Election Day, May 1, 2027 Election Day, and the H-E-B Feast of Sharing Event on November 11, 2026. (Brownsville Metro)

Summary:
Free Bus fares on fixed route and paratransit service will facilitate citizens to attend voting locations on November 3, 2026 and May 1, 2027 (Election Day) and the H-E-B Feast of Sharing event that will allow citizen to attend event on November 11, 2026.

Project Scope and Analysis:
N/A

Funding:

Source: Potential revenue Loss Per Day

Amount: Election Day November 3, 2026, = $2800, Election Day May 1, 2027= $2800, Feast of Sharing November 11, 2026= $2,700

Local Contribution if Applicable:

Recommendation:
Staff recommends approval

Commission Pillar:
Quality of Life & Vibrancy

Attachments:
None

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Jorge Cardenas, Chief Information Officer
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to approve a cooperative purchase from SHI Government Solutions, Inc. for CrowdStrike Cyber Defense Software in the amount of $331,074.28, as budgeted. (Information Technology Department)

Summary:
CrowdStrike is a pioneer in cloud-delivered endpoint protection. It offers the Falcon Endpoint Protection suite, an antivirus and endpoint protection system that emphasizes threat detection, machine learning malware detection, and signature-free updating. The Falcon platform is purpose-built to stop breaches via a unified set of cloud-delivered technologies that prevent all types of attacks. It responds to sophisticated attacks that go beyond malware, such as exploits, zero days, and hard-to-detect methods like credential theft.

The benefits of CrowdStrike include:

- **Cloud-native**: It eliminates complexity and simplifies deployment, driving down operational costs.
- **AI-powered**: It harnesses the power of big data and artificial intelligence to empower your team with instant visibility.
- **Single agent**: It delivers everything you need to stop breaches, providing maximum effectiveness from day one.
- **Better protection**: It offers protection across the entire threat lifecycle by combining machine learning, artificial intelligence, behavioral analytics, and proactive threat hunting in a single solution.
- **Better performance**: A single lightweight agent works everywhere, including virtual machines and data centers, providing protection even when endpoints are offline.
- **Better value**: It eliminates on-premise infrastructure and consolidates your endpoint agents with an extensible platform that grows and adapts to our needs without adding complexity.

- **Immediate time-to-value**: The unique benefits of this unified and lightweight approach include immediate time-to-value, better perfom1ance, reduced cost and complexity, and better protection

Project Scope and Analysis:
Renew the current CrowdStrike software license.

Funding:

Source: 03-6000-776 Grant Portion (80%)
01-241-7990-10 City Match (20%)
702-241-776

Amount: $22,595.91
$5,648.98
$302,829.40

Local Contribution if Applicable:

Recommendation:
The Information Technology Department recommends approval with reseller SHI Government Solutions, Inc. as budgeted. SHI Government Solutions, Inc. is the approved cooperative vendor for Crowdstrike and authorization for the City Manager to execute the necessary contract documents, subject to final review and approval by the City Attorney's Office.

Commission Pillar:
Quality of Life & Vibrancy, Governance

Attachments:
1. SHI Quote-27955136 (2)
2. Procurement Analysis 007-27-IT-CP

Pricing Proposal
Quotation #: 27955136
Reference #: One Year Renewal
Created On: 9/9/2026
Valid Until: 10/12/2026

TX-City of Brownsville

Jorge Cardenas
1150 E. Adams St.
1st Floor
MIS Dept.
Brownsville, Texas 78520
United States
Phone: (956) 548-6031
Email: Jorge.cardenas@brownsvilletx.gov

Client Solutions Manager

Lauren Simone
290 Davidson Ave
Somerset, NJ 08873
Phone: 732-868-6210
Email: lauren_simone@shi.com

All Prices are in US Dollar (USD)

	Product	Qty	Your Price	Total
1	Falcon Complete with Threat Graph Standard on Gov Cloud CrowdStrike - Part#: CS.FCSD.GOV.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$78.71	$110,194.00
2	Insight CrowdStrike - Part#: CS.INSIGHTB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00
3	Prevent CrowdStrike - Part#: CS.PREVENTB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00
4	Discover CrowdStrike - Part#: CS.DISCB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00

5	Falcon Complete Subscription on Gov Cloud CrowdStrike - Part#: CS.FALCOMPSGOV.SVC Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00
6	Threat Graph Standard on GovCloud CrowdStrike - Part#: CS.TG.STD.GOV Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00
7	Falcon Adversary OverWatch Endpoint CrowdStrike - Part#: CS.AOW.SVC Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00
8	Falcon Complete with Server Threat Graph Standard on Gov Cloud CrowdStrike - Part#: CS.FCSD.HPS.GOV.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	115	$85.58	$9,841.70
9	Insight CrowdStrike - Part#: CS.INSIGHTB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	115	$0.00	$0.00
10	Prevent CrowdStrike - Part#: CS.PREVENTB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	115	$0.00	$0.00
11	Discover CrowdStrike - Part#: CS.DISCB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	115	$0.00	$0.00
12	Falcon Complete Subscription on Gov Cloud CrowdStrike - Part#: CS.FALCOMPSGOV.SVC Contract Name: COTS/Related Services Contract #: DIR-CPO-5241	115	$0.00	$0.00

Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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13 Server Threat Graph Standard on GovCloud — 115 — $0.00 — $0.00
CrowdStrike - Part#: CS.TG.STD.HPSGOV
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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14 Falcon Adversary OverWatch Endpoint — 115 — $0.00 — $0.00
CrowdStrike - Part#: CS.AOW.SVC
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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15 Identity Threat Protection Complete Bundle on GovCloud — 2100 — $38.18 — $80,178.00
CrowdStrike - Part#: CS.ITPC.GOV.SOLN
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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16 Identity Threat Protection (Accounts) — 2100 — $0.00 — $0.00
CrowdStrike - Part#: CS.ITP.SOLN
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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17 Identity Threat Protection Complete Upgrade on GovCloud (Accounts) — 2100 — $0.00 — $0.00
CrowdStrike - Part#: CS.ITPCU.GOV.SOLN
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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18 Falcon Adversary OverWatch Identity (qty = accounts) — 2100 — $6.86 — $14,406.00
CrowdStrike - Part#: CS.AOWI.SVC
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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19 Falcon Exposure Management Upgrade — 1515 — $15.71 — $23,800.65
CrowdStrike - Part#: CS.EXPOMANUP.SOLN
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

20	Falcon for Mobile Standard CrowdStrike - Part#: CS.FALMOBST.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** Please Note: This item is subject to a 30-day return policy. One Year Renewal	100	$14.25	$1,425.00
21	Insight for Mobile CrowdStrike - Part#: CS.INSMOB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	100	$0.00	$0.00
22	Threat Graph Standard for Mobile CrowdStrike - Part#: CS.TGM.STD Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	100	$0.00	$0.00
23	Falcon Device Control CrowdStrike - Part#: CS.DEVICE.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1515	$2.85	$4,317.75
24	Falcon Firewall Management CrowdStrike - Part#: CS.FIREWALL.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1515	$2.85	$4,317.75
25	Essential Support CrowdStrike - Part#: RR.HOS.ENT.ESTL Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1	$26,458.33	$26,458.33
26	Falcon Search Retention - 365 days CrowdStrike - Part#: CS.FSR.365.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1515	$15.21	$23,043.15
27	Falcon Next-Gen SIEM on Gov Cloud Additional Ingestion (qty = GB) CrowdStrike - Part#: CS.NGSIEMG.GOV.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241	1	$1,577.19	$1,577.19

	Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal			
28	Falcon Next-Gen SIEM on Gov Cloud 365 Day Retention (qty = GB) CrowdStrike - Part#: CS.NGSIEM365D.GOV.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	11	$161.71	$1,778.81
29	Falcon Complete Next-Gen SIEM on Gov Cloud Upgrade (qty = GB) CrowdStrike - Part#: CS.NGSIEMC.GOV.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	11	$1,419.46	$15,614.06
30	Falcon Adversary Overwatch Next Gen-SIEM CrowdStrike - Part#: CS.AOWSIEM.SVC Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	11	$181.99	$2,001.89
31	Charlotte AI CrowdStrike - Part#: CS.CHARLOTTEAI.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1515	$8.00	$12,120.00
			Total	$331,074.28

Additional Comments

This Crowdstrike order is non-cancellable and non-refundable

The following bullets apply to all Crowdstrike items on this quote:

- **Your use of the products and services is governed by the end user terms and conditions located at: https://www.crowdstrike.com/terms-conditions unless you and CrowdStrike have otherwise executed a different agreement**
- **For the avoidance of doubt, SHI is not a party to the OEM Agreement, nor responsible for any terms of the OEM Agreement**

In order to avoid order delays, please ensure to include a reference to SHI's quote # on your purchase order.

Please send your Purchase Orders to SouthTexasGOV@SHI.com .

Thank you for choosing SHI-GS! The pricing offered on this quote proposal is valid through the expiration date set above. To ensure the best level of service, please provide End User Name, Phone Number, Email Address and applicable Contract Number when submitting a Purchase Order. SHI Government Solutions, Inc. is 100% Minority Owned, Woman Owned Business. TAX ID# 22-3695478; DUNS# 14-724-3096

â€¢ Your order is non-cancellable and non-refundable.
â€¢ All products and services are subject to the end user terms and conditions located here (https://www.crowdstrike.com/terms-conditions/) unless: (i) you and CrowdStrike have otherwise executed a different agreement, or (ii) a CrowdStrike Powered Service Provider partner (also known as a packaged MSP) has executed an approved end user agreement with you.
â€¢ Your license entitlements shall be calculated as set forth here (https://www.crowdstrike.com/en-us/legal/crowdstrike-licensing/).
â€¢ Falcon Exposure Management (â€œFEMâ€) You are entitled to free licenses to assess vulnerabilities on unmanaged assets based on the quantity of FEM Licenses licensed and the following tiers. 100 to 149 FEM Licenses: 10 Unmanaged assets, 150 to 299 FEM Licenses: 15 Unmanaged assets, 300 to 499 FEM Licenses: 30 Unmanaged assets, 500 to 749 FEM Licenses: 50 Unmanaged assets, 750 to 999 FEM Licenses: 75 Unmanaged assets, 1,000 to 1,499 FEM Licenses: 100 Unmanaged assets, 1,500 to 1,999 FEM Licenses: 150 Unmanaged assets, 2,000 to 2,499 FEM Licenses: 200 Unmanaged assets, 2,500 to 4,999 FEM Licenses: 250 Unmanaged assets, 5,000 to 9,999 FEM Licenses: 500 Unmanaged assets, 10,000 to 24,999 FEM Licenses: 1,000 Unmanaged assets, 25,000 to 49,999 FEM Licenses: 2,500 Unmanaged assets, 50,000 to 99,999 FEM Licenses: 5,000 Unmanaged assets, 100,000 or more FEM Licenses: 10,000 Unmanaged assets.
â€¢ Your Falcon Complete subscription includes the Falcon Complete Limited Warranty coverage subject to the terms and conditions set forth at https://assets.crowdstrike.com/is/content/crowdstrikeinc/falcon-complete-warrantypdf

Pricing is for a one-year term.

The products offered under this proposal are resold in accordance with the terms and conditions of the Contract referenced under that applicable line item.

PROCUREMENT ANALYSIS

Date: Wednesday, September 30, 2026
To: Mr. John Cowen Jr., City Mayor
From: Mr. Alan Guard, City Manager
CC: Mr. Damian Espinoza, Procurement Director
Mr. James McCoy, IT Director

Agenda Title:
Agenda Item for the City Commission meeting of Tuesday, October 6, 2026.
"Consideration and Action to Authorize a Contract with SHI/Government Solutions, Inc. for Contract No. 007-27-IT-CP, for a term of One (1) Year, in the amount not to exceed $331,074.28, and authorize the City Manager to execute final contract documents upon completion of negotiations and approval by the City Attorney's Office, for CrowdStrike cybersecurity software and threat protection services (IT)."

Executive Summary:

- Department: IT Department
- Exemption Type: Cooperative Purchase Exemption
- Contract Number: 007-27-IT-CP
- Vendor: SHI/Government Solutions, Inc.
- Contract Amount: $331,074.28
- Term: One (1) Year

Background:
The Information Technology Department identified the need to continue utilizing CrowdStrike, a cybersecurity platform used to protect the City's computers, servers, user accounts, and other technology assets from cyber threats. The platform provides threat detection, monitoring, prevention, and response capabilities to help safeguard City systems and data from unauthorized access, malware, and other cybersecurity risks.

Exemption Justification:
Authorized use of contracts competitively solicited and awarded by another governmental entity or cooperative organization in compliance with Texas Local Government Code §271.102.

Procurement has verified that this contract falls under the active DIR-CPO-5241 Cooperative.

Vendor Information:
SHI/Government Solutions, Inc
290 Davidson Ave, Somerset, New Jersey, 08873
Point of Contact: Monica Espinoza, PubSec Account Executive

Phone/Email: (210) 519-8314 | Monica_Espinoza@SHI.com

Exhibits & Supporting Documents:

- Exhibit A – Quote
- Exhibit B – DIR-CPO-5241 Cooperative Agreement

Recommendation:

The Procurement Department recommends that the City Commission authorize contract negotiations with SHI/Government Solutions, Inc. under DIR-CPO-5241, in accordance with Texas Local Government Code §271.102, for a One (1) year term in an amount not to exceed $331,074.28. Approval of this agenda item will authorize the full contract value and authorize the City Manager to execute the necessary contract documents upon completion of negotiations and final review and approval by the City Attorney's Office.

Exhibit A



Pricing Proposal
Quotation #: 27955136
Reference #: One Year Renewal
Created On: 9/9/2026
Valid Until: 10/12/2026

TX-City of Brownsville

Jorge Cardenas
1150 E. Adams St.
1st Floor
MIS Dept.
Brownsville, Texas 78520
United States
Phone: (956) 548-6031
Email: Jorge.cardenas@brownsvilletx.gov

Client Solutions Manager

Lauren Simone
290 Davidson Ave
Somerset, NJ 08873
Phone: 732-868-6210
Email: lauren_simone@shi.com

All Prices are in US Dollar (USD)

	Product	Qty	Your Price	Total
1	Falcon Complete with Threat Graph Standard on Gov Cloud CrowdStrike - Part#: CS.FCSD.GOV.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$78.71	$110,194.00
2	Insight CrowdStrike - Part#: CS.INSIGHTB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00
3	Prevent CrowdStrike - Part#: CS.PREVENTB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00
4	Discover CrowdStrike - Part#: CS.DISCB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00

5	Falcon Complete Subscription on Gov Cloud CrowdStrike - Part#: CS.FALCOMPSGOV.SVC Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00
6	Threat Graph Standard on GovCloud CrowdStrike - Part#: CS.TG.STD.GOV Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00
7	Falcon Adversary OverWatch Endpoint CrowdStrike - Part#: CS.AOW.SVC Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1400	$0.00	$0.00
8	Falcon Complete with Server Threat Graph Standard on Gov Cloud CrowdStrike - Part#: CS.FCSD.HPS.GOV.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	115	$85.58	$9,841.70
9	Insight CrowdStrike - Part#: CS.INSIGHTB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	115	$0.00	$0.00
10	Prevent CrowdStrike - Part#: CS.PREVENTB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	115	$0.00	$0.00
11	Discover CrowdStrike - Part#: CS.DISCB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	115	$0.00	$0.00
12	Falcon Complete Subscription on Gov Cloud CrowdStrike - Part#: CS.FALCOMPSGOV.SVC Contract Name: COTS/Related Services Contract #: DIR-CPO-5241	115	$0.00	$0.00

Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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13 Server Threat Graph Standard on GovCloud — 115 — $0.00 — $0.00
CrowdStrike - Part#: CS.TG.STD.HPSGOV
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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14 Falcon Adversary OverWatch Endpoint — 115 — $0.00 — $0.00
CrowdStrike - Part#: CS.AOW.SVC
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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15 Identity Threat Protection Complete Bundle on GovCloud — 2100 — $38.18 — $80,178.00
CrowdStrike - Part#: CS.ITPC.GOV.SOLN
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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16 Identity Threat Protection (Accounts) — 2100 — $0.00 — $0.00
CrowdStrike - Part#: CS.ITP.SOLN
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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17 Identity Threat Protection Complete Upgrade on GovCloud (Accounts) — 2100 — $0.00 — $0.00
CrowdStrike - Part#: CS.ITPCU.GOV.SOLN
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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18 Falcon Adversary OverWatch Identity (qty = accounts) — 2100 — $6.86 — $14,406.00
CrowdStrike - Part#: CS.AOWI.SVC
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

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19 Falcon Exposure Management Upgrade — 1515 — $15.71 — $23,800.65
CrowdStrike - Part#: CS.EXPOMANUP.SOLN
Contract Name: COTS/Related Services
Contract #: DIR-CPO-5241
Coverage Term: 10/16/2026 - 10/15/2027
Note: One Year Renewal

20	Falcon for Mobile Standard CrowdStrike - Part#: CS.FALMOBST.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** Please Note: This item is subject to a 30-day return policy. One Year Renewal	100	$14.25	$1,425.00
21	Insight for Mobile CrowdStrike - Part#: CS.INSMOB.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	100	$0.00	$0.00
22	Threat Graph Standard for Mobile CrowdStrike - Part#: CS.TGM.STD Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	100	$0.00	$0.00
23	Falcon Device Control CrowdStrike - Part#: CS.DEVICE.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1515	$2.85	$4,317.75
24	Falcon Firewall Management CrowdStrike - Part#: CS.FIREWALL.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1515	$2.85	$4,317.75
25	Essential Support CrowdStrike - Part#: RR.HOS.ENT.ESTL Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1	$26,458.33	$26,458.33
26	Falcon Search Retention - 365 days CrowdStrike - Part#: CS.FSR.365.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1515	$15.21	$23,043.15
27	Falcon Next-Gen SIEM on Gov Cloud Additional Ingestion (qty = GB) CrowdStrike - Part#: CS.NGSIEMG.GOV.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241	1	$1,577.19	$1,577.19

	Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal			
28	Falcon Next-Gen SIEM on Gov Cloud 365 Day Retention (qty = GB) CrowdStrike - Part#: CS.NGSIEM365D.GOV.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	11	$161.71	$1,778.81
29	Falcon Complete Next-Gen SIEM on Gov Cloud Upgrade (qty = GB) CrowdStrike - Part#: CS.NGSIEMC.GOV.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	11	$1,419.46	$15,614.06
30	Falcon Adversary Overwatch Next Gen-SIEM CrowdStrike - Part#: CS.AOWSIEM.SVC Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	11	$181.99	$2,001.89
31	Charlotte AI CrowdStrike - Part#: CS.CHARLOTTEAI.SOLN Contract Name: COTS/Related Services Contract #: DIR-CPO-5241 Coverage Term: 10/16/2026 - 10/15/2027 **Note:** One Year Renewal	1515	$8.00	$12,120.00
			Total	$331,074.28

Additional Comments

This Crowdstrike order is non-cancellable and non-refundable

The following bullets apply to all Crowdstrike items on this quote:

- **Your use of the products and services is governed by the end user terms and conditions located at: https://www.crowdstrike.com/terms-conditions unless you and CrowdStrike have otherwise executed a different agreement**
- **For the avoidance of doubt, SHI is not a party to the OEM Agreement, nor responsible for any terms of the OEM Agreement**

In order to avoid order delays, please ensure to include a reference to SHI's quote # on your purchase order.

Please send your Purchase Orders to SouthTexasGOV@SHI.com .

Thank you for choosing SHI-GS! The pricing offered on this quote proposal is valid through the expiration date set above. To ensure the best level of service, please provide End User Name, Phone Number, Email Address and applicable Contract Number when submitting a Purchase Order. SHI Government Solutions, Inc. is 100% Minority Owned, Woman Owned Business. TAX ID# 22-3695478; DUNS# 14-724-3096

â€¢ Your order is non-cancellable and non-refundable.
â€¢ All products and services are subject to the end user terms and conditions located here (https://www.crowdstrike.com/terms-conditions/) unless: (i) you and CrowdStrike have otherwise executed a different agreement, or (ii) a CrowdStrike Powered Service Provider partner (also known as a packaged MSP) has executed an approved end user agreement with you.
â€¢ Your license entitlements shall be calculated as set forth here (https://www.crowdstrike.com/en-us/legal/crowdstrike-licensing/).
â€¢ Falcon Exposure Management (â€œFEMâ€) You are entitled to free licenses to assess vulnerabilities on unmanaged assets based on the quantity of FEM Licenses licensed and the following tiers. 100 to 149 FEM Licenses: 10 Unmanaged assets, 150 to 299 FEM Licenses: 15 Unmanaged assets, 300 to 499 FEM Licenses: 30 Unmanaged assets, 500 to 749 FEM Licenses: 50 Unmanaged assets, 750 to 999 FEM Licenses: 75 Unmanaged assets, 1,000 to 1,499 FEM Licenses: 100 Unmanaged assets, 1,500 to 1,999 FEM Licenses: 150 Unmanaged assets, 2,000 to 2,499 FEM Licenses: 200 Unmanaged assets, 2,500 to 4,999 FEM Licenses: 250 Unmanaged assets, 5,000 to 9,999 FEM Licenses: 500 Unmanaged assets, 10,000 to 24,999 FEM Licenses: 1,000 Unmanaged assets, 25,000 to 49,999 FEM Licenses: 2,500 Unmanaged assets, 50,000 to 99,999 FEM Licenses: 5,000 Unmanaged assets, 100,000 or more FEM Licenses: 10,000 Unmanaged assets.
â€¢ Your Falcon Complete subscription includes the Falcon Complete Limited Warranty coverage subject to the terms and conditions set forth at https://assets.crowdstrike.com/is/content/crowdstrikeinc/falcon-complete-warrantypdf

Pricing is for a one-year term.

The products offered under this proposal are resold in accordance with the terms and conditions of the Contract referenced under that applicable line item.

STATE OF TEXAS

DEPARTMENT OF INFORMATION RESOURCES

CONTRACT FOR PRODUCTS AND RELATED SERVICES

SHI/Government Solutions, Inc.

1 INTRODUCTION

1.1 Parties

This contract for Software, Commercial Off-the-Shelf (COTS) and Related Services (this "Contract") is entered into between the State of Texas, acting by and through the Department of Information Resources (hereinafter "DIR") with its principal place of business at 300 West 15th Street, Suite 1300, Austin, Texas 78701, and SHI/Government Solutions, Inc., a Domestic For-Profit Corporation (hereinafter "Successful Respondent"), with its principal place of business at 3828 Pecana Trail Austin, Texas 78749.

1.2 Compliance with Procurement Laws

This Contract is the result of compliance with applicable procurement laws of the State of Texas. DIR issued a solicitation on the Comptroller of Public Accounts' Electronic State Business Daily, Request for Offer (RFO) DIR-CPO-TMP-570, on February 2, 2023, for Software, Commercial Off-the-Shelf (COTS) and Related Services (the "RFO"). Upon execution of all Contracts, a notice of award for DIR-CPO-TMP-570, shall be posted by DIR on the Electronic State Business Daily.

1.3 Order of Precedence

A. For transactions under this Contract, the order of precedence shall be as follows:
   1. this Contract;
   2. Appendix A, Standard Terms and Conditions;
   3. Appendix B, Successful Respondent's Historically Underutilized Businesses Subcontracting Plan;
   4. Appendix C, Pricing Index;
   5. Exhibit 1, RFO DIR-CPO-TMP-570, including all Addenda; and
   6. Exhibit 2, Successful Respondent's Response to RFO DIR-CPO-TMP-570, including all Addenda.

B. Each of the foregoing documents is hereby incorporated by reference and together constitute the entire agreement between DIR and Successful Respondent.

1.4 Definitions

Capitalized terms used but not defined herein have the meanings given to them in **Appendix A, Standard Terms and Conditions**.

2 TERM OF CONTRACT

The initial term of this Contract shall be up to two (2) years commencing on the date of the last signature hereto (the "Initial Term"), with one (1) optional two-year renewal and one (2) optional one-year renewal (each, a "Renewal Term"). Prior to expiration of the Initial Term and each Renewal Term, this Contract will renew automatically under the same terms and conditions unless either party provides written notice to the other party at least sixty (60) days in advance of the renewal date stating that the party wishes to discuss amendment or non-renewal.

3 OPTION TO EXTEND

Successful Respondent agrees that DIR may require continued performance under this Contract at the rates specified in this Contact following the expiration of the Initial Term or any Renewal Term. This option may be exercised more than once, but the total extension of performance hereunder shall not exceed ninety (90) calendar days. Such extension of services shall be subject to the requirements of the Contract, with the sole and limited exception that the original date of termination shall be extended pursuant to this provision. DIR may exercise this option upon thirty (30) calendar days written notice to the Successful Respondent.

4 PRODUCT AND SERVICE OFFERINGS

Products and services available under this Contract are limited to the technology categories defined in Request for Offer DIR-CPO-TMP-570 for Software, Commercial Off-the-Shelf (COTS) and Related Services. At DIR's sole discretion, Successful Respondent may incorporate changes or make additions to its product and service offerings, provided that any changes or additions must be within the scope of the RFO.

5 PRICING

5.1 Pricing Index

Pricing to Customers shall be as set forth in **Appendix C, Pricing Index**, and shall include the DIR Administrative Fee (as defined below).

5.2 Customer Discount

A. The minimum Customer discount for all products and services will be the percentage off List Price (as defined below) or MSRP (as defined below), as applicable, as specified in **Appendix C, Pricing Index**. Successful Respondent shall not establish a List Price or MSRP for a particular solicitation. For purposes of this Section, "List Price" is the price for a product or service published in Successful Respondent's price catalog (or similar document) before any discounts or price allowances are applied. For purposes of this Section, "MSRP," or manufacturer's suggested retail price, is the price list published by the manufacturer or publisher of a product and available to and recognized by the trade.

B. Customers purchasing products or services under this Contract may negotiate additional discounts with Successful Respondent. Successful Respondent and Customer shall provide the details of such additional discounts to DIR upon request.

C. If products or services available under this Contract are provided at a lower price to: (i) an eligible Customer who is not purchasing those products or services under this Contract, or (ii) to any other customer under the same terms and conditions provided for the State for the same products and services under this contract, then the price of such products and services under this Contract shall be adjusted to that lower price. This requirement applies to products or services quoted by Successful Respondent for a quantity of one (1), but does not apply to volume or special pricing purchases. Successful Respondent shall notify DIR within ten (10) days of providing a lower price as described in this Section, and this Contract shall be amended within ten (10) days to reflect such lower price.

5.3 Changes to Prices

A. Subject to the requirements of this section, Successful Respondent may change the price of any product or service upon changes to the List Price or MSRP, as

applicable. Discount levels shall not be subject to such changes, and will remain consistent with the discount levels specified in this Contract.

B. Successful Respondent may revise its pricing by publishing a revised pricing list, subject to review and approval by DIR. If DIR, in its sole discretion, finds that the price of a product or service has been increased unreasonably, DIR may request that Successful Respondent reduce the pricing for the product or service to the level published before such revision. Upon such request, Successful Respondent shall either reduce the pricing as requested, or shall remove the product or service from the pricing list for this Contract. Failure to do so will constitute an act of default by Successful Respondent.

5.4 Shipping and Handling

Prices to Customers shall include all shipping and handling fees. Shipments will be Free On Board Customer's Destination. No additional fees may be charged to Customers for standard shipping and handling. If a Customer requests expedited or special delivery, Customer will be responsible for any additional charges for expedited or special delivery.

5.5 Travel Expenses

Pricing for services provided under this Contract are exclusive of any travel expenses that may be incurred in the performance of such services. Travel expense reimbursement may include personal vehicle mileage or commercial coach transportation, hotel accommodations, parking, and meals; provided, however, the amount of reimbursement by Customers shall not exceed the amounts authorized for state employees as adopted by each Customer; and provided, further, that all reimbursement rates shall not exceed the maximum rates established for state employees under the current State Travel Management Program. Travel time may not be included as part of the amounts payable by Customer for any services provided under this Contract. The DIR Administrative Fee is not applicable to travel expense reimbursement. Anticipated travel expenses must be pre-approved in writing by the Customer. The Customer reserves the right not to pay travel expenses which are not pre-approved in writing by the Customer.

6 DIR ADMINISTRATIVE FEE

A. Successful Respondent shall pay an administrative fee to DIR based on the dollar value of all sales to Customers pursuant to this Contract (the "DIR Administrative Fee"). The amount of the DIR Administrative Fee shall be seventy-five hundredths of a percent (0.75%) of all sales, net of returns and credits. For example, the administrative fee for sales totaling $100,000 shall be $750.

B. All prices quoted to Customers shall include the DIR Administrative Fee. DIR reserves the right to increase or decrease the DIR Administrative Fee during the term of this Contract, upon written notice to Successful Respondent without amending this Contract. Any increase or decrease in the DIR Administrative Fee shall be incorporated in the price to Customers.

7 INTERNET ACCESS TO CONTRACT AND PRICING INFORMATION

In addition to the requirements listed in **Appendix A, Section 7.2, Internet Access to Contract and Pricing Information**, Successful Respondent shall include the following with its webpage:

A. A current price list or mechanism to obtain specific contract pricing;
B. MSRP/list price or DIR Customer price;
C. Discount percentage (%) off MSRP or List Price;
D. Warranty policies; and
E. Return policies.
F. A link to DIR's list of TX-RAMP certified Cloud Products; and
G. A link to Service Level Agreements for each SaaS product awarded, which, at a minimum, shall include metrics and method for calculating and reporting results for:
    i. service availability.
    ii. recovery time objectives; and
    iii. data loss tolerance levels (also known as recovery point objectives).

8 USE OF ORDER FULFILLERS

8.1 Authorization to Use Order Fulfillers

Subject to the conditions in this Section 8, DIR agrees to permit Successful Respondent to utilize designated order fulfillers to provide products, services, and support resources to Customers under this Contract ("Order Fulfillers").

8.2 Designation of Order Fulfillers

A. Successful Respondent may designate Order Fulfillers to act as the distributors for products and services available under this Contract. In designating Order Fulfillers, Successful Respondent must be in compliance with the State's Policy on Utilization of Historically Underutilized Businesses. DIR and Successful Respondent will agree on the number of Order Fulfillers that are Historically Underutilized Businesses as defined by the CPA.

B. In addition to the required Subcontracting Plan, Successful Respondent shall provide DIR with the following Order Fulfiller information: Order Fulfiller name, Order Fulfiller business address, Order Fulfiller CPA Identification Number, Order Fulfiller contact person email address and phone number.

C. DIR reserves the right to require Successful Respondent to rescind any Order Fulfiller participation or request that Successful Respondent name additional Order Fulfillers should DIR determine it is in the best interest of the State.

D. Successful Respondent shall be fully liable for its Order Fulfillers' performance under and compliance with the terms and conditions of this Contract. Successful Respondent shall enter into contracts with Order Fulfillers and use terms and conditions that are consistent with the terms and conditions of this Contract.

E. Successful Respondent may qualify Order Fulfillers and their participation under the Contract provided that: i) any criteria is uniformly applied to all potential Order Fulfillers based upon Successful Respondent's established, neutrally applied criteria, ii) the criteria is not based on a particular procurement, and iii) all Customers are supported under the criteria.

F. Successful Respondent shall not prohibit any Order Fulfiller from participating in other procurement opportunities offered through DIR.

8.3 Changes in Order Fulfiller

Successful Respondent may add or remove Order Fulfillers throughout the term of this Contract upon written authorization by DIR. Prior to adding or removing Order Fulfillers, Successful Respondent must make a good faith effort to revise its Subcontracting Plan in accordance with the State's Policy on Utilization of Historically Underutilized Businesses. Successful Respondent shall provide DIR with its updated Subcontracting Plan and the Order Fulfillers information listed above.

8.4 Order Fulfiller Pricing to Customer

Order Fulfiller pricing to the Customer shall be in accordance with Section 5.

9 NOTIFICATION

All notices under this Contract shall be sent to a party at the respective address indicated below.

If sent to the State:

Lisa Massock or Successor in Office
Chief Procurement Officer
Department of Information Resources
300 W. 15th St., Suite 1300
Austin, Texas 78701
Phone: (512) 475-4700
Email: lisa.massock@dir.texas.gov

If sent to Successful Respondent:

Kristina Mann
Senior Manager / Contracts
SHI/Government Solutions, Inc.
3828 Pecana Trail
Austin, Texas 78749
Phone: (908) 547-9471
Email: Kristina_mann@shi.com

10 SOFTWARE LICENSE

10.1 Software License Agreement

A. Customers acquiring software licenses under this Contract shall hold, use, and operate such software subject to compliance with the Software License Agreement. Customer and Successful Respondent may agree to additional terms and conditions that do not diminish a term or condition in the Software License Agreement, or in any manner lessen the rights or protections of Customer or the responsibilities or liabilities of Successful Respondent. Successful Respondent shall make the Software License Agreement terms and conditions available to all Customers at all times.

B. Compliance with the Software License Agreement is the responsibility of the Customer. DIR shall not be responsible for any Customer's compliance with the Software License Agreement.

11 CONFLICTING OR ADDITIONAL TERMS

A. The terms and conditions of this Contract shall supersede any additional conflicting or additional terms in any additional service agreements, statement of work, and any other provisions, terms, conditions, and license agreements, including those which may be affixed to or accompany software upon delivery (sometimes called shrink-wrap or click-wrap agreements), and any linked or supplemental documents, which may be proposed, issued, or accepted by Successful Respondent and Customer in addition to this Contract (such additional agreements, "Additional Agreements"), regardless of when such Additional Agreements are proposed, issued, or accepted by Customer. Notwithstanding the foregoing, it is Customer's responsibility to review any Additional Agreements to determine if Customer accepts such Additional Agreement. If Customer does not accept such Additional Agreement, Customer shall be responsible for negotiating any changes thereto.

B. Any update or amendment to an Additional Agreement shall only apply to Purchase Orders for the associated product or service offering after the effective date of such update or amendment; provided that, if Successful Respondent has responded to a Customer's solicitation or request for pricing, any subsequent

update or amendment to an Additional Agreement may only apply to a resulting Purchase Order if Successful Respondent directly informs such Customer of such update or amendment before the Purchase Order is executed.

C. Successful Respondent shall not require any Additional Agreement that: i) diminishes the rights, benefits, or protections of Customer, or that alters the definitions, measurements, or method for determining any authorized rights, benefits, or protections of Customer; or ii) imposes additional costs, burdens, or obligations upon Customer, or that alters the definitions, measurements, or method for determining any authorized costs, burdens, or obligations upon Customer.

D. If Successful Respondent attempts to do any of the foregoing, the prohibited documents will be void and inapplicable to this Contract or the Purchase Order between Successful Respondent and Customer, and Successful Respondent will nonetheless be obligated to perform such Purchase Order without regard to the prohibited documents, unless Customer elects instead to terminate such Purchase Order, which in such case may be identified as a termination for cause against Successful Respondent.

12 AUTHORIZED EXCEPTIONS TO APPENDIX A, STANDARD TERMS AND CONDITIONS

No exceptions have been agreed to by DIR and Successful Respondent.

(Remainder of this page intentionally left blank.)

This Contract is executed to be effective as of the date of last signature.

SHI/Government Solutions, Inc.

Authorized By: Signature on File

Name: Kristina Mann

Title: Senior Manager / Contracts

Date: 6/13/2024

The State of Texas, acting by and through the Department of Information Resources

Authorized By: Signature on File

Name: Lisa Massock

Title: Chief Procurement Officer

Date: 6/18/2024

Office of General Counsel: MR

Date: 6/18/2024

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Simon Ortiz, Transit Manager, Gennie Garcia, B Metro Director
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to Authorize a Contract with ETA Phi Systems, Inc. in the amount of $475,773 for Contract No. 358-26-BMT-CP, for a term of Five (5) Years, for the purchase and implementation of a Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System for Brownsville Metro fixed-route buses (Brownsville Metro)

Summary:
The new Computer Aide Dispatch and Automatic Vehicle Location (CAD/AVL) systems will allow Brownsville Metro to better track its fleet, improve on-time performance and service reliability, and provide additional amenities to passengers for a better riding experience. ETA will provide and install Automatic Passenger Counters on all fixed route vehicles and provide improved real-time vehicle location.

Project Scope and Analysis:
Brownsville Metro will purchase a new Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL). It will allow Brownsville Metro to track its fleet, improve On-Time Performance, enhance reports with reportable data to the National Transit Database (NTD) & Federal Transit Administration reports. It will provide additional amenities for passengers for a better riding experience and allow real-time vehicle location and automated passenger counters on all fixed route vehicles. The total cost of the project will be a for a (5) year contract not to exceed $475,773.

Funding:

Source: 65-6933-7510-4208,65-6840-7510-4208,65-6843-7510-4208- and 5307 Fy 26 pre-award authority

Amount: $475,773.00

Local Contribution if Applicable:

Recommendation:

Staff recommends approval

Commission Pillar:
Quality of Life & Vibrancy

Attachments:
1. 358-26-BMT-CP-ETA Phi Systems Inc. (Legal Signed)
2. Procurement Analysis- 358-26-BMT-CP

Contract Summary Form

Contract Number: 358-26-BMT-CP

Procurement Info	
Procurement Method:	**Cooperative**
New Contract:	**Yes ☒ No ☐**
Advertisement Dates, if any:	**NA**
Award Date:	
Contractor	
Vendor Name:	ETA Phi Systems, Inc.
Address:	6420 Congress AVE STE 1850, Boca Raton, FL 33487
Point of Contact / Project Manager*:	Jariel Adler
Email Address:	sales@etatransit.com
City Contact Information	
Department:	**B-Metro**
Point of Contact / Project Manager:	Simon Ortiz
Email Address:	Simon.Ortiz@brownsvilletx.gov
Contract Term	
Contract Amount:	$475,773.00
Contract Base/Primary Term:	Five (5) Years
Renewal Periods (if any):	None
Total Term of Contract:	Five (5) Years
City Internal Use	
Signature Sections	**Signature Page: 3, 6, 37, 43, 54**
State or Federal Funds:	**Yes ☒ No ☐**
GL Account:	

COOPERATIVE PURCHASE AGREEMENT
358-26-BMT-CP

This Cooperative Purchase Agreement ("Agreement") is entered into by and between ETA Phi Systems, Inc. ("Vendor") and the City of Brownsville ("City"), a Texas home rule municipality.

The Cooperative Purchase Agreement includes the following documents, which shall be construed in the order of precedence in which they are listed:

1. This Cooperative Purchase Agreement.
2. Exhibit A – Quote #20260812
3. Exhibit B – 791 Cooperative Contract No. 791202603004
4. Exhibit C – ETA Supplemental Agreement
4. Exhibit D – Form 2 - Statement of Conflict of Interest
5. Exhibit E – Certificate of Insurance
6. Exhibit F – Form 10 FTA City of Brownsville Federal Clauses Certification Form
7. Exhibit G – Form 3 – Texas Ethics Commission Certificate of Interested Parties (1295)

Exhibits A, B, C, D, E, F, G, which are attached hereto and incorporated herein, are made a part of this Agreement for all purposes. Vendor agrees to provide City with the services and goods included in Exhibit A pursuant to the terms and conditions of this Cooperative Purchase Agreement, including all exhibits thereto.

City shall pay Vendor in accordance with the fee schedule in Exhibit A and in accordance with the provisions of this Agreement. Total payments made by City under this Agreement, including hardware, implementation, installation, and annual recurring software and services, shall not exceed Four Hundred Seventy-Five Thousand Seven Hundred Seventy-Three Dollars and Zero Cents ($475,773.00).
Total Contract Amount is allocated as follows:

- Upfront Hardware, Implementation, and Installation: $243,599.00
- Annual Recurring Services – Year 1: $43,296.00
- Annual Recurring Services – Year 2: $44,811.00
- Annual Recurring Services – Year 3: $46,380.00
- Annual Recurring Services – Year 4: $48,003.00
- Annual Recurring Services – Year 5: $49,683.00

Total Not-to-Exceed Amount: $475,773.00

Vendor shall not provide any additional items or services or bill for expenses incurred for City not specified by this Agreement unless City requests and approves in writing the additional costs for such services. City shall not be liable for any additional expenses of Vendor not specified by this Agreement unless City first approves such expenses in writing.

The term of this Agreement shall commence on approval by the City Commission or designee and shall continue for a period of five (5) years. Notwithstanding the foregoing, the parties understand and acknowledge that the 791 Purchasing Cooperative Contract upon which the City is relying for this cooperative purchase is currently effective through May 31, 2031, with three (3) automatic one-year renewal options through May 31, 2034. In no event shall the City's agreement with Vendor extend beyond the term of the applicable 791 Purchasing Cooperative Contract.

Vendor agrees that City shall, until the expiration of final payment under this Agreement, or the final conclusion of any audit commenced during the said three years, have access to and the right to examine at reasonable times any directly pertinent books, documents, papers and records, including, but not limited to, all electronic records, of Vendor involving transactions relating to this Agreement at no additional cost to City. Vendor agrees that City shall have access during normal working hours to all necessary Vendor facilities and shall be provided adequate and appropriate workspace in order to conduct audits in compliance with the provisions of this section. City shall give Vendor reasonable advance notice of intended audits.

VENDOR ACKNOWLEDGES THAT CITY IS A GOVERNMENT ENTITY AND AS SUCH CANNOT INDEMNIFY OR HOLD HARMLESS A PARTY WITHOUT FIRST CREATING A SINKING FUND OR LEVYING A TAX. VENDOR FURTHER ACKNOWLEDGES THAT THE CITY HAS NO INTENTION OF CREATING SUCH A SINKING FUND OR LEVYING A TAX. THE PARTIES AGREE THAT ANY PROVISION CONTAINED WITHIN THE CONTRACT DOCUMENTS REQUIRING THE CITY TO INDEMNIFY OR HOLD HARMLESS THE VENDOR IS HEREBY STRICKEN.

Notices required pursuant to the provisions of this Agreement shall be conclusively determined to have been delivered when (1) hand-delivered to the other party, its agents, employees, servants or representatives, (2) delivered by facsimile with electronic confirmation of the transmission, or (3) received by the other party by United States Mail, registered, return receipt requested, addressed as follows:

To CITY:
City of Brownsville
Attn: City Manager
1001 East Elizabeth Street
Brownsville, Texas 78520

With copy to Brownsville City
Attorney's Office at same address.

To VENDOR:
ETA PHI Systems, Inc

6420 Congress AVE STE 1850
Boca Raton, Florida 33487

The undersigned represents and warrants that he or she has the power and authority to execute this Agreement and bind the respective parties.

CITY OF BROWNSVILLE:

Signature: _____

Print Name: _____

Title: _____

Date: _____

VENDOR: **ETA PHI SYSTEMS, INC**

Signature: Nicole Castonguay

Print Name: Nicole Castonguay

Title: President

Date: 09/02/2026

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

Exhibit A

Quotation #: 20260812-BM
Date: 8/12/2026

Agency: Brownsville Metro
Name: Simon Ortiz
Email: simon.ortiz@brownsvilletx.gov
Terms: Reference milestone schedule.
Notes: **Delivery is F.O.B. ETA Transit Systems, Inc. 6420 Congress Avenue Suite 1850 Boca Raton, FL 33487**

IMPORTANT: The recent tariff policy may impact pricing and delivery schedule

etatransit.com

Received by: Christian G. Londono Date: 08/12/2026

Contract link: 791 Cooperative Agreement Contract Documents
Contract No: 791202603004
This quote is provided under 791 COOP Contract #791202603004. ETA is an authorized 791 Purchasing Cooperative vendor

Project Summary (5 year contract)

Description	INCLUDED	OPTIONAL	TOTAL WITH OPTIONS
Upfront Cost *Includes hardware, implementation, and installation.*	$ 243,599	$ -	$ 243,599
Annual Recurring - Year 1	$ 43,296	$ 15,820	$ 59,116
Annual Recurring - Year 2	$ 44,811	$ 16,374	$ 61,185
Annual Recurring - Year 3 *Extended warranty available as an option.*	$ 46,380	$ 16,947	$ 63,327
Extended Warranty - Year 3	$ -	$ 22,298	$ 22,298
Annual Recurring - Year 4 *Extended warranty available as an option.*	$ 48,003	$ 17,540	$ 65,543
Extended Warranty - Year 4	$ -	$ 22,298	$ 22,298
Annual Recurring - Year 5 *Extended warranty available as an option.*	$ 49,683	$ 18,154	$ 67,837
Extended Warranty - Year 5	$ -	$ 22,298	$ 22,298
Total Project Cost	**$ 475,773**	**$ 151,728**	**$ 627,501**

Packages Summary (Year 1 - Including Annual Recurrings)

PACKAGE	INCLUDED ITEMS	OPTIONAL ITEMS	TOTAL WITH OPTIONS
Fixed route base system	$ 161,007	$ 15,820	$ 176,827
Automatic passenger counting	$ 100,276	$ -	$ 100,276
Tally NTD survey software	$ 11,880	$ -	$ 11,880
Spare Parts	$ 13,732	$ -	$ 13,732
Total Year 1 (Upfront & Year 1 SaaS)	**$ 286,895**	**$ 15,820**	**$ 302,715**

System Warranty

PRODUCT	ITEM#	QTY.	PRICE	TAX	TOTAL	INCLUDED / OPTIONAL	MILE
Warranty Year 1 • **Included** • Does not include consumables • Governed by ETA's system support/warranty agreement	1	1	$ -		$ -	**INCLUDED**	6
Warranty Year 2 • **Included** • Does not include consumables • Governed by ETA's system support/warranty agreement	2	1	$ -		$ -	**INCLUDED**	6
Extended warranty on hardware (Year 3) • Escalates at 3.5% per year • Does not include consumables • Governed by ETA's system support/warranty agreement	3	1	$ 22,298		$ 22,298	**OPTIONAL**	6
Extended warranty on hardware (Year 4) • Escalates at 3.5% per year • Does not include consumables • Governed by ETA's system support/warranty agreement	4	1	$ 22,298		$ 22,298	**OPTIONAL**	6
Extended warranty on hardware (Year 5) • Escalates at 3.5% per year • Does not include consumables • Governed by ETA's system support/warranty agreement • 5 years maximum	5	1	$ 22,298		$ 22,298	**OPTIONAL**	6

Tax exempt certificate required for sales tax to be waived.

TOTAL OPTIONAL EXTENDED WARRANTY	$66,894
TOTAL EXTENDED WARRANTY COST	$0

Payment Milestone Schedule

Milstone	Description	Total	Deliverables
1	System design (50% of Implementation costs)	39,825.00	Pre-installation site visit and documentation
2	Software licenses	-	Delivery of SPOT Console portal
3	Hardware components	163,949.40	Hardware delivery to customer location
4	Installation and vehicle static test (25% of Implementation costs)	19,912.50	Hardware installation on first vehicle (by bus type) and static test report
5	Dynamic testing and training (25% of Implementation costs)	19,912.50	Dynamic test procedure report, training and manuals
6	SaaS: Year 1	43,296.00	After 2 week burn-in (from customer-witnessed test) warranty; SaaS anniversary begins
7	SaaS: Year 2	44,811.36	On SaaS Anniversary
8	SaaS: Year 3	46,379.76	On SaaS Anniversary
9	Extended Warranty: Year 3	-	On SaaS Anniversary
10	SaaS: Year 4	48,003.05	On SaaS Anniversary
11	Extended Warranty: Year 4	-	On SaaS Anniversary
12	SaaS: Year 5	49,683.16	On SaaS Anniversary
11	Extended Warranty: Year 5	-	On SaaS Anniversary

PREPARED BY:

NAME: Christian Londono
TITLE: Senior Customer Success Manager
PHONE: 561.778-5840
EMAIL: clondono@etatransit.com



Terms and conditions of sale

Participation Fees: Vendor agrees to pay 791 PURCHASING COOPERATIVE the participation fee, 1.00% Sales Participation Fee. 791COOP establishes a fee for each solicitation for proposals that is in the best interest of 791COOP and its participants.

Unit prices are valid only for the total number of units quoted. Lesser quantities or term may require a higher price.

Prices in this quotation are valid for 30 days from the date of quotation or proposal and are applicable to the quantities herein. Changes to packages and/or quantities may require a revised quotation.

No refund shall be provided for returned parts without written authorization from authorized ETA representatives.

Estimated lead time for delivery is 16 weeks. A formal lead time estimate shall be provided by ETA ARO.

Delivery is F.O.B. ETA Transit Systems, Inc. 6420 Congress Avenue Suite 1850 Boca Raton, FL 33487

IMPORTANT: The recent tariff policy may impact pricing and delivery schedule

ETA TRANSIT SYSTEMS (ETA) WARRANTY POLICY

ETA guarantees that each product is free from defects in material and workmanship. ETA's warranty is in effect for two (2) years from the original ship date from ETA. ETA will furnish to customer its Warranty and Support agreement ARO or upon request

REVIEWED BY:

Nicole M Castonguay, CEO
ETA Transit Systems

09/02/2026
Date:

ACCEPTED BY:

Signature: _____

Name and title: _____

Date: _____

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

Fixed route base system

PRODUCT	ITEM#	QTY.	PRICE	TAX	TOTAL	INCLUDED / OPTIONAL	MILE
Vehicle logic unit (VLU) hardware • GPS • Cellular communications • Vehicle I/O for 1708, DIO • Location services • Guaranteed delivery services • Route awareness services	1	22	$ 3,016.50	$ -	66,363.00	**INCLUDED**	1
Rugged mobile data terminal (MDT) - 10" display • 10" viewable screen • Driver login module • Route selection module • 2-way messaging module • System status module • Electronic passenger counting module * Options available for additional modules	2	22	$ 411	$ -	9,042.00	**INCLUDED**	1
MDT mounting kit • RAM® mount	3	22	$ 180	$ -	3,960.00	**INCLUDED**	1
Master disconnect switch • to allow system to gracefully shut down	4	22	$ 65	$ -	1,430.00	**INCLUDED**	1
Bus equipment and cable kits • Power harness • Antennas • **Roof mount antennas available as an Option (extension cable required)*	5	22	$ 383	$ -	8,426.00	**INCLUDED**	1
Hardware installation • Professional system installation • Vehicle testing and commissioning	6	22	$ 450		9,900.00	**INCLUDED**	3
Single sign-on integrated with existing digital signage • Integration of head signs with ITS • Cables	7	22	$ 250		5,500.00	**INCLUDED**	3
Single sign-on integrated with existing fare collection **OPTIONAL** • Integration of digital fare collection system *NOTE: fare collection vendor may require agency to pay additional licencing fees*	8	22	$ 375		8,250.00	**INCLUDED**	3

Implementation • System setup • Project management • Manufacturing • Training • Travel *NOTE: pricing assumes that GTFS data is complete and valid. Missing, invalid, or incomplete GTFS data may incur additional charges*	9	22	$	1,000		22,000.00	**INCLUDED**	3
Annual SaaS SPOT™ ITS • SPOT Administrative Console • Bus tracker web site • Native apps for Android and iOS • GTFS-RT • Unlimited user accounts • Data retention for the life of the contract • Hosting • Free bi-monthly software enhancements • Technical support • Daily backups • API calls and Google map credits * ** ETA shall provide an API key to the customer for customer use. 3rd party, for profit, businesses will be required to pay ETA directly for API access* ** ETA customers utilize an average 5 million API calls per month. Customer shall be afforded an average of 10 million API calls per month. Additional charges may be incurred for API usage that exceeds that value* (Qty. equals number of vehicles X 12 months - **includes live spares)**	10	290	$	90		26,136.00	**INCLUDED**	6
Annual SaaS GTFS Hosting • Annual subscription includes GTFS feed hosting, monitoring, and updates (Qty. equals number of vehicles X 12 months)	11	264	$	30		7,920.00	**OPTIONAL**	6
Annual Fleet Tune-up • Annual on-site visit from ETA technicians	12	1	$	7,900		7,900.00	**OPTIONAL**	6
Annual SMS messaging **OPTIONAL** • Agency supplies phone number • Agency mounts signage at bus stops	13	0	$	15,000		-	**OPTIONAL**	6
Tax exempt certificate required for sales tax to be waived.					SUBTOTAL			176,827.00
					SALES TAX		0.0%	
					Base system total (YEAR 1)			176,827.00

Automatic passenger counting

PRODUCT	ITEM#	QTY.	PRICE	TAX	TOTAL	INCLUDED / OPTIONAL	MILE
Stereoscopic automatic passenger counter (APC) • Priced per bus/door	1	34	$ 1,334	$ -	45,356.00	**INCLUDED**	1
Integration to agency's existing automatic passenger counter (APC) • Priced per bus/door	2	8	$ 450	$ -	3,600.00	**INCLUDED**	1
5 port Ethernet switch • Connects multiple APCs	3	20	$ 250	$ -	5,000.00	**INCLUDED**	1
Ethernet switch installation • Professional installation	4	20	$ 300		6,000.00	**INCLUDED**	3
APC cable kits - Front Door • APC Front Power and Data Cable 100555 • APC Power Splitter 100208 • 25 Ethernet Cable 1000173	5	22	$ 120	$ -	2,640.00	**INCLUDED**	1
APC cable kits - Rear Door • APC Rear Power and Data Cable 100556 • Rear APC Extension 100207 • 50 Ethernet Cable 100069	6	20	$ 220	$ -	4,400.00	**INCLUDED**	1
APC installation • Professional installation • Vehicle testing and commissioning	7	34	$ 500		17,000.00	**INCLUDED**	3
Implementation • System setup • Project management • Manufacturing • Training • Testing • Documentation • Travel	8	22	$ 500		11,000.00	**INCLUDED**	3

Annual SaaS and Maintenance: APC SaaS • Ridership analytics and NTD report • Priced per bus, per month • Hosting • System maintenance and upgrades *(Qty. equals number of vehicles X 12 months)*	9	264	$	20		5,280.00	**INCLUDED**	6
Tax exempt certificate required for sales tax to be waived.					SUBTOTAL			100,276.00
					SALES TAX		0.0%	
					APC total (YEAR 1)			100,276.00

Tally NTD survey software

PRODUCT	ITEM#	QTY.		PRICE	TAX	TOTAL	INCLUDED / OPTIONAL	MILE
Annual SaaS for Tally • Tally NTD survey software • Consulting • Documentation (ie: benchmarking plan) • Analysis and reporting ETA understands that Customer shall perform its own trip surveys. ETA shall quote a turn-key NTD APC certification service at Customer request *(Qty. equals number of vehicles X 12 months)*	1	264	$	45		11,880.00	**INCLUDED**	6
Tax exempt certificate required for sales tax to be waived.					SUBTOTAL			11,880.00
					SALES TAX		0.0%	
					Tally Total (YEAR 1)			11,880.00

Spare Parts

PRODUCT	ITEM#	QTY.		PRICE	TAX	TOTAL	INCLUDED / OPTIONAL	MILE
Spare VLUs	1	2	$	4,022	$ -	8,848.40	**INCLUDED**	1
Spare MDTs	2	2	$	620	$ -	1,364.00	**INCLUDED**	1
Spare APC Sensors	3	2	$	1,760	$ -	3,520.00	**INCLUDED**	1
Tax exempt certificate required for sales tax to be waived.					SUBTOTAL			13,732.40
					SALES TAX		0.0%	
					Spare Parts total (YEAR 1)			13,732.40

791 PURCHASING COOPERATIVE AND VENDOR AGREEMENT

Between ETA Phi Systems, Inc
(Company Name)

with the principal place of business at

6420 Congress AVE STE 1850 Boca Raton FL 33487

and

791 Purchasing Cooperative
For
RFP # 791202603004
Transit Services and Technology Solutions.

General Information

The Vendor Agreement ("Agreement") made and entered into by and between 791 PURCHASING COOPERATIVE (hereinafter referred to as "791COOP") a government cooperative purchasing program authorized by the Central Texas Council of Governments, having its principal place of business 2180 North Main Street, Belton, TX 76513 and ***Company listed at the top of page one*** (hereinafter referred to as "Vendor") a provider having its principal place of business as listed at the top of page one. This Agreement consists of the provisions set forth below, including provisions of all Attachments referenced herein. In the event of a conflict between the provisions set forth below and those contained in any Attachment, the provisions set forth shall control.

The vendor Agreement shall include and incorporate by reference this Agreement, the terms and conditions, special terms and conditions, any agreed upon amendments, as well as all of the sections of the Solicitation (RFP, RCSP, RFQ) as posted, including any addenda and the awarded vendor's proposal.

The following pages will constitute the Agreement between the successful vendors(s) and 791 PURCHASING COOPERATIVE.

Terms and Conditions

1. Assignment of Vendor Agreement

No assignment of the Vendor Agreement may be made without the prior written approval of 791 PURCHASING COOPERATIVE. A simple change of name agreement will not change the Agreement obligations of the awarded vendor.

2. 791 PURCHASING COOPERATIVE Contract

The 791 PURCHASING COOPERATIVE Contract is the final negotiated version of the Vendor's contract that was submitted as part of the **#791202603004 Transit Services and Technology Solutions**, as submitted by Vendor and negotiated with 791 PURCHASING COOPERATIVE. The 791 PURCHASING COOPERATIVE Contract will govern all aspects of a sale for Products and/or Services between the Vendor and a 791 PURCHASING COOPERATIVE Participant. 791 PURCHASING COOPERATIVE recognizes that a 791 PURCHASING COOPERATIVE Participant may, in agreement with Vendor, make modifications to the 791 PURCHASING COOPERATIVE Contract to reflect the specific needs of the 791 PURCHASING COOPERATIVE Participant. This modified form will still be referred to as the 791 PURCHASING COOPERATIVE Contract.

Vendor may only use the 791 PURCHASING COOPERATIVE Contract with 791 PURCHASING COOPERATIVE Participants who have agreed to purchase products and services from Vendor through the 791 PURCHASING COOPERATIVE preferred supplier program. If a 791 PURCHASING COOPERATIVE Participant solicits proposals for Products and/or Services under this agreement from Vendor directly and has specifically provided notice that they will not be using 791 PURCHASING COOPERATIVE as their contract vehicle through the 791 PURCHASING COOPERATIVE preferred supplier program, Vendor cannot use the 791 PURCHASING COOPERATIVE Contract to serve the 791 PURCHASING COOPERATIVE Participant. For the avoidance of doubt, if a vendor and a 791 PURCHASING COOPERATIVE Participant, execute a 791 PURCHASING COOPERATIVE Purchase or Products and/or Services under this agreement, the vendor will be obligated to pay 791 PURCHASING COOPERATIVE the participation fee.

To further clarify, the vendor may sell to a 791 PURCHASING COOPERATIVE participant or potential 791 PURCHASING COOPERATIVE participants, which is any governmental or other public entity in Texas through the 791 PURCHASING COOPERATIVE preferred supplier program. If a potential customer is not currently a 791 PURCHASING COOPERATIVE participant, they may join 791 PURCHASING COOPERATIVE by contacting 791 PURCHASING COOPERATIVE at **admin@791COOP.org**. Awarded vendors are not restricted from responding to any Texas entity that issued a Request for Proposals and has chosen not to use the 791 PURCHASING COOPERATIVE interlocal cooperative method of procurement.

If you identify a Texas public or governmental entity that wants to make a purchase and use a cooperative or interlocal contract and is not a current 791 PURCHASING COOPERATIVE Participant, please have them call the number provided above or email the address above so 791 PURCHASING COOPERATIVE may contact the entity to provide all applicable information.

791 PURCHASING COOPERATIVE will provide awarded vendor's participants packets for this purpose upon request.

ANY AGREEMENT BETWEEN A 791 PURCHASING COOPERATIVE PARTICIPANT AND VENDOR THAT REQUIRES THE 791 PURCHASING COOPERATIVE PARTICIPANT TO INDEMNIFY ANY OTHER PARTY,

EXCEPT TO THE EXTENT PERMITTED BY THE APPLICABLE CONSTITUTION, LAWS, OR REGULATIONS OF THE JURISDICTION OF THE LOCATION OF THE 791 PURCHASING COOPERATIVE PARTICIPANT OR THE LOCATION OF THE PERFORMANCE OF THE CONTRACT UNDER THIS AGREEMENT, IS NOT PERMITTED UNDER THIS AGREEMENT AND RENDERS THE INDEMNITY REQUIREMENT NULL AND VOID AS IT APPLIES TO THE 791 PURCHASING COOPERATIVE PARTICIPANT'S RESPONSIBILITY TO INDEMNIFY ANY PARTY.

3. Disclosures

a) Vendor affirms that it has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with this Agreement.

b) Vendor shall attach, in writing, a complete description of any and all relationships that might be considered a conflict of interest in doing business with 791 PURCHASING COOPERATIVE under a 791 PURCHASING COOPERATIVE Agreement if Vendor feels that such possible conflicts of interest exist. If you believe there is a conflict of interest as described in the form CIQ instruction sheet contained in this RFP, please complete and submit the form CIQ provided as instructed.

c) The vendor affirms that, to the best of its knowledge, the offer has been arrived at independently, and is submitted without collusion with anyone to obtain information or gain any favoritism that would in any way limit competition or give an unfair advantage over other vendors in the award of this Agreement.

4. Renewal of Agreements

The Agreement with 791 PURCHASING COOPERATIVE is for a five (5) year term with three (3) one (1) year options. Any extension of the initial term will be agreed to in writing between 791 PURCHASING COOPERATIVE and Vendor. Nothing herein shall require either party to agree to an extension of the initial term.

Automatic Renewal Clauses Incorporated in Awarded Vendor Agreements with 791 PURCHASING COOPERATIVE Participants Resulting from the Solicitation and with the Vendor Named in this Agreement.

NO AGREEMENT FOR GOODS OR SERVICES WITH A 791 PURCHASING COOPERATIVE PARTICIPANT BY THE AWARDED VENDOR NAMED IN THIS AGREEMENT THAT RESULTS FROM THE SOLICITATION AWARD NAMED IN THIS AGREEMENT MAY INCORPORATE AN AUTOMATIC RENEWAL CLAUSE WITH WHICH THE 791 PURCHASING COOPERATIVE PARTICIPANT MUST COMPLY. ALL RENEWAL TERMS INCORPORATED IN AN AGREEMENT BY THE VENDOR WITH THE 791 PURCHASING COOPERATIVE PARTICIPANT SHALL ONLY BE VALID AND ENFORCEABLE WHEN THE VENDOR RECEIVES WRITTEN CONFIRMATION BY PURCHASE ORDER OR EXECUTED AGREEMENT ISSUED BY THE 791 PURCHASING COOPERATIVE PARTICIPANT FOR ANY RENEWAL PERIOD. THE PURPOSE OF THIS CLAUSE IS TO AVOID A 791 PURCHASING COOPERATIVE PARTICIPANT INADVERTENTLY RENEWING AN AGREEMENT DURING A PERIOD IN WHICH THE GOVERNING BODY OF THE 791 PURCHASING COOPERATIVE PARTICIPANT HAS NOT PROPERLY APPROPRIATED AND BUDGETED THE FUNDS TO SATISFY THE AGREEMENT RENEWAL. THIS TERM IS NOT NEGOTIABLE AND ANY AGREEMENT BETWEEN A 791 PURCHASING COOPERATIVE PARTICIPANT AND A 791 PURCHASING COOPERATIVE AWARDED VENDOR WITH AN AUTOMATIC RENEWAL CLAUSE THAT CONFLICTS WITH THESE TERMS IS RENDERED VOID AND UNENFORCEABLE AS TO THE AUTOMATIC RENEWAL CLAUSE.

5. Invoices

Vendor is responsible for the invoicing and collection of all funds due from a 791 PURCHASING COOPERATIVE Participant to the Vendor.

6. Payments

791 PURCHASING COOPERATIVE member will make payments directly to the Vendor for all funds owed as provided for in the 791 PURCHASING COOPERATIVE Contract.

7. Pricing

The price Vendor will charge a 791 PURCHASING COOPERATIVE Participant will be defined in the 791 PURCHASING COOPERATIVE Contract and determined at the time Vendor and a 791 PURCHASING COOPERATIVE Participant makes purchases through this 791 PURCHASING COOPERATIVE Contract. The price Vendor charges a 791 PURCHASING COOPERATIVE Participant will include the 791 PURCHASING COOPERATIVE annual participation fee.

At no time during the initial term or extended term of this Agreement shall the price charged to a 791 PURCHASING COOPERATIVE Participant exceed the contracted price for **#791202603004 Transit Services and Technology Solutions**.

Language like the following will be added to the Representations Section of the Vendor's 791 PURCHASING **#791202603004 Transit Services and Technology Solutions:**

> "Seller represents that this Agreement, pursuant to the award to (insert vendor's name) as a result of the 791 PURCHASING COOPERATIVE **#791202603004 Transit Services and Technology Solutions**, complies with the terms and conditions contained in a separate Purchasing agreement between Seller and 791 PURCHASING COOPERATIVE Participants."

8. Participation Fees

Vendor agrees to pay 791 PURCHASING COOPERATIVE the participation fee, **1.00%** Sales Participation Fee. 791COOP establishes a fee for each solicitation for proposals that is in the best interest of 791COOP and its participants.

a) The first fee is a **1.00%** percent participation fee for all Agreement sales to 791 PURCHASING COOPERATIVE Participants utilizing a 791 PURCHASING COOPERATIVE awarded the contract. The participation fee will be the total dollars derived from **1.00** % of total contract volume through this program to 791 PURCHASING COOPERATIVE participants. The participation fee will be included in quotes and invoices between the awarded vendor and 791 PURCHASING COOPERATIVE Participants.

b) <u>The 791 PURCHASING COOPERATIVE participation fee will not be a provided as a separate line item to the 791 PURCHASING COOPERATIVE Participant.</u> Vendor will remit the participation fee to 791 PURCHASING COOPERATIVE within thirty (30) business days of receipt of the payment for Purchases made under this agreement, which includes the annual participation fee, from the 791 PURCHASING COOPERATIVE Participant. Failure to pay the participation fee will result in termination of Agreement and 791 PURCHASING COOPERATIVE reserves the right to take any action under the law or equity for any breach of contract.

c) Prior to delivering a quote to a 791 PURCHASING COOPERATIVE Participant, the awarded vendor(s) will calculate the participation fee for 791 PURCHASING COOPERATIVE to be included in the quote.

9. Sales Reporting Procedures for Vendor

Vendor will report any sale under this contract that is made to a 791 PURCHASING COOPERATIVE Participant with the Vendor on a monthly basis. Thus, any order entered in a particular month shall report within thirty (30) business days of the 791 PURCHASING COOPERATIVE Participant issuing a Purchase Order or otherwise purchasing from the vendor under this contract.

10. Adoption of Agreement by State or Federal Agencies

Awarded Vendors may present this agreement to State agencies for adoption by the State and all 50 states. Vendor may agree to pay an additional fee to the State Agency. The Awarded Vendor shall continue to pay the Participation fee to 791 Purchasing Cooperative and report these sales to 791 Purchasing Cooperative. Failure for the Awarded Vendor to comply with this section of the agreement will result the in Awarded Vendor being in breach of the agreement and having their agreement with 791 Purchasing Cooperative terminated for cause.

Furthermore, Awarded Vendor may present this agreement to Federal Government Agencies and subrecipients who may adopt this agreement. Participation fees shall continue to be paid and sales reported to 791 Purchasing Cooperative, even if a fee is paid to the approving Federal Agency. Failure for the Awarded Vendor to comply with this section of the agreement will result in the Awarded Vendor being in breach of this agreement and having their agreement with 791 Purchasing Cooperative terminated for cause.

12. Indemnity

Vendor agrees to indemnify and hold harmless and defend 791 PURCHASING COOPERATIVE, 791 PURCHASING COOPERATIVE officers and employees, from and against all claims and suits for damages, injuries to persons (including death), property damages, losses, and expenses including court costs and reasonable attorney's fees, arising out of, or resulting from, Vendor's performance of this Agreement or sales made to 791 PURCHASING COOPERATIVE Participants under this agreement, including all such causes of action based upon common, constitutional, or statutory law, or based in whole or in part, upon allegations of negligent or intentional acts on the part of the Vendor, its officers, employees, agents, subcontractors, licensees, invitees, unless such claims are based in whole upon the negligent acts or omissions of the 791 PURCHASING COOPERATIVE, 791 PURCHASING COOPERATIVE officers, employees, or agents. If based in part upon the negligent acts or omissions of the 791 PURCHASING COOPERATIVE, 791 PURCHASING COOPERATIVE officers, employees, or agents, Vendor shall be responsible for their proportional share of the claim.

13. State of Texas Franchise Tax

By signature hereon, the Vendor hereby certifies that it is not currently delinquent in the payment of any franchise taxes owed to the State of Texas under Chapter 171, Tax Code.

14. Miscellaneous:

Nothing in the Agreement or in any other communication between 791 PURCHASING COOPERATIVE and the Vendor may be construed as a guarantee that 791 PURCHASING COOPERATIVE Participants will purchase items and services under this contract from the Vendor at any time.

15. Termination:

Contract shall terminate at the end of the agreement or at the end of any contract extensions. Either party may terminate for breach of contract which would include bankruptcy, or due to continued failure to perform the terms in this agreement. Prior to exercising termination for breach, the non-breaching party must provide notice by certified mail to provide the other party 30 days to solve the

stated problems. However, if this agreement is terminated prior to the end date of the initial term or the end date of an agreed to extension term, any 791 PURCHASING COOPERATIVE Purchase Contract entered into between Vendor and a 791 PURCHASING COOPERATIVE Participant shall survive and will not be terminated. Upon termination of this agreement between 791 PURCHASING COOPERATIVE and the Vendor, this agreement shall survive only insofar as to govern all surviving 791 PURCHASING COOPERATIVE Contracts between the Vendor and 791 PURCHASING COOPERATIVE Participants. Termination for convenience is required under 2 CFR part 200.

16. Marketing

Awarded vendor agrees to allow 791 PURCHASING COOPERATIVE to use their name and logo within the 791 PURCHASING COOPERATIVE website, marketing materials and advertising. Vendor may use the 791 PURCHASING COOPERATIVE name and logo in marketing the 791 PURCHASING COOPERATIVE Contract to 791 PURCHASING COOPERATIVE Participants or other Texas government or public entities.

17. Legal obligations

It is the responding vendor's responsibility to be aware of and comply with all local, state and federal laws governing the sale of products/services identified in this RFP and any awarded Agreement thereof. Applicable laws and regulations must be followed even if not specifically identified herein.

18. Audit rights

Awarded Vendor shall, at their sole expense, maintain appropriate due diligence of all purchases made by any 791 PURCHASING COOPERATIVE Participant that utilizes this Agreement. 791 PURCHASING COOPERATIVE reserves the right to audit the accounting for a period of four (4) years from the time such purchases are made. This audit right shall survive termination of this Agreement for a period of four (4) years from the effective date of termination. 791 PURCHASING COOPERATIVE shall have the ability to conduct the audit internally or may engage a third-party auditing firm. In the event of an audit, the requested materials shall be provided in the format and at the location designated by 791 PURCHASING COOPERATIVE. 791 PURCHASING COOPERATIVE shall bear the cost of such audit requested by 791 PURCHASING COOPERATIVE, but all documents maintained by the vendor shall be produced and made available to 791 PURCHASING COOPERATIVE or its agents at no cost.

19. Force Majeure

If by reason of Force Majeure, either party hereto shall be rendered unable wholly or in part to carry out its obligations under this Agreement then such party shall give notice and cause of Force Majeure in writing to the other party within a reasonable time after the occurrence of the event or cause relied upon, and the obligation of the party giving such notice, so far as it is affected by such Force Majeure, shall be suspended during the continuance of the inability then claimed, except as hereinafter provided, but for no longer period, and such party shall endeavor to remove or overcome such inability with all reasonable dispatch. **This Clause includes COVID-19 which is a Declared Pandemic and any future Declared Pandemics.**

20. Remedies

The parties shall be entitled to exercise any right or remedy available to it either at law or in equity, subject to the choice of law, venue and service of process clauses limitations agreed herein. Nothing in this agreement shall commit the 791 PURCHASING COOPERATIVE to a binding arbitration resolution of any disagreement under any circumstances. Any Claim arising out of or related to the Contract, except for those specifically waived under the terms of the Contract, may, be subject to mediation at

the request of either party. Non-binding mediation shall be conducted by a mutually agreed upon mediator as a prerequisite to the filing of any lawsuit over such issue(s). The parties shall share the mediator's fee and any associated filing fee equally. Mediation shall be held in Bexar County, Texas. Agreements reached in mediation shall be reduced to writing, and signed shall thereafter be enforceable as provided by the laws of the State of Texas.

21. Choice of Law

This agreement and any addenda or other additions and all contracts or awards resulting from this procurement process, however described, shall be governed by, construed and enforced in accordance with the laws of the State of Texas, regardless of any conflict of laws principles.

22. Jurisdiction (Venue) and Service of Process

Any Proceeding arising out of or relating to this procurement process or any contract resulting from or any contemplated transaction shall be brought to a court of competent jurisdiction in Bexar County, Texas and each of the parties irrevocably submits to the exclusive jurisdiction of said court in any such proceeding, waives any objection it may now or hereafter have to venue or to convenience of forum, agrees that all claims in respect of the Proceeding shall be heard and determined only in any such court, and agrees not to bring any proceeding arising out of or relating to this procurement process or any contract resulting from or any contemplated transaction in any other court. The parties agree that either or both of them may file a copy of this paragraph with any court as written evidence of the knowing, voluntary, and freely bargained agreement between the parties irrevocably to waive any objections to venue or to convenience of forum. Process in any proceeding referred to in the first sentence of this Section may be served on any party anywhere in the world.

23. Alternative Dispute Resolution

Prior to the filing of litigation, the parties may select non-binding mediation as a method of conflict resolution for issues arising out of or relating to this procurement process or any contract resulting from or any contemplated transaction. The parties agree that if non-binding mediation is chosen as a resolution process, the parties must agree to the chosen mediator(s) and that all mediation venues shall be at a location in Bexar County, Texas, or agreed by the parties. The parties agree to share equally the cost of the mediation process and venue cost.

24. Acts or Omissions

The successful vendor will be expected to indemnify and hold harmless 791 PURCHASING COOPERATIVE, its officers, employees, agents, representatives, contractors, assignees and designees from and against any and all liability, actions, claims, demands or suits, and all related costs, attorney's fees and expenses arising out of, or resulting from any acts or omissions of the vendor or its agents, employees, subcontractors, or suppliers in the execution or performance of any agreements ultimately made by 791 PURCHASING COOPERATIVE and the vendor.

25. Contract Governance

Any contract made or entered into by 791 PURCHASING COOPERATIVE is subject to and is to be governed by Section 271.151 et seq, Tex Loc Gov't Code. Otherwise, **The Central Texas Council of Governments, as the Lead Agency for** 791 PURCHASING COOPERATIVE, does not waive its governmental immunities from suit or liability except to the extent expressly waived by other applicable laws in clear and unambiguous language.

26. Supplemental Agreements

The 791 PURCHASING COOPERATIVE Participant entity participating in the 791 PURCHASING COOPERATIVE Agreement and awarded vendor may enter into a separate supplemental agreement or contract to further define the level of service requirements over and above the minimum defined in this Agreement i.e. invoice requirements, ordering requirements, specialized delivery, etc. Any supplemental agreement or contract developed as a result of this Agreement is exclusively between the participating entity and awarded vendor. 791 PURCHASING COOPERATIVE, its agents, 791 PURCHASING COOPERATIVE Participants, and employees shall not be made party to any claim for breach of such agreement unless named and agreed by the Party in question in writing in the agreement. If a vendor submitting a Proposal requires 791 PURCHASING COOPERATIVE and/or 791 PURCHASING COOPERATIVE Participant to sign an additional agreement, those agreements shall comply with the award made by 791 PURCHASING COOPERATIVE to the Vendor. Supplemental Vendor's Agreement documents may not become part of 791 PURCHASING COOPERATIVE's Agreement with the vendor unless and until an authorized representative of 791 PURCHASING COOPERATIVE reviews and approves it. 791 PURCHASING COOPERATIVE permits 791 PURCHASING COOPERATIVE Participants to negotiate additional terms and conditions with the Vendor for the provision of goods or services under the Vendor's 791 PURCHASING COOPERATIVE Agreement.

27. Survival Clause

All applicable agreements, contracts, software license agreements, warranties or service agreements that were entered into between Vendor and 791 PURCHASING COOPERATIVE or the 791 PURCHASING COOPERATIVE Participant Customer under the terms and conditions of this Agreement shall survive the expiration or termination of this Agreement. All Orders, Purchase Orders issued or contracts executed by 791 PURCHASING COOPERATIVE or a 791 PURCHASING COOPERATIVE Participant and accepted by the Vendor prior to the expiration or termination of this agreement, shall survive expiration or termination of the Agreement, subject to previously agreed terms and conditions agreed by the parties or as otherwise specified herein relating to termination of this agreement.

28. Smoking

Persons working under Agreement shall adhere to the 791 PURCHASING COOPERATIVE Participant's or local smoking statutes, codes or policies.

29. Novation

If awarded vendor sells or transfers all assets or the entire portion of the assets used to perform this Agreement, a successor in interest must guarantee to perform all obligations under this Agreement. A simple change of name agreement will not change the Agreement obligations of awarded vendor.

30. Licenses

Awarded vendor shall maintain in current status all federal, state and local licenses, bonds and permits required for the operation of the business conducted by awarded vendor. Awarded vendor shall remain fully informed of and in compliance with all ordinances and regulations pertaining to the lawful provision of goods or services under the Agreement. 791 PURCHASING COOPERATIVE and its Participants reserves the right to stop work and/or cancel Agreement of any awarded vendor whose license(s) expire, lapse, are suspended or terminated subject to a 30-day cure period unless prohibited by applicable statute or regulation.

31. 791 PURCHASING COOPERATIVE Participant Purchasing Procedures

Purchase orders or their equal are issued by participating 791 PURCHASING COOPERATIVE Participant to the awarded vendor and should indicate on the order that the purchase is per the applicable 791

PURCHASING COOPERATIVE Agreement number. Orders are typically emailed to 791 PURCHASING COOPERATIVE at admin@791COOP.org

a) Awarded vendor delivers goods/services directly to the participating 791 PURCHASING COOPERATIVE Participant.

b) Awarded vendor invoices the participating 791 PURCHASING COOPERATIVE Participant directly.

c) Awarded vendor receives payment directly from the participating 791 PURCHASING COOPERATIVE Participant.

d) Awarded vendor reports sales monthly to 791 PURCHASING COOPERATIVE (unless prior arrangements have been made with 791 PURCHASING COOPERATIVE for an alternative submission schedule).

32. Incorporation of Solicitation

The 791 Purchasing Cooperative Solicitation, whether a Request for Proposals, the Request for Competitive Sealed Proposals or Request for Qualifications solicitation, or other, the Vendor's response to same and all associated documents and forms made part of the solicitation process, including any addenda, that resulted in the execution of this agreement are hereby incorporated by reference into this agreement as if copied verbatim.

33. Registered Felony Convictions and sex offender restrictions

For work to be performed at schools, awarded vendor agrees that no employee of a sub-contractor who has been adjudicated to be a registered sex offender will perform work at any time when students are, or reasonably expected to be, present unless otherwise agreed by the 791Purchasing Cooperative Participant. Awarded vendor agrees that a violation of this condition shall be considered a material breach and may result in the cancellation of the purchase order at the 791 Purchasing Cooperative Participant's discretion. Awarded vendor must identify any additional costs associated with compliance of this term. If no costs are specified, compliance with this term will be provided at no additional charge.

34. Safety measures

Awarded vendor shall take all reasonable precautions for the safety of employees on the worksite, and shall erect and properly maintain all necessary safeguards for protection of workers and the public. Awarded vendor shall post warning signs against all hazards created by the operation and work in progress. Proper precautions shall be taken pursuant to state law and standard practices to protect workers, general public and existing structures from injury or damage.

35. Insurance Requirements

a) **Contractor's Commercial General Liability Insurance**—Contractor shall purchase and maintain such insurance as will protect Contractor from claims for damages because of bodily injury, sickness, or disease, or death of any person including claims insured by standard personal injury liability, and from claims for injury to or destruction of tangible property, including loss of use resulting therefrom, any or all of which may arise out of or result from Contractor's operations under the Contract Documents, whether such operations be by Contractor or anyone directly or indirectly employed by Contractor or for whose acts they may be legally liable. This insurance shall include the types and specific coverages herein described and be written for not less than any limits of liability specified in these Documents or required by law, whichever is greater.

Insurance must include coverage for independent contractors, products/completed operations, contractual liability, broad form property damage, and personal injury.

b) **Contractor's Automobile Liability Insurance**—Contractor shall purchase and maintain such insurance as will protect Contractor from claims for damages because of bodily injury, sickness, disease or death of any person, including claims insured by standard personal injury coverage; and from claims for injury to or destruction of tangible property, including loss of use resulting therefrom, any or all of which may arise out of or result from the use of all owned, non-owned, or hired, automobile, vehicles, and other equipment both on and off work, arising from or in any way related to or as the result of Contractor's operations under the Agreement, whether such operations be by the Contractor or anyone directly or indirectly employed by Contractor or for whose acts any of them may be legally liable.

c) **Contractor's Workers' Compensation and Employer's Liability Coverage**—The Contractor shall comply with the provisions of the Workers' Compensation Act, the subsequent Injury Act, and Contractor shall procure and maintain during the life of this Contract Workers' Compensation and Employer's Liability Insurance in accordance with Texas laws and regulations. Such insurance shall include coverage permitted for safety devices. If the Contractor elects to be self-insured, the Contractor shall comply with the applicable requirements and laws of Texas. CTCOG, its officers, or employees will not be responsible for any claims or actions occasioned by the failure of the Contractor to comply with the provisions of this paragraph.

If any class of employee is not protected under the Workers' Compensation Statute, the Contractor shall provide adequate employer's liability coverage as will protect Contractor and 791 PURCHASING COOPERATIVE against any claims resulting from injuries to and death of workers engaged in work under this contract.

d) **Coverage limits**—Insurance coverage limits required to be carried by the Contractor under this Section shall be as follows:

1. Commercial General Liability Insurance and Commercial Automobile Liability Insurance limits of coverage shall be the limits established by Texas Claims Act or a Combined Single Limit coverage of $1,000,000.
2. Contractor's Workers' Compensation - coverage shall be those established by applicable statutes. Employer's liability coverages shall be the limits established by the State of Texas or $1,000,000.
3. Umbrella Liability Insurance: Liability on a following form basis with a limit $1,000,000 per occurrence in excess of all primary limits.

e) **All proposals shall include a valid Certificate of Liability Insurance showing CTCOG, 791 Purchasing Cooperative and individual 791 Purchasing Cooperative participants (if requested) as a certificate holder.**

f) To protect the 791 Purchasing Cooperative, 791 Purchasing Cooperative Participants and their employees against liability, loss, or expense in the event of damage to property, injury, or death to any person or persons arising in any way out of or in connection with or resulting from the work provided hereunder, Vendor shall procure and maintain, at its sole expense and until acceptance of the work, insurance as hereinafter enumerated in policies which shall be subject

to the 791 Purchasing Cooperative's approval as to form, amount and issuing company. Amounts listed are a minimum.

[SIGNATURE PAGE IMMEDIATELY FOLLOWING]

791 PURCHASING COOPERATIVE and VENDOR AGREEMENT

Signature Form

#791202603004 Transit Services and Technology Solutions:

Vendor:

Company Name Eta Phi Systems, Inc dba ETA Transit Systems

Address 6420 Congress AVE STE 1850

City Boca Raton State FL Zip 33487

Phone 512-587-9565

Name of Authorized Representative Nicole Castonguay

Title Type text here President Date 05/21/2026

Email of Authorized Representative: ncastonguay@etatransit.com

Signature of Authorized Representative Nicole Castonguay (Required)

791 PURCHASING COOPERATIVE:

Authorized Representative Signature:

Name Jeffrey Shokrian

Title CEO

Email Jeff@791Coop.org

Address 115 Natalen Ave

City San Antonio State TX Zip 78209

Phone 210-757-3775

Date 06/23/2026

Docusign Envelope ID: 2317C79D-6D6D-8D41-81A0-E6DC6A9E41D4

791 Purchasing Cooperative Contract Award

June 10, 2026

ETA Phi Systems, Inc
Jariel Adler
6420 Congress Ave
Suite 1850
Boca Raton, FL 33487
791 Awarded Contract – RFP #791-2026-03-004 Transit Services and Technology Solutions.
791 Contract Number – 202603004

CONTRACT AWARD

Congratulations! This award is for an intergovernmental cooperative purchasing agreement . The 791 Purchasing Cooperative (791 Coop) on behalf of the Central Texas Council of Governments (CTCOG) with delegated authority to the Executive Director by the Board of Directors has awarded ETA Phi Systems, Inc. This Agreement will be in effect from 06/10/2026 through 05/31/2031. There are three (3) automatic contract renewal one (1) year term options from 05/31/2031 to 05/31/2032, 05/31/2032 to 05/31/2033, and 05/31/2033 to 05/31/2034.

ADMINISTRATIVE CONSIDERATIONS

Award of annual contract in compliance with the bid laws of the State of Texas are recommended.

RECOMMENDATIONS

791 Coop recommends the following contract be awarded based on the Request for Proposal (RFP) process: 791 Awarded Contract – RFP #791-2026-03-004 Transit Services and Technology Solutions to ETA Phi Systems, Inc.

Action Required

x Approve

o Disapprove

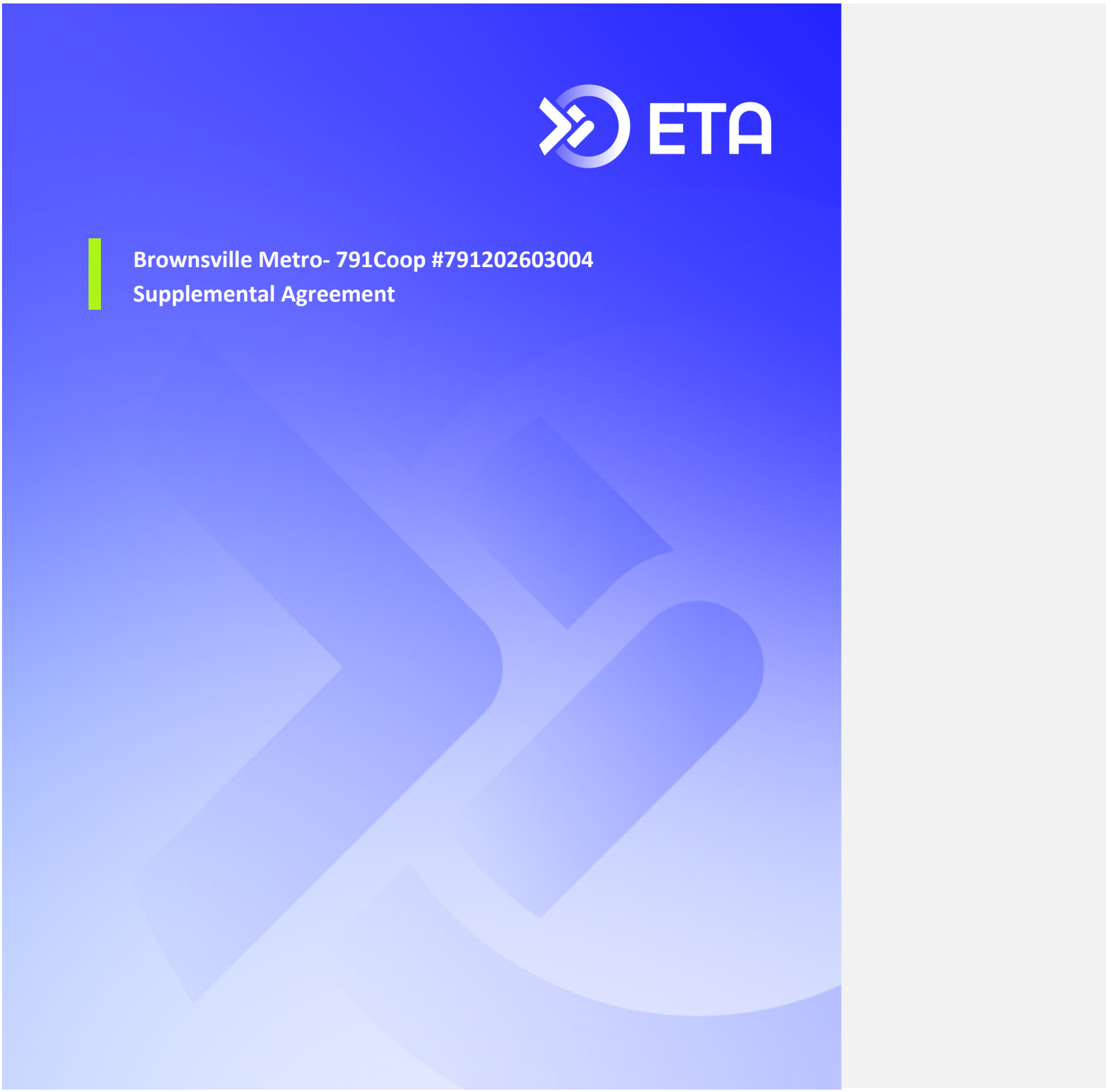
DocuSigned by:
Jim Reed
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Signature

6/18/2026

Date

CTCOG Executive Director


ETA
Brownsville Metro- 791Coop #791202603004
Supplemental Agreement

Supplemental Agreement

Supplemental Agreement ("Supplemental Agreement") is entered into between ETA Phi Systems, Inc. dba ETA Transit Systems, a Florida corporation ("ETA"), and City of Brownsville ("Customer") in connection with Customer's purchase of products and/or services through 791 Purchasing Cooperative Contract #791202603004, Transit Services and Technology Solutions (the "791 Contract").

Purpose and Incorporation

The purpose of this Supplemental Agreement is to define ETA-specific software subscription, system support, warranty, implementation, and service requirements that supplement the 791 Contract.

The 791 Contract, the applicable ETA quotation or statement of work, this Supplemental Agreement, the System Subscription Agreement attached as Exhibit A, and the System Support & Warranty Agreement attached as Exhibit B are incorporated into the parties' transaction.

Order of Precedence

The 791 Contract controls all procurement and purchasing terms and will govern in the event of any conflict with this Supplemental Agreement or its exhibits.

The applicable Customer purchase order and ETA quotation will identify the products, quantities, services, pricing, milestones, and project-specific requirements.

Exhibit A governs software subscription and license rights, and Exhibit B governs system support, maintenance, and warranty obligations.

No provision of this Supplemental Agreement is intended to modify or supersede the mandatory term of the 791 Contract.

In the event of a conflict between this Supplemental Agreement and Exhibit A or Exhibit B, this Supplemental Agreement shall control.

Definitions

The following definitions apply to this Agreement:

"Confidential Information" means any and all of the following, disclosed by one party to the other party orally, in writing or in any form which is either: (i) marked or identified as "confidential" at the time of disclosure, or (ii) of a nature that a reasonable business person would understand, under the circumstances, to be confidential or proprietary; and (iii) all software, research and development information, know-how, methodologies, materials, formulae, templates, brochures, configurations, books, compositions, manufacturing and production processes and techniques, technical data, training curricula, improvements, designs, drawings, specifications, customer and supplier lists and information (including, but not limit to, all account information, files, programs, plans, data and related information), sales data and plans, pricing and cost information, strategic plans, business and marketing plans and proposals, assembly, test, installation, service and inspection instructions and procedures, technical, operating an service and maintenance manuals and data, hardware reference manuals and engineering, programming, service and maintenance notes and logs and related documentation or other information disclosed in connection with the performance of this Agreement or any quotation or product order. The following information shall be deemed Confidential Information whether or not marked or identified as such: (a) Hardware Products and Software Products, including any related software code or documentation; (b) the terms of this Agreement including all quotations and purchase orders and pricing thereto; and (c) ETA's roadmaps, product pans, product designs, architecture, technology and technical information, security audit reviews, business and marketing plans, and business processes, however disclosed.

"Customer Identifiable Data" means personal information of Customer's customer(s) that is collected, downloaded, or otherwise received, directly or indirectly, from Customer or an

authorized user by or through the ETA Services.

"ETA Services" means the items labeled as "NRE", "Maintenance", "Support", "Project Management", "Training", "Education", "Travel", "Handling" of "Installation" on the Quotation or Purchase Order attached as Exhibit 1.
Certain rights and obligations applicable specifically to some ETA Services are included in the attached System support agreement between the parties.

"Hardware Products" means the items labeled as "Products", "Hardware" or "Devices" on the Quotation or Purchase Order attached as Exhibit 1.

"Intellectual Property" means all (i) ETA trademarks, service marks, brand names, certification marks, collective marks, d/b/a's, Internet domain names, logos, symbols, trade dress, assumed names, fictitious names, trade names, and other indicia of origin, all applications and registrations for the foregoing, and all goodwill associated therewith and symbolized thereby, including all renewals of the same; (ii) ETA inventions and discoveries, whether patentable or not, and all patents, registrations, invention disclosures and applications therefore, including divisions, continuations, continuations-in-part and renewal applications, and including renewals, extensions and reissues; (iii) ETA Confidential Information, trade secrets and know-how, including processes, schematics, business methods, formulae, drawings, prototypes, models, designs, customer lists and supplier lists; (iv) ETA published and unpublished works of authorship, whether copyrightable or not (including databases and other compilations of information) copyrights and database rights therein and thereto; and registrations and applications therefor, and all renewals, extensions, restorations and reversions thereof; (v) any right, title, and interest to the Hardware Products or Software Products, and (vi) moral rights, design rights ,mask works, rights of privacy and publicity, and all other ETA intellectual property rights.

"Software Products" means the items labeled as "Software", "Software Licenses", "Software Modules" or "SPOT" on the Quotation or Purchase Order attached as Exhibit 1. Certain rights and obligations applicable specifically to Software Products are included in the attached System subscription agreement (when applicable).

Term, termination, and renewal

Term

The term applicable to the Customer purchase will be stated in the applicable quotation, purchase order, or executed agreement.

No subscription, warranty, maintenance, support, or other service will automatically renew.

Any renewal period will be effective only upon written confirmation by the Customer through an authorized purchase order or executed agreement, consistent with the 791 Contract.

Termination

Subject to any mandatory termination requirements of the 791 Contract and applicable law, this Supplemental Agreement may terminate as follows:at the option of either party if the other party materially defaults in the reasonable performance or observance of any of its obligations hereunder and fails to remedy the default within 60 days after receiving written demand therefor; or

a) at the option of either party if the other party becomes insolvent or bankrupt or makes an assignment for the benefit of creditors; or
b) at the option of ETA if Customer breaches any of its obligations under sections " P rice and Payment" or "Intellectual Property" of this Agreement; or
c) at the option of ETA if Customer infringes, misappropriates or otherwise violates ETA's intellectual property, the licenses granted by ETA to Customer hereunder, or any unauthorized disclosure of ETA's Confidential Information.
d) at the option of Customer for convenience, upon 90 days' written notice to ETA.

Suspension of obligations

If either party should materially default in the reasonable performance or observance of any of its obligations hereunder, then, in addition to all other rights and remedies available to the non-defaulting party, the non-defaulting party may suspend performance and observance of any or all

its obligations under this Agreement, without liability, until the other party's default is remedied in accordance with the applicable cure provisions herein, but this Section shall not permit the Customer to suspend its obligation to make payments that are due and owing.

Discontinuation of Software

Upon expiration or termination of Customer's right to use ETA software, Customer will discontinue use of the software and, to the extent applicable to software or materials in Customer's possession or control, uninstall, delete, or return the applicable ETA software and proprietary documentation. Customer will provide reasonable written confirmation of completion upon ETA's request, subject to applicable records retention requirements.

Price and payment

The Hardware Products, Software Products, ETA Services, quantities, pricing, implementation milestones, subscription fees, and other project-specific charges will be stated in the applicable ETA quotation and Customer purchase order.

ETA will invoice Customer directly and Customer will remit payment directly to ETA in accordance with the 791 Contract and the applicable quotation or purchase order.

By executing this Agreement, Customer agrees that payment shall be made by Customer based on the Milestone Payment Schedule included in the Quotation and such payments shall be due within thirty (30) days of the date of the invoice for each such Milestone, in the amounts stated thereon.

Products and services

The Hardware Products, Software Products and ETA Services covered by this agreement shall be as set forth on the Quotation.

All warranties and maintenance and support rights and obligations related to Hardware Products, Software Products and ETA Services shall be as agreed and set forth in the attached System support agreement herein.

In all instances in which Software Products are included on the Quotation, certain rights, and obligations specific to those products shall be as set forth in the attached System subscription agreement herein.

ETA responsibilities

Duty to inform

If, at any time during the performance of this Agreement ETA becomes aware of actual problems, faults, or defects in the Hardware Products, Software Products or ETA Services, or of any nonconformance with federal, state, or local laws, rules, or regulations, ETA shall give prompt written notice thereof to the Customer, and ETA shall take the appropriate measures to ensure correct such problems, faults, or defects and ensure conformance with federal, state or local laws, rules or regulations in all material respects in a commercially reasonable manner.

Information release

No information, news or press releases related to the subject of this Agreement shall be made without the mutual written consent of the parties.

Except for Confidential Information designated in writing as "not to be shared" by the Customer, ETA may share Customer information with, and fully cooperate with those corporations, firms, contractors, public utilities, government entities and persons required for completion of the ETA Services provided to Customer.

Customer Cooperation and Dependencies

Cooperation and Compliance

Customer will provide the cooperation, information, approvals, access to facilities and vehicles, personnel, connectivity, and other items reasonably necessary for ETA to perform the contracted services.

To the extent ETA's performance is delayed by Customer's failure to timely provide a required dependency, ETA's affected performance dates will be extended for the period reasonably attributable to that delay, and ETA will not be responsible for delays caused by Customer.

Corrective Action and Duty to inform

If, at any time during the performance of this Agreement Customer becomes aware of actual or threatened problems, faults, or defects in the Hardware Products, Software Products or ETA Services, or of any nonconformance with federal, state, or local laws, rules, or regulations; or if Customer has any objection to any decision or order made by ETA with respect to such laws, rules, or regulations, Customer shall give prompt written notice thereof to ETA, and shall cause Customer its users to, immediately: (a) take all reasonable and lawful measures within their respective control that are necessary to stop the activity or threatened activity and to mitigate its effects (including, where applicable,, by discontinuing and preventing any unauthorized access to the Hardware Products, Software Products or ETA Services and permanently erasing from their systems and destroying any data to which any of them have gained unauthorized access).

Information release

No information, news or press releases related to the subject of this Agreement shall be made by either party without the mutual written consent of the parties.

Responsibilities in attached agreements

Customer acknowledges that certain responsibilities related to Hardware Products, Software Products and ETA Services applicable to this Agreement are contained in the attached System support agreement and the attached System subscription agreement.

Responsibility for Acts and Omissions; Insurance

Responsibility for Acts and Omissions

Each Party shall be responsible for its own acts and omissions and those of its officers, employees, agents, and subcontractors to the extent provided by applicable law.

ETA shall not be responsible for claims, damages, losses, or liabilities to the extent caused by the negligence, willful misconduct, unauthorized use of the System, or other wrongful acts or omissions of Customer or its officers, employees, agents, contractors, or authorized users.

Nothing in this Agreement shall require Customer to indemnify, defend, or hold harmless ETA or any other person or entity, nor shall anything herein constitute a waiver of Customer's governmental immunity, sovereign immunity, defenses, or limitations of liability available under applicable law.

Nothing in this Section shall limit any responsibility or obligation of ETA expressly imposed under the 791 Contract.

Insurance

In addition to the insurance required by the 791 Contract, ETA maintains the following coverage. ETA shall maintain insurances of the following types and minimum limits, as follows, for the term of this Agreement:

General Commercial Liability Insurance – covering bodily injury and property damage at the minimum amounts of $1,000,000 per occurrence and $2,000,000 aggregate.

Professional Errors and Omissions Insurance – covering damages resulting from errors, omissions and negligent acts at the minimum amount of $1,000,000 per claim.

Business Automobile Liability Insurance – automobile liability for owned, hired, and non-owned vehicles with a combined single limit of $1,000,000 per occurrence.

Limitation of Liability; Disclaimer of Warranty

Limitation of Liability

TO THE EXTENT PERMITTED BY APPLICABLE LAW, EXCEPT WITH RESPECT TO ETA'S GROSS NEGLIGENCE, WILLFUL MISCONDUCT, OR OBLIGATIONS THAT CANNOT LAWFULLY BE LIMITED, ETA WILL NOT BE LIABLE TO CUSTOMER FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL, EXEMPLARY, OR PUNITIVE DAMAGES, OR FOR LOSS OF USE, DATA, PROFITS, REVENUE, OR GOODWILL, REGARDLESS OF THE THEORY OF LIABILITY. TO THE EXTENT PERMITTED BY APPLICABLE LAW, ETA'S AGGREGATE AND CUMULATIVE LIABILITY ARISING OUT OF OR RELATING TO A CUSTOMER PURCHASE WILL NOT EXCEED THE FEES PAID BY CUSTOMER TO

ETA UNDER THE APPLICABLE PURCHASE DURING THE TWELVE (12) MONTHS PRECEDING THE DATE THE CLAIM IS DELIVERED TO ETA IN WRITING.

Disclaimer of Warranties

EXCEPT FOR EXPRESS WARRANTIES SET FORTH IN THIS AGREEMENT, ETA MAKES NO ADDITIONAL REPRESENTATION OR WARRANTY OF ANY KIND, WHETHER EXPRESS OR IMPLIED IN FACT OR BY OPERATION OF LAW, OR STAUTORY, AS TO ANY MATTER WHATSOEVER, ETA EXPRESSLY DISCLAIMS ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. ETA DOES NOT WARRANT THAT ETA PRODUCTS WILL BE UNINTERRUPTED, VIRUS-FREE, OR ERROR-FREE, WILL MEET CUSTOMER'S REQUIREMENTS, WILL BE TIMELY OR SECURE, OR ANY OF ITS SERVICE PROVIDERS BE LIABLE FOR UNAUTHORIZED ALTERATION, THEFT OR DESTRUCTION OF CUSTOMER'S OR ANY AUTHORIZED USER'S DATA, FILES, OR PROGRAMS. CUSTOMER WILL NOT HAVE THE RIGHT TO MAKE OR PASS ON ANY REPRESENTATIONS OR WARRANTY ON BEHALF OF ETA TO ANY THIRD PARTY. TO THE MAXIMUM EXTENT PERMITTED BY LAW, ETA PRODUCTS AND SERVICES ARE PROVIDED "AS IS".

Intellectual property

As between ETA and Customer, all rights, title and interest to ETA's Intellectual Property (including, but not limited to the Hardware Products and Software Products) and technology, and any updates, upgrades, and any other modification to ETA's Intellectual Property and associated documentation shall be and remain the sole and exclusive property of ETA. The Customer has no proprietary or intellectual property rights title or interest in ETA's Intellectual Property or any updates, upgrades, or any modification to ETA's Intellectual Property or associated documentation. Unless ordered by a court of competent jurisdiction, Customer shall not at any time disclose, furnish or make available to anyone the source and executable code of the Software Products or related documentation or other Confidential Information of ETA. Customer's use of the Intellectual Property and any updates, upgrades, and any other modification to ETA's Intellectual Property and associated documentation shall be subject to the terms and conditions of the System subscription Agreement. Except for the rights expressly granted herein, ETA does not license or transfer to Customer or any authorized user of Customer, or other third-party, any rights to any of ETA's Intellectual Property or technology.

Confidential Information

The Parties shall keep confidential the Confidential Information in perpetuity. The receiving party (the "Receiving Party") will protect the other Party's Confidential Information from unauthorized use, access, or disclosure in the same manner as the Receiving Party protects its own Confidential Information of a similar nature, and with no less than reasonable care. The Receiving Party may not use such information for purposes other than the performance of its obligations under this Agreement, and, unless expressly authorized herein, the Receiving Party shall not use or disclose the Confidential Information of the other Party to any person or entity except to its own employees, agents, or representatives having a "need to know" such information, and after appropriate non-disclosure agreements have been executed. The Receiving Party shall be liable for any breach of hits provision by its employees, agents, or representatives. However, the Receiving Party shall have no obligation to maintain Confidential Information that: (a) is or becomes publicly know or readily ascertainable by the public, and through no wrongful act of the Receiving Party, (b) is received by the Receiving Party from a third party without breaching an obligation owed to any other person, if the Receiving Party is not restricted by the third party from disclosing such information, (c) is independently developed by the Receiving Party, or (d) is required to be disclosed by Applicable Law. At the termination or expiration of this Agreement, the Receiving Party shall return to the other Party or certify the destruction of all Confidential Information received by the Receiving Party from the other Party.

Customer's confidentiality obligations are subject to applicable public records and disclosure laws; provided that, to the extent legally permitted, Customer shall provide ETA reasonable notice of a request seeking ETA-designated confidential, proprietary, or trade secret information so that ETA may seek available protection.

Independent contractor

The relationship between the parties is that of independent contractors. Nothing contained in this Agreement shall be construed as creating any agency, partnership, joint venture, or other form of joint enterprise, employment, or fiduciary relationship between the parties, and neither party shall have authority to contract for or bind the other party in any manner. ETA will be solely responsible for determining the manner and means of accomplishing its obligations hereunder. The

Customer does not have the right to control or interfere with the manner or method of accomplishing ETA's obligations.

General provisions

Notices and points of contact

Any notices regarding the Agreement must be in writing and will be deemed to have been delivered if sent by (i) electronic mail attachment, with confirmation of transmission; (ii) sent by the United States certified mail, return receipt requested, postage prepaid; or (iii) sent via a nationally recognized overnight courier service, in each case properly addressed to the party to receive the same as follows:

If to Agency: CUSTOMER NAME
Address:_____
Attn: _____
Email:_____

With a copy to: Customer Name
Address:_____
Attn: _____
Email:_____

If to ETA: Address:_6420 Congress AVE STE 1850 Boca Raton FL 34487
Attn: _Nicole Castonguay_____
Email:__Ncastonguay@etatransit.com

Either Party may change its addressee or other information by providing written notice thereof to the other Party in the manner provided herein. Notices shall be effective upon receipt.

No assignment

Subject to the assignment and novation provisions of the 791 Contract, neither ETA nor Customer may assign the Agreement, nor the performance of any obligations hereunder, unless agreed to in advance in writing by the other party; provided, however, ETA may assign this Agreement as a result of a Change of Control. A "Change of Control" shall mean a transaction or series of transactions (i) pursuant to which control of ETA is acquired by persons or entities other than those who control ETA as of the Effective Date of this Agreement, or (ii) resulting in the sale of all or substantially of ETA's assets.

Acceptance of Exhibits

Exhibit A (System Subscription Agreement) and Exhibit B (System Support & Warranty Agreement) are incorporated into this Supplemental Agreement.

The signatures below constitute acceptance of this Supplemental Agreement and both exhibits; separate signatures on the exhibits are not required unless the parties expressly agree otherwise in writing.

ETA Transit Systems, Inc.

By: Nicole Castonguay

Name: Nicole Castonguay

Title: _President

Customer Name:

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

Exhibit A - System Subscription Agreement

The System Subscription Agreement is incorporated into this Supplemental Agreement and governs ETA's software subscription, license rights, customer obligations, data storage, wireless-data provisions, ownership, intellectual property, and remedies.

For 791 transactions, subscription fees are payable pursuant to the applicable ETA Quotation, Customer purchase order, and 791 Contract. No subscription or service automatically renews.

Exhibit B – System Support & Warranty Agreement

The System Support & Warranty Agreement is incorporated into this Supplemental Agreement and governs the hardware and software identified in the applicable ETA Quotation, including hardware warranty, warranty repair, non-warranty repair, maintenance obligations, software support, remote access, security, disaster recovery, system support, response times, service-level commitments, and related customer responsibilities.

Exhibit C - ETA Quotation / Scope of Work

The applicable ETA Quotation, Scope of Work, and/or Customer Purchase Order will be attached for each Customer purchase and will identify the products, services, quantities, pricing, milestones, subscription fees, implementation requirements, and other transaction-specific terms.

Exhibit A: Subscription Agreement

Subscription agreement

Subscription

ETA grants Customer a limited revocable, non-exclusive, non-sublicensable, non-transferable license right to access and use its SPOT ® Intelligent Transit Systems (ITS) application and related software as detailed in the referenced ETA Quotation during the Term and at the Location set forth above exclusively for the Hardware and Software Products and associated services listed on the referenced ETA Quotation. All rights not expressly granted to Customer are reserved to ETA.

Definitions

Customer Materials - means the materials designated as such and provided by ETA to Customer regarding use of the system.

Data - means all data stored in the database for Customer.

Subscription Fee - means the annual service fee for the right to access and use the System set forth in the Quotation.

System – means the software systems and programs, databases, communication and network facilities, and hardware and equipment used by ETA, its suppliers or its agents to provide the Hardware Products and Software Products.

Fees

All fees and charges (including the Subscription Fee) are not subject to set off or reduction by the Customer. Subscription Fees and all other fees shall be due and payable in accordance with the applicable ETA Quotation, Customer Purchase Order, and Supplemental Agreement.

Services

ETA will provide Customer with activation of, and 24/7 access to ETA's SPOT Intelligent Transit Systems (ITS) application, provided Customer is not in breach of any material obligation under this System subscription agreement. Ongoing support services shall be provided in accordance with the System support agreement.

Customer obligations

Customer is responsible for maintaining Internet access to ETA's SPOT Server via an internet service provider (ISP); hardware and software to enable such connection; and any permission or authorizations required for such a connection.

Customer is responsible for ensuring that only authorized persons have access to the System and for the security of Customer's computer system and the connection to the SPOT Server, without limitation.

Customer is responsible for ensuring that Customer's password and all other means and methods of access to the System are kept absolutely confidential and that all users and drivers comply with the terms of the Agreements; ensuring that any telephone numbers or any information relating to the System, the security of the System, the encryption methods used and all or any other security features are kept absolutely confidential; ensuring that the use of the System by Customer is under the control and authority of a proper and adequately trained employee.

Customer will use, maintain, and remove the Hardware according to ETA's specifications, will safeguard the Hardware from loss or damage of any kind, and will not permit anyone other than an authorized representative of ETA to perform any work or repair on the hardware. Customer agrees and understands that tampering with Hardware shall void all warranties. Except for ordinary wear and tear covered by the limited warranty, Customer is responsible for all Hardware damaged, destroyed, lost, or stolen while in Customer's possession and shall be liable for the cost of repair or replacement of the Hardware and remain responsible for the Subscription Fee during any such repair or replacement period.

If Customer is not the owner of the property upon which Hardware and Software are to be installed, Customer shall obtain the written consent of the owner of the premises and/or property for ETA personnel and/or its agents to enter the premises for the purposes of installing, maintaining, and retrieving the same.

Data storage

a) Customer understands that unless Customer purchases data retention services, ETA will have the right to purge detailed packet data submitted by Customer on a 90-day rolling schedule. ETA will retain summary data for the life of the Contract.

b) Unless Customer has made other arrangements in writing with ETA, all data submitted using the System may be purged as provided above. The Customer must reaffirm this request annually during the renewal process.

c) Customer shall be solely responsible for printing data and inspection reports for vehicles involved in an accident. Customer understands and agrees that ETA is not required to retain records except as provided in a separate agreement.

Wireless data policies

a) Customer understands and agrees that Customer has no contractual relationship with a wireless carrier and Customer is not a third-party beneficiary of any agreement between ETA or an ETA agent and a wireless carrier.

b) Customer understands and agrees that the underlying wireless carrier shall have no legal, equitable or other liability of any kind to Customer.

c) Subject to FCC Number portability rules, Customer has no property or other rights in any Number assigned to it and Customer understands that any such Number can be changed from time to time.

d) Customer agrees that ETA and/or wireless carrier shall not be responsible for interruption of service for any reason or the inability to use the service caused by force majeure.

e) Customer understands and agrees that the liability and obligation of ETA to Customer for services may be controlled and limited by a wireless carrier's tariff, if any, and the laws, rules and regulations of the Federal Communications Commission and other United States or foreign governmental authorities which from time to time have jurisdiction.

f) In no event shall ETA and/or wireless carrier be liable for the failure or incompatibility of any equipment utilized by Customer in connection with Service.

Ownership

a) Customer grants ETA the right to use all data submitted to the System to provide ETA Services as

described in the Sales agreement, System support agreement, and System subscription agreement, including to purge such data as provided in the Section titled "Data Storage." ETA will provide Customer with summary data and any compilations of the data at the termination of the Sales agreement, System support agreement, and System subscription agreement prior to such data's secure deletion.

b) The System and the components provided by ETA for the Customer's use are protected by patent, copyright, trade secret, trademark, international treaties, and other laws, as applicable. Customer agrees that ETA owns all proprietary rights in the System and any corrections, enhancements, updates, or other modifications, including custom modifications, thereto, whether made by ETA or any third party.

c) At all times during and after the termination or expiration of this System subscription agreement, Customer and its affiliates, officers, directors, employees, contractors and agents shall maintain the confidentially of trade secret information. Customer shall not disclose any such proprietary information concerning the System, including any flow charts, logic diagrams, user manuals, and screens, to persons not an employee of Customer without the prior written consent of ETA.

Intellectual property

Customer's purchase of Hardware Products transfers ownership of the physical hardware to Customer, where applicable, but does not transfer ownership of any ETA software, firmware, designs, documentation, trade secrets, technology or other Intellectual Property incorporated into or associated with the Hardware Products. The Hardware and Software Products contain trade secrets, know-how and other intellectual property belonging to ETA Transit Systems. Under no circumstances shall Customer sell or transfer any purchased Hardware or Software Products, reconstruct or repair such Hardware or Software Products, or reverse engineer or otherwise attempt to learn the trade secrets, know how or other intellectual property embodied therein.

Remedies

Customer agrees that its remedies as a Customer are limited to those provided for under the System support Agreement between the parties. ETA shall not be liable to Customer or any third party for any general, special, punitive, incidental, indirect, or consequential damages, or any lost profits or business, arising out of this System subscription agreement.

If Customer fails to make any payment due or otherwise violates any material term or condition of this System subscription agreement, Customer may be declared in default upon notice and failure to cure for 60 days. Upon uncured default, all amounts then due and owing shall become immediately payable, and ETA may exercise any additional remedies available under the applicable Quotation, Supplemental Agreement, 791 Contract, and applicable law. ETA shall have the right to terminate this System subscription agreement and recover any other remedy permitted by law. Customer shall be responsible, to the extent permitted by applicable law, for damages, losses, costs, and expenses resulting from Customer's unauthorized or improper use of the System or the unauthorized or improper use of the System by persons under Customer's control. Nothing in this provision shall require Customer to indemnify or defend ETA where such obligation is prohibited by applicable law or the 791 Contract.

Read and agreed by

The parties to this System subscription agreement warrant and represent that they have the power and authority to enter into this System subscription agreement in the names and capacities stated herein.

ETA and Customer hereby agree to the provisions of this Agreement:

ETA Transit Systems, Inc.

By: Nicole Castonguay

Name: Nicole Castonguay

Title: President

Customer Name:

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

Exhibit B: System support agreement

Overview

WHEREAS Customer and ETA entered into an agreement for the purchase of hardware, software and related services on the execution date; and

WHEREAS Customer desires to obtain support services for said hardware and software (collectively "System"); and

WHEREAS ETA desires to provide such support services.

Now therefore, the parties, for good and valuable consideration, agree to the following:

Hardware warranty and support

The hardware products covered by this System support agreement shall be as set forth on the included in the Quotation. If the quantity of products changes during the term of this System support agreement, a corresponding adjustment to fees hereunder will apply for the remaining term of the System support agreement.

Consumable Items such as batteries, cables, wiring harnesses, GPS, WLAN and RF antennas, etc. are not covered under this System support agreement. Replacements for such items may be ordered from ETA and will be subject to the applicable supplier's warranty policy.

Hardware warranty

ETA affirms that each hardware product is free of defects in material and workmanship. ETA further affirms that hardware products will perform for the intended purpose for a period of two (2) years from delivery of equipment. Thereafter, the provisions under Non-Warranty Repairs shall apply. For Contracts that are shorter than two (2) years in length, the hardware warranty shall not exceed the term of the Contract. Extended warranties can be quoted

upon request for up to a total of five (5) years of warranty.

Warranty Repair Policy

If a hardware product fails to operate as specified, and no exclusions from warranty policy apply, ETA or its authorized service agents will have the option to repair or replace the defective product at no cost to the Customer.

Exclusions from Warranty Policy

Instances to which the warranty repair policy shall not apply include, but are not limited to; a) warranty returns classified as No Problem Detected (determined to be fully functional with no need for repair), b) product failures resulting from improper use, c) damage resulting from accident, abuse or improper maintenance, d) damage caused by operation outside ETA specifications, e) damage resulting from vandalism, fire, or other uncovered peril, e) product modified without ETA's consultation, and f) Consumable Items.

In such instances, the provisions under Non-Warranty Repairs, including applicable fees, shall apply.

Warranty service

Spare parts inventory – The Customer shall maintain an inventory of ETA Hardware Products at the recommended level for use during completion of repairs. The Customer is responsible to; remove defective products, replace them with spare products, request Return Material Authorization ("RMA") number, and to send defective products to ETA for failure analysis.

Return materials authorization – No product received for repair by ETA will be accepted without an ETA- assigned RMA number. RMA numbers may be obtained by:

Phone: 561-288-1932

Email: support@etatransit.com

RMA requests shall include product description, ETA part number, serial number (if applicable), quantity, reason for return, and vehicle number (if applicable). The Customer is responsible to ensure secure packaging of products for shipping. Shipping material is available for purchase, at cost, from ETA. ETA is not responsible for damage to, or loss of, products in transit. Shipping costs for the return to ETA of products to which the Warranty Repair Policy applies will be borne by ETA. Shipping costs for the return to ETA of products deemed Exclusions of Warranty Policy will be borne by the Customer. Customer agrees to ship RMAs using an ETA-supplied shipping label. RMA shipments are to be labeled as follows:

ETA Transit Systems, Inc.
Attn: Customer Service, RMA #_____ 6420 Congress AVE STE 1850
Boca Raton, FL 33487

Failure analysis and repair/replace – Upon receipt of a returned product, an ETA technician will complete a failure analysis to decide of whether the product is subject to the Warranty Policy or the Exclusions of Warranty Policy, and whether to product is repairable. If the product is subject to the Warranty Policy ETA will either repair or replace the product at ETA's discretion. If the product is subject to the Exclusions of Warranty Policy ETA will provide the Customer a quotation and subsequent invoice for the repair or replacement of the product.

Return – ETA will make its best effort to return the repaired or replaced product to the Customer within thirty
(30) days. Shipping costs for the return to Customer of repaired or replaced products to which the Warranty Repair Policy applies will be borne by ETA. Shipping costs for the return to Customer of repaired or replaced products deemed Exclusions of Warranty Policy will be borne by the Customer.

Non-warranty repairs

Repairs of products performed by ETA which are Exclusions of Warranty Policy, or otherwise

not covered by the Warranty Repair Policy, will be invoiced to the Customer at the applicable Bench Rate, for repairs performed at ETA facilities, and/or Field Service Rate below, along with other time and material costs incurred by ETA. The Warranty Repair Policy will apply to non-warranty repairs for a period of ninety (90) days from shipment to Customer.

Hardware support rates

ETA quotations and/or invoices for Non-Warranty Repairs shall include any combination of the following that may apply:

Bench rate: Hourly rates will be billed in accordance with an approved quotation

Field service rate: Hourly rates will be billed in accordance with an approved quotation Travel & miscellaneous: Hourly rates will be billed in accordance with an approved quotation Mileage: Current IRS allowance rate/mile Meals: Current federal government regional per-diem rate

Customer hardware maintenance obligations

In addition to the responsibilities identified in this Section, the Customer shall;

- Provide access to vehicles and maintenance staff at time of installation
- Review and accept agency-specific design documentation and acceptance test procedures
- Participate in scheduled project status and customer satisfaction calls
- Pay all invoices according to the applicable payment terms
- Provide reasonable access to the Customer's facilities, vehicles and systems required for ETA to perform required tasks (subject to Customer's security requirements)
- Provide technical and administrative support to ETA's on-site personnel (office supplies, photocopying, network access, etc.)

- Faithfully execute required maintenance and troubleshooting procedures as prescribed by ETA.

Software Maintenance and Support

Software products

The Software Products covered by this System support agreement shall be as set forth in included in the Quotation. If the quantity of products changes during the term of this System support agreement, a corresponding adjustment to fees hereunder will apply for the remaining term of the System support agreement. Provisions hereunder are subject to the System subscription agreement between the parties, and no provision hereunder will apply to software not licensed by the Customer under a System subscription agreement with ETA.

Software maintenance and support services

During the term ETA agrees to provide certain services in support of the Customer's use of the licensed Software Products. Services shall consist of:

- Provide technical support help desk – see System Warranty and Support
- Provide software updates – Modifications or additions to software product that bring the product into conformity with stated specifications, including correction of errors or bugs.
- Provide software maintenance – Activities performed to ensure Software Products perform in conformity with stated specifications.
- Provide software upgrades – Improvements, feature additions or other enhancements which are in addition to stated specifications.

Additional software services

Services performed by ETA in response to the following, are excluded from Software Maintenance and Support Services and will be quoted and invoiced to the Customer at the applicable Software developer rate, for activities performed at ETA facilities, and/or Field service rate below, along with other time and material costs incurred by ETA:

- Customer request for update or upgrade installation labor

- Customer request for enhancements
- Customer request for integration with third party software or hardware that are not included in the Quotation or Purchase Order
- Problems resulting from the hardware on which the Software Product is installed, or problems resulting from hardware devices connected to the hardware on which the Software Product is installed
- Problems resulting from the misuse, alteration, or damage of the Software Product
- Problems resulting from Customer use of versions of the Software Product other than the most recent update delivered by ETA

Software service rates

ETA quotations and/or invoices for additional software services shall include any combination of the following that may apply:

Software developer rate: Hourly rates will be billed in accordance with an approved quotation Senior software developer rate: Hourly rates will be billed in accordance with an approved quotation Systems architect rate: Hourly rates will be billed in accordance with an approved quotation
Field service rate: Hourly rates will be billed in accordance with an approved quotation Travel & miscellaneous: Hourly rates will be billed in accordance with an approved quotation Mileage: Current IRS allowance rate/mile
Meals: Current federal government regional per-diem rate

Remote software access

As the software products, as well as relevant Customer data, are hosted by ETA in an internet-accessible environment, both Customer and ETA access is critical to the performance of Software Maintenance and Support services and additional software services hereunder. Both parties agree to:

- Take all reasonable steps to facilitate timely and secure access to required software instances and data by the other party
- Take all reasonable steps to avoid disruption of other operations of the other party
- Abide by the other party's IT security policies
- Refrain from accessing any internal or internet-based networks of the other party for purposes other than performance hereunder.

System warranty and support

System warranties (other than hardware and software product warranties)

Installation

ETA guarantees the installation of its Hardware Products and Software Products for a period of 60 days commencing at the Installation Milestone as set forth in the Quotation. Should any defects be discovered, ETA will assume the cost to remedy the installation issue. This guarantee excludes any alterations or modifications to the initial installation made by the Customer.

Security

ETA hosted systems are protected by firewall Access Control Lists. Open ports shall be limited to those required for Customer operation, and a quarterly rotation of login credentials deployed for secure operations. Please refer to the ETA Transit Systems Information Technology Security Policy for further details.

Privacy

Customer data and other Confidential Information of Customer shall be maintained by Customer in a commercially reasonable manner as to prevent access by any party other than ETA and authorized users of Customer.

Disaster recovery

ETA shall perform daily backups of Customer data to regional cloud-based servers.

Restorations of backups will be performed at no incremental cost to Customer and will be completed within 8 hours of request.

Annual maintenance

At ETA's discretion, and with at least 30 days' notice given to Customer, ETA may execute an annual onsite visit to Customer premises to perform visual inspections. Repairs deemed critical to the operation of the system may be performed at ETA's discretion. Recommendations and associated quotations for replacements, upgrades or improvements will be provided within 30 days after such annual maintenance onsite visit.

Ongoing system support

ETA provides System Support 7 days per week, 365 days per year (24x7x365), via; online helpdesk/ticket monitoring system (Zoho), and dedicated email addresses. Live chat is available between the hours of 8AM and 5 PM Monday through Friday, Eastern Standard Time. Telephone support outside of ETA's normal business hours, 8AM and 5 PM Monday through Friday, Eastern Standard Time is reserved for emergencies.

ETA shall maintain technical personnel qualified to perform the tasks of; logging support tickets, responding to Customer RMA requests, severity determination, issue resolution, onsite issue resolution. ETA has sole discretion over the deployment of resources required to perform these tasks, whether a task is required, and whether a task is covered by warranty.

System Support Process

The parties acknowledge their respective obligations associated with the following steps associated with submitting, acknowledging, researching and resolving problems and requests. The timelines for these steps are dictated by the Problem Severity and Resolution framework as provided for herein.

- Stage 1 – Customer notifies ETA of an issue via one of the three accepted methods, ETA logs support ticket and acknowledges receipt to Customer
- Stage 2 – ETA reviews issues, Customer provides timely response to any requested clarifications, ETA determines severity, ETA informs Customer of severity level
- Stage 3 – ETA researches the issue resolution and estimates resolution time estimate, ETA consults with customer on resolution and time estimate, Customer responds in a timely manner, ETA implements resolution and informs Customer of issue-closure

Problem severity, response, and resolution

Pursuant to ETA's System Support Process, ETA personnel shall decide, in ETA's sole discretion, of the severity of all issues received by Customer. While response times are committed for each severity, the issue resolution time shall be on a case- specific basis, independent of severity level. Once resolution times are estimated, the penalty to ETA of exceeding the estimated resolution time shall vary based on severity. Severity definitions, response times and penalties for exceeding resolution times are as follows:

Severity level	Description (including examples)
Fatal	Complete system failure
Severe	A majority of system functionality is impacted
Medium	A minority of system functionality is impacted

Severity level	Response time	Resolution time	Penalty per hour
Fatal	30 minutes	Case-specific	3% total monthly fee
Severe	4 hours	Case-specific	2% total monthly fee
Medium	8 hours	Case-specific	1% total monthly fee

Service level commitment and penalties

The parties acknowledge that the System is a complex technical solution, the effective operational uptime of which is dependent on the interaction between hardware, software, vehicles, and various user and support personnel of both ETA and the Customer. The parties agree to make all reasonable efforts to minimize downtime of the overall System, the functionality of the System and any vehicles on which the System is installed. Accordingly, ETA shall incur penalties for operational downtime, according to the severity of the issues defined under this Section. This instance may trigger penalties; Cumulative downtime for a severity level for a month exceeds the allowable levels below.

Severity level	Allowable downtime/month	Penaltyperhour
Fatal	2 hours	3% total monthly fee
Severe	8 hours	2% total monthly fee
Medium	20 hours	1% total monthly fee

Penalties shall take the form of credits which the Customer may apply against existing and future ETA invoices. A cumulative maximum of 25% of total monthly fees shall apply.

Customer system maintenance obligations

In addition to the responsibilities identified in this Section, the Customer shall:

- Answer questions regarding customization, such as route configuration, schedules, and standard operating procedures
- Provide a meeting facility to train staff
- Provide custom graphics for traveler information systems (i.e. corporate colors, logos, etc.)
- Review and accept agency-specific design documentation and acceptance test procedures
- Participate in scheduled project status and customer satisfaction calls

- Pay all invoices according to the applicable payment terms

- Provide 24-hour access to the Customer's facilities, vehicles and systems required for ETA to perform required tasks (subject to Customer's security requirements)
- Provide technical and administrative support to ETA's on-site personnel (office supplies, photocopying, network access, etc.)

Authority

ETA Transit Systems, Inc.	Customer Name:
By: Nicole Castonguay	By:
Name: Nicole Castonguay	Name:
Title: President	Title:

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

Exhibit 1 Quote

Exhibit D

Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent must disclose any conflicts of interest related to the goods and/or services associated with this solicitation. A conflict-of-interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s). The City reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

If a conflict of interest exists, the Respondent must:

- Complete Form CIQ
- File the form with the City Secretary
- Include a copy of the completed Form CIQ with the proposal

If no conflict of interest exists, Form CIQ is not required. Regardless of whether a conflict exists, this Form 2 must be completed and signed.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict-of-interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1034 E Levee Street, City Plaza, 1st Floor, Brownsville, TX 78520
Email: City.Secretary@brownsvilletx.gov
Phone: (956) 548-6042

Certification

By signing below, the Respondent certifies that they have reviewed and understand the requirements of Chapter 176, Texas Local Government Code and have determined whether a conflict of interest exists. The Respondent further certifies that, if a conflict of interest exists, a completed Conflict of Interest Questionnaire (Form CIQ) has been or will be filed with the City Secretary in accordance with state law and that a copy of the completed Form CIQ is included with this submission, if applicable. The Respondent affirms that all information provided is true and correct and that they are authorized to bind the entity.

Signature: Nicole Castonguay

Printed Name: Nicole Castonguay

Title: President

Date: 09/02/2026

Company Name: ETA PHI SYSTEMS, INC "ETA"

Phone: 512-587-9565

Email: ncastonguay@etatransit.com

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

NA

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

_____

Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7 Nicole Castanguay

Signature of vendor doing business with the governmental entity

09/02/2026

Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

EXHIBIT "E"

INSURANCE

Contractor shall obtain and maintain insurance coverage as agreed in paragraph 7 of the City of Brownsville Contract Agreement and ensure that coverage with the parameters contained herein remains in full force at all times during the contract period as follows:

1. **Workers' Compensation and Employers' Liability Insurance**

   Minimum Limits Consistent with Texas Worker's Compensation Act (Section 401):

   1. $100,000 bodily injury each accident
   2. $500,000 bodily injury by disease policy limit
   3. $100,000 Bodily injury by disease each employee

   Any firm performing work for or on behalf of the City of Brownsville must provide Workers' Compensation insurance.

2. **Commercial General Liability Insurance**

   Covering premises-operations, products-completed operations, independent Contractors and contractual liability, with a combined single limit bodily injury/property damage of $1,000,000. This coverage must include, but not be limited to:

   1. Coverage for the liability assumed by the Contractor under the indemnity provision of the contract.
   2. Coverage for Premises/Operations
   3. Products/Completed Operations
   4. Broad Form Contractual Liability
   5. Independent Contractors

3. **Automobile Liability Insurance**

   Covering all owned, hired and non-owned automobile equipment with the following Limits:

   1. Bodily injury

      $250,000 each person,

      $500,000 each occurrence
   2. Property damage

      $100,000 each occurrence

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
8/31/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Ana Grajales	
FLORIDIAN COASTLINE INSURANCE INC. 2450 E. COMMERCIAL BLVD # 203 FORT LAUDERDALE FL 33308	PHONE (A/C, No, Ext): (954) 302-4531	FAX (A/C, No):
	E-MAIL ADDRESS: Ana@floridiancoastline.com	
	INSURER(S) AFFORDING COVERAGE	**NAIC #**
	INSURER A : SCOTTSDALE INSURANCE COMPANY	
INSURED Eta Phi System Inc 6420 Congress Avenue suite 185 Boca Raton FL 33487	INSURER B : Progressive Insurance	02962
	INSURER C : COALITION EXCESS INSURANCE	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. *LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. LIMITS SHOWN ARE INCLUSIVE OF AMOUNTS REQUESTED BY THE CERTIFICATE HOLDER AND MAY NOT REFLECT POLICY LIMIT AMOUNTS IN EXCESS OF THOSE REQUESTED. ***Not Applicable in WY**

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC [ ] OTHER:	Y	Y	CPS8350996	01/07/2026	01/07/2027	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ $ $ $ $ $ $	1,000,000 300,000 10,000 1,000,000 2,000,000 INCLUDED
B	AUTOMOBILE LIABILITY [X] ANY AUTO [X] OWNED AUTOS ONLY [X] SCHEDULED AUTOS [X] HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY	Y	Y	03723843	11/12/2025	11/12/2026	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) COMP/COLL DED	$ $ $ $ $	2,000,000 500
C	[ ] UMBRELLA LIAB [ ] OCCUR [X] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $	Y	Y	AN1391603	07/16/2026	01/07/2027	EACH OCCURRENCE AGGREGATE $	$ $ $	5,000,000 5,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N [ ] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A					[ ] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ $ $	
A	BOP E&O		Y	PP2550539H	01/07/2026	01/07/2027	Personal Property E&O		$25,000 $5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

POLICY#C-4LSA-237928-CEPSME-2026
CYBER INSURANCE COVERAGE
$5,000,000 AGGREGATE LIMIT PER POLICY PERIOD
EXCESS OF $5,000,000 UNDERLYING INSURANCE

CERTIFICATE HOLDER

City of Brownsville
1034 E Levee Street
City Plaza, 1st Floor
Brownsville TX 78520

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

CRUZ

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FORM 10 FTA
City of Brownsville Federal Clauses Certification Form

FEDERAL CERTIFICATIONS & FTA PROVISIONS
AGREEMENT FUNDED BY U.S. FEDERAL GRANT

TO WHOM IT MAY CONCERN:

Federal and FTA funds will be used; therefore, this form must be completed and returned.

Federal Transit Administration (FTA)

This version of the *Federal Clauses FY2026* document includes all required federal provisions under 2 C.F.R. Part 200, along with additional clauses required for full compliance with Federal Transit Administration (FTA) Master Agreement (MA31, Oct. 2024), FTA Circular 4220.1F, and 49 C.F.R. Parts 18,26, 661, and 663.

Instructions for Completing this Form
Suppliers and contractors must review each federal clause and indicate whether it applies to the specific contract. For every section below, please initial **"YES"** to confirm agreement and compliance, or **"N/A"** (Not applicable) if the clause does not apply to the scope of work or funding source.
Yes – contractor/supplier agrees to comply with the clause as written and, where applicable, will provide all required documentation or certifications.
N/A – Clause is not applicable to the contract (e.g., Davis Bacon Act for non-construction work, Buy America for non-transportation projects, etc.) Contractor/supplier must initial next to "N/A" to confirm inapplicability.
Incomplete forms or unmarked sections may disqualify contractor/supplier and/or delay contract approval.

Vendor Responsibility for Regulatory Compliance
It is the responsibility of the contractor/supplier to review, verify, and comply with the most current versions of all applicable federal provisions, clauses, and regulations referenced in this document. The contractor/supplier shall refer to official U.S. Government websites, including the Code of Federal Regulations (www.ecfr.gov), Federal Acquisition Regulation (www.acquisition.gov), and agency-specific resources (e.g., HUD, DOT, Treasury, or OMB), to ensure full and current compliance at the time of bid submission and throughout the contract term.

DEFINITIONS

Contract: A legal agreement by which a non-Federal entity purchases property or services to carry out a federally funded project.

Contractor: An entity that receives a contract as defined in Contract.

Cooperative agreement: A form of federal financial assistance used when substantial involvement is expected between the federal agency or pass-through entity and the recipient.

Federal awarding agency: The U.S. federal agency providing the funding.

Federal award: The financial assistance or cost-reimbursement contract provided directly by a federal agency or indirectly through a pass-through entity to carry out a public purpose.

Non–Federal entity (NFE): A state, local government, tribe, institution of higher education, or non-profit organization that receives and administers federal funds.

Pass-Through Entity (PTE): A Non-Federal entity that provides part of its federal award to another organization (a subrecipient) to carry out a portion of the program.

Subrecipient/Subaward: A Non-Federal entity that receives federal funds from a pass-through entity to carry out part of federal program. The legal instrument documenting this relationship is the subaward.

Recipient: A Non–Federal entity receiving funds directly from a federal agency.

Simplified acquisition threshold: The current small-purchase limit established under the FAR (presently $250,000, adjusted periodically for inflation).

Obligations: Orders placed on contracts or subawards made that require payment by the Non-Federal entity.

Termination: The ending of a federal award, in whole or in part, prior to the planned end of the period of performance. These definitions are provided for reference only. For full regulatory text, see 2 C.F.R. Part 200, Subpart A (§§ 200.0-200.1).

Certification Regarding Certain Telecommunications and Video Surveillance Services or Equipment (FAR 52.204-24 & 52.204-25)

The contractor/supplier certifies compliance with the prohibitions under Section 889 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) and the Federal Acquisition Regulation (FAR) 52.204-24 and 52.204-25.

The contractor/supplier shall not provide or use any equipment, system, or service that includes covered telecommunications equipment or services from Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, or any subsidiary or affiliate of such entities.

If the contractor/supplier identifies any covered telecommunications equipment or services during performance, it shall immediately notify the contracting agency or the City of Brownsville in writing and provide all information required under FAR 52.204-25(d).

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

APPENDIX II TO 2 CFR PART 200 – Contract Provision for Non-Federal Entity Contracts Under Federal Awards

(A) Contracts for more than the simplified acquisition threshold currently set at $250,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Pursuant to Federal Rule (A) above, when a Participating Agency expends federal funds, the Participating Agency reserves all rights and privileges under the applicable laws and regulations with respect to this procurement in the event of breach of contract by either party.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(B) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000)

Pursuant to Federal Rule (B) above, when a Participating Agency expends federal funds, the Participating Agency reserves the right to immediately terminate any agreement in excess of $10,000 resulting from this procurement process in the event of a breach or default of the agreement by Contractor/Supplier as detailed in the terms of the contract.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(C) **Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 CFR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."**

Pursuant to Federal Rule (C) above, when a Participating Agency expends federal funds on any federally assisted construction contract, the equal opportunity clause is incorporated by reference herein.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of $2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non- Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.
Pursuant to Federal Rule (D) above, when a Participating Agency expends federal funds during the term of an award for all contracts and subgrants for construction or repair, contractor/supplier will be in compliance with all applicable Davis-Bacon Act provisions.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Pursuant to Federal Rule (E) above, when a Participating Agency expends federal funds, contractor/supplier certifies that contractor/supplier will be in compliance with all applicable provisions of the Contract Work Hours and Safety Standards Act

during the term of an award for all contracts by Participating Agency resulting from this procurement process.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Pursuant to Federal Rule (F) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (F) above.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non- Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251- 1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA)

In the event Federal Transit Administration (FTA) or Department of Transportation (DOT) funding is used by Participating Public Agency, contractor/Supplier also agrees to include Clean Air and Clean Water requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

Pursuant to Federal Rule (G) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency member resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (G) above.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(H) Prohibition on Fraud, Waste, and Abuse - The contractor/supplier certifies that it will take all reasonable steps to prevent, detect, and disclose any suspected fraud, waste, or abuse of federal funds associated with this contract, consistent with applicable laws and agency guidance. Any such activity will be promptly reported to the awarding agency, pass-through entity, or the Office of Inspector General, as appropriate.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(I) Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220 cross-reference to Treasury/OMB Guidance Subpart C) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the Executive Office of the President Office of Management and Budget (OMB) guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions

contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Pursuant to Federal Rule (H) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency. If at any time during the term of an award the contractor/supplier or its principals becomes debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency, the contractor/supplier will notify the Participating Agency.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(J) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

Pursuant to Federal Rule (I) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term and after the awarded term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier certifies that it is in compliance with all applicable provisions of the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). The undersigned further certifies that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

(3) The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Procurement of Recovered Materials 2 C.F.R. § 200.323 / 40 C.F.R Part 247

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with 2 C.F.R. § 200.323

"This requirement also implements Section 6002 of the Resource Conservation and recovery Act (42 U.S.C. § 6962"

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

RECORD RETENTION REQUIREMENTS FOR CONTRACTS INVOLVING FEDERAL FUNDS

When federal funds are expended by Participating Agency for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the record retention requirements detailed in 2 CFR §§ 200.334-200.337. The contractor/supplier further certifies that contractor/supplier will retain all records as required by 2 CFR § 200.334 for a period of three years after grantees or subgrantees submit final expenditure reports or quarterly or annual financial reports, as applicable, and all other pending matters are closed.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH THE ENERGY POLICY AND CONSERVATION ACT

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6321 et seq.; 49 C.F.R. Part 18). Cross-link 2 CFR § 200.323(b)

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH BUY AMERICA PROVISIONS

To the extent purchases are made with Federal Highway Administration, Federal Railroad Administration, or Federal Transit Administration funds, contractor/supplier certifies that its products comply with all applicable provisions of the Buy America Act and agrees to provide such certification or applicable waiver with respect to specific products to any Participating Agency upon request. Purchases made in accordance with the Buy America Act must still follow the applicable procurement rules calling for free and open competition. Additionally:

(1) The Contractor agrees to comply with 49 USC 5323(j) and 49 CFR Part 661, which provide that federal funds may not be obligated unless steel, iron and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General

waivers are listed in 49 CFR 661.7.A general public interest waiver from the Buy America requirements applies to microprocessors, computers, microcomputers, software or other such devices, which are used solely for the purpose of processing or storing data. This general waiver does not extend to a product or device that merely contains a microprocessor or microcomputer and is not used solely for the purpose of processing or storing data. Separate requirements for rolling stock are set out at 5323(j)(2)(C) and 49 CFR 661.11.

(2) A bidder or contractor/supplier must submit to the FTA recipient the appropriate Buy America certification with all bids on FTA- funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower-tier subcontractors.

The following certificates titled FTA and DOT Buy America Certification should be completed and returned with the response as part of FTA and DOT requirements.

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT) - BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF ROLLING STOCK

CERTIFICATE OF COMPLIANCE
(select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j), and the applicable regulations of 49 CFR 661.11.
Check for YES: □

OR

Certificate of Non-Compliance with 49 USC §5323(j)

The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C), and the applicable regulations in 49 CFR 661.7.
Check for YES: □

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT)
-
BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL OR MANUFACTURED PRODUCTS

CERTIFICATE OF COMPLIANCE (select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.
Check for YES: □

OR

Certificate of Non-Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.
Check for YES: □

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Contractor/Supplier's Name: ETA PHI SYSTEMS, INC
Address, City, State, and Zip Code: 6420 Congress AVE STE 1850 Boca Raton FL 33487
Phone Number: 5125879565
Fax Number: NA

Printed Name and Title of Authorized Representative: Nicole Castonguay
Email Address: ncastonguay@etatransit.com
Signature of Authorized Representative: Nicole Castonguay
Date: 09/02/2026

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier:
N/A (Not applicable to this contract) _____

If any portion of this project is funded with U.S Department of Transportation (DOT) funds, the contractor/supplier shall also complete a Disadvantage Business Enterprise (DBE) Certification Form in accordance with 49 C.F.R. Part 26. This requirement applies only to DOT-funded projects and is not applicable to HUD, ARPA, or Treasury-funded programs.

CERTIFICATION OF COMPLIANCE WITH BUILD AMERICA, BUY AMERICA ACT (BABA) 2 C.F.R. 184

The contractor/supplier acknowledges that certain federally funded infrastructure projects are subject to the Build America, Buy America Act (Pub. L. 117-58 §§ 70901-70927) and implementing regulations at 2 C.F.R. Part 184. When applicable, the contractor/supplier certifies that all iron, steel, manufactured products, and construction materials used in the project are produced in the United States, as required by the Act.

The contractor/supplier further agrees to provide appropriate documentation, origin certifications, or approved waivers upon request by the awarding agency or pass-through entity. Where a waiver is sought, the contractor/supplier shall support the request in writing and shall not proceed with procurement or installation of foreign materials until such waiver is granted in accordance with federal guidance.

The Build America, Buy America Act applies to all federally funded infrastructure projects, except where otherwise waived or exempted by the awarding agency.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier:
N/A (Not applicable to this contract) _____

Domestic Preference for Procurements– 2 C.F.R. § 200.322

The contractor/supplier agrees to comply with the requirements of 2 C.F.R. § 200.322, which establishes a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. To the greatest extent practicable, the contractor/supplier shall provide domestic end products, materials, and construction products that are manufactured in the United States. This preference applies to all procurements under federal awards, consistent with applicable statutes, regulations, and the Build America, Buy America Act requirements.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier:
N/A (Not applicable to this contract) _____

CERTIFICATION OF ACCESS TO RECORDS – 2 C.F.R. § 200.337

Contractor/Supplier agrees that the Inspector General of the Agency or any of their duly authorized representatives shall have

access to any documents, papers, or other records of contractor/supplier that are pertinent to contractor's/supplier's discharge of its obligations under the Contract for the purpose of making audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to contractor/supplier's personnel for the purpose of interview and discussion relating to such documents.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

FTA Access to Records - 49 U.S.C. § 5325 (g) / 2 C.F.R. § 200.337

The contractor/supplier agrees to provide the Federal Transit Administration (FTA), the U.S. Department of Transportation (DOT), the Comptroller General of the United States, and the City of Brownsville access to any pertinent records for audits, examinations, and inspections related to this contract, consistent with 49 U.S.C § 5325 (g) and 2 C.F.R. § 200.337.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

CERTIFICATION OF APPLICABILITY TO SUBCONTRACTORS

Contractor/Supplier agrees that all contracts it awards pursuant to the Contract shall be bound by the foregoing terms and conditions.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Conflict of Interest - 2 C.F.R. § 200.318(c)(1)

The Contractor/supplier affirms compliance with 2 C.F.R. § 200.318(c)(1), which requires the maintenance of written standards of conduct covering conflict of interest in the selection, award, and administration of contracts. No employee, officer, agent, or subcontractor shall participate in any procurement or contract decision where a real or apparent conflict of interest exists. The contractor/supplier further agrees to disclose in writing any potential conflicts of interest to the City of Brownsville prior to award or during contract performance.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Executive Order 14173 (2025) – Anti-DEI Certification

The Contractor/supplier certifies compliance with Executive Order 14173 (2025), affirming that it operates in accordance with all applicable federal anti-discrimination laws and that no diversity, equity, or inclusion (DEI) program or policy maintained by the contractor violates such laws. The contractor/supplier acknowledges that compliance with these requirements is a material condition of this contract and that any false certification or noncompliance may subject the contractor/supplier to remedies available under the False Claims Act (31 U.S.C. §§ 3729-3733) and other applicable laws.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Civil Rights Compliance Assurance

The Contractor/supplier agrees to comply with all applicable federal civil rights laws and regulations, including Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq.), Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794), the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq.), the Age Discrimination Act of 1975 (42 U.S.C. § 6101 et seq.), and any other nondiscrimination provisions applicable to this contract. The contractor/supplier shall ensure that no person is excluded from participation in, denied the benefits of, or subjected to discrimination under this contract on the basis of race, color, national origin, sex, age, or disability.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Whistleblower Protection (41 U.S.C 4712)

The contractor/supplier shall comply with the whistleblower protections established under 41 U.S.C. 4712. Employees of contractors, subcontractors, and subrecipients are protected from reprisal for disclosing evidence of gross mismanagement, waste of federal funds, abuse of authority, or violations of law related to a federal contract or grant. The contractor/supplier must inform its employees in writing of their rights and remedies under this statute. Compliance with these protections is a material condition of this contract.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Remedies for Non-Compliance - 2 C.F.R. § 200.339

The contractor/supplier acknowledges that failure to comply with the terms and conditions of this agreement or any applicable federal requirements may result in enforcement actions as provided under 2 C.F.R. § 200.339. Remedies may include, but are not limited to, temporarily withholding payments, disallowing costs, wholly or partly suspending or terminating the contract, initiating suspension or debarment proceedings, or pursuing other legally available remedies.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Termination – 2 C.F.R. § 200.340

The contractor/supplier acknowledges that this contract may be terminated in whole or in part for cause, for convenience, or by mutual agreement, in accordance with 2 C.F.R. § 200.340. The basis for termination, applicable notice, and settlement provisions shall be clearly documented in writing.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Subrecipient Monitoring – 2 C.F.R. § 200.332

The contractor/supplier acknowledges that, when acting as a pass-through entity or subrecipient of federal funds, it must comply with the requirements of 2 C.F.R. § 200.332. The contractor/supplier shall monitor the activities of any subrecipients as necessary to ensure that federal funds are used in accordance with applicable statues, regulations, and the terms and conditions of the award. This includes performing risk assessments, issuing written subaward agreements with required flow-down clauses, reviewing financial and performance reports, and taking enforcement action when necessary to address noncompliance.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Fly America Act – 49 U.S.C. § 40118 / 41 C.F.R. Part 301-10

The contractor/supplier agrees to comply with 49 U.S.C. § 40118 (the Fly America Act), requiring the use of U.S. flag air carriers for all air travel funded by the Federal Transit Administration, except as permitted under 41 C.F.R. §§301-10.131 through 301-10.143.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Cargo Preference – Use of U.S.-Flag Vessels (46 U.S.C. § 55305 / 46 C.F.R. Part 381)

The contractor/supplier agrees to comply with 46 U.S.C. § 55305 and 46 C.F.R. Part 381, which require that at least 50 percent of equipment, materials, or commodities procured or shipped by ocean under FTA assistance be transported on privately owned U.S.-flag commercial vessels, if available.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Program Fraud and False or Fraudulent Statements (49 C.F.R. Part 31 / 18 U.S.C. § 1001)

The contractor/supplier acknowledges that any false, fictitious, or fraudulent statements or claims made in connection with FTA-funded projects are subject to prosecution under 18 U.S.C. § 1001 49 C.F.R. Part 31.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

ADA Access Requirements - 49 U.S.C. § 5301(d) / 49 C.F.R. Parts 27, 37, 38

The contractor/supplier agrees to comply with the Americans with Disabilities Act (ADA) of 1990 (42 U.S.C. §§ 12101 et seq.), and U.S. DOT regulations, including 49 C.F.R. Parts 27, 37, and 38, to ensure that all public transportation services and facilities are accessible to and usable by individuals with disabilities.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Safe Operation of Motor Vehicles- Seat Belt and Text Messaging (EO 13043 / EO 13513)

The contractor/supplier agrees to comply with Executive Order 13043 (Seat Belt Use) and Executive Order 13513 (Text Messaging While Driving) by adopting and enforcing policies to reduce text messaging and to require seat belt use by employees operating vehicles in connection with this contract.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

COMMUNITY DEVELOPMENT BLOCK GRANTS

Purchases made under this contract may be partially or fully funded with federal grant funds. Funding for this work may include Federal Funding sources, including Community Development Block Grant (CDBG) funds from the U.S. Department of Housing and Urban Development. When such funding is provided, Contractor/Supplier shall comply with all terms, conditions and requirements enumerated by the grant funding source, as well as requirements of the State statutes for which the contract is utilized, whichever is the more restrictive requirement. When using Federal Funding, Contractor/Supplier shall comply with all wage and latest reporting provisions of the Federal Davis-Bacon Act. HUD-4010 Labor Provisions also applies to this contract.

In addition, the Contractor/supplier shall comply with the requirements of Section 3 of the Housing and Urban Development Act of 1968 (24 C.F.R. Part 75), ensuring, to the greatest extent feasible, that employment and contracting opportunities are directed to low- and moderate-income residents and Section 3 businesses.

If the project involves acquisition, demolition, or displacement activities, the contractor/supplier shall also comply with the Uniform Relocation Assistance and Real Property Acquisition Act (49 C.F.R. Part 24), ensuring fair compensation and relocation assistance for affected persons and property owners.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier
N/A (Not applicable to this contract) _____

Federal Changes Clause (49 C.F.R. Part 18)

The contractor/supplier shall comply with all applicable FTA regulations, policies, procedures, and directives, including but not limited to those listed in the FTA Master Agreement (as amended). The contractor/supplier agrees to comply with all applicable future amendments to such laws and regulations and with any future changes that may be imposed by FTA, whether such changes are implemented prior to or during the performance of this contract.

Failure to comply with FTA requirements shall constitute a material breach of this contract.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Incorporation of FTA Terms

The provisions of the most recent Federal Transit Administration (FTA) Master Agreement are hereby incorporated by reference into this contract. All contractual provisions required by FTA, as set forth in that agreement, shall apply to this procurement and are binding on the contractor/supplier.

The contractor/supplier shall not perform any act, fail to perform any act, or refuse to comply with any FTA request that would cause the City of Brownsville to be in violation of the FTA Master Agreement or applicable federal laws and regulations.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

The City of Brownsville reserves the right to request a signed or notarized certification, affidavit, or other supporting documentation for any of the provisions or clauses contained in this document at any time during the procurement process or contract term.

By signing below, the contractor/supplier certifies that all information provided in this document is true and accurate to the best of its knowledge and understands that any false statement may be subject to penalties under the False Claims Act (31 U.S.C. §§ 3729-3733).

The contractor/supplier further agrees to comply with all applicable federal, state, and local laws, rules, regulations, and ordinances. It is acknowledged that the contractor/supplier certifies compliance with all provisions, laws, acts, and regulations specifically noted above.

Contractor's/Supplier's Name: ETA Phi Systems, Inc

Address, City, State, and Zip Code: **6420 Congress AVE STE 1850 Boca Raton FL 33487**

Phone Number: 5125879565 Fax Number NA

Printed Name and Title of Authorized Representative: **Nicole Castonguay**

Email Address: **ncastonguay@etatransit.com**

Signature of Authorized Representative: Nicole Castonguay Date: 09/02/2026

Exhibit G

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC's website in accordance with state law.

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed in accordance with TEC requirements**.**

Signature: Nicole Castonguay

Printed Name: _Nicole Castonguay_____

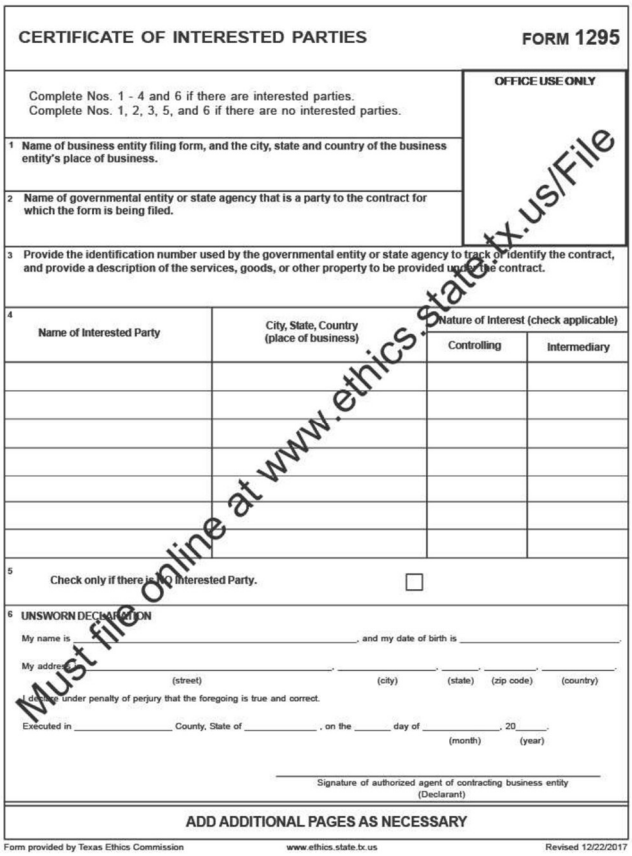
Title: ___President_____

Date: ____09/02/2026_____

Company Name: ___ETA PHI SYSTEMS, INC_____

Phone: __5125879565_____

Email: ____ncastonguay@etatransit.com_____



CERTIFICATE OF INTERESTED PARTIES — FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1510923

Date Filed:
09/02/2026

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

ETA Phi Systems, Inc
Boca Raton, FL United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

Brownsville Metro

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

No. 358-26-BMT-CP
Intelligent Transportation Systems

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is Nicole Castonguay, and my date of birth is 09/21/1977.

My address is 6420 Congress AVE STE 1850, Boca Raton (city), FL (state), 33487 (zip code), USA (country).

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Palm Beach County, State of FL, on the 2 day of September (month), 26 (year).

Nicole Castonguay

Signature of authorized agent of contracting business entity
(Declarant)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

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Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

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ETA Phi Systems, Inc
Boca Raton, FL United States

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Brownsville Metro

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

No. 358-26-BMT-CP
Intelligent Transportation Systems

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

PROCUREMENT ANALYSIS

Date: Tuesday, September 15, 2026
To: Mr. John Cowen Jr., City Mayor
From: Mr. Alan Guard, City Manager
CC: Mr. Damian Espinoza, Procurement Director
Ms. Gennie Garcia, Brownsville Metro Multimodal Transit Director

Agenda Title:
Agenda Item for the City Commission meeting of Tuesday, October 6, 2026.
"Consideration and Action to Authorize a Contract with ETA Phi Systems, Inc. in the amount of $475,773.00 for Contract No. 358-26-BMT-CP, for a term of Five (5) Years, for the purchase and implementation of a Computer-Aided Dispatch/Automatic Vehicle Location (CAD/AVL) System for Brownsville Metro fixed-route buses (Brownsville Metro Multimodal Transit)."

Executive Summary:

- Department: Multimodal Transportation Department
- Exemption Type: Cooperative Purchase Exemption
- Contract Number: 358-26-BMT-CP
- Vendor: ETA Phi Systems, Inc.
- Contract Amount: $475,773.00
- Term: Five (5) Years

Background:
Brownsville Metro needs to purchase a new CAD/AVL system for its Brownsville Metro fixed route buses. The CAD/AVL systems will allow Brownsville Metro to better track its fleet, improve on-time performance, and provide additional amenities to passengers for a better riding experience. This project is funded 100% by a Federal Transit Administration grant.

Exemption Justification:
Authorized use of contracts competitively solicited and awarded by another governmental entity or cooperative organization in compliance with Texas Local Government Code §271.102.

Procurement verified that this contract falls under an active 791 Cooperative Contract No. 791202603004.

Vendor Information:
ETA Phi Systems, Inc.
5805 North Lamar Blvd, Austin, TX 78752
Point of Contact: Nicole Castonguay, President of ETA Phi Systems, Inc.
Phone/Email: (719) 453-0251 | ncastonguay@etatransit.com

Exhibits & Supporting Documents:

- Exhibit A – Quote
- Exhibit B – Acknowledged 1295 Form
- Exhibit C – 791 Cooperative Contract No. 791202603004

Recommendation:

The Procurement Department recommends that the City Commission authorize a contract with ETA Phi Systems, Inc. for a term of Five (5) Years, in an amount not to exceed $475,773.00, under a Cooperative Agreement in compliance with Texas Local Gov't Code §271.102.

Approval of this agenda item will authorize the full contract amount, not to exceed $475,773.00.

Exhibit A

Quotation #: 20260812-BM
Date: 8/12/2026

Agency: Brownsville Metro
Name: Simon Ortiz
Email: simon.ortiz@brownsvilletx.gov
Terms: Reference milestone schedule.
Notes: **Delivery is F.O.B. ETA Transit Systems, Inc. 6420 Congress Avenue Suite 1850 Boca Raton, FL 33487**

IMPORTANT: The recent tariff policy may impact pricing and delivery schedule

etatransit.com

Received by: Christian G. Londono Date: 08/12/2026

Contract link: 791 Cooperative Agreement Contract Documents
Contract No: 791202603004
This quote is provided under 791 COOP Contract #791202603004. ETA is an authorized 791 Purchasing Cooperative vendor

Project Summary (5 year contract)

Description	INCLUDED	OPTIONAL	TOTAL WITH OPTIONS
Upfront Cost *Includes hardware, implementation, and installation.*	$ 243,599	$ -	$ 243,599
Annual Recurring - Year 1	$ 43,296	$ 15,820	$ 59,116
Annual Recurring - Year 2	$ 44,811	$ 16,374	$ 61,185
Annual Recurring - Year 3 *Extended warranty available as an option.*	$ 46,380	$ 16,947	$ 63,327
Extended Warranty - Year 3	$ -	$ 22,298	$ 22,298
Annual Recurring - Year 4 *Extended warranty available as an option.*	$ 48,003	$ 17,540	$ 65,543
Extended Warranty - Year 4	$ -	$ 22,298	$ 22,298
Annual Recurring - Year 5 *Extended warranty available as an option.*	$ 49,683	$ 18,154	$ 67,837
Extended Warranty - Year 5	$ -	$ 22,298	$ 22,298
Total Project Cost	**$ 475,773**	**$ 151,728**	**$ 627,501**

Packages Summary (Year 1 - Including Annual Recurrings)

PACKAGE	INCLUDED ITEMS	OPTIONAL ITEMS	TOTAL WITH OPTIONS
Fixed route base system	$ 161,007	$ 15,820	$ 176,827
Automatic passenger counting	$ 100,276	$ -	$ 100,276
Tally NTD survey software	$ 11,880	$ -	$ 11,880
Spare Parts	$ 13,732	$ -	$ 13,732
Total Year 1 (Upfront & Year 1 SaaS)	**$ 286,895**	**$ 15,820**	**$ 302,715**

System Warranty

PRODUCT	ITEM#	QTY.	PRICE	TAX	TOTAL	INCLUDED / OPTIONAL	MILE
Warranty Year 1 • **Included** • Does not include consumables • Governed by ETA's system support/warranty agreement	1	1	$ -		$ -	**INCLUDED**	6
Warranty Year 2 • **Included** • Does not include consumables • Governed by ETA's system support/warranty agreement	2	1	$ -		$ -	**INCLUDED**	6
Extended warranty on hardware (Year 3) • Escalates at 3.5% per year • Does not include consumables • Governed by ETA's system support/warranty agreement	3	1	$ 22,298		$ 22,298	**OPTIONAL**	6
Extended warranty on hardware (Year 4) • Escalates at 3.5% per year • Does not include consumables • Governed by ETA's system support/warranty agreement	4	1	$ 22,298		$ 22,298	**OPTIONAL**	6
Extended warranty on hardware (Year 5) • Escalates at 3.5% per year • Does not include consumables • Governed by ETA's system support/warranty agreement • 5 years maximum	5	1	$ 22,298		$ 22,298	**OPTIONAL**	6

Tax exempt certificate required for sales tax to be waived.

TOTAL OPTIONAL EXTENDED WARRANTY	$66,894
TOTAL EXTENDED WARRANTY COST	$0

Payment Milestone Schedule

Milstone	Description	Total	Deliverables
1	System design (50% of Implementation costs)	39,825.00	Pre-installation site visit and documentation
2	Software licenses	-	Delivery of SPOT Console portal
3	Hardware components	163,949.40	Hardware delivery to customer location
4	Installation and vehicle static test (25% of Implementation costs)	19,912.50	Hardware installation on first vehicle (by bus type) and static test report
5	Dynamic testing and training (25% of Implementation costs)	19,912.50	Dynamic test procedure report, training and manuals
6	SaaS: Year 1	43,296.00	After 2 week burn-in (from customer-witnessed test) warranty; SaaS anniversary begins
7	SaaS: Year 2	44,811.36	On SaaS Anniversary
8	SaaS: Year 3	46,379.76	On SaaS Anniversary
9	Extended Warranty: Year 3	-	On SaaS Anniversary
10	SaaS: Year 4	48,003.05	On SaaS Anniversary
11	Extended Warranty: Year 4	-	On SaaS Anniversary
12	SaaS: Year 5	49,683.16	On SaaS Anniversary
11	Extended Warranty: Year 5	-	On SaaS Anniversary

PREPARED BY:

NAME: Christian Londono
TITLE: Senior Customer Success Manager
PHONE: 561.778-5840
EMAIL: clondono@etatransit.com



Terms and conditions of sale

Participation Fees: Vendor agrees to pay 791 PURCHASING COOPERATIVE the participation fee, 1.00% Sales Participation Fee. 791COOP establishes a fee for each solicitation for proposals that is in the best interest of 791COOP and its participants.

Unit prices are valid only for the total number of units quoted. Lesser quantities or term may require a higher price.

Prices in this quotation are valid for 30 days from the date of quotation or proposal and are applicable to the quantities herein. Changes to packages and/or quantities may require a revised quotation.

No refund shall be provided for returned parts without written authorization from authorized ETA representatives.

Estimated lead time for delivery is 16 weeks. A formal lead time estimate shall be provided by ETA ARO.

Delivery is F.O.B. ETA Transit Systems, Inc. 6420 Congress Avenue Suite 1850 Boca Raton, FL 33487

IMPORTANT: The recent tariff policy may impact pricing and delivery schedule

ETA TRANSIT SYSTEMS (ETA) WARRANTY POLICY

ETA guarantees that each product is free from defects in material and workmanship. ETA's warranty is in effect for two (2) years from the original ship date from ETA. ETA will furnish to customer its Warranty and Support agreement ARO or upon request

REVIEWED BY:

Nicole M Castonguay, CEO
ETA Transit Systems

Date:

ACCEPTED BY:

Signature: _____

Name and title: _____

Date: _____

Fixed route base system

PRODUCT	ITEM#	QTY.	PRICE	TAX	TOTAL	INCLUDED / OPTIONAL	MILE
Vehicle logic unit (VLU) hardware • GPS • Cellular communications • Vehicle I/O for 1708, DIO • Location services • Guaranteed delivery services • Route awareness services	1	22	$ 3,016.50	$ -	66,363.00	**INCLUDED**	1
Rugged mobile data terminal (MDT) - 10" display • 10" viewable screen • Driver login module • Route selection module • 2-way messaging module • System status module • Electronic passenger counting module * Options available for additional modules	2	22	$ 411	$ -	9,042.00	**INCLUDED**	1
MDT mounting kit • RAM® mount	3	22	$ 180	$ -	3,960.00	**INCLUDED**	1
Master disconnect switch • to allow system to gracefully shut down	4	22	$ 65	$ -	1,430.00	**INCLUDED**	1
Bus equipment and cable kits • Power harness • Antennas • **Roof mount antennas available as an Option (extension cable required)*	5	22	$ 383	$ -	8,426.00	**INCLUDED**	1
Hardware installation • Professional system installation • Vehicle testing and commissioning	6	22	$ 450		9,900.00	**INCLUDED**	3
Single sign-on integrated with existing digital signage • Integration of head signs with ITS • Cables	7	22	$ 250		5,500.00	**INCLUDED**	3
Single sign-on integrated with existing fare collection **OPTIONAL** • Integration of digital fare collection system *NOTE: fare collection vendor may require agency to pay additional licencing fees*	8	22	$ 375		8,250.00	**INCLUDED**	3

Implementation • System setup • Project management • Manufacturing • Training • Travel *NOTE: pricing assumes that GTFS data is complete and valid. Missing, invalid, or incomplete GTFS data may incur additional charges*	9	22	$	1,000		22,000.00	**INCLUDED**	3
Annual SaaS SPOT™ ITS • SPOT Administrative Console • Bus tracker web site • Native apps for Android and iOS • GTFS-RT • Unlimited user accounts • Data retention for the life of the contract • Hosting • Free bi-monthly software enhancements • Technical support • Daily backups • API calls and Google map credits * ** ETA shall provide an API key to the customer for customer use. 3rd party, for profit, businesses will be required to pay ETA directly for API access* ** ETA customers utilize an average 5 million API calls per month. Customer shall be afforded an average of 10 million API calls per month. Additional charges may be incurred for API usage that exceeds that value* (Qty. equals number of vehicles X 12 months - **includes live spares)**	10	290	$	90		26,136.00	**INCLUDED**	6
Annual SaaS GTFS Hosting • Annual subscription includes GTFS feed hosting, monitoring, and updates (Qty. equals number of vehicles X 12 months)	11	264	$	30		7,920.00	**OPTIONAL**	6
Annual Fleet Tune-up • Annual on-site visit from ETA technicians	12	1	$	7,900		7,900.00	**OPTIONAL**	6
Annual SMS messaging **OPTIONAL** • Agency supplies phone number • Agency mounts signage at bus stops	13	0	$	15,000		-	**OPTIONAL**	6
Tax exempt certificate required for sales tax to be waived.					SUBTOTAL			176,827.00
					SALES TAX		0.0%	
					Base system total (YEAR 1)			176,827.00

Automatic passenger counting

PRODUCT	ITEM#	QTY.	PRICE	TAX	TOTAL	INCLUDED / OPTIONAL	MILE
Stereoscopic automatic passenger counter (APC) • Priced per bus/door	1	34	$ 1,334	$ -	45,356.00	**INCLUDED**	1
Integration to agency's existing automatic passenger counter (APC) • Priced per bus/door	2	8	$ 450	$ -	3,600.00	**INCLUDED**	1
5 port Ethernet switch • Connects multiple APCs	3	20	$ 250	$ -	5,000.00	**INCLUDED**	1
Ethernet switch installation • Professional installation	4	20	$ 300		6,000.00	**INCLUDED**	3
APC cable kits - Front Door • APC Front Power and Data Cable 100555 • APC Power Splitter 100208 • 25 Ethernet Cable 1000173	5	22	$ 120	$ -	2,640.00	**INCLUDED**	1
APC cable kits - Rear Door • APC Rear Power and Data Cable 100556 • Rear APC Extension 100207 • 50 Ethernet Cable 100069	6	20	$ 220	$ -	4,400.00	**INCLUDED**	1
APC installation • Professional installation • Vehicle testing and commissioning	7	34	$ 500		17,000.00	**INCLUDED**	3
Implementation • System setup • Project management • Manufacturing • Training • Testing • Documentation • Travel	8	22	$ 500		11,000.00	**INCLUDED**	3

Annual SaaS and Maintenance: APC SaaS • Ridership analytics and NTD report • Priced per bus, per month • Hosting • System maintenance and upgrades *(Qty. equals number of vehicles X 12 months)*	9	264	$	20		5,280.00	**INCLUDED**	6
Tax exempt certificate required for sales tax to be waived.					SUBTOTAL			100,276.00
					SALES TAX		0.0%	
					APC total (YEAR 1)			100,276.00

Tally NTD survey software

PRODUCT	ITEM#	QTY.		PRICE	TAX	TOTAL	INCLUDED / OPTIONAL	MILE
Annual SaaS for Tally • Tally NTD survey software • Consulting • Documentation (ie: benchmarking plan) • Analysis and reporting ETA understands that Customer shall perform its own trip surveys. ETA shall quote a turn-key NTD APC certification service at Customer request *(Qty. equals number of vehicles X 12 months)*	1	264	$	45		11,880.00	**INCLUDED**	6
Tax exempt certificate required for sales tax to be waived.					SUBTOTAL			11,880.00
					SALES TAX		0.0%	
					Tally Total (YEAR 1)			11,880.00

Spare Parts

PRODUCT	ITEM#	QTY.		PRICE	TAX	TOTAL	INCLUDED / OPTIONAL	MILE
Spare VLUs	1	2	$	4,022	$ -	8,848.40	**INCLUDED**	1
Spare MDTs	2	2	$	620	$ -	1,364.00	**INCLUDED**	1
Spare APC Sensors	3	2	$	1,760	$ -	3,520.00	**INCLUDED**	1
Tax exempt certificate required for sales tax to be waived.					SUBTOTAL			13,732.40
					SALES TAX		0.0%	
					Spare Parts total (YEAR 1)			13,732.40

CERTIFICATE OF INTERESTED PARTIES

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ETA Phi Systems, Inc
Boca Raton, FL United States

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Brownsville Metro

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No. 358-26-BMT-CP
Intelligent Transportation Systems

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

Docusign Envelope ID: 2317C79D-6D6D-8D41-81A0-E6DC6A9E41D4

791 Purchasing Cooperative Contract Award

June 10, 2026

ETA Phi Systems, Inc
Jariel Adler
6420 Congress Ave
Suite 1850
Boca Raton, FL 33487
791 Awarded Contract – RFP #791-2026-03-004 Transit Services and Technology Solutions.
791 Contract Number – 202603004

CONTRACT AWARD

Congratulations! This award is for an intergovernmental cooperative purchasing agreement . The 791 Purchasing Cooperative (791 Coop) on behalf of the Central Texas Council of Governments (CTCOG) with delegated authority to the Executive Director by the Board of Directors has awarded ETA Phi Systems, Inc. This Agreement will be in effect from 06/10/2026 through 05/31/2031. There are three (3) automatic contract renewal one (1) year term options from 05/31/2031 to 05/31/2032, 05/31/2032 to 05/31/2033, and 05/31/2033 to 05/31/2034.

ADMINISTRATIVE CONSIDERATIONS

Award of annual contract in compliance with the bid laws of the State of Texas are recommended.

RECOMMENDATIONS

791 Coop recommends the following contract be awarded based on the Request for Proposal (RFP) process: 791 Awarded Contract – RFP #791-2026-03-004 Transit Services and Technology Solutions to ETA Phi Systems, Inc.

Action Required

x Approve

o Disapprove

DocuSigned by:
Jim Reed
9A28DF6BBD25443...

Signature

6/18/2026

Date

CTCOG Executive Director

791 PURCHASING COOPERATIVE AND VENDOR AGREEMENT

Between ETA Phi Systems, Inc

(Company Name)

with the principal place of business at

6420 Congress AVE STE 1850 Boca Raton FL 33487

and

791 Purchasing Cooperative
For
RFP # 791202603004
Transit Services and Technology Solutions.

General Information

The Vendor Agreement ("Agreement") made and entered into by and between 791 PURCHASING COOPERATIVE (hereinafter referred to as "791COOP") a government cooperative purchasing program authorized by the Central Texas Council of Governments, having its principal place of business 2180 North Main Street, Belton, TX 76513 and ***Company listed at the top of page one*** (hereinafter referred to as "Vendor") a provider having its principal place of business as listed at the top of page one. This Agreement consists of the provisions set forth below, including provisions of all Attachments referenced herein. In the event of a conflict between the provisions set forth below and those contained in any Attachment, the provisions set forth shall control.

The vendor Agreement shall include and incorporate by reference this Agreement, the terms and conditions, special terms and conditions, any agreed upon amendments, as well as all of the sections of the Solicitation (RFP, RCSP, RFQ) as posted, including any addenda and the awarded vendor's proposal.

The following pages will constitute the Agreement between the successful vendors(s) and 791 PURCHASING COOPERATIVE.

Terms and Conditions

1. Assignment of Vendor Agreement

No assignment of the Vendor Agreement may be made without the prior written approval of 791 PURCHASING COOPERATIVE. A simple change of name agreement will not change the Agreement obligations of the awarded vendor.

2. 791 PURCHASING COOPERATIVE Contract

The 791 PURCHASING COOPERATIVE Contract is the final negotiated version of the Vendor's contract that was submitted as part of the **#791202603004 Transit Services and Technology Solutions**, as submitted by Vendor and negotiated with 791 PURCHASING COOPERATIVE. The 791 PURCHASING COOPERATIVE Contract will govern all aspects of a sale for Products and/or Services between the Vendor and a 791 PURCHASING COOPERATIVE Participant. 791 PURCHASING COOPERATIVE recognizes that a 791 PURCHASING COOPERATIVE Participant may, in agreement with Vendor, make modifications to the 791 PURCHASING COOPERATIVE Contract to reflect the specific needs of the 791 PURCHASING COOPERATIVE Participant. This modified form will still be referred to as the 791 PURCHASING COOPERATIVE Contract.

Vendor may only use the 791 PURCHASING COOPERATIVE Contract with 791 PURCHASING COOPERATIVE Participants who have agreed to purchase products and services from Vendor through the 791 PURCHASING COOPERATIVE preferred supplier program. If a 791 PURCHASING COOPERATIVE Participant solicits proposals for Products and/or Services under this agreement from Vendor directly and has specifically provided notice that they will not be using 791 PURCHASING COOPERATIVE as their contract vehicle through the 791 PURCHASING COOPERATIVE preferred supplier program, Vendor cannot use the 791 PURCHASING COOPERATIVE Contract to serve the 791 PURCHASING COOPERATIVE Participant. For the avoidance of doubt, if a vendor and a 791 PURCHASING COOPERATIVE Participant, execute a 791 PURCHASING COOPERATIVE Purchase or Products and/or Services under this agreement, the vendor will be obligated to pay 791 PURCHASING COOPERATIVE the participation fee.

To further clarify, the vendor may sell to a 791 PURCHASING COOPERATIVE participant or potential 791 PURCHASING COOPERATIVE participants, which is any governmental or other public entity in Texas through the 791 PURCHASING COOPERATIVE preferred supplier program. If a potential customer is not currently a 791 PURCHASING COOPERATIVE participant, they may join 791 PURCHASING COOPERATIVE by contacting 791 PURCHASING COOPERATIVE at **admin@791COOP.org**. Awarded vendors are not restricted from responding to any Texas entity that issued a Request for Proposals and has chosen not to use the 791 PURCHASING COOPERATIVE interlocal cooperative method of procurement.

If you identify a Texas public or governmental entity that wants to make a purchase and use a cooperative or interlocal contract and is not a current 791 PURCHASING COOPERATIVE Participant, please have them call the number provided above or email the address above so 791 PURCHASING COOPERATIVE may contact the entity to provide all applicable information.

791 PURCHASING COOPERATIVE will provide awarded vendor's participants packets for this purpose upon request.

ANY AGREEMENT BETWEEN A 791 PURCHASING COOPERATIVE PARTICIPANT AND VENDOR THAT REQUIRES THE 791 PURCHASING COOPERATIVE PARTICIPANT TO INDEMNIFY ANY OTHER PARTY,

EXCEPT TO THE EXTENT PERMITTED BY THE APPLICABLE CONSTITUTION, LAWS, OR REGULATIONS OF THE JURISDICTION OF THE LOCATION OF THE 791 PURCHASING COOPERATIVE PARTICIPANT OR THE LOCATION OF THE PERFORMANCE OF THE CONTRACT UNDER THIS AGREEMENT, IS NOT PERMITTED UNDER THIS AGREEMENT AND RENDERS THE INDEMNITY REQUIREMENT NULL AND VOID AS IT APPLIES TO THE 791 PURCHASING COOPERATIVE PARTICIPANT'S RESPONSIBILITY TO INDEMNIFY ANY PARTY.

3. Disclosures

a) Vendor affirms that it has not given, offered to give, nor intends to give at any time hereafter any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with this Agreement.

b) Vendor shall attach, in writing, a complete description of any and all relationships that might be considered a conflict of interest in doing business with 791 PURCHASING COOPERATIVE under a 791 PURCHASING COOPERATIVE Agreement if Vendor feels that such possible conflicts of interest exist. If you believe there is a conflict of interest as described in the form CIQ instruction sheet contained in this RFP, please complete and submit the form CIQ provided as instructed.

c) The vendor affirms that, to the best of its knowledge, the offer has been arrived at independently, and is submitted without collusion with anyone to obtain information or gain any favoritism that would in any way limit competition or give an unfair advantage over other vendors in the award of this Agreement.

4. Renewal of Agreements

The Agreement with 791 PURCHASING COOPERATIVE is for a five (5) year term with three (3) one (1) year options. Any extension of the initial term will be agreed to in writing between 791 PURCHASING COOPERATIVE and Vendor. Nothing herein shall require either party to agree to an extension of the initial term.

Automatic Renewal Clauses Incorporated in Awarded Vendor Agreements with 791 PURCHASING COOPERATIVE Participants Resulting from the Solicitation and with the Vendor Named in this Agreement.

NO AGREEMENT FOR GOODS OR SERVICES WITH A 791 PURCHASING COOPERATIVE PARTICIPANT BY THE AWARDED VENDOR NAMED IN THIS AGREEMENT THAT RESULTS FROM THE SOLICITATION AWARD NAMED IN THIS AGREEMENT MAY INCORPORATE AN AUTOMATIC RENEWAL CLAUSE WITH WHICH THE 791 PURCHASING COOPERATIVE PARTICIPANT MUST COMPLY. ALL RENEWAL TERMS INCORPORATED IN AN AGREEMENT BY THE VENDOR WITH THE 791 PURCHASING COOPERATIVE PARTICIPANT SHALL ONLY BE VALID AND ENFORCEABLE WHEN THE VENDOR RECEIVES WRITTEN CONFIRMATION BY PURCHASE ORDER OR EXECUTED AGREEMENT ISSUED BY THE 791 PURCHASING COOPERATIVE PARTICIPANT FOR ANY RENEWAL PERIOD. THE PURPOSE OF THIS CLAUSE IS TO AVOID A 791 PURCHASING COOPERATIVE PARTICIPANT INADVERTENTLY RENEWING AN AGREEMENT DURING A PERIOD IN WHICH THE GOVERNING BODY OF THE 791 PURCHASING COOPERATIVE PARTICIPANT HAS NOT PROPERLY APPROPRIATED AND BUDGETED THE FUNDS TO SATISFY THE AGREEMENT RENEWAL. THIS TERM IS NOT NEGOTIABLE AND ANY AGREEMENT BETWEEN A 791 PURCHASING COOPERATIVE PARTICIPANT AND A 791 PURCHASING COOPERATIVE AWARDED VENDOR WITH AN AUTOMATIC RENEWAL CLAUSE THAT CONFLICTS WITH THESE TERMS IS RENDERED VOID AND UNENFORCEABLE AS TO THE AUTOMATIC RENEWAL CLAUSE.

5. Invoices

Vendor is responsible for the invoicing and collection of all funds due from a 791 PURCHASING COOPERATIVE Participant to the Vendor.

6. Payments

791 PURCHASING COOPERATIVE member will make payments directly to the Vendor for all funds owed as provided for in the 791 PURCHASING COOPERATIVE Contract.

7. Pricing

The price Vendor will charge a 791 PURCHASING COOPERATIVE Participant will be defined in the 791 PURCHASING COOPERATIVE Contract and determined at the time Vendor and a 791 PURCHASING COOPERATIVE Participant makes purchases through this 791 PURCHASING COOPERATIVE Contract. The price Vendor charges a 791 PURCHASING COOPERATIVE Participant will include the 791 PURCHASING COOPERATIVE annual participation fee.

At no time during the initial term or extended term of this Agreement shall the price charged to a 791 PURCHASING COOPERATIVE Participant exceed the contracted price for **#791202603004 Transit Services and Technology Solutions**.

Language like the following will be added to the Representations Section of the Vendor's 791 PURCHASING **#791202603004 Transit Services and Technology Solutions:**

> "Seller represents that this Agreement, pursuant to the award to (insert vendor's name) as a result of the 791 PURCHASING COOPERATIVE **#791202603004 Transit Services and Technology Solutions**, complies with the terms and conditions contained in a separate Purchasing agreement between Seller and 791 PURCHASING COOPERATIVE Participants."

8. Participation Fees

Vendor agrees to pay 791 PURCHASING COOPERATIVE the participation fee, **1.00%** Sales Participation Fee. 791COOP establishes a fee for each solicitation for proposals that is in the best interest of 791COOP and its participants.

a) The first fee is a **1.00%** percent participation fee for all Agreement sales to 791 PURCHASING COOPERATIVE Participants utilizing a 791 PURCHASING COOPERATIVE awarded the contract. The participation fee will be the total dollars derived from **1.00** % of total contract volume through this program to 791 PURCHASING COOPERATIVE participants. The participation fee will be included in quotes and invoices between the awarded vendor and 791 PURCHASING COOPERATIVE Participants.

b) The 791 PURCHASING COOPERATIVE participation fee will not be a provided as a separate line item to the 791 PURCHASING COOPERATIVE Participant. Vendor will remit the participation fee to 791 PURCHASING COOPERATIVE within thirty (30) business days of receipt of the payment for Purchases made under this agreement, which includes the annual participation fee, from the 791 PURCHASING COOPERATIVE Participant. Failure to pay the participation fee will result in termination of Agreement and 791 PURCHASING COOPERATIVE reserves the right to take any action under the law or equity for any breach of contract.

c) Prior to delivering a quote to a 791 PURCHASING COOPERATIVE Participant, the awarded vendor(s) will calculate the participation fee for 791 PURCHASING COOPERATIVE to be included in the quote.

9. Sales Reporting Procedures for Vendor

Vendor will report any sale under this contract that is made to a 791 PURCHASING COOPERATIVE Participant with the Vendor on a monthly basis. Thus, any order entered in a particular month shall report within thirty (30) business days of the 791 PURCHASING COOPERATIVE Participant issuing a Purchase Order or otherwise purchasing from the vendor under this contract.

10. Adoption of Agreement by State or Federal Agencies

Awarded Vendors may present this agreement to State agencies for adoption by the State and all 50 states. Vendor may agree to pay an additional fee to the State Agency. The Awarded Vendor shall continue to pay the Participation fee to 791 Purchasing Cooperative and report these sales to 791 Purchasing Cooperative. Failure for the Awarded Vendor to comply with this section of the agreement will result the in Awarded Vendor being in breach of the agreement and having their agreement with 791 Purchasing Cooperative terminated for cause.

Furthermore, Awarded Vendor may present this agreement to Federal Government Agencies and subrecipients who may adopt this agreement. Participation fees shall continue to be paid and sales reported to 791 Purchasing Cooperative, even if a fee is paid to the approving Federal Agency. Failure for the Awarded Vendor to comply with this section of the agreement will result in the Awarded Vendor being in breach of this agreement and having their agreement with 791 Purchasing Cooperative terminated for cause.

12. Indemnity

Vendor agrees to indemnify and hold harmless and defend 791 PURCHASING COOPERATIVE, 791 PURCHASING COOPERATIVE officers and employees, from and against all claims and suits for damages, injuries to persons (including death), property damages, losses, and expenses including court costs and reasonable attorney's fees, arising out of, or resulting from, Vendor's performance of this Agreement or sales made to 791 PURCHASING COOPERATIVE Participants under this agreement, including all such causes of action based upon common, constitutional, or statutory law, or based in whole or in part, upon allegations of negligent or intentional acts on the part of the Vendor, its officers, employees, agents, subcontractors, licensees, invitees, unless such claims are based in whole upon the negligent acts or omissions of the 791 PURCHASING COOPERATIVE, 791 PURCHASING COOPERATIVE officers, employees, or agents. If based in part upon the negligent acts or omissions of the 791 PURCHASING COOPERATIVE, 791 PURCHASING COOPERATIVE officers, employees, or agents, Vendor shall be responsible for their proportional share of the claim.

13. State of Texas Franchise Tax

By signature hereon, the Vendor hereby certifies that it is not currently delinquent in the payment of any franchise taxes owed to the State of Texas under Chapter 171, Tax Code.

14. Miscellaneous:

Nothing in the Agreement or in any other communication between 791 PURCHASING COOPERATIVE and the Vendor may be construed as a guarantee that 791 PURCHASING COOPERATIVE Participants will purchase items and services under this contract from the Vendor at any time.

15. Termination:

Contract shall terminate at the end of the agreement or at the end of any contract extensions. Either party may terminate for breach of contract which would include bankruptcy, or due to continued failure to perform the terms in this agreement. Prior to exercising termination for breach, the non-breaching party must provide notice by certified mail to provide the other party 30 days to solve the

stated problems. However, if this agreement is terminated prior to the end date of the initial term or the end date of an agreed to extension term, any 791 PURCHASING COOPERATIVE Purchase Contract entered into between Vendor and a 791 PURCHASING COOPERATIVE Participant shall survive and will not be terminated. Upon termination of this agreement between 791 PURCHASING COOPERATIVE and the Vendor, this agreement shall survive only insofar as to govern all surviving 791 PURCHASING COOPERATIVE Contracts between the Vendor and 791 PURCHASING COOPERATIVE Participants. Termination for convenience is required under 2 CFR part 200.

16. Marketing

Awarded vendor agrees to allow 791 PURCHASING COOPERATIVE to use their name and logo within the 791 PURCHASING COOPERATIVE website, marketing materials and advertising. Vendor may use the 791 PURCHASING COOPERATIVE name and logo in marketing the 791 PURCHASING COOPERATIVE Contract to 791 PURCHASING COOPERATIVE Participants or other Texas government or public entities.

17. Legal obligations

It is the responding vendor's responsibility to be aware of and comply with all local, state and federal laws governing the sale of products/services identified in this RFP and any awarded Agreement thereof. Applicable laws and regulations must be followed even if not specifically identified herein.

18. Audit rights

Awarded Vendor shall, at their sole expense, maintain appropriate due diligence of all purchases made by any 791 PURCHASING COOPERATIVE Participant that utilizes this Agreement. 791 PURCHASING COOPERATIVE reserves the right to audit the accounting for a period of four (4) years from the time such purchases are made. This audit right shall survive termination of this Agreement for a period of four (4) years from the effective date of termination. 791 PURCHASING COOPERATIVE shall have the ability to conduct the audit internally or may engage a third-party auditing firm. In the event of an audit, the requested materials shall be provided in the format and at the location designated by 791 PURCHASING COOPERATIVE. 791 PURCHASING COOPERATIVE shall bear the cost of such audit requested by 791 PURCHASING COOPERATIVE, but all documents maintained by the vendor shall be produced and made available to 791 PURCHASING COOPERATIVE or its agents at no cost.

19. Force Majeure

If by reason of Force Majeure, either party hereto shall be rendered unable wholly or in part to carry out its obligations under this Agreement then such party shall give notice and cause of Force Majeure in writing to the other party within a reasonable time after the occurrence of the event or cause relied upon, and the obligation of the party giving such notice, so far as it is affected by such Force Majeure, shall be suspended during the continuance of the inability then claimed, except as hereinafter provided, but for no longer period, and such party shall endeavor to remove or overcome such inability with all reasonable dispatch. **This Clause includes COVID-19 which is a Declared Pandemic and any future Declared Pandemics.**

20. Remedies

The parties shall be entitled to exercise any right or remedy available to it either at law or in equity, subject to the choice of law, venue and service of process clauses limitations agreed herein. Nothing in this agreement shall commit the 791 PURCHASING COOPERATIVE to a binding arbitration resolution of any disagreement under any circumstances. Any Claim arising out of or related to the Contract, except for those specifically waived under the terms of the Contract, may, be subject to mediation at

the request of either party. Non-binding mediation shall be conducted by a mutually agreed upon mediator as a prerequisite to the filing of any lawsuit over such issue(s). The parties shall share the mediator's fee and any associated filing fee equally. Mediation shall be held in Bexar County, Texas. Agreements reached in mediation shall be reduced to writing, and signed shall thereafter be enforceable as provided by the laws of the State of Texas.

21. Choice of Law

This agreement and any addenda or other additions and all contracts or awards resulting from this procurement process, however described, shall be governed by, construed and enforced in accordance with the laws of the State of Texas, regardless of any conflict of laws principles.

22. Jurisdiction (Venue) and Service of Process

Any Proceeding arising out of or relating to this procurement process or any contract resulting from or any contemplated transaction shall be brought to a court of competent jurisdiction in Bexar County, Texas and each of the parties irrevocably submits to the exclusive jurisdiction of said court in any such proceeding, waives any objection it may now or hereafter have to venue or to convenience of forum, agrees that all claims in respect of the Proceeding shall be heard and determined only in any such court, and agrees not to bring any proceeding arising out of or relating to this procurement process or any contract resulting from or any contemplated transaction in any other court. The parties agree that either or both of them may file a copy of this paragraph with any court as written evidence of the knowing, voluntary, and freely bargained agreement between the parties irrevocably to waive any objections to venue or to convenience of forum. Process in any proceeding referred to in the first sentence of this Section may be served on any party anywhere in the world.

23. Alternative Dispute Resolution

Prior to the filing of litigation, the parties may select non-binding mediation as a method of conflict resolution for issues arising out of or relating to this procurement process or any contract resulting from or any contemplated transaction. The parties agree that if non-binding mediation is chosen as a resolution process, the parties must agree to the chosen mediator(s) and that all mediation venues shall be at a location in Bexar County, Texas, or agreed by the parties. The parties agree to share equally the cost of the mediation process and venue cost.

24. Acts or Omissions

The successful vendor will be expected to indemnify and hold harmless 791 PURCHASING COOPERATIVE, its officers, employees, agents, representatives, contractors, assignees and designees from and against any and all liability, actions, claims, demands or suits, and all related costs, attorney's fees and expenses arising out of, or resulting from any acts or omissions of the vendor or its agents, employees, subcontractors, or suppliers in the execution or performance of any agreements ultimately made by 791 PURCHASING COOPERATIVE and the vendor.

25. Contract Governance

Any contract made or entered into by 791 PURCHASING COOPERATIVE is subject to and is to be governed by Section 271.151 et seq, Tex Loc Gov't Code. Otherwise, **The Central Texas Council of Governments, as the Lead Agency for** 791 PURCHASING COOPERATIVE, does not waive its governmental immunities from suit or liability except to the extent expressly waived by other applicable laws in clear and unambiguous language.

26. Supplemental Agreements

The 791 PURCHASING COOPERATIVE Participant entity participating in the 791 PURCHASING COOPERATIVE Agreement and awarded vendor may enter into a separate supplemental agreement or contract to further define the level of service requirements over and above the minimum defined in this Agreement i.e. invoice requirements, ordering requirements, specialized delivery, etc. Any supplemental agreement or contract developed as a result of this Agreement is exclusively between the participating entity and awarded vendor. 791 PURCHASING COOPERATIVE, its agents, 791 PURCHASING COOPERATIVE Participants, and employees shall not be made party to any claim for breach of such agreement unless named and agreed by the Party in question in writing in the agreement. If a vendor submitting a Proposal requires 791 PURCHASING COOPERATIVE and/or 791 PURCHASING COOPERATIVE Participant to sign an additional agreement, those agreements shall comply with the award made by 791 PURCHASING COOPERATIVE to the Vendor. Supplemental Vendor's Agreement documents may not become part of 791 PURCHASING COOPERATIVE's Agreement with the vendor unless and until an authorized representative of 791 PURCHASING COOPERATIVE reviews and approves it. 791 PURCHASING COOPERATIVE permits 791 PURCHASING COOPERATIVE Participants to negotiate additional terms and conditions with the Vendor for the provision of goods or services under the Vendor's 791 PURCHASING COOPERATIVE Agreement.

27. Survival Clause

All applicable agreements, contracts, software license agreements, warranties or service agreements that were entered into between Vendor and 791 PURCHASING COOPERATIVE or the 791 PURCHASING COOPERATIVE Participant Customer under the terms and conditions of this Agreement shall survive the expiration or termination of this Agreement. All Orders, Purchase Orders issued or contracts executed by 791 PURCHASING COOPERATIVE or a 791 PURCHASING COOPERATIVE Participant and accepted by the Vendor prior to the expiration or termination of this agreement, shall survive expiration or termination of the Agreement, subject to previously agreed terms and conditions agreed by the parties or as otherwise specified herein relating to termination of this agreement.

28. Smoking

Persons working under Agreement shall adhere to the 791 PURCHASING COOPERATIVE Participant's or local smoking statutes, codes or policies.

29. Novation

If awarded vendor sells or transfers all assets or the entire portion of the assets used to perform this Agreement, a successor in interest must guarantee to perform all obligations under this Agreement. A simple change of name agreement will not change the Agreement obligations of awarded vendor.

30. Licenses

Awarded vendor shall maintain in current status all federal, state and local licenses, bonds and permits required for the operation of the business conducted by awarded vendor. Awarded vendor shall remain fully informed of and in compliance with all ordinances and regulations pertaining to the lawful provision of goods or services under the Agreement. 791 PURCHASING COOPERATIVE and its Participants reserves the right to stop work and/or cancel Agreement of any awarded vendor whose license(s) expire, lapse, are suspended or terminated subject to a 30-day cure period unless prohibited by applicable statute or regulation.

31. 791 PURCHASING COOPERATIVE Participant Purchasing Procedures

Purchase orders or their equal are issued by participating 791 PURCHASING COOPERATIVE Participant to the awarded vendor and should indicate on the order that the purchase is per the applicable 791

PURCHASING COOPERATIVE Agreement number. Orders are typically emailed to 791 PURCHASING COOPERATIVE at admin@791COOP.org

a) Awarded vendor delivers goods/services directly to the participating 791 PURCHASING COOPERATIVE Participant.

b) Awarded vendor invoices the participating 791 PURCHASING COOPERATIVE Participant directly.

c) Awarded vendor receives payment directly from the participating 791 PURCHASING COOPERATIVE Participant.

d) Awarded vendor reports sales monthly to 791 PURCHASING COOPERATIVE (unless prior arrangements have been made with 791 PURCHASING COOPERATIVE for an alternative submission schedule).

32. Incorporation of Solicitation

The 791 Purchasing Cooperative Solicitation, whether a Request for Proposals, the Request for Competitive Sealed Proposals or Request for Qualifications solicitation, or other, the Vendor's response to same and all associated documents and forms made part of the solicitation process, including any addenda, that resulted in the execution of this agreement are hereby incorporated by reference into this agreement as if copied verbatim.

33. Registered Felony Convictions and sex offender restrictions

For work to be performed at schools, awarded vendor agrees that no employee of a sub-contractor who has been adjudicated to be a registered sex offender will perform work at any time when students are, or reasonably expected to be, present unless otherwise agreed by the 791Purchasing Cooperative Participant. Awarded vendor agrees that a violation of this condition shall be considered a material breach and may result in the cancellation of the purchase order at the 791 Purchasing Cooperative Participant's discretion. Awarded vendor must identify any additional costs associated with compliance of this term. If no costs are specified, compliance with this term will be provided at no additional charge.

34. Safety measures

Awarded vendor shall take all reasonable precautions for the safety of employees on the worksite, and shall erect and properly maintain all necessary safeguards for protection of workers and the public. Awarded vendor shall post warning signs against all hazards created by the operation and work in progress. Proper precautions shall be taken pursuant to state law and standard practices to protect workers, general public and existing structures from injury or damage.

35. Insurance Requirements

a) **Contractor's Commercial General Liability Insurance**—Contractor shall purchase and maintain such insurance as will protect Contractor from claims for damages because of bodily injury, sickness, or disease, or death of any person including claims insured by standard personal injury liability, and from claims for injury to or destruction of tangible property, including loss of use resulting therefrom, any or all of which may arise out of or result from Contractor's operations under the Contract Documents, whether such operations be by Contractor or anyone directly or indirectly employed by Contractor or for whose acts they may be legally liable. This insurance shall include the types and specific coverages herein described and be written for not less than any limits of liability specified in these Documents or required by law, whichever is greater.

Insurance must include coverage for independent contractors, products/completed operations, contractual liability, broad form property damage, and personal injury.

b) **Contractor's Automobile Liability Insurance**—Contractor shall purchase and maintain such insurance as will protect Contractor from claims for damages because of bodily injury, sickness, disease or death of any person, including claims insured by standard personal injury coverage; and from claims for injury to or destruction of tangible property, including loss of use resulting therefrom, any or all of which may arise out of or result from the use of all owned, non-owned, or hired, automobile, vehicles, and other equipment both on and off work, arising from or in any way related to or as the result of Contractor's operations under the Agreement, whether such operations be by the Contractor or anyone directly or indirectly employed by Contractor or for whose acts any of them may be legally liable.

c) **Contractor's Workers' Compensation and Employer's Liability Coverage**—The Contractor shall comply with the provisions of the Workers' Compensation Act, the subsequent Injury Act, and Contractor shall procure and maintain during the life of this Contract Workers' Compensation and Employer's Liability Insurance in accordance with Texas laws and regulations. Such insurance shall include coverage permitted for safety devices. If the Contractor elects to be self-insured, the Contractor shall comply with the applicable requirements and laws of Texas. CTCOG, its officers, or employees will not be responsible for any claims or actions occasioned by the failure of the Contractor to comply with the provisions of this paragraph.

If any class of employee is not protected under the Workers' Compensation Statute, the Contractor shall provide adequate employer's liability coverage as will protect Contractor and 791 PURCHASING COOPERATIVE against any claims resulting from injuries to and death of workers engaged in work under this contract.

d) **Coverage limits**—Insurance coverage limits required to be carried by the Contractor under this Section shall be as follows:

1. Commercial General Liability Insurance and Commercial Automobile Liability Insurance limits of coverage shall be the limits established by Texas Claims Act or a Combined Single Limit coverage of $1,000,000.
2. Contractor's Workers' Compensation - coverage shall be those established by applicable statutes. Employer's liability coverages shall be the limits established by the State of Texas or $1,000,000.
3. Umbrella Liability Insurance: Liability on a following form basis with a limit $1,000,000 per occurrence in excess of all primary limits.

e) **All proposals shall include a valid Certificate of Liability Insurance showing CTCOG, 791 Purchasing Cooperative and individual 791 Purchasing Cooperative participants (if requested) as a certificate holder.**

f) To protect the 791 Purchasing Cooperative, 791 Purchasing Cooperative Participants and their employees against liability, loss, or expense in the event of damage to property, injury, or death to any person or persons arising in any way out of or in connection with or resulting from the work provided hereunder, Vendor shall procure and maintain, at its sole expense and until acceptance of the work, insurance as hereinafter enumerated in policies which shall be subject

to the 791 Purchasing Cooperative's approval as to form, amount and issuing company. Amounts listed are a minimum.

[SIGNATURE PAGE IMMEDIATELY FOLLOWING]

791 PURCHASING COOPERATIVE and VENDOR AGREEMENT

Signature Form

#791202603004 Transit Services and Technology Solutions:

Vendor:

Company Name Eta Phi Systems, Inc dba ETA Transit Systems

Address 6420 Congress AVE STE 1850

City Boca Raton State FL Zip 33487

Phone 512-587-9565

Name of Authorized Representative Nicole Castonguay

Title Type text here Date 05/21/2026

Email of Authorized Representative: President

Signature of Authorized Representative ncastonguay@etatransit.com (Required)

791 PURCHASING COOPERATIVE:

Authorized Representative Signature:

Name Jeffrey Shokrian

Title CEO

Email Jeff@791Coop.org

Address 115 Natalen Ave

City San Antonio State TX Zip 78209

Phone 210-757-3775

Date 06/23/2026

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Arturo Rodriguez, Public Health Director
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to approve an amendment to the Services Agreement between the City of Brownsville and The University of Texas Health Science Center at Houston on behalf of the School of Public Health in Brownsville to renew the Tu Salud ¡Si Cuenta! Program. (Department of Health, Wellness & Animal Services)

Summary:
The amendment seeks to extend the contractual term, as specified in Section 2, from September 30, 2026, to September 30, 2027. In addition, pertaining to compensation, to revise the total authorized value from "not to exceed $30,000.00" to "not to exceed $60,000.00."

The proposed extension and adjustment in compensation are critical to ensuring the sustained delivery of high-impact community health initiatives under the Tu Salud Sí Cuenta program. Extending the operational timeline will allow for continued outreach, education, and preventative health services that directly support community well-being. The increased compensation reflects the expanded programmatic needs and resources required to maintain the quality and accessibility of services offered. These actions collectively reinforce our commitment to addressing community health priorities and enhancing service capacity for the benefit of residents.

Project Scope and Analysis:
Tu Salud ¡Si Cuenta! is an evidence-based, multi-component community-wide campaign that is jointly implemented by City of Brownsville and UTHealth. Broader components include environmental infrastructure change and policy, social support, risk factor screening, and education outreach that is essential to the overall success of this campaign to improve health.

Funding:

Source: General Fund- Mid-Year Budget Amendment

Amount: $30,000.00

Local Contribution if Applicable: Program = $60,000 with $30k match from COB and $30k from UTSPH

Recommendation:
Staff recommends approval as presented.

Commission Pillar:
Quality of Life & Vibrancy

Attachments:
1. COB_Amendment_9.2026
2. Services Agreement The University of Texas Health Science
3. Tu Salud Si Cuenta Services Agreement Amendment_Memo

AMENDMENT NO. 1

TO

THE AGREEMENT BETWEEN

THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON

AND

CITY OF BROWNSVILLE

This Amendment entered into and effective on this 9th day of September, 2026, modifies the Agreement between The University of Texas Health Science Center at Houston and City of Brownsville as follows:

Definitions: All definitions set forth in the Agreement shall have the same meaning unless stated otherwise in this Amendment.

1. Section 2, Duration of Agreement, is amended to replace the termination date "9/30/2026" with "9/30/2027."
2. Section 3, Compensation, is amended to replace the sentence "The University will pay a total value not to exceed $30,000.00." with "The University will pay a total value not to exceed $60,000.00."

In witness whereof, the parties hereto have executed this Amendment under their respective hands as of the day and year first mentioned above in duplicate copies, each of which shall be deemed an original.

The University of Texas Health Science Center at Houston	City of Brownsville
_____ (Authorized Signature)	_____ (Authorized Signature)
_____ (Print Name)	_____ (Print Name)
_____ (Print Title)	_____ (Print Title)
_____ (Date)	_____ (Date)

APPROVED as to form and legality
By Criselda Ivon Rincon Flores at 2:54 pm, Sep 21, 2026

SERVICES AGREEMENT

This Services Agreement ("Agreement") is entered into on this 1st day of October 2024, by and between The University of Texas Health Science Center at Houston on behalf of its School of Public Health in Brownsville ("University"), an agency of the State of Texas and governed by the Board of Regents of The University of Texas System ("System"), and the City of Brownsville ("Contractor").

RECITALS

WHEREAS, University desires to engage the services of Contractor; and,

WHEREAS, Contractor is competent to provide such services and desires to work with University;

NOW, THEREFORE, University and Contractor agree that the following terms, conditions and limitations shall govern this Agreement:

1. **Scope of Work:** Contractor will perform the scope of the work to the satisfaction of University as described below:

   A. **Staff, Equipment, and Training**
      i. Contractor will employ a lay outreach promoter (CHW) to carry out the Tu Salud ¡Si Cuenta! (TSSC) program activities in their municipality, which include the promotion of SNAP - Ed (Supplemental Nutrition Education Program- Education). Contractor will oversee the CHW duties. If the CHW leaves this position, a new CHW must be hired within 60 days. The contractor will ensure that the new CHW, if not already a certified community health worker by the Texas Department of State Health Services, receives the 160-hour course and becomes certified. This should be completed within 4 months of being hired. During that time, the CHW-in-training may conduct CHW duties, but only under the direct supervision of a TSSC certified CHW to protect the contractor and participant.
      ii. Contractor is responsible for purchasing and maintaining the following equipment required by the program: a laptop computer, projector, a scale, stadiometer, and access to phone for contacting participants. Specifications for these equipment items will be provided by University.
      iii. Contractor will ensure that the CHW has a workspace, including venues to host exercise classes, diabetes prevention program (DPP) classes, and The Happy Kitchen/La Cocina Alegre™ (LCA) classes, in order to implement TSSC program services. All programs must be offered in safe locations and at times convenient to participants. Contractor is expected to comply with University policies and regulations for COVID-19 safety procedures.

   B. **Participation in Program Meetings**
      i. Contractor municipal leadership representatives will participate in a minimum of 2 semiannual meetings or seminars organized by University between October 1, 2024 and September 30, 2025.
      ii. Contractor will ensure CHW participates in monthly meetings and seminars organized by

university. A maximum of 2 excused absences will be allowed during the agreement period. If two excused absences have been used and CHW cannot attend a monthly meeting, a representative must attend in place of the CHW.

iii. Contractor and University will meet as needed to discuss progress in meeting the services listed in this agreement.

C. **Community Coalition**

i. Contractor will ensure participation in an established local community coalition; if one does not exist, the Contractor will create a local community coalition. The purpose of this coalition is to help give contractor insight into additional strategies for creating a healthy community by involving community members and organizations to provide feedback and concerns. Contractor and community actions or improvements related to items discussed during the meetings should be documented.

- Contractor municipal leadership representative must attend or host a minimum of 2 coalition meetings by September 30, 2025. Contractor municipal leadership representative will be expected to contribute towards resolving issues identified in the coalition meetings. CHW can provide support with all coalition efforts.
- Contractor must submit agendas, sign-in sheets, and minutes to document contractor's attendance and participation in coalition meetings. Documentation must be submitted to University within 15 business days after the coalition meeting was held.

D. **Program Implementation**

Contractor will implement all TSSC components during the contract period, which are comprised of: risk factor screening, media, social support, education, and environmental infrastructure change and policies supporting health outcomes. The following program services pertaining to the TSSC components should be implemented during the agreement period:

i. ***Risk Factor Screening and Follow-up*** (TSSC CHW Case Management)

Contractor will ensure participant enrollment and follow-up in TSSC CHW Case Management between October 1, 2024 and September 30, 2025 for a minimum of **55 unique individuals** as outlined below. Contractor will offer TSSC interventions to enrolled participants and document participant changes as prescribed by University.

- Of the 55, at least **25 unique individuals with risk factors for chronic disease** reached must successfully complete at least 6 of 7 possible individualized visits per person (first encounter plus completion of 5 educational modules through follow-up visits).
  - Interventions these participants receive include information on clinical risk factors, educational modules, text messages, newsletters (electronic/paper), and exercise and nutrition education.
  - These 25 individuals may include follow up visits for participants first encountered in March 2024 and after.
  - A participant who receives a first encounter plus 6 educational modules through follow-up visits (total of 7 visits) is considered a graduate of TSSC CHW Care (i.e. discharged from CHW care).

- The University set up a referral process to support individuals who are at risk of or are living with chronic disease in the respective municipality to more quickly access lifestyle change support from the trained CHW. Contractor will work with the University to accept these referrals and deploy their CHW to support health improvements.

- Of the 55 total individuals, an additional minimum of **30 unique individuals** must successfully complete three encounters with a CHW according to the following minimum requirements:
  - Minimum of 2 CHW visits (completed first encounter visit with TSSC Enrollment Form and at least one follow-up visit with Follow-Up Form and an educational module)
  - PLUS health communication intervention (documented receipt of interventions such as text message, newsletter, and/or online resources such as social media and website in data management system.)
  - PLUS group-based community intervention (confirmed participation in group-based community programming intervention such as LCA, DPP, The Challenge-RGV, and/or exercise classes)
    - AND/OR 3rd CHW visit (completed second follow-up visit with Follow-Up Form and educational module)

- Outcomes
  - Contractor will work closely with University representatives to reach the overall program goal of 45% of TSSC participants meeting **physical activity recommendations**.
  - Contractor will also work closely with University representatives to reach the overall program goal of 35% of TSSC participants meeting **fruit and vegetable consumption recommendations**.

ii. ***Media***
Contractor and CHW will identify TSSC participants for University to highlight as role models in media efforts (newsletter, weekly television segment, social media, TSSC website, etc.).

iii. ***Social Support / Education*** (Group-Based Community Intervention)

- Exercise Classes
  - Contractor will secure a minimum of 3 venues for group exercise offerings starting October 1, 2024 and maintain group exercise offerings at 3 venues until September 30, 2025.
  - Contractor will ensure that at least 12 free exercise classes per week are implemented by October 1, 2024. Contractor will maintain the availability of 12 classes per week until September 30, 2025. The free exercise classes must be taught by or coordinated by the CHW.
    - All exercise classes should provide nutritional information according to directions outlined by University and in accordance with SNAP-Ed funding.
    - The class types and locations will be coordinated with University to ensure that maximum geographical coverage is achieved across all cities partnering on this project and maximum opportunity for promotion of the classes.

- Contractor will ensure CHW submits an accurate exercise class schedule to University on a monthly basis (by the 15th day of the month preceding) to be posted on various University-run platforms. Any changes to the exercise and nutrition class schedule, including additions and cancellations, must be approved by University. Notice of known cancellations must be sent to University with adequate time to alert the public. Additions to the schedule must be sent to University by the 15th of each month in anticipation of the coming month.
- Contractor is expected to abide by University recommendations for adjusting method of class delivery in response to changing population health needs. This includes moving to virtual platforms or returning to in-person indoor or outdoor venues.

- The Challenge-RGV 2025
  - Contractor will actively promote and participate in The Challenge-RGV 2025 activities including the initial weigh-in events (January), midpoint weigh-in events (March), and weigh-out events (April). Participation includes ensuring that the CHW hosts a weigh-in within their community; attends at least one event hosted by the University during kick-off, mid-point, and finale; recruits wellness partners within their communities; and provides measurement tools and data entry supplies for University to utilize at these events. If The Challenge-RGV 2025 is moved to a virtual event only, participation will be expected virtually.

- The Happy Kitchen/La Cocina Alegre™
  - Contractor will implement one The Happy Kitchen/La Cocina Alegre™ session (6 classes) in collaboration with University and Brownsville Wellness Coalition. CHW will be responsible for assisting with recruitment, preparation, and facilitation of classes.

- Diabetes Prevention Program (DPP)
  - Contractor will participate in planning for region-wide options for implementation of Diabetes Prevention Program (DPP) Classes using an approved CDC curriculum, typically the Group Lifestyle Balance™ (GLB) curriculum.
    - Contractor will ensure CHW is certified in the approved DPP curriculum, to be determined by University.
    - Contractor should initiate or assist with one DPP offering with a certified DPP coach by September 30, 2025.
    - The certified DPP coach must shadow at least 3 DPP class sessions before launching their own or assisting with a DPP program.
    - Metrics must adhere to external DPP grant, as stipulated by the evaluation staff.
    - Contractor will track specific metrics such as physical activity, fruit and vegetable consumption, weight, and waist circumference using standardized forms and procedures delineated by University.
    - The contractor must agree to and the CHW must participate in observations of the delivery of course content for monitoring purposes.

- Data gathered through the program must be de-identified and shared with University for monitoring and reporting purposes at least quarterly.
- Contractor will invoice a specified amount, to be determined, upon initiation of DPP class by CHW to a pre-assigned PO number specific to DPP class dictated by University. The specified amount will be deducted from the total value of this agreement. If DPP class is not initiated, or contractor does not assist with class indicated by DDP team, the total value of the contract will be less the specified amount of DPP classes.
- Contractor will be held responsible for the completion of a minimum of 22 class sessions in 12-month curriculum, regardless of change in personnel.

iv. ***Environmental Infrastructure Change & Policy***

- Contractor will work with University and other community organizations to consider environmental infrastructure changes (such as Caracara Trails, sidewalk, on-road bike designations, community gardens, etc.) and policies to promote health (such as tobacco free ordinances, increased fruit and vegetable intake in schools, etc.) to promote health to the residents of their community.

E. **Tracking Participant Data, Reporting and Invoicing**

i. Contractor will work with University to ensure the CHW is trained to use the My Own Med (also known as RespondHealth) database system.

ii. Contractor will ensure that the CHW enters all required data into the My Own Med data system on a weekly basis, including:

- Information about participants enrolled in the TSSC program.
- Information about participant's insurance status and financial income.
- Information on the participants who received the follow-up visit (including, but not limited to, physical activity levels, level of consumption of fruits and vegetables, other referrals, and personal goals).

iii. Contractor will ensure the My Own Med data system containing their municipality's participant data is accurate. Any information that is found to be inaccurate will not count toward the aforementioned TSSC CHW Case Management goals.

- Information collected as part of this project should be maintained in accordance with The HIPAA Privacy Rule. This rule mandates that federal protections are in place for personal health information held by covered entities and gives patients an array of rights with respect to that information. As such, any personal health information collected as part of the TSSC program should not be stored on personal computers or devices and should not be shared via email or cloud services. Any paper files containing personal health information need to be stored in a locked cabinet or drawer.
- Other information may be required in order to track implementation and improvement of the project. The contractor will receive written notice of any new and additional information required for data entry.

iv. Contractor will ensure CHW submits all exercise class attendance sheets every Monday before 3pm to the assigned University staff member. Attendance sheets must be clear and organized according to University standards.

v. Contractor will ensure CHW submits all changes to the exercise class schedule by the 15th day of every month to the assigned University staff member.
vi. Contractor (Site Supervisor) will submit the Project Status Form to University monthly to document progress towards metrics.
vii. Contractor will participate in UTHealth's evaluation of municipal activities related to the TSSC program. Evaluation activities include but are not limited to: module delivery by individual, implementation audits and key informant interviews, evaluation of exercise classes, monitoring and observation of classes and screening, follow-up visit outcomes, and other evaluation surveys required by funders.
viii. Contractor will submit documentation of all other TSSC-related items including partnerships with local businesses and organizations, press coverage, etc.

Any expenses not listed in the Scope of Work above, but relating to the TSSC program, must be submitted in writing to the TSSC Program Manager for prior approval.

Time is of the essence in connection with this Agreement. University will have no obligation to accept late performance or waive timely performance by Contractor.

2. Duration of Agreement: This Agreement shall be effective 10/1/2024 and shall terminate on 09/30/2026 ("Initial Term"). University will have the option to renew this agreement for three (3) additional one (1) year terms (each a "Renewal term".)

3. Compensation: University shall compensate Contractor as tasks are completed to the satisfaction of University's authorized representative Dr. Belinda Reininger.

All invoices are paid 'Net 30 Days' from receipt of invoice.

Reimbursement will occur based on the following tiered structures. 50% of the total payment is based on TSSC CHW Case Management, and 50% of the total payment is based on classes delivered.

Table 1. TSSC CHW Case Management

TSSC CHW Case Management Goal*	Reimbursement
25 unique individuals with a minimum of 6 visits	$15,000.00
30 unique individuals with a minimum of 3 encounters	$15,000.00

*Refer to Program Implementation requirements (Section 1.D.i.)

Table 2. Exercise Classes

Tiers	Goal Achievement*	Weekly Classes (avg/month)	Reimbursement
100%	83.3-100% +	10-12	$30,000.00

75%	75%	9	$22,500.00
50%	50%	6	$15,000.00
25%	25%	3	$7,500.00
0%	0%	0	$0.00

*Refer to Program Implementation requirements (Section 1.D.iii.)

Goal is to maintain a minimum of 12 weekly exercise classes in a minimum of 3 venues.

Contractor must demonstrate fulfillment of these services to receive payment. If contractor does not invoice for a minimum of $30,000 by April 15, 2025, University may choose to terminate this Agreement.

The total value of this Agreement shall not exceed $120,000.00.

4. Independent Contractor: It is understood and expressly agreed upon by the parties that Contractor is acting as an independent contractor in performing the services hereunder. Neither Contractor nor its employees shall hold themselves out as employees or agents of University. Neither Contractor nor its employees shall make any statements, representations, or commitments of any kind, or to take any action which shall be binding upon the University, except as may be expressly provided for herein or authorized in writing. University shall not pay any contributions to Social Security, unemployment insurance, federal or state withholding taxes, nor provide any other contributions or benefits that might be expected in an employer-employee relationship.

5. Assignment: This Agreement is entered into in reliance upon and in consideration of the singular skill and qualifications of Contractor. Contractor shall therefore not voluntarily or by operation of law assign or otherwise transfer its rights or obligations pursuant to the terms of this Agreement to any party without the prior written consent of University. Any attempted assignment or transfer by Contractor of its rights or obligations without such consent shall be void. Furthermore, Contractor shall not subcontract any of the services to be provided hereunder to another entity without the prior written consent of University.

6. Amendment: This Agreement may not be changed or modified in any respect except by means of a written document executed by both parties.

7. Ownership and Use of Work Material.

7.1 All drawings, specifications, plans, computations, sketches, data, photographs, tapes, renderings, models, publications, statements, accounts, reports, studies, and other materials prepared by Contractor or any subcontractors in connection with the Work (collectively, "**Work Material**"), whether or not accepted or rejected by University, are the sole property of University and for its exclusive use and re-use at any time without further compensation and without any restrictions.

7.2 Contractor grants and assigns to University all rights and claims of whatever nature and whether now or hereafter arising in and to the Work Material and will cooperate fully with University in any steps University may take to obtain or enforce patent, copyright, trademark or like protections with respect to the Work Material.

7.3 Contractor will deliver all Work Material to University upon expiration or termination of this Agreement. University will have the right to use the Work Material for the completion of the Work or otherwise. University may, at all times, retain the originals of the Work Material. The Work Material will not to be used by any person other than University on other projects unless expressly authorized by University in writing.

7.4 The Work Material will not be used or published by Contractor or any other party unless expressly authorized by University in writing. Contractor will treat all Work Material as confidential.

7.5 All title and interest in the Work Material will vest in University and will be deemed to be a work made for hire and made in the course of the Work rendered under this Agreement. To the extent that title to any Work Material may not, by operation of law, vest in University or Work Material may not be considered works made for hire, Contractor hereby irrevocably assigns, conveys and transfers to University and its successors, licensees and assigns, all rights, title and interest worldwide in and to the Work Material and all proprietary rights therein, including all copyrights, trademarks, service marks, patents, trade secrets, moral rights, all contract and licensing rights and all claims and causes of action with respect to any of the foregoing, whether now known or hereafter to become known. In the event Contractor has any rights in the Work Material which cannot be assigned, Contractor agrees to waive enforcement worldwide of the rights against University, its successors, licensees, assigns, distributors and customers or, if necessary, to exclusively license the rights, worldwide to University with the right to sublicense. These rights are assignable by University.

8. Provisions of Law: This Agreement is subject to and shall be governed by the laws of the State of Texas, without regard to its choice of law provisions. Venue for any dispute arising out of this Agreement shall lie exclusively in Harris County, Texas. Any earnings derived from services rendered by Contractor are subject to income taxes; such earnings shall be reported to the government at the end of each calendar year by the University's accounting department. It is understood that Contractor is responsible for paying all applicable federal or state taxes on the compensation paid to Contractor by University.

9. Notices: Notices, correspondence, billings, payments, and all other communications shall be addressed as follows:

To University:	To Contractor:
The University of Texas	City of Brownsville

Health Science Center at Houston
P.O. Box 20036
Houston, Texas 77225

Finance Department
1001 E. Elizabeth St.
Brownsville, Texas 78520

10. Indemnification: Not Applicable.

11. Responsibility for Individuals Performing Work; Criminal Background Checks: Each individual who is assigned to perform the Work under this Agreement will be an employee of Contractor or an employee of a subcontractor engaged by Contractor. Contractor is responsible for the performance of all individuals performing the Work under this Agreement. Prior to commencing the Work, Contractor will have an appropriate criminal background screening performed on all the individuals. Contractor will determine on a case-by-case basis whether each individual assigned to perform the Work is qualified to provide the services. Contractor will not knowingly assign any individual to provide services on University's campus who has a history of criminal conduct unacceptable for a university campus or healthcare center, including violent or sexual offenses.

By signing this Agreement, Contractor certifies compliance with this Section. Contractor shall notify University when there is a change in the individuals assigned to perform the work due to unsatisfactory background check results.

12. Compliance: Contractor certifies:

- that it and its employees comply with all federal and state laws and regulations, including without limitation, Medicare and Medicaid regulations and the Immigration Reform and Control Act of 1986; and
- That neither it nor its employee have been or are presently excluded from participating in, or have been sanctioned by, any federal or state healthcare program; and
- That it has conducted criminal background checks for prior convictions on its employees performing services hereunder.

Contractor agrees to immediately report to University if it becomes aware of the following: (1) A violation of any federal or state healthcare law, regulation or policy by Contractor, its employees or agents; (2) an inquiry or investigation by the government of Contractor, its employees or agents; or (3) if Contractor or its employees or agents are excluded from, or otherwise sanctioned by, any federal or state healthcare plan.

13. Nondiscrimination: In the conduct of activities under this agreement, each party shall not unlawfully discriminate against any person on a basis prohibited by applicable law, including but not limited to race, color, national origin, religion, sex, age, veteran status, or disability.

14. Dispute Resolution: To the extent that Chapter 2260 of the *Texas Government Code*, as it may be amended from time to time ("Chapter 2260"), is applicable to this Agreement and is not preempted by other applicable law, the dispute resolution process provided for in Chapter 2260

shall be used, as further described herein, by University and Contractor to attempt to resolve any claim for breach of contract made by Contractor:

(A) Contractor's claims for breach of this Agreement that the parties cannot resolve pursuant to other provisions of this Agreement or in the ordinary course of business shall be submitted to the negotiation process provided in subchapter B of Chapter 2260. To initiate the process, Contractor shall submit written notice, as required by subchapter B of Chapter 2260, to University in accordance with the notice provisions in this Agreement. Contractor's notice shall specifically state that the provisions of subchapter B of Chapter 2260 are being invoked, the date and nature of the event giving rise to the claim, the specific Agreement provision that University allegedly breached, the amount of damages Contractor seeks, and the method used to calculate the damages. Compliance by Contractor with subchapter B of Chapter 2260 is a required prerequisite to Contractor's filing of a contested case proceeding under subchapter C of Chapter 2260. The Executive Vice President for Administration and Business Affairs of University, or such other officer of University as may be designated from time to time by University by written notice thereof to Contractor in accordance with the notice provisions in this Agreement, shall examine Contractor's claim and any counterclaim and negotiate with Contractor in an effort to resolve such claims.

(B) If the parties are unable to resolve their disputes under subparagraph (A) of this section, the contested case process provided in subchapter C of Chapter 2260 is Contractor's sole and exclusive process for seeking a remedy for any and all of Contractor's claims for breach of this Agreement by University.

(C) Compliance with the contested case process provided in subchapter C of Chapter 2260 is required prerequisite to seeking consent to sue from the Legislature under Chapter 107 of the Texas Civil Practices and Remedies Code. The parties hereto specifically agree that (i) neither the execution of this Agreement by University nor any other conduct, action or inaction of any representative of University relating to this Agreement constitutes or is intended to constitute a waiver of University's or the state's sovereign immunity to suit and (ii) University has not waived its right to seek redress in the courts.

(1) The submission, processing and resolution of Contractor's claim is governed by the published rules adopted by the Texas Attorney General pursuant to Chapter 2260, as currently effective, hereafter enacted or subsequently amended.

(2) Neither the occurrence of an event giving rise to a breach of contract claim nor the pendency of a claim constitute grounds for the suspension of performance by Contractor, in whole or in part. University and Contractor agree that any periods set forth in this Agreement for notice and cure of defaults are not waived, delayed, or suspended by Chapter 2260 or this section.

15. Termination: University may, without cause, terminate this Agreement at any time upon giving seven (7) days' advance written notice to Contractor. Upon termination pursuant to this Section,

Contractor will be entitled to payment of an amount that will compensate Contractor for the Work satisfactorily performed from the time of the last payment date to the termination date in accordance with this Agreement; provided, that, Contractor has delivered all Work Material to University. Notwithstanding any provision in this Agreement to the contrary, University will not be required to pay or reimburse Contractor for any services performed or for expenses incurred by Contractor after the date of the termination notice that could have been avoided or mitigated by Contractor.

16. Loss of Funding: University performance of its duties and obligations under this Agreement may be dependent upon the appropriation and allotment of funds by the Texas State Legislature (the "Legislature") and/or allocation of funds by the Board of Regents of The University of Texas System (the "Board") and/or other non-state Granting Authority ("Authority"). If the Legislature fails to appropriate or allot the necessary funds, or the Board or the Authority fails to allocate the necessary funds, then University will issue written notice to Contractor and University may terminate this Agreement without further duty or obligation hereunder. Contractor acknowledges that appropriation, allotment, and allocation of funds are beyond the control of University.

17. Force Majeure: Neither party hereto will be liable or responsible to the other for any loss or damage or for any delays or failure to perform due to causes beyond its reasonable control including, but not limited to, acts of God, strikes, epidemics, war, riots, flood, fire, sabotage, or any other circumstances of like character ("Force Majeure Occurrence"). Provided, however, in the event of a Force Majeure Occurrence, Contractor agrees to use its best efforts to mitigate the impact of the occurrence so that University may continue to provide services during the occurrence.

18. Confidentiality: All information owned, possessed or used by University that is communicated to, learned, developed or otherwise acquired by Contractor in the performance of services for University, that is not generally known to the public, will be confidential and Contractor will not, beginning on the date of first association or communication between University and Contractor and continuing through the term of this Agreement and any time thereafter, disclose, communicate or divulge, or permit disclosure, communication or divulgence, to another or use for Contractor's own benefit or the benefit of another, any confidential information, unless required by law. Contractor will not make any press releases, public statements, or advertisement regarding this Agreement or to the services to be provided hereunder without the prior written approval of University. To the extent Contractor is permitted to subcontract services it shall ensure that the subcontractor complies with the provisions of this Agreement. Contractor shall employ encryption to mitigate the risk of disclosure of University information in-storage and in-transit. Encryption implementation and strength should be sufficient to protect University information from disclosure until such time as disclosure poses no material risk.

19. Limitation of Liability: Except for University's obligation (if any) to pay Contractor certain fees and expenses University will have no liability to Contractor or to anyone claiming through or

under Contractor by reason of the execution or performance of this Agreement. Notwithstanding any duty or obligation of University to Contractor or to anyone claiming through or under Contractor, no present or future affiliated enterprise, subcontractor, agent, officer, director, employee, representative, attorney or regent of University, or System, or anyone claiming under University has or will have any personal liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this Agreement.

20. Representations and Warranties by Contractor: If Contractor is a corporation or a limited liability company, Contractor warrants, represents, covenants, and agrees that it is duly organized, validly existing and in good standing under the laws of the state of its incorporation or organization and is duly authorized and in good standing to conduct business in the State of Texas, that it has all necessary power and has received all necessary approvals to execute and deliver this Agreement, and the individual executing this Agreement on behalf of Contractor has been duly authorized to act for and bind Contractor.

21. Franchise Tax Certification: If Contractor is a corporate or limited liability company Contractor certifies that it is not currently delinquent in the payment of any Franchise Taxes due under Chapter 171 of the Texas Tax Code, or that it is exempt from the payment of such taxes, or that it is an out-of-state corporation or limited liability company that is not subject to the Texas Franchise Tax, whichever is applicable.

22. Eligibility Certification: Pursuant to Section 2155.004, Texas Government Code, Contractor certifies that the individual or business entity named in this Agreement is not ineligible to receive the award of or payments under this Agreement and acknowledges that this Agreement may be terminated and payment withheld if this certification is inaccurate.

23. Payment of Debt or Delinquency to the State: Pursuant to Sections 2107.008 and 2252.903, Texas Government Code, Contractor agrees that any payments owing to Contractor under this Agreement may be applied directly toward any debt or delinquency that Contractor owes the State of Texas or any agency of the State of Texas regardless of when it arises, until such debt or delinquency is paid in full.

24. Texas Family Code Child Support Certification: Pursuant to Section 231.006, Texas Family Code, Contractor certifies that it is not ineligible to receive the award of or payments under this Agreement and acknowledges that this Agreement may be terminated and payment may be withheld if this certification is inaccurate.

25. **Access by Individuals with Disabilities.** Contractor represents and warrants (the "EIR Accessibility Warranty") that the electronic and information resources and all associated information, documentation, and support that it provides to University under the Agreement (collectively, the "EIRs") comply with the applicable requirements set forth in Title 1, Chapter 213 of the *Texas Administrative Code* and Title 1, Chapter 206, Rule §206.70 of the *Texas Administrative Code* (as authorized by Chapter 2054, Subchapter M of the *Texas Government*

Code.) To the extent Contractor becomes aware that the EIRs, or any portion thereof, do not comply with the EIR Accessibility Warranty, then Contractor represents and warrants that it will, at no cost to University, either (1) perform all necessary remediation to make the EIRs satisfy the EIR Accessibility Warranty or (2) replace the EIRs with new EIRs that satisfy the EIR Accessibility Warranty. In the event that Contractor fails or is unable to do so, then University may terminate the Agreement and Contractor will refund to University all amounts University has paid under the Agreement within thirty (30) days after the termination date.

26. Work Laws: Contractor shall comply with all labor and employment laws and regulations applicable to Contractor and its employees who will be performing services under this Agreement, including all laws and regulations pertaining to immigration, work status and eligibility (collectively, "Work Laws"). Contractor certifies that Contractor and Contractor's employees who will be performing services under this Agreement are, as of the effective date hereof, lawfully eligible to do so under applicable Work Laws.

27. Export Controls: Contractor shall comply with all applicable laws and regulations pertaining to export controls and the export of controlled technology or data in connection with its activities pursuant to this Agreement, including the Export Control Administration Regulations ("EAR") and the International Traffic in Arms Regulations ("ITAR"). For purposes of this Agreement, "controlled technology or data" means items, commodities, technology, software or information requiring federal agency approval under U.S. government laws and regulations before being exported to restricted foreign countries, persons and/or entities. The EAR and ITAR require U.S. Government approval before University releases controlled technology or data to foreign persons in the United States. In accordance with the foregoing, the following shall apply:

(A) Contractor shall promptly notify University in the event that Contractor or any of Contractor's employees who will be performing services under this Agreement or have access to University technology or data is a foreign national or is otherwise restricted under U.S. export controls laws from receiving controlled technology or data.

(B) If a license is required from any U.S. government agency to release any technology or data to the Contractor or any Contractor employee in connection with the Agreement, University may, at its discretion: (1) restrict Contractor's access to such technology and/or data until a license or other authorization is obtained, (2) narrow the scope of the services to be provided by Contractor under this Agreement, or (3) terminate this Agreement upon notice to Contractor.

(C) In the event that University exercises option (1) or (2) above, the term of the Agreement and scope of work may be adjusted as necessary.

(D) In the event that University exercises option (1) above, Contractor shall, promptly upon receipt of an invoice from University therefor, reimburse University's costs for obtaining a license or other authorization.

(E) In no event shall University be liable to Contractor or any of Contractor's employees for exercising any of its rights set forth in this section 23, except for any lawfully permissible payment for services rendered by Contractor in accordance with the terms of this Agreement.

28. Health Insurance Portability and Accountability Act: Notwithstanding anything to the contrary in this Agreement, if applicable to the Scope of Work to be provided by Contractor hereunder, Contractor agrees to treat all individually identifiable health information in accordance with all applicable laws governing the confidentiality and privacy of individually identifiable health information, including without limitation, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and any regulation and official guidelines promulgated thereunder.

29. Integration: This Agreement supersedes any and all other discussions, negotiations, and representations of any kind and represents the entire agreement of the parties hereinabove mentioned.

THIS AGREEMENT WILL BE IN EFFECT UPON FULL EXECUTION BY BOTH PARTIES. UNIVERSITY WILL NOT BE RESPONSIBLE FOR ANY PAYMENTS FOR SERVICES PERFORMED OR PRODUCTS DELIVERED BY CONTRACTOR PRIOR TO THE EFFECTIVE DATE OF THIS AGREEMENT.

In Witness Whereof, the parties have caused this Agreement to be executed as of the date first set forth above.

CITY OF BROWNSVILLE

By: _____
Signature

John Cowen Jr.
Typed Name

Mayor
Title

_____
Date

THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON

By: Nancy Pesina
Signature (Authorized Purchasing Agent)

Nancy Pesina
Typed Name

Buyer II
Title

10/25/2024
Date

_____
PO Number

APPROVED AS TO FORM AND LEGALITY

Guillermo S. T.

Guillermo (Will) S. Trevino
City Attorney
City of Brownsville, Texas

TO:	Alan Guard, City Manager
FROM:	Arturo Rodriguez, Director of Health,
SUBJECT:	Tu Salud Si Cuenta Services Agreement Amendment
DATE:	9/11/2026
THROUGH:	Felix Sauceda, Deputy City Manager

MEMO COMMISSION MEETING DATE

Executive Session *(City Attorney Only)*	Select	**Agenda**	**Ordinance**
Time Needed: Action Item:	Time Needed:	☐ Public Hearing ☐ Contract ☐ Grant ☐ Action ☐ Consent	☐ First Reading ☐ Second Reading

Information: Please include additional information/request.

The Department of Health, Wellness and Animal Services is requesting to approve an amendment to the Services Agreement previously executed on October 27, 2025, with The University of Texas Health Science Center at Houston-Tu Salud Si Cuenta Service Agreement Amendment.

The amendment seeks to extend the contractual term, as specified in Section 2, from September 30, 2026, to September 30, 2027. In addition, pertaining to compensation, to revise the total authorized value from "not to exceed $30,000.00" to "not to exceed $60,000.00."

Local Match Grant. Source of Funds: The department is requesting a mid-year budget amendment for FY 27 in the amount of $30,000.00.

The proposed extension and adjustment in compensation are critical to ensuring the sustained delivery of high-impact community health initiatives under the Tu Salud Sí Cuenta program. Extending the operational timeline will allow for continued outreach, education, and preventative health services that directly support community well-being. The increased compensation reflects the expanded programmatic needs and resources required to maintain the quality and accessibility of services offered. These actions collectively reinforce our commitment to addressing community health priorities and enhancing service capacity for the benefit of residents.
Should you have any questions, please do not hesitate to contact our office at (956) 542-3437. Thank you.

Reviewing Departments: Please review and forward to the next reviewing department in a timely manner.

City Attorney	**Date Reviewed:** 09/21/2026	**By:** Criselda Flores
Comments:	Approved	
OD&HR Department	**Date Reviewed:**	**By:**
Comments:		
Finance Department	**Date Reviewed:** 09/22/2026	**By:**
Comments:	Budget amenmdnet required for the additional $30,000 increase.	

City Commission	**Assistant City Manager**	**Deputy City Manager**
Approved: ☐ Yes ☐ No	Approved: ☐ Yes ☐ No	Approved: ☐ Yes ☐ No
Date:	Initials: Date:	Initials: Date:

City Manager's Approval

Signature:	**Date:**

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Carlos Lastra, City Engineer
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to approve the Second Amendment to the American Rescue Plan Act (ARPA) Interlocal Agreement between the City of Brownsville (City) and the Brownsville Public Utilites Board (BPUB) to the existing agreement for the Downtown Water and Wastewater Project, ARPA-2021-1112. (Engineering and Public Works Department)

Summary:
The Second Amendment to the ARPA Interlocal Agreement between the City of Brownsville and the Brownsville Public Utilities Board (BPUB) modifies the existing agreement for the Downtown Water and Wastewater Project (ARPA-2021-1112).
The original agreement, approved by the City Commission on July 8, 2022, provides for the use of City American Rescue Plan Act (ARPA) funds to rehabilitate and upgrade water and wastewater infrastructure within a portion of downtown Brownsville.
BPUB has requested an extension of the project's program compliance and period of performance to allow sufficient time to complete the project. The City and BPUB have agreed to amend the agreement as follows:

- Extension of Project Period of Performance**:** The current expiration date of December 31, 2025, is extended to December 15, 2026.
- Other Agreement Terms: All other terms, conditions, and obligations of the existing agreement remain unchanged and in full force and effect.
- Conflict Provision: If there is a conflict between the Second Amendment and the original agreement, the terms of the Second Amendment will control.

In summary: The Second Amendment primarily provides additional time for BPUB to complete the Downtown Water and Wastewater Project and satisfy applicable ARPA program requirements. No other changes to the agreement are identified.

Project Scope and Analysis:
The Downtown Water and Wastewater Project consists of the rehabilitation and upgrade of water and wastewater infrastructure within a designated portion of Downtown Brownsville. The

project is intended to improve the reliability, capacity, and condition of existing utility infrastructure and support continued development and service needs within the downtown area. The project is funded through 2021 American Rescue Plan Act (ARPA) funds and other funding sources.

The Second Amendment does not modify the project scope; it provides additional time, through December 15, 2026, for BPUB to complete the project and meet applicable program requirements.

Funding:

Source: No Funding is Required

Amount:

Local Contribution if Applicable:

Recommendation:

The City of Brownsville Engineering and Public Works Department recommends approval.

Commission Pillar:

Infrastructure

Attachments:

1. 2026 10 06 City of Brownsville Downtown Water PUB second amendment 2 v09252026 (1)

SECOND AMENDMENT TO THE

ARPA INTERLOCAL AGREEMENT BETWEEN THE CITY OF BROWNSVILLE and BROWNSVILLE PUBLIC UTILITIES BOARD

for the DOWNTOWN WATER and WASTEWATER PROJECT with 2021 AMERICAN RECOVERY PROGRAM ACT (ARPA) AND OTHER FUNDING SOURCES ARPA-2021-1112

This second amendment ("Second Amendment") is entered into as of _____, 2026 by and between THE CITY OF BROWNSVILLE, hereinafter referred to as the "CITY" and the BROWNSVILLE PUBLIC UTILITY BOARD, hereinafter referred to as the "Subrecipient." Effective the ____of _____2026.

WHEREAS, the City and Subrecipient executed an agreement ("Agreement"), which was approved by City Commission on 7/8/2022 for the purpose of utilizing the City's American Rescue Plan Act (ARPA) Funds for the rehabilitation and upgrade of water and wastewater infrastructure within a section of the **CITY's** downtown;

WHEREAS, the Subrecipient has timely requested an extension of the program compliance and period of performance in order to complete the project contemplated under the Agreement; and

WHEREAS, the parties desire to execute this Second Amendment to express their mutual desire to reaffirm all terms, conditions, and covenants stated in the original Agreement and to extend the program compliance and period of performance end date of the Agreement.

NOW THEREFORE, in exchange for good and valuable consideration, the parties hereto agree as follows:

1. The parties' Agreement be and hereby is amended, to extend the period of performance of December 31,2025, to December 15, 2026.

2. All other terms and conditions of the Agreement shall remain in full force and effect.

3. Any conflict between the terms of this Second Amendment and the Agreement shall be governed by this Second Amendment.

(signatures on next page) I

IN WITNESS, WHEREOF, the City and the Other Party have executed this agreement as of the date first above written.

CITY OF BROWNSVILLE, Texas

By:_____
Name: Alan Guard
Title: City Manager

ATTEST:

By:_____
Name: Mayra A. Rios
Title: City Secretary

PUBLIC UTILITIES BOARD OF THE CITY OF BROWNSVILLE, TEXAS:

By:_____
Name:_____
Title: _____

By:_____
Name:
Title :

APPROVED AS TO FORM AND LEGALITY:
By:_____
City Attorney

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Carlos Lastra, City Engineer
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to reject all bids received for Solicitation No. 145-26-EPW-IFB for the 12th Street Traffic Signal Improvements Project. (Engineering and Public Works Department).

Summary:
The Engineering and Public Works Department recommends consideration and action to reject all bids received under Contract No. 145-26-EPW-IFB for the 12th Street Traffic Signal Improvements Project, CSJ 0921-06-398, and authorize staff to proceed with the re-advertisement of the project for competitive bidding.

Project Scope and Analysis:
The 12th Street Traffic Signal Improvements Project consists of the comprehensive modernization and replacement of aging and obsolete traffic signal infrastructure at eleven (11) signalized intersections along 12th Street, with associated improvements extending to E. Saint Charles Street and E. Ringgold Street, as applicable.

The existing traffic signal infrastructure was last substantially upgraded in 1994 and has exceeded its anticipated service life. The project will modernize traffic signal equipment and supporting infrastructure to improve traffic operations, safety, accessibility, system reliability, and long-term maintainability.

Improvements are proposed at the following intersections along 12th Street:

1. E. Ringgold St.

2. E. Harrison St.

3. E. Jackson St.

4. E. Monroe St.

5. E. Madison St.

6. E. Jefferson St.

7. E. Adams St.

8. E. Washington St.

9. E. Elizabeth St.

10. E. Levee St.

11. E. Saint Charles St.

All construction activities will comply with applicable Texas Department of Transportation (TxDOT) Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, approved project plans and specifications, and applicable federal, state, and City requirements.

(Analysis)

A total of three (3) bids were received. Traf-Tex Inc., the apparent low bidder, was determined to be non-responsive because required items within the official bid documents were left blank. The Levy Company, LLC was subsequently identified as the lowest responsive bidder with a bid of $6,310,599.00, approximately 46% above the Engineer's Estimate of $4,311,413.81. Austin Traffic Signal Construction Co., LLC submitted a bid of $6,342,909.90, approximately 47% above the Engineer's Estimate.

Based on the bid analysis and recommendation provided by the City's engineering consultant, Halff Associates, Inc., the City determined that awarding the contract under the current solicitation would not be in the City's best interest. Staff therefore recommends rejection of all bids received and re-advertisement of the project for competitive bidding. Halff specifically recommends against awarding the $6,310,599.00 contract and recommends rebidding the project.

Funding:

Source: 812-8112-9825-12 – Traffic Signal Street

Amount: N/A

Local Contribution if Applicable:

Recommendation:

The Engineering and Public Works Department recommends approval to reject all bids received under Contract No. 145-26-EPW-IFB for the 12th Street Traffic Signal Improvements Project, CSJ 0921-06-398, and authorize staff to re-advertise the project for competitive bidding.

Commission Pillar:

Infrastructure

Attachments:

1. Bid Recommendation Letter_12th st F
2. 0921-06-398_Release Letter to Re-Advertise_09-30-2026

September 15, 2026

Eduardo Torres, MBA, CTCD
Buyer-City of Brownsville
City of Brownsville | Procurement Division
1001 E. Elizabeth St
Brownsville, Texas 78520

Re: Request for Concurrence to Reject
Project Name: 12th Street Traffic Signal Improvements
Solicitation No.: 145-26-EPW-IFB

Dear Mr. Torres:

Halff Associates, Inc. (Halff) is in receipt of the bid tabulation in accordance with Article 2.11 "Tabulation for Bids" of TxDOT's Standard Specifications for the above-mentioned project and offers the following Bid Analysis. A total of three (3) bids were received.

Halff developed the Bid Analysis spreadsheet for the project and populated it with each item description, unit, estimated quantity, unit price and total cost. The total cost for each item was obtained by multiplying the estimated quantity by the unit price. The total cost for the project was obtained by adding up each total cost for all the items.

The official bid amounts, which are summarized below ranged from 46% to 47% above the engineer's estimate of February 2026 as shown in **Table 1**.

The 12th Street Traffic Signal Improvements Project Engineer's Estimate is $4,311,413.81 (February 2026)

TABLE 1: BID ANALYSIS SUMMARY

Bidder No.	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	Traf-Tex Inc.	Non-Responsive	N/A
Bidder #2	The Levy Company, LLC	$6,310,599.00	46%
Bidder #3	Austin Traffic Signal Construction CO.LLC.	$6,342,909.90	47%

Bidder #1 – Traf-Tex Inc.

Based on the bid analysis spreadsheet, Bidder #1 was unresponsive. Halff confirmed Traf-Tex Inc.'s bid was non-responsive. Traf-Tex Inc.'s bid was determined to be non-responsive due to the subsidiary items did not have amount within the official bid documents and were left blank.

Bidder #2 – The Levy Company, LLC.

Based on the bid analysis spreadsheet, Bidder #2 was the second lowest bidder. Halff confirmed The Levy Company, LLC's total summation is **$6,310,599.00**.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 31 items were identified as significantly unbalanced within The Levy Company, LLC. bid as shown in **Table 2**.

TABLE 2: UNBALANCED ITEMS FOR THE LEVY COMPANY, LLC. USING ENGINEERS ESTIMATE OF FEBRUARY 2026

Item-Code		Description	Qty	BID	Engineer's Estimate	% Diff	Reason
416	7045	DRILL SHAFT (TRF SIG POLE) (42 IN)	18	$1,100.00	$444.89	147%	Inflation
500	7001	MOBILIZATION	1	$631,000.00	$319,363.99	98%	Inflation
502	7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	36	$7,400.00	$1,974.23	275%	Inflation
506	7042	BIODEG EROSN CONT LOGS (INSTL) (6")	115	$5.00	$1.08	363%	Inflation
528	7001	LANDSCAPE PAVERS	186	$260.00	$102.79	153%	Inflation
528	7003	REMOVE AND RELAY PAVERS	755	$99.00	$260.00	-62%	Low Quantity
529	7002	CONC CURB (TY II)	2,383	$66.00	$28.43	132%	Inflation
618	7030	CONDT (PVC) (SCH 40) (2")	169	$29.00	$14.08	106%	Inflation
618	7054	CONDT (PVC) (SCH 80) (2")	1,003	$34.00	$14.09	141%	Inflation
618	7055	CONDT (PVC) (SCH 80) (2") BORE	3,856	$40.00	$19.40	106%	Inflation
618	7064	CONDT (PVC) (SCH 80) (4")	572	$52.00	$28.22	84%	Inflation
619	7014	FIBER OPTIC CABLE ROAD MARKER	26	$140.00	$75.15	86%	Inflation
623	7018	ITS GND BOX (POLY) TY 1 (243648)W/APRN	26	$6,500.00	$4,086.22	59%	Inflation

628	7187	ELEC SRV TY D 120/240 070(NS)SS(E)EX(O)	1	$20,600.00	$1,931.81	966%	Low Quantity
628	7190	ELEC SRV TY D 120/240 070(NS)SS(E)PS(U)	1	$23,300.00	$11,734.10	99%	Low Quantity
628	7194	ELEC SRV TY D 120/240 070(NS)SS(E)TS(O)	9	$20,300.00	$5,395.00	276%	Low Quantity
644	7065	RELOCATE SM RD SN SUP&AM TY 10BWG	1	$1,200.00	$623.81	92%	Low Quantity
644	7066	RELOCATE SM RD SN SUP&AM TY FRP	2	$1,200.00	$623.81	92%	Low Quantity
666	7036	REFL PAV MRK TY I (W)24" (SLD)(100MIL)	1,552	$16.00	$7.42	116%	Inflation
677	7002	ELIM EXT PM & MRKS (6")	8,399	$1.30	$0.31	319%	Inflation
677	7008	ELIM EXT PM & MRKS (24")	1,168	$5.25	$2.82	86%	Inflation
680	0001	FURNISH AND INSTALL FIELD MONITORING UNIT	11	$24,600.00	$3,000.00	720%	Low Quantity
680	0003	FURNISH AND INSTALL CYBERLOCK	11	$2,200.00	$600.00	267%	Low Quantity
680	0004	FURNISH AND INSTALL ETHERNET SWITCH POWER SUPPLY	11	$6,200.00	$1,028.21	503%	Low Quantity
680	0006	TRAFFIC SIGNAL CONTROLLER	11	$46,900.00	$11,747.14	299%	Low Quantity
684	7028	TRF SIG CBL (TY A) (14 AWG) (2 CONDR)	6,252	$1.80	$0.98	84%	Inflation
686	7036	INS TRF SIG PL AM(S)1 ARM(32') LUM&ILSN	1	$22,300.00	$14,830.62	50%	Inflation
6018	0005	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	22	$1.00	$8,262.17	-100%	Low Quantity
6033	7001	PORTABLE CHANGEABLE MESSAGE SIGN	756	$61.00	$300.00	-80%	High quantity
6043	0001	ANTENNA (OMNI DIRECTIONAL)	11	$350.00	$1,658.00	-79%	Low Quantity
6061	0001	GPS COMMUNICATION UNIT	11	$65.00	$5,000.00	-99%	Low Quantity

Since this project has portions within State ROW and federal funds are being utilized, it must follow the TxDOT requirements for TxDOT Prequalification. This project requires a TxDOT Confidential Questionnaire Prequalification since the project cost is above $300,000 and as outlined on TxDOT's website (https://www.txdot.gov/business/road-bridge-

maintenance/contract-letting/contractor-prequalification.html).

Bidder #2 was determined to be TxDOT Prequalified under the Confidential Questionnaire.

Bidder #3 – Austin Traffic Signal Construction CO.LLC.

Based on the bid analysis spreadsheet, Bidder #3 was the highest bidder. Halff confirmed Austin Traffic Signal Construction CO.LLC's total summation is **$6,342,909.90**.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 30 items were identified as significantly unbalanced within the Austin Traffic Signal Construction CO.LLC. bid as shown in **Table 3**.

TABLE 3: UNBALANCED ITEMS FOR AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO.LLC. USING ENGINEERS ESTIMATE OF FEBRUARY 2026

Item-Code		Description	Qty	BID	Engineer's Estimate	% Diff	Reason
416	7045	DRILL SHAFT (TRF SIG POLE) (42 IN)	18	$950.00	$444.89	114%	Inflation
502	7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	36	$4,200.00	$1,974.23	113%	Inflation
506	7042	BIODEG EROSN CONT LOGS (INSTL) (6")	115	$15.00	$1.08	1289%	Inflation
528	7001	LANDSCAPE PAVERS	186	$320.00	$102.79	211%	Inflation
528	7003	REMOVE AND RELAY PAVERS	755	$100.00	$260.00	-62%	Low Quantity
529	7002	CONC CURB (TY II)	2,383	$75.00	$28.43	164%	Inflation
618	7055	CONDT (PVC) (SCH 80) (2") BORE	3,856	$42.00	$19.40	116%	Inflation
619	7014	FIBER OPTIC CABLE ROAD MARKER	26	$675.00	$75.15	798%	Inflation
628	7190	ELEC SRV TY D 120/240 070(NS)SS(E)PS(U)	1	$5,100.00	$11,734.10	-57%	Low Quantity
636	7001	ALUMINUM SIGNS (TY A)	215	$70.00	$36.11	94%	Inflation
677	7002	ELIM EXT PM & MRKS (6")	8,399	$1.50	$0.31	384%	Inflation
680	0001	FURNISH AND INSTALL FIELD MONITORING UNIT	11	$27,500.00	$3,000.00	817%	Low Quantity
680	0003	FURNISH AND INSTALL	11	$2,540.00	$600.00	323%	Low

		CYBERLOCK					Quantity
680	0004	FURNISH AND INSTALL ETHERNET SWITCH POWER SUPPLY	11	$6,700.00	$1,028.21	552%	Low Quantity
680	0005	FURNISH AND INSTALL P5G GATEWAY	11	$4,590.00	$2,500.00	84%	Low Quantity
680	0006	TRAFFIC SIGNAL CONTROLLER	11	$38,500.00	$11,747.14	228%	Low Quantity
682	7050	BACK PLATE W/REFL BRDR (1 SEC) (WENT)ALUM	6	$185.00	$115.18	61%	Low Quantity
684	7028	TRF SIG CBL (TY A) (14 AWG) (2 CONDR)	6,252	$1.50	$0.98	53%	Inflation
686	7026	INS TRF SIG PL AM(S)1 ARM(24')ILSN	2	$19,500.00	$12,000.00	63%	Inflation
686	7030	INS TRF SIG PL AM(S)1 ARM(28')ILSN	4	$20,060.00	$12,660.00	58%	Inflation
686	7034	INS TRF SIG PL AM(S)1 ARM(32')ILSN	1	$24,850.00	$13,875.00	79%	Inflation
686	7036	INS TRF SIG PL AM(S)1 ARM(32') LUM&ILSN	1	$28,530.00	$14,830.62	92%	Inflation
686	7038	INS TRF SIG PL AM(S)1 ARM(36')ILSN	2	$25,890.00	$16,000.00	62%	Inflation
686	7048	INS TRF SIG PL AM(S)1 ARM(44') LUM&ILSN	1	$33,285.00	$19,220.92	73%	Inflation
686	7120	IN TRF SG PL AM(S) 2ARM(36-28') LUM&ILSN	4	$24,462.00	$15,600.00	57%	Inflation
686	7122	INS TRF SIG PL AM(S)2 ARM(36-32')ILSN	3	$30,421.00	$19,986.67	52%	Inflation
686	7166	INS TRF SIG PL AM(S)2 ARM(44-36')ILSN	1	$38,160.00	$22,764.49	68%	Inflation
6001	7006	ILSN (10D)	12	$7,090.00	$3,900.00	82%	Inflation
6027	7004	FIBER OPTIC FUSION SPLICE	84	$260.00	$90.00	189%	Inflation
6027	7021	PRETERM FIBER PATCH PANEL (12 POSITION)	11	$13,500.00	$1,800.00	650%	Low Quantity

Since this project has portions within State ROW and federal funds are being utilized, it must follow the TxDOT requirements for TxDOT Prequalification. This project requires a TxDOT Confidential Questionnaire Prequalification since the project cost is above $300,000 and as outlined on TxDOT's website (https://www.txdot.gov/business/road-bridge-maintenance/contract-letting/contractor-prequalification.html).

Bidder #3 was determined to be TxDOT Prequalified under the Confidential Questionnaire.

RECOMMENDATION

We have determined that The Levy Company, LLC is the lowest bidder. Although the contractor met all the requirements, Halff Associates, Inc. does not recommend awarding the contract to The Levy Company, LLC in the amount of $6,310,599.00 due to the extreme difference over the engineering estimate.

We respectfully request your concurrence in this recommendation so that we may proceed with rebidding the project and eliminating the subsidiary items from the Bid Sheet.



Alex Reyna, PE, LGPP
Associate Vice President
Technical Leader, Traffic/ITS
Halff

City of Brownsville
Project Name: 12th Street Traffic Signal Improvements
Solicitation No.: 145-26-EPW-IFB
BID COMPARISON

ITEM-CODE		DESCRIPTION	UNIT	TOTAL	TRAF-TEX INC.		THE LEVY COMPANY, LLC		AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO.LLC.		ENGINEER ESTIMATE FEBRUARY 2026		LOW BID VS ENGINEER'S ESTIMATE	
					UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	DIFFERENCE (+/-) TOTAL COST	% DIFFERENCE (OVER/UNDER)
416	7044	DRILL SHAFT(TRF SIG POLE)(36 IN)	LF	296			$ 560.00	$ 165,760.00	$ 345.00	$ 102,120.00	$ 457.05	$ 135,286.80	$ (135,286.80)	-100%
416	7045	DRILL SHAFT(TRF SIG POLE)(42 IN)	LF	18			$ 1,100.00	$ 19,800.00	$ 950.00	$ 17,100.00	$ 444.89	$ 8,008.02	$ (8,008.02)	-100%
500	7001	MOBILIZATION	LS	1			$ 631,000.00	$ 631,000.00	$ 390,000.00	$ 390,000.00	$ 319,363.99	$ 319,363.99	$ (319,363.99)	-100%
502	7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	36			$ 7,400.00	$ 266,400.00	$ 4,200.00	$ 151,200.00	$ 1,974.23	$ 71,072.28	$ (71,072.28)	-100%
506	7042	BIODEG EROSN CONT LOGS (INSTL) (6")	LF	115			$ 5.00	$ 575.00	$ 15.00	$ 1,725.00	$ 1.08	$ 124.20	$ (124.20)	-100%
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	115			$ 1.50	$ 172.50	$ 2.00	$ 230.00	$ 2.15	$ 247.25	$ (247.25)	-100%
528	7001	LANDSCAPE PAVERS	SY	186			$ 260.00	$ 48,360.00	$ 320.00	$ 59,520.00	$ 102.79	$ 19,118.94	$ (19,118.94)	-100%
528	7003	REMOVE AND RELAY PAVERS	SY	755			$ 99.00	$ 74,745.00	$ 100.00	$ 75,500.00	$ 260.00	$ 196,300.00	$ (196,300.00)	-100%
529	7002	CONC CURB (TY II)	LF	2383			$ 66.00	$ 157,278.00	$ 75.00	$ 178,725.00	$ 28.43	$ 67,748.69	$ (67,748.69)	-100%
531	7005	CURB RAMPS (TY 1)	EA	66			$ 3,500.00	$ 231,000.00	$ 4,100.00	$ 270,600.00	$ 2,841.61	$ 187,546.26	$ (187,546.26)	-100%
531	7006	CURB RAMPS (TY 2)	EA	14			$ 3,500.00	$ 49,000.00	$ 4,100.00	$ 57,400.00	$ 3,516.01	$ 49,224.14	$ (49,224.14)	-100%
531	7008	CURB RAMPS (TY 5)	EA	5			$ 4,100.00	$ 20,500.00	$ 4,500.00	$ 22,500.00	$ 3,902.74	$ 19,513.70	$ (19,513.70)	-100%
536	7002	CONC MEDIAN	SY	144			$ 120.00	$ 17,280.00	$ 120.00	$ 17,280.00	$ 97.88	$ 14,094.72	$ (14,094.72)	-100%
618	7021	CONDT (PVC) (SCH 40) (1")	LF	169			$ 28.00	$ 4,732.00	$ 10.00	$ 1,690.00	$ 20.95	$ 3,540.55	$ (3,540.55)	-100%
618	7030	CONDT (PVC) (SCH 40) (2")	LF	169			$ 29.00	$ 4,901.00	$ 12.00	$ 2,028.00	$ 14.08	$ 2,379.52	$ (2,379.52)	-100%
618	7049	CONDT (PVC) (SCH 80) (1") (BORE)	LF	2445			$ 35.00	$ 85,575.00	$ 40.00	$ 97,800.00	$ 32.74	$ 80,049.30	$ (80,049.30)	-100%
618	7054	CONDT (PVC)(SCH 80)(2")	LF	1003			$ 34.00	$ 34,102.00	$ 15.00	$ 15,045.00	$ 14.09	$ 14,132.27	$ (14,132.27)	-100%
618	7055	CONDT (PVC)(SCH 80)(2") BORE	LF	3856			$ 40.00	$ 154,240.00	$ 42.00	$ 161,952.00	$ 19.40	$ 74,806.40	$ (74,806.40)	-100%
618	7064	CONDT (PVC)(SCH 80)(4")	LF	572			$ 52.00	$ 29,744.00	$ 34.00	$ 19,448.00	$ 28.22	$ 16,141.84	$ (16,141.84)	-100%
618	7065	CONDT (PVC)(SCH 80)(4") BORE	LF	2768			$ 48.00	$ 132,864.00	$ 50.00	$ 138,400.00	$ 35.16	$ 97,322.88	$ (97,322.88)	-100%
619	7014	FIBER OPTIC CABLE ROAD MARKER	EA	26			$ 140.00	$ 3,640.00	$ 675.00	$ 17,550.00	$ 75.15	$ 1,953.90	$ (1,953.90)	-100%
620	7002	ELEC CONDR (NO.14) INSULATED	LF	2615			$ 1.00	$ 2,615.00	$ 1.70	$ 4,445.50	$ 1.47	$ 3,844.05	$ (3,844.05)	-100%
620	7009	ELEC CONDR(NO.6)BARE	LF	5754			$ 2.70	$ 15,535.80	$ 2.20	$ 12,658.80	$ 2.25	$ 12,946.50	$ (12,946.50)	-100%
620	7010	ELEC CONDR(NO. 6)INSULATED	LF	310			$ 3.10	$ 961.00	$ 2.80	$ 868.00	$ 2.47	$ 765.70	$ (765.70)	-100%
621	7002	TRAY CABLE(3 CONDR)(12 AWG)	LF	3522			$ 3.00	$ 10,566.00	$ 3.50	$ 12,327.00	$ 3.30	$ 11,622.60	$ (11,622.60)	-100%
623	7016	ITS GND BOX (POLY) TY 1 (243636)W/APRN	EA	13			$ 4,600.00	$ 59,800.00	$ 3,250.00	$ 42,250.00	$ 4,475.22	$ 58,177.86	$ (58,177.86)	-100%
623	7018	ITS GND BOX (POLY) TY 1 (243648)W/APRN	EA	26			$ 6,500.00	$ 169,000.00	$ 5,850.00	$ 152,100.00	$ 4,086.22	$ 106,241.72	$ (106,241.72)	-100%
624	7007	GROUND BOXTY D (162922)	EA	25			$ 1,500.00	$ 37,500.00	$ 1,000.00	$ 25,000.00	$ 1,543.41	$ 38,585.25	$ (38,585.25)	-100%
624	7008	GROUND BOXTY D (162911)W/ APRON	EA	11			$ 1,800.00	$ 19,800.00	$ 1,550.00	$ 17,050.00	$ 1,784.44	$ 19,628.84	$ (19,628.84)	-100%
628	7187	ELEC SRV TY D 120/240070(NS)SS(E)EX(O)	EA	1			$ 20,600.00	$ 20,600.00	$ 2,850.00	$ 2,850.00	$ 1,931.81	$ 1,931.81	$ (1,931.81)	-100%
628	7190	ELEC SRV TY D 120/240 070(NS)SS(E)PS(U)	EA	1			$ 23,300.00	$ 23,300.00	$ 5,100.00	$ 5,100.00	$ 11,734.10	$ 11,734.10	$ (11,734.10)	-100%
628	7194	ELEC SRV TY D 120/240070(NS)SS(E)TS(O)	EA	9			$ 20,300.00	$ 182,700.00	$ 2,950.00	$ 26,550.00	$ 5,395.00	$ 48,555.00	$ (48,555.00)	-100%
636	7001	ALUMINUMSIGNS(TY A)	SF	215			$ 36.00	$ 7,740.00	$ 70.00	$ 15,050.00	$ 36.11	$ 7,763.65	$ (7,763.65)	-100%
644	7065	RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1			$ 1,200.00	$ 1,200.00	$ 650.00	$ 650.00	$ 623.81	$ 623.81	$ (623.81)	-100%
644	7066	RELOCATE SM RD SN SUP&AM TY FRP	EA	2			$ 1,200.00	$ 2,400.00	$ 850.00	$ 1,700.00	$ 623.81	$ 1,247.62	$ (1,247.62)	-100%
666	7036	REFL PAVMRK TY I (W)24" (SLD)(100MIL)	LF	1552			$ 16.00	$ 24,832.00	$ 7.50	$ 11,640.00	$ 7.42	$ 11,515.84	$ (11,515.84)	-100%
677	7002	ELIM EXT PM & MRKS (6")	LF	8399			$ 1.30	$ 10,918.70	$ 1.50	$ 12,598.50	$ 0.31	$ 2,603.69	$ (2,603.69)	-100%
677	7008	ELIM EXT PM & MRKS (24")	LF	1168			$ 5.25	$ 6,132.00	$ 2.75	$ 3,212.00	$ 2.82	$ 3,293.76	$ (3,293.76)	-100%
680	0001	FURNISH AND INSTALL FIELD MONITORING UNIT	EA	11			$ 24,600.00	$ 270,600.00	$ 27,500.00	$ 302,500.00	$ 3,000.00	$ 33,000.00	$ (33,000.00)	-100%
680	0002	FURNISH AND INSTALL FIELD ROADSIDE UNIT	EA	10			$ 5,700.00	$ 57,000.00	$ 6,500.00	$ 65,000.00	$ 5,000.00	$ 50,000.00	$ (50,000.00)	-100%
680	0003	FURNISH AND INSTALL CYBERLOCK	EA	11			$ 2,200.00	$ 24,200.00	$ 2,540.00	$ 27,940.00	$ 600.00	$ 6,600.00	$ (6,600.00)	-100%
680	0004	FURNISH AND INSTALL ETHERNET SWITCH POWER SUPPLY	EA	11			$ 6,200.00	$ 68,200.00	$ 6,700.00	$ 73,700.00	$ 1,028.21	$ 11,310.31	$ (11,310.31)	-100%
680	0005	FURNISH AND INSTALL P5G GATEWAY	EA	11			$ 3,400.00	$ 37,400.00	$ 4,590.00	$ 50,490.00	$ 2,500.00	$ 27,500.00	$ (27,500.00)	-100%
680	0006	TRAFFIC SIGNAL CONTROLLER	EA	11			$ 46,900.00	$ 515,900.00	$ 38,500.00	$ 423,500.00	$ 11,747.14	$ 129,218.54	$ (129,218.54)	-100%
682	7001	VEH SIG SEC(12") LED(GRN)	EA	52			$ 350.00	$ 18,200.00	$ 375.00	$ 19,500.00	$ 340.85	$ 17,724.20	$ (17,724.20)	-100%
682	7003	VEH SIG SEC(12") LED(YEL)	EA	54			$ 350.00	$ 18,900.00	$ 375.00	$ 20,250.00	$ 340.02	$ 18,361.08	$ (18,361.08)	-100%

City of Brownsville
Project Name: 12th Street Traffic Signal Improvements
Solicitation No.: 145-26-EPW-IFB
BID COMPARISON

ITEM-CODE		DESCRIPTION	UNIT	TOTAL	TRAF-TEX INC.		THE LEVY COMPANY, LLC		AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO.LLC.		ENGINEER ESTIMATE FEBRUARY 2026		LOW BID VS ENGINEER'S ESTIMATE	
					UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	UNIT COST	TOTAL COST	DIFFERENCE (+/-) TOTAL COST	% DIFFERENCE (OVER/UNDER)
682	7005	VEH SIG SEC(12") LED(RED)	EA	56			$ 350.00	$ 19,600.00	$ 375.00	$ 21,000.00	$ 342.18	$ 19,162.08	$ (19,162.08)	-100%
682	7018	PED SIG SEC(LED)(COUNTDOWN)	EA	76			$ 810.00	$ 61,560.00	$ 650.00	$ 49,400.00	$ 854.06	$ 64,908.56	$ (64,908.56)	-100%
682	7042	BACK PLATEW/REFL BRDR(3 SEC)(VENT)ALUM	EA	52			$ 180.00	$ 9,360.00	$ 145.00	$ 7,540.00	$ 285.47	$ 14,844.44	$ (14,844.44)	-100%
682	7050	BACK PLATEW/REFL BRDR(1 SEC)(WENT)ALUM	EA	6			$ 140.00	$ 840.00	$ 185.00	$ 1,110.00	$ 115.18	$ 691.08	$ (691.08)	-100%
684	7008	TRF SIG CBL(TY A) (12 AWG)(3 CONDR)	LF	289			$ 2.60	$ 751.40	$ 2.50	$ 722.50	$ 2.88	$ 832.32	$ (832.32)	-100%
684	7028	TRF SIG CBL(TY A) (14 AWG)(2 CONDR)	LF	6252			$ 1.80	$ 11,253.60	$ 1.50	$ 9,378.00	$ 0.98	$ 6,126.96	$ (6,126.96)	-100%
684	7031	TRF SIG CBL(TY A) (14 AWG)(5 CONDR)	LF	6632			$ 2.95	$ 19,564.40	$ 2.00	$ 13,264.00	$ 2.99	$ 19,829.68	$ (19,829.68)	-100%
684	7033	TRF SIG CBL(TY A) (14 AWG)(7 CONDR)	LF	4670			$ 3.80	$ 17,746.00	$ 2.60	$ 12,142.00	$ 3.50	$ 16,345.00	$ (16,345.00)	-100%
686	7026	INS TRF SIGPL AM(S)1ARM(24')ILSN	EA	2			$ 14,800.00	$ 29,600.00	$ 19,500.00	$ 39,000.00	$ 12,000.00	$ 24,000.00	$ (24,000.00)	-100%
686	7030	INS TRF SIG PL AM(S)1 ARM(28')ILSN	EA	4			$ 16,100.00	$ 64,400.00	$ 20,060.00	$ 80,240.00	$ 12,660.00	$ 50,640.00	$ (50,640.00)	-100%
686	7032	INS TRF SIG PLAM(S)1 ARM(28')LUM&ILSN	EA	1			$ 17,100.00	$ 17,100.00	$ 18,900.00	$ 18,900.00	$ 14,134.40	$ 14,134.40	$ (14,134.40)	-100%
686	7034	INS TRF SIG PL AM(S)1 ARM(32')ILSN	EA	1			$ 19,700.00	$ 19,700.00	$ 24,850.00	$ 24,850.00	$ 13,875.00	$ 13,875.00	$ (13,875.00)	-100%
686	7036	INS TRF SIG PL AM(S)1 ARM(32')LUM&ILSN	EA	1			$ 22,300.00	$ 22,300.00	$ 28,530.00	$ 28,530.00	$ 14,830.62	$ 14,830.62	$ (14,830.62)	-100%
686	7038	INS TRF SIG PL AM(S)1 ARM(36')ILSN	EA	2			$ 18,500.00	$ 37,000.00	$ 25,890.00	$ 51,780.00	$ 16,000.00	$ 32,000.00	$ (32,000.00)	-100%
686	7040	INS TRF SIGPL AM(S)1ARM(36')LUM&ILSN	EA	1			$ 20,100.00	$ 20,100.00	$ 20,275.00	$ 20,275.00	$ 18,103.41	$ 18,103.41	$ (18,103.41)	-100%
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	1			$ 26,300.00	$ 26,300.00	$ 33,285.00	$ 33,285.00	$ 19,220.92	$ 19,220.92	$ (19,220.92)	-100%
686	7120	IN TRF SG PL AM(S)2ARM(36-28')LUM&ILSN	EA	4			$ 22,300.00	$ 89,200.00	$ 24,462.00	$ 97,848.00	$ 15,600.00	$ 62,400.00	$ (62,400.00)	-100%
686	7122	INS TRF SIG PL AM(S)2 ARM(36-32')ILSN	EA	3			$ 25,800.00	$ 77,400.00	$ 30,421.00	$ 91,263.00	$ 19,986.67	$ 59,960.01	$ (59,960.01)	-100%
686	7166	INS TRF SIG PL AM(S)2 ARM(44-36')ILSN	EA	1			$ 30,900.00	$ 30,900.00	$ 38,160.00	$ 38,160.00	$ 22,764.49	$ 22,764.49	$ (22,764.49)	-100%
687	7001	PED POLEASSEMBLY	EA	50			$ 3,600.00	$ 180,000.00	$ 3,500.00	$ 175,000.00	$ 3,105.09	$ 155,254.50	$ (155,254.50)	-100%
688	7001	PED DETECTPUSH BUTTON(APS)	EA	76			$ 960.00	$ 72,960.00	$ 950.00	$ 72,200.00	$ 1,148.82	$ 87,310.32	$ (87,310.32)	-100%
688	7003	PED DETECTORCONTROLLERUNIT	EA	10			$ 3,800.00	$ 38,000.00	$ 3,850.00	$ 38,500.00	$ 4,332.25	$ 43,322.50	$ (43,322.50)	-100%
6001	7004	ILSN (8D)	EA	17			$ 3,700.00	$ 62,900.00	$ 6,050.00	$ 102,850.00	$ 5,055.10	$ 85,936.70	$ (85,936.70)	-100%
6001	7006	ILSN (10D)	EA	12			$ 3,800.00	$ 45,600.00	$ 7,090.00	$ 85,080.00	$ 3,900.00	$ 46,800.00	$ (46,800.00)	-100%
6007	7001	BBU SYSTEM (EXTERNAL BATTERY CABINET)	EA	11			$ 9,100.00	$ 100,100.00	$ 10,065.00	$ 110,715.00	$ 9,782.86	$ 107,611.46	$ (107,611.46)	-100%
6008	0001	RVDS (PRESENCE DETECTION ONLY)	EA	28			$ 12,400.00	$ 347,200.00	$ 13,200.00	$ 369,600.00	$ 9,121.20	$ 255,393.60	$ (255,393.60)	-100%
6008	0002	RVDS (ADVANCE DETECTION ONLY)	EA	28			$ 9,300.00	$ 260,400.00	$ 10,100.00	$ 282,800.00	$ 9,286.25	$ 260,015.00	$ (260,015.00)	-100%
*		RADAR COMMUNICATIONCABLE	LF	4525			$ 2.85	$ 12,896.25	$ 3.50	$ 15,837.50		$ -	$ -	
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL)	EA	11			$ 6,300.00	$ 69,300.00	$ 3,850.00	$ 42,350.00	$ 8,262.17	$ 90,883.87	$ (90,883.87)	-100%
6018	7003	CCTV MOUNT (POLE)	EA	11			$ 760.00	$ 8,360.00	$ 850.00	$ 9,350.00	$ 1,264.55	$ 13,910.05	$ (13,910.05)	-100%
6018	0005	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	22			$ 1.00	$ 22.00	$ 3,850.00	$ 84,700.00	$ 8,262.17	$ 181,767.74	$ (181,767.74)	-100%
**		CCTV CABLE	LF	2449			$ 2.60	$ 6,367.40	$ 5.40	$ 13,224.60		$ -	$ -	
***		PREEMPTION	EA	11			$ 1.00	$ 11.00	$ 2,950.00	$ 32,450.00		$ -	$ -	
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	3740			$ 5.85	$ 21,879.00	$ 6.00	$ 22,440.00	$ 4.33	$ 16,194.20	$ (16,194.20)	-100%
6027	7004	FIBER OPTIC FUSION SPLICE	EA	84			$ 71.00	$ 5,964.00	$ 260.00	$ 21,840.00	$ 90.00	$ 7,560.00	$ (7,560.00)	-100%
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	3			$ 1,600.00	$ 4,800.00	$ 750.00	$ 2,250.00	$ 2,033.79	$ 6,101.37	$ (6,101.37)	-100%
6027	7021	PRETERM FIBER PATCH PANEL (12 POSITION)	EA	11			$ 1,200.00	$ 13,200.00	$ 13,500.00	$ 148,500.00	$ 1,800.00	$ 19,800.00	$ (19,800.00)	-100%
****		PEDESTRIAN GRATE	EA	102			$ 6,100.00	$ 622,200.00	$ 6,500.00	$ 663,000.00		$ -	$ -	
6027	7043	FO SPLICE ENCLOSURE (TYPE 1)(MODIFY)	EA	5			$ 1,600.00	$ 8,000.00	$ 2,850.00	$ 14,250.00	$ 2,033.79	$ 10,168.95	$ (10,168.95)	-100%
6033	7001	PORTABLE CHANGEABLE MESSAGE SIGN	DAY	756			$ 61.00	$ 46,116.00	$ 190.00	$ 143,640.00	$ 300.00	$ 226,800.00	$ (226,800.00)	-100%
6034	-	TESTING, TRAINING, DOCUMENTATION, FINAL ACCEPTANCE, AND WARRANTY	LS	1			$ 16,600.00	$ 16,600.00	$ 18,000.00	$ 18,000.00	$ 20,000.00	$ 20,000.00	$ (20,000.00)	-100%
6043	0001	ANTENNA (OMNI DIRECTIONAL)	EA	11			$ 350.00	$ 3,850.00	$ 790.00	$ 8,690.00	$ 1,658.00	$ 18,238.00	$ (18,238.00)	-100%
6061	0001	GPS COMMUNICATION UNIT	EA	11			$ 65.00	$ 715.00	$ 2,500.00	$ 27,500.00	$ 5,000.00	$ 55,000.00	$ (55,000.00)	-100%
6064	7003	PREFB PV MK W/WNTY TY B(W)6"(BRK)CNTST	LF	5879			$ 6.05	$ 35,567.95	$ 7.50	$ 44,092.50	$ 15.00	$ 88,185.00	$ (88,185.00)	-100%
6064	7005	PREFB PV MK W/WNTY TY B (Y)(6")(BRK)	LF	360			$ 6.05	$ 2,178.00	$ 7.50	$ 2,700.00	$ 11.00	$ 3,960.00	$ (3,960.00)	-100%
6064	7006	PREFB PV MK W/WNTY TY B (Y)(6")(SLD)	LF	2160			$ 6.05	$ 13,068.00	$ 12.00	$ 25,920.00	$ 11.00	$ 23,760.00	$ (23,760.00)	-100%
BASE BID TOTAL					**NON-RESPONSIVE**		**$**	**6,310,599.00**	**$**	**6,342,909.90**	**$**	**4,311,413.81**	**$ (4,311,413.81)**	

600 W Interstate 2 | Pharr, Texas 78577-1231
956.702.6100
www.txdot.gov

September 30, 2026

The Honorable John Cowen, Jr.
Mayor, City of Brownsville
1001 E. Elizabeth Street
Brownsville, TX 78520

RE: City of Brownsville 12th Street Traffic Signal Improvements

CSJ: 0921-06-398
Release to Re-Advertise

Dear Mayor John Cowen, Jr.,

The contract plans and your contract letting and award procedures for the subject referenced project have been approved. In addition, the project has been environmentally cleared and has received all the necessary State and Federal approvals to move forward with construction. Per our Advanced Funding Agreement, you may now re-advertise to receive bids for construction in accordance with the procedures that were approved. Once bids are received, please provide us with documentation on the procedures followed, copies of bid tabulations, a bid analysis, and a contract award recommendation. We will need to review and concur prior to the City awarding the contract.

Please continue to work directly with our project manager, Mr. Omar Guerrero, P.E., to ensure all requirements are met. As a reminder, the procedures you will need to follow can be found at http://www.txdot.gov/government/programs/local-government-projects.html.

If you have any questions, feel free to call me or our project manager, Mr. Omar Guerrero, P.E., at (956) 702-6100.

Sincerely,

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...

Pedro R. Alvarez, P.E.
Pharr District Engineer

Cc:
Carlos Lastra, P.E., City Engineer, City of Brownsville
Doroteo Garcia, Jr., P.E., Deputy City Manager, City of Brownsville
Lucio Gutierrez Garcia, P.E.,Traffic Manager, City of Brownsville
Rex A. Costley, P.E., Deputy District Engineer, Pharr District
Norma Y. Garza, P.E., Director of Transportation Planning & Development, Pharr District
Andres Espinoza, P.E., San Benito Area Engineer, Pharr District
Beethoven Garcia, P.E., Advanced Project Delivery Supervisor, Pharr District
Gabriel I. Garcia, P.E., Director of Transportation Operations, Pharr District
Nayely Parra, P.E., Traffic Section Supervisor, Pharr District
Omar Guerrero, P.E., Project Manager, Pharr District

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Maribel Guerrero, Director Engineer and Public Works
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to Authorize a Contract with Rio Grande Hauling for Excavation, Loading and Hauling Services on an as needed basis for Contract No.288-26-EPW-IFB, for a term not to exceed 5 Years. (Engineering and Public Works Department).

Summary:
The Engineering and Public Works Department requested bids from qualified suppliers for the provision of soil materials and associated hauling services to support landfill operations and related City projects. This non-construction contract covers the supply, delivery, pickup, hauling, and testing of soils in accordance with TCEQ -approved standards.

Project Scope and Analysis:
This agreement allows the City to request services from the Contractor as needed. Each service request will be sent in writing. The Contractor will perform work only after receiving a written request from the City. Unless the City specifies otherwise, each request automatically includes all necessary prep work, related tasks, and any steps required to complete the job correctly. All services must be completed professionally, on time, and in line with industry standards.

Funding:

Source:
Amount:
Local Contribution if Applicable:

Recommendation:
The Procurement Department recommends that the City Commission authorize a contract with Rio Grande Hauling under IFB, on an as needed basis for a base term of three (3) years with two (2) optional one (1) year renewal periods.

Commission Pillar:
Infrastructure

Attachments:

1. Procurement Analysis 288-26-EPW-IFB
2. 288-26-EPW-IFB Contract

PROCUREMENT ANALYSIS

Date: Tuesday, August 18, 2026
To: Mr. John Cowen Jr., City Mayor
From: Mr. Alan Guard, Interim City Manager
CC: Mr. Damian Espinoza, Procurement Director
Ms. Maribel Guerrero, Engineering and Public Works Director

Agenda Title:
Agenda Item for the City Commission meeting of Tuesday, September 15, 2026.
"Consideration and Action to Authorize a Contract with Rio Grande Hauling for Excavation, Loading and Hauling Services on an as needed basis for Contract No.288-26-EPW-IFB, for a term not to exceed 5 Years. [Engineering and Public Works Department].

Executive Summary:

- Department: Engineering and Public Works Department
- Procurement Method: IFB
- Submittals Received: 1
- Contract Number: 288-26-EPW-IFB
- Vendor: Rio Grande Hauling
- Contract Amount: On an As-Needed Basis
- Term: Not to Exceed Five Years (Base (3) year term with (2) optional one (1) year renewal periods

Background: The Engineering and Public Works Department requested bids from qualified suppliers for the provision of soil materials and associated hauling services to support landfill operations and related City projects. This non-construction contract covers the supply, delivery, pickup, hauling, and testing of soils in accordance with TCEQ-approved standards.

Procurement Process:
The Procurement Department issued an IFB in compliance with the Texas Local Government Code. The solicitation was advertised in the local newspaper and posted on the City's electronic bidding platform. 1 bid was received.

This procurement is governed by the following statute:

- **IFB (Competitive Sealed Bidding): Texas Local Government Code Chapter 252, Subchapter C – Competitive Sealed Bidding (§252.041).**

Results:
A total of 1 bids was received. After review, Rio Grande Hauling submitted the lowest responsive and responsible bid. The bid tabulation is provided as Exhibit A.

Vendor Information:
Vendor Name: Rio Grande Hauling
Vendor Address: 6300 FM 1732 Brownsville, TX 78520
Point of Contact: Fabian De La Garza, Managing Partner
Phone/Email: (956)793-5883 | fabian@rghauling.com

Exhibits & Supporting Documents:

- Bid Tab (lowest responsive/responsible bidder)- Exhibit A
- Texas Ethics Commission Certificate of Interested Parties (1295 Form) – Exhibit B
- Cooperative Use Authorization & Administrative Fee Acknowledgment- Exhibit C

Recommendation:
The Procurement Department recommends that the City Commission authorize a contract with Rio Grande Hauling under IFB, on an as needed basis for a base term of three (3) years with two (2) optional one (1) year renewal periods.

Approval of this agenda item will authorize the full contract value, including the renewal option. The City Manager will be authorized to execute renewal(s) if exercised.

Bid Tab 288-26-EPW-IFB - Excavation, Loading, and Hauling Services

Item No.	Section	Description	Unit	Estimated Qty (If Applicable)		Rio Grande Hauling
1A	FOB Delivered (3.0.1)	Clay – F.O.B. Delivered	Per Cubic Yard		$	22.50
1B	FOB Delivered (3.0.1)	Sand – F.O.B. Delivered	Per Cubic Yard		$	22.50
1C	FOB Delivered (3.0.1)	Cover Soils – F.O.B. Delivered	Per Cubic Yard		$	22.50
2A	FOB Delivered (3.0.1)	River Rock – F.O.B. Delivered	Per Cubic Yard		$	56.75
2B	FOB Delivered (3.0.1)	Limestone – F.O.B. Delivered	Per Cubic Yard		$	61.50
2C	FOB Delivered (3.0.1)	Sludge – F.O.B. Delivered	Per Cubic Yard		$	19.50
2D	FOB Delivered (3.0.1)	Debris – F.O.B. Delivered	Per Cubic Yard		$	19.50
3A	City Stockyard (3.0.2)	Clay – Contractor excavates, loads & hauls (3 mi roundtrip)	Per Cubic Yard		$	14.25
4A	Trucking/Hauling (3.0.4)	City loads – Landfill <1 mile	Per Cubic Yard		$	6.25
4B	Trucking/Hauling (3.0.4)	Contractor loads – Landfill <1 mile	Per Cubic Yard		$	14.75
4C	Trucking/Hauling (3.0.4)	City loads – Neighboring land <1.5 mile	Per Cubic Yard		$	6.25
4D	Trucking/Hauling (3.0.4)	Contractor loads – Neighboring land <1.5 mile	Per Cubic Yard		$	14.75
5A	Trucking/Hauling (3.0.5)	City loads – 0–2.5 miles	Per Cubic Yard		$	7.35
5B	Trucking/Hauling (3.0.5)	Contractor loads – 0–2.5 miles	Per Cubic Yard		$	15.70
5C	Trucking/Hauling (3.0.5)	City loads – >2.5–5 miles	Per Cubic Yard		$	9.45
5D	Trucking/Hauling (3.0.5)	Contractor loads – >2.5–5 miles	Per Cubic Yard		$	17.80
5E	Trucking/Hauling (3.0.5)	City loads – >5–10 miles	Per Cubic Yard		$	10.50
5F	Trucking/Hauling (3.0.5)	Contractor loads – >5–10 miles	Per Cubic Yard		$	18.90
5G	Trucking/Hauling (3.0.5)	City loads – >10–15 miles	Per Cubic Yard		$	14.15
5H	Trucking/Hauling (3.0.5)	Contractor loads – >10–15 miles	Per Cubic Yard		$	22.50
5I	Trucking/Hauling (3.0.5)	City loads – >15–20 miles	Per Cubic Yard		$	15.70
5J	Trucking/Hauling (3.0.5)	Contractor loads on City trucks – >15–20 miles	Per Cubic Yard		$	25.10
5K	Trucking/Hauling (3.0.5)	Contractor loads on Contractor trucks – >15–20 miles	Per Cubic Yard		$	25.10
6A	Estimated Usage	Clay (Cover) – includes excavation & loading	Per Cubic Yard	200–500 Annually	$	12.55
6B	Estimated Usage	River Sand – Normal Annual Usage	Per Cubic Yard	200 Annually	$	16.00
		River Sand – Emergency/Disaster Usage	Per Cubic Yard	3,000 As Needed		

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1503048

Date Filed:
08/14/2026

Date Acknowledged:
08/18/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
Rio Grande Hauling LLC
Brownsville, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
288-26-EPW-IFB
Hauling Services

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Rio Grande Hauling	BROWNSVILLE, TX, TX United	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

Form 10 - Cooperative Use Authorization & Administrative Fee Acknowledgment

Purpose

This form allows the Respondent to indicate whether it elects to participate in optional cooperative purchasing arrangements and acknowledges the associated administrative fee requirements if cooperative use is accepted. Cooperative use is not mandatory and is offered at the Respondent's discretion. By completing this form, the Respondent clearly identifies its intent regarding cooperative participation for contracts awarded by the City of Brownsville, Texas.

Solicitation No.: _288-26-EPW-IFB_____

Respondent Information

Legal Entity Name: __Rio Grande Hauling_____

Primary Contact Name: __Fabian de la Garza_____

Title: ___Managing Partner_____

Telephone: _956-793-5883_____ **Email:** __Fabian@rghauling.com____

Optional Cooperative Use Authorization

☒ **YES** – The Respondent **agrees** to allow cooperative use

☐ **NO** – The Respondent **declines** cooperative use

If **YES** is selected, the Respondent acknowledges and agrees that:

Cooperative Use Authorization

It is the intent of the City of Brownsville, Texas ("City") that any contract resulting from this solicitation may be made available for use by other governmental entities, to the maximum extent permitted under applicable federal, state, and local laws, including but not limited to Texas Government Code Chapter 791 (Interlocal Cooperation Act) and other applicable joint purchasing statutes. The awarded contractor agrees to extend the same pricing, terms, and conditions of this contract to any eligible public agency, political subdivision, or governmental entity that elects to purchase goods or services under this contract, provided that such entity issues its own purchase order, contract, or interlocal agreement that references the City of Brownsville's contract. Each participating entity shall be solely responsible for its own contractual obligations, including but not limited to the issuance of purchase orders, receipt of goods or services, and payment of invoices. The City of Brownsville shall not be responsible for the performance, payment, or administration of any obligations incurred by participating entities under this cooperative use provision.

Administrative Fee Acknowledgment

The City of Brownsville will utilize an administrative fee, in the form of a percentage of the cost, that will apply to all contracts between the awarded contractor, the City, or participants resulting from this solicitation. The administrative fee will be remitted by the contractor to Civic Marketplace on a quarterly basis, along with required quarterly reporting. The remuneration fee for this program will be 3% of sales. The administrative fee shall be included in the contractor's pricing and shall not be invoiced separately to the City or participating entities.

Certification

By signing below, the undersigned certifies that they are duly authorized to bind the Respondent, that all statements made in this form are true and correct, and that the Respondent's selection regarding cooperative use accurately reflects its intent.

Signature: Fabian de la Garza

Printed Name: _Fabian de la Garza_____

Title: __Managing Partner_____

Date: 8/4/2026

Company Name: Rio Grande Hauling

Phone: 956-793-5883

Email: fabian@rghauling.com

Contract Summary Form

Contract Number 288-26-EPW-IFB

Procurement Info	
Procurement Method:	**IFB, RFP, RFQ**
New Contract:	**Yes ☒ No ☐**
Advertisement Dates, if any:	**June 27, 2026 and July 4, 2026**
Award Date:	**Tuesday, September 1, 2026**
Contractor	
Vendor Name:	Rio Grande Hauling
Address:	6300 FM 1732 Brownsville, TX 78520
Point of Contact / Project Manager*:	Fabian De La Garza, Managing Partner
Email Address:	(956)793-5883 | fabian@rghauling.com
City Contact Information	
Department:	**Engineering and Public Works Department**
Point of Contact / Project Manager:	Maribel Guerrero
Email Address:	maribel.guerrero@brownsvilletx.gov
Contract Term	
Contract Amount:	As Needed Basis Per Exhibit C
Contract Base/Primary Term:	Three (3) Year Term
Renewal Periods (if any):	Two (2) optional one (1) year renewal periods
Total Term of Contract:	Not to Exceed Five Years
Important Contract Clauses	**Contract Term**
Pages that Require Signature	**Page 7**
Budget Information	
State or Federal Funds:	**Yes ☐ No ☒**

CITY OF BROWNSVILLE CONTRACT AGREEMENT FOR EXCAVATION, LOADING, AND HAULING SERVICES
288-26-EPW-IFB

This Agreement shall commence upon the approval of the City Commission and executed by the City of Brownsville's Mayor or designee. This agreement is between The City of Brownsville, Texas, hereinafter referred to as ("CITY") and Rio Grande Hauling hereinafter referred to as ("CONTRACTOR"), collectively referred to as "Parties" and individually as "Party".

1. **Documents**
   a. The following documents (collectively, "Contract Documents") are hereby incorporated into and made part of this Agreement.

      i. Scope of Services, Conditions and Additional Services (Exhibit A)
      ii. Term of Agreement (Exhibit B)
      iii. Compensation and Fees (Exhibit C)
      iv. Insurance (Exhibit D)
      v. Conflict of Interest Questionnaire (Exhibit E)
      vi. Texas Ethics Commission Certificate of Interested Parties (Exhibit F)
      vii. Cooperative Use Authorization & Administrative Fee Acknowledgment (Exhibit G)

2. **Scope of Services**
   a. Contractor shall perform the Services under this agreement upon written request orders by CITY. Unless otherwise specified in a project request, Contractor and CITY agree that the scope of work is deemed to include preliminary considerations and prerequisites, and all tasks which are an integral and inseparable part of the work described in the Contract Documents or by separate written request.
   b. Contractor will perform such Services in a diligent and workmanlike manner consistent with industry standards.
   c. By signing this Agreement, Contractor represents that it has thoroughly reviewed the Contract Documents incorporated into this Agreement, including but not limited to "Exhibit A" Scope of services and that it accepts the description of the Work and the conditions under which the Work is to be performed and completed.

3. **Independent Contractor; Personnel**
   a. Contractor enters into this Agreement as, and shall continue to be, an independent Contractor. All Services shall be performed only by Contractor and Contractor's employees. Under no circumstances shall Contractor, or any of Contractor's employees, look to CITY as his/her employer, or as a partner, agent or principal. Neither Contractor, nor any of Contractor's employees, shall be entitled to any benefits accorded to CITY's employees, including without limitation worker's compensation, disability insurance, vacation or sick pay. Contractor shall be responsible for providing, at Contractor's expense, and in Contractor's name, unemployment, disability, worker's compensation and other insurance, as well as any and all licenses and permits usual or necessary for conducting the Services. Contractor shall be responsible for paying all applicable local, state and federal taxes.
   b. Contractor represents and warrants to CITY that its employees performing Work hereunder will have sufficient expertise, training, licensure (if applicable) and experience to accomplish the Services.

4. **Term of Agreement.**
   a. The initial contract period shall commence upon approval by the City Commission and when executed by the City of Brownsville's Mayor or designee and shall end or be extended upon the terms specified

in Contract Documents "Exhibit B". The term or any continuation of this Agreement shall be subject to both the appropriation and the availability of funds by CITY.

5. Compensation

a. Contractor agrees that compensation for services shall be as specified in the Contract Documents "Exhibit C". It is acknowledged and agreed by Contractor that compensation, as enumerated in Exhibit C constitutes a limitation upon CITY's obligation to compensate Contractor for Contractor's services pursuant and related to this Agreement but it does not constitute a limitation of any sort upon Contractor's obligation to perform all items of work required by or which can be reasonably inferred from the Scope of Services.

b. Contractor may submit invoices for compensation no more often than monthly, but only after the services for which the invoices are submitted have been completed. An original invoice plus one copy are due within fifteen (15) days of the end of the month except the final invoice which must be received no later than sixty (60) days after this Agreement expires. Invoices shall designate the nature of the services performed and/or the goods provided. Notwithstanding any provision of this Agreement to the contrary, CITY may withhold, in whole or in part, payment to the extent necessary to protect itself from loss on account of inadequate or defective work that has not been remedied or resolved in a manner satisfactory to the CITY's Contract Administrator or failure to comply with this Agreement. The amount withheld shall not be subject to payment of interest by CITY.

6. Observation and Review of the Project.

a. The Contractor shall exercise reasonable care and due diligence in discovering and promptly reporting to the City defects or deficiencies in the work of the Contractor or any subContractors or sub-Contractors reasonably observed during regular site visits.

7. Ownership of Documents.

a. All documents prepared or furnished by the Contractor (and Contractor's subContractors or sub-Contractors) pursuant to this Agreement are instruments of service and shall become property of the City upon the termination of this Agreement. The Contractor is entitled to retain copies of all such documents.

8. Insurance

a. The Contractor shall furnish proof of insurance requirements as specified in Contract Documents "Exhibit D". The coverage is to remain in force at all times during the contract period and the minimum insurance coverage is required. The commercial general liability insurance policy shall name the City of Brownsville, Texas, as an "additional insured." This MUST be written in the description section of the insurance certificate, even if there is a check-off box on the insurance certificate. Any costs for adding the City as "additional insured" shall be at the Contractor's expense.

b. The CITY shall be given notice 10 days prior to cancellation or modification of any required insurance. The insurance provided shall be endorsed or amended to comply with this notice requirement. In the event that the insurer is unable to accommodate, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested and addressed to the Procurement Services Division.

c. The Contractor's insurance must be provided by an A.M. Best's "A-"rated or better insurance company authorized to issue insurance policies in the State of Texas, subject to approval by the City of Brownsville Department of Safety and Risk Management. Any exclusions or provisions in the insurance maintained

by the Contractor that excludes coverage for work contemplated in this solicitation shall be deemed unacceptable, and shall be considered breach of contract.

9. Termination

a. *Termination for Cause.* The aggrieved party may terminate this Agreement for cause if the party in breach has not corrected the breach within ten (10) days after written notice from the aggrieved party identifying the breach. CITY may also terminate this Agreement upon such notice as the City of Brownsville's City Manager deems appropriate under the circumstances in the event the City Manager determines that termination is necessary to protect the public health or safety. The parties agree that if the CITY erroneously, improperly or unjustifiably terminates for cause, such termination shall be deemed a termination for convenience, which shall be effective thirty (30) days after such notice of termination for cause is provided.

This Agreement may be terminated for cause for reasons including, but not limited to, Contractor's repeated (whether negligent or intentional) submission for payment of false or incorrect bills or invoices, failure to perform the Work to CITY's satisfaction; or failure to continuously perform the work in a manner calculated to meet or accomplish the objectives as set forth in this Agreement.

b. *Termination for Convenience.* CITY reserves the right, in its best interest as determined by the City of Brownsville's City Manager, to cancel this contract for convenience by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. In the event this Agreement is terminated for convenience, Contractor shall be paid for any services performed to CITY's satisfaction pursuant to the Agreement through the termination date specified in the written notice of termination. Contractor acknowledges and agrees that he/she/it has received good, valuable and sufficient consideration from CITY, the receipt and adequacy of which are hereby acknowledged by Contractor, for CITY's right to terminate this Agreement for convenience.

c. *Cancellation for Non-appropriated Funds.* CITY reserves the right, in its best interest as determined by the City of Brownsville's City Manager, to cancel this contract for non-appropriated funds or unavailability of funds by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. The obligation of CITY for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise provided by law.

d. *Force Majeure.* CITY and Contractor will be excused from the performance of their respective obligations under this agreement when and to the extent that their performance is delayed or prevented by any circumstances beyond their control including, fire, flood, explosion, strikes or other labor disputes, act of God or public emergency, war, riot, civil commotion, malicious damage, act or omission of any governmental authority, delay or failure or shortage of any type of transportation, equipment, or service from a public utility needed for their performance, provided that:

   i. The non performing party gives the other party prompt written notice describing the particulars of the Force Majeure including, but not limited to, the nature of the occurrence and its expected duration, and continues to furnish timely reports with respect thereto during the period of the Force Majeure;
   ii. The excuse of performance is of no greater scope and of no longer duration than is reasonably necessary when considered in light of the Force Majeure;
   iii. No obligations of either party that arose before the Force Majeure causing the excuse of performance are excused as a result of the Force Majeure; and
   iv. The non-performing party uses its best efforts to remedy its inability to perform.

v. Notwithstanding the above, performance shall not be excused under this Section for a period in excess of sixty (60) days, provided that in extenuating circumstances, CITY may excuse performance for a longer term. Economic hardship of the Contractor will not constitute Force Majeure. The term of the agreement shall be extended by a period equal to that during which either party's performance is suspended under this Section.

10. Materiality and Waiver of Breach.

a. CITY and Contractor agree that each requirement, duty, and obligation set forth herein is substantial and important to the formation of this Agreement and that each is, therefore, a material term hereof. CITY's failure to enforce any provision of this Agreement shall not be deemed a waiver of such provision or modification of this Agreement. A waiver of any breach of a provision of this Agreement shall not be deemed a waiver of any subsequent breach and shall not be construed to be a modification of the terms of this Agreement

11. Indemnification.

a. CONTRACTOR COVENANTS AND AGREES TO FULLY INDEMNIFY, DEFEND AND HOLD HARMLESS, THE CITY AND THE ELECTED OFFICIALS, EMPLOYEES, OFFICERS, DIRECTORS, VOLUNTEERS AND REPRESENTATIVES OF THE CITY, INDIVIDUALLY AND COLLECTIVELY, FROM AND AGAINST ANY AND ALL COSTS, CLAIMS, LIENS, DAMAGES, LOSSES, EXPENSES, FEES, FINES, PENALTIES, PROCEEDINGS, ACTIONS, DEMANDS, CAUSES OF ACTION, LIABILITY AND SUITS OF ANY KIND AND NATURE, INCLUDING BUT NOT LIMITED TO, PERSONAL OR BODILY INJURY, DEATH AND PROPERTY DAMAGE, MADE UPON THE CITY DIRECTLY OR INDIRECTLY ARISING OUT OF, RESULTING FROM OR RELATED TO CONTRACTOR'S ACTIVITIES UNDER THIS AGREEMENT, INCLUDING ANY ACTS OR OMISSIONS OF CONTRACTOR, ANY AGENT, OFFICER, DIRECTOR, REPRESENTATIVE, EMPLOYEE, CONTRACTOR OR SUBCONTRACTOR OF CONTRACTOR, AND THEIR RESPECTIVE OFFICERS, AGENTS EMPLOYEES, DIRECTORS AND REPRESENTATIVES WHILE IN THE EXERCISE OF THE RIGHTS OR PERFORMANCE OF THE DUTIES UNDER THIS AGREEMENT. THIS INDEMNIFICATION PROVISION IS SPECIFICALLY INTENDED TO OPERATE AND BE EFFECTIVE EVEN IF IT IS ALLEGED OR PROVEN THAT ALL OR SOME OF THE DAMAGES BEING SOUGHT WERE CAUSED, IN WHOLE OR IN PART, BY ANY ACT, OMISSION OR NEGLIGENCE OF THE CITY. THIS INDEMNITY PROVISION IS INTENDED TO INCLUDE, WITHOUT LIMITATION, INDEMNITY FOR COSTS, EXPENSES AND LEGAL FEES INCURRED BY THE CITY IN DEFENDING AGAINST SUCH CLAIMS AND CAUSES OF ACTIONS. IN THE EVENT CONTRACTOR AND CITY ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY SHALL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS FOR THE STATE OF TEXAS, WITHOUT, HOWEVER, WAIVING ANY

GOVERNMENTAL IMMUNITY AVAILABLE TO THE CITY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.

b. **THE PROVISIONS OF THIS INDEMNITY ARE SOLELY FOR THE BENEFIT OF THE PARTIES HERETO AND NOT INTENDED TO CREATE OR GRANT ANY RIGHTS, CONTRACTUAL OR OTHERWISE, TO ANY OTHER PERSON OR ENTITY. CONTRACTOR SHALL ADVISE THE CITY IN WRITING WITHIN 24 HOURS OF ANY CLAIM OR DEMAND AGAINST THE CITY OR CONTRACTOR KNOWN TO CONTRACTOR RELATED TO OR ARISING OUT OF CONTRACTOR'S ACTIVITIES UNDER THIS AGREEMENT, AND SHALL SEE TO THE INVESTIGATION AND DEFENSE OF SUCH CLAIM OR DEMAND AT CONTRACTOR'S COST. THE CITY SHALL HAVE THE RIGHT, AT ITS OPTION AND AT ITS OWN EXPENSE, TO PARTICIPATE IN SUCH DEFENSE WITHOUT RELIEVING CONTRACTOR OF ANY OF ITS OBLIGATIONS UNDER THIS PARAGRAPH.**

c. **This Indemnification provision shall survive termination or expiration of the Agreement.**

12. Miscellaneous Provisions.

a. *Successors and Assigns.* All of the provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, if any, successors, and assigns.

b. *Choice of Law.* The laws of the state of Texas shall govern the validity of this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties hereto.

c. *No Waiver of Governmental Immunity.* NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED TO WAIVE CITY'S GOVERNMENTAL IMMUNITY FROM LAWSUIT, WHICH IMMUNITY IS EXPRESSLY RETAINED TO THE EXTENT IT IS NOT CLEARLY AND UNAMBIGUOUSLY WAIVED BY STATE LAW.

d. *Assignment.* Contractor shall not assign any of Contractor's rights under this Agreement or delegate the performance of any of Contractor's duties hereunder, without the prior consent of CITY.

e. *Modification or Amendment.* No amendment, change or modification of this Agreement shall be valid unless in writing signed by the parties hereto.

f. *Venue.* This Agreement and any and all matters arising directly or indirectly here from shall be governed by and construed and enforced in accordance with the Laws of the State of Texas, in the Federal and State Courts of Cameron County, Texas having jurisdiction. (b) If at any time there is a dispute between or among the Parties with respect to any matter arising directly or indirectly from this Agreement (an "Agreement Matter"), the Parties agree that, prior to seeking judicial remedy, they will engage in face-to-face negotiations in an attempt to resolve such dispute and shall, upon failing to negotiate a mutually-satisfactory resolution, choose a mutually agreeable neutral third party to mediate such dispute. Mediation shall be non-binding and shall be confidential.

g. *Notices.* Any and all notices, demands, or other communications required or desired to be given hereunder by any party shall be in writing and shall be validly given or made to another party if personally served, or if deposited in the United States mail, certified or registered, postage prepaid, return receipt requested. If such notice or demand is served personally, notice shall be deemed constructively made at the time of such personal service. If such notice, demand or other communication is given by mail, such notice shall be conclusively deemed given five days after deposit thereof in the United States

mail addressed to the party to whom such notice, demand or other communication is to be given as follows:

If to Contractor:	Rio Grande Hauling 6300 FM 1732 Brownsville, TX 78520
If to CITY:	City of Brownsville 1001 E. Elizabeth St. Brownsville, Texas, 78521

Any party hereto may change its address for purposes of this paragraph by written notice given in the manner provided above.

h. *Entire Understanding.* This document and any exhibit attached constitute the entire understanding and agreement of the parties, and any and all prior agreements, understandings, and representations are hereby terminated and canceled in their entirety and are of no further force and effect.

i. *Unenforceability of Provisions.* If any provision of this Agreement, or any portion thereof, is held to be invalid and unenforceable, then the remainder of this Agreement shall nevertheless remain in full force and effect.

IN WITNESS WHEREOF the undersigned have executed this Agreement as of the day and year first written above.

CITY OF BROWNSVILLE	CONTRACTOR
Signature: _____	Signature: Fabian de la Garza
Print Name: _____	Print Name: _Fabian de la Garza___
Title: _____	Title: __Managing Partner _____
Date: _____	Date: ___08/14/2026_____

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

"EXHIBIT A" - Statement of Work (SOW)

Technical Specifications and Scope of Work

If at any time the materials or services provided by this contractor fail to meet the specifications as included herein, which could be determined by a Testing Laboratory of the City of Brownsville, Public Works Department, either through its own facilities or testing services procured by it, successful bidder shall be in breach of contract.

Failure to timely deliver required items under this contract shall not be excusable by reason of deficiencies in the Contractor's fleet. Should the Contractor fail to meet such schedule of delivery, the City shall have the option to cancel this contract or procure the items elsewhere.

The City of Brownsville by receipt of bid proposals and/or execution of a contract with the successful bidder does not guarantee any minimum purchase of the items bid upon even with a Purchase Order for a given volume or set of services. **The City will only be invoiced and accountable for the amount of materials or services used.** However, the past consumption of soil materials would expect that the contractor would have a minimum of 80,000 cubic yards of cover materials available annually and a minimum of 90,000 cubic yards of construction soils available annually.

The quantity of soil to be used for construction purposes will be surveyed by the City's contracted professional registered land surveyor. Quantities may also be calculated by the City's Quality Assurance contractors (State registered engineers who are provided with the final surveys from a registered surveyor). The survey will be based on whatever specification is necessary to satisfy TCEQ permitting requirements for the project. For example, it may be necessary to use grid points or stations every 10,000 square feet. **These volumes are calculated after the construction project is complete.** Surveyed quantities are the preferred method of calculating payment. Counting loads is only to be used if it is not practical for the City to use surveys. If load counts are to be used by the contractor each full load (of a known volume) will be documented by the contractor with a trip ticket which will be numbered, dated and signed by a City representative.

Delivery/Pick Up/Trucking- Delivery of soil or services shall be the morning of the next day after receipt of order (A.R.O.).

- **Delivery Option l:** All soils will be F.O.B. the final destination including any and all delivery charges.
- **City Pick Up Option 2:** City pick up with City equipment only (including excavation equipment) at the supplier's yard or barrow, which must have an accessible and permissible haul road route from the Landfill to the stockyard or barrow for heavy off-road equipment. This must be within 1.5 miles of the Landfill.
- **City Pick Up Option 3:** City pick up at the supplier's yard or barrow, and the supplier must load City trucks or equipment. There must be an accessible and permissible haul road route from the Landfill to the yard or barrow for heavy off-road equipment. This must be within 1.5 miles of the landfill.
- **Hauling Option 4:** During construction events the City may use soils and require trucking/hauling from sources (a) within the Landfill boundaries, which is a one way haul of less than 1 mile or (b) from neighboring land, which is a one way haul of less than 1.5 miles **"offsite"** (Property located outside the permitted permanent boundary line of the landfill) of the landfill. This soil will need to be transported and placed or stored within the boundaries of the Landfill. The City or their authorized representative may excavate and load the soils or the contractor may be required to excavate and load the soils to be transported. The successful contractor should be able to move as much as 2,500 cubic yards daily during construction events.
- **Hauling Option 5:** During construction events the City may use soils and require trucking/hauling from sources located throughout the community. This soil will need to be transported and placed or stored within the boundaries of the Landfill. The City or their authorized representative may excavate and load the soils or the contractor may be required to excavate and load the soils to be transported. The successful contractor should be able to move as much as 2,500 cubic yards daily during construction events.
- **Hauling Option 6:** Prices may be used for other projects throughout the city for hauling, loading and excavation if the conditions of said projects are equal to or better than the conditions at the landfill. To perform work at locations other than the landfill must be equally agreed to by the contractor and the City on a case-by-case basis. Either the City or the contractor may decline or agree to use this contract for non-landfill projects at any time. The City will have the right to seek the services of alternate vendors under the conditions that the contractor is not able to perform non-landfill projects. Contractor shall have more than one yard or barrow which must have an accessible and permissible haul road route to designated job site(s).

The Brownsville Landfill is located at 9000 FM 802, Brownsville, Texas.

TECHNICAL AND PERFORMANCE SPECIFICATIONS

- Construction clay and sand must meet the specifications provided in the MSW Permit # 01273-A SLQCP. This is approved by TCEQ.
- Clay to be used for cell construction purposes will have a coefficient of permeability of 1x10(exp-7) cm/sec or less with a Liquid Limit of not less than 30 and a Plasticity index (PI) of not less than 15. The percent soil fines passing the No. 200 mesh sieve will be at least 30%.
- Sand to be used for construction purposes will have a minimum hydraulic conductivity of 1.7x10(exp-3) cm/sec.
- Daily cover material must be clean earthen material. It may not have any vegetative or other contamination. It may not contain rocks and may not be recycled from another use. It must have some clay type properties which will not allow the material to blow away in the wind.
- Test Requirements - the Contractor shall submit, with his bid, test reports from a City approved testing laboratory, providing the proposed materials compliance and adequacy.
- **Test reports shall be performed prior to bid opening.**
- *It shall be the Contractor's responsibility to provide and pay for the testing as stated herein.*
- The contractor must have a stockpile of materials and will submit his estimated quantities.

Measurement for pay purposes will be:

- Materials used for construction purposes (clay and sand).

  Materials used for cell construction will be paid by surveying and calculating the placed quantities. This will be performed by a registered land surveyor at the City Landfill. The City will pay for the survey.

- Materials used for non-construction purposes. For City pick up or delivery.

  Materials used for daily cover or non-construction purposes will be calculated for payment quarterly by a registered land surveyor at the contractor's barrow area. However, in areas where this is not practical, load counts will be accepted. The City will keep track of load counts hauled with City equipment with known capacities. The

contractor will submit trip tickets for loads hauled by the contractor; each trip ticket must be dated, numbered and signed by a City representative.

This soils component of this contract will be awarded on the basis of the lowest price per cubic yard for City pick-up. If a contract cannot be awarded based on the City pick- up option, then the contract may be awarded based on price per cubic yard delivered.

The hauling/trucking portion of this contract listed may be awarded separately to the lowest responsible bidder. If for any reason the lowest bidder cannot perform to the needs of the City, then the next lowest responsible bidder may be used.

CALL LIST CONTRACT AWARD

It is the intent of this solicitation to procure a term contract that shall be awarded to a maximum of three (3) general suppliers. The call list shall operate at the discretion of The City of Brownsville. Depending on the type of work and schedule, the call list shall be used to find the necessary materials in a specified time and quantity. If one vendor does not meet the needs of the city, the next vendor shall be called on the list.

In the event that all 3 contractors renege on the City issued Purchase Order, then the contract shall be rescinded, and the City will re-bid a new term contract. The 3 contractors under the rescinded contract shall be ineligible to bid on the subsequent solicitation.

Term of Contract

This Solicitation is for a three (3) year contract agreement with the option to renew the term of this contract annually for two (2) one-year terms each, subject to vendor acceptance, satisfactory performance and determination that renewal will be in the best interest of the City. All costs, terms and conditions shall remain firm for the initial period of the contract and for any renewal period. Under this contract, any other City of Brownsville department shall have the right and option to **"Piggy-Back"** on contract to purchase limestone materials.

"EXHIBIT B" – Contract Term

Contract Term Details: The Contract, pending City Commission approval, includes a Base Period, Optional Renewal Periods, and a Total Contract Term as follows:

- **Base Period:** This initial period will begin upon City Commission approval and end on **September 30, 2029**

- **Optional Renewal Periods:** There are two (2) optional one-year renewal periods. If exercised, these periods will extend the contract as follows:
  - **First Renewal Period:** October 1, 2029, to September 30, 2030
  - **Second Renewal Period:** October 1, 2030, to September 30, 2031

- **Total Term of the Contract:** Including the Base Period and both optional renewals, the total contract term shall not exceed five (5) years, with a final end date of **September 30, 2031**, if all renewals are exercised.

Bid Price Form

Clay, Sand or cover soils F.O.B. delivered as per **Item 3.0.1** for the unit price of:	
A. Per cubic yard for Clay	$ 22.50
B. Per cubic yard for Sand	$ 22.50
C. Per cubic yard for Cover Soils	$ 22.50
River rock, Limestone, Sludge, & Debris F.O.B. delivered as per **Item 3.0.1** for the unit price of:	
A. Per cubic yard for River rock	$ 56.75
B. Per cubic yard for Limestone	$ 61.50
C. Per cubic yard for Sludge	$ 19.50 Hauling only
D. Per cubic yard for Debris	$ 19.50 Hauling only
Clay, F.O.B. City Stockyard as per revised **Item 3.0.2** for the unit price of price of:	

A. Per cubic yard of Clay, Contractor excavates "loads and hauls" with contractor equipment from City's yard or borrow to Landfill. Approximately 3 miles roundtrip (within landfill – city property)	$ 14.25
Trucking or Hauling soils as per **Item 3.0.4** for the unit price of:	
A. Per cubic yard, City excavates *"and loads"* on Contractor's trucks at Landfill site < 1 mile haul one-way.	$ 6.25
B. Per cubic yard, Contractor excavates *"and loads"* with contractor equipment on Contractor's trucks at Landfill site < 1 mile haul one-way.	$ 14.75
C. Per cubic yard, City excavates *"and loads"* on Contractor's trucks at neighboring land, < 1.5 mile haul one-way.	$ 6.25
D. Per cubic yard, Contractor excavates *"and loads"* with contractor equipment on Contractor's trucks at neighboring land < 1.5 mile haul one way.	$ 14.75

Trucking or Hauling soils as per **Item 3.0.5** for the unit price of:	
A. Per cubic yard, City excavates and loads on "*Contractor's*" trucks 0-2.5 miles radius of job site to designated storage/disposal site.	$ 7.35
B. Per cubic yard Contractor excavates and loads with contractor equipment on *"Contractor's"* trucks 0-2.5 miles radius of job site to designated storage/disposal site.	$ 15.70
C. Per cubic yard City excavates and loads on Contractor's trucks > 2.5 up to 5 miles radius of job site to designated storage/disposal site.	$ 9.45
D. Per cubic yard Contractor excavates and loads with contractor equipment on *"Contractor's"* trucks > 2.5 up to 5 miles radius of job site to designated storage/disposal site.	$ 17.80
E. Per cubic yard City excavates and loads on Contractor's trucks > 5 up to 10 miles radius of job site	$ 10.50

to designated storage/disposal site.	
F. Per cubic yard Contractor excavates and loads with contractor equipment on *"Contractor's"* trucks > 5 up to 10 miles radius of job site to designated storage/disposal site.	$ 18.90
G. Per cubic yard City excavates and loads on Contractor's trucks > 10 up to 15 miles radius of job site to designated storage/disposal site.	$ 14.15
H. Per cubic yard Contractor excavates and loads with contractor equipment on *"Contractor's"* trucks > 10 up to 15 miles radius of job site to designated storage/disposal site.	$ 22.50
I. Per cubic yard City excavates and loads on Contractors trucks >15 up to 20 miles radius of job site to designated storage/disposal site.	$ 15.70
J. Per cubic yard Contractor excavates and loads with contractor equipment on City trucks >15 up to 20 miles radius of	$ 25.10

job site to designated storage/disposal site.	
K. Per cubic yard Contractor excavates and loads with contractor equipment on Contractors trucks >15 up to 20 miles radius of job site to designated storage/disposal site.	$ 25.10
City will provide trucks; Contractor will excavate and load on City trucks at Contractors yard/barrow.	
Clay (Cover) • Estimated usage: 200-500 Cu. Yds/ Annually per cubic yard (to include excavation and loading of material)	$ 12.55
River Sand • Estimated usage: 200 Cu. Yds/Annually • 3,000 Cu. Yds/emergency disaster/hurricane per cubic yard (to include excavation and loading of material)	$ 16.00

"EXHIBIT D"- Insurance

Contractor shall obtain and maintain insurance coverage as agreed in paragraph 7 of the City of Brownsville Contract Agreement and ensure that coverage with the parameters contained herein remains in full force at all times during the contract period as follows:

1. **Workers' Compensation and Employers' Liability Insurance**

   Minimum Limits Consistent with Texas Worker's Compensation Act (Section 401):

   1. $100,000 bodily injury each accident
   2. $500,000 bodily injury by disease policy limit
   3. $100,000 Bodily injury by disease each employee

   Any firm performing work for or on behalf of the City of Brownsville must provide Workers' Compensation insurance.

2. **Commercial General Liability Insurance**

   Covering premises-operations, products-completed operations, independent Contractors and contractual liability, with a combined single limit bodily injury/property damage of $1,000,000. This coverage must include, but not be limited to:

   1. Coverage for the liability assumed by the Contractor under the indemnity provision of the contract.
   2. Coverage for Premises/Operations
   3. Products/Completed Operations
   4. Broad Form Contractual Liability
   5. Independent Contractors

3. **Automobile Liability Insurance**

   Covering all owned, hired and non-owned automobile equipment with the following Limits:

   1. Bodily injury

      $250,000 each person,

      $500,000 each occurrence
   2. Property damage

      $100,000 each occurrence

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 01/06/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER 832-755-1133 832-201-0955 BIG Truck Agency 2517 Fairway Park Dr Suite 202 Houston, TX 77092	**CONTACT NAME:** BIG Truck Agency **PHONE (A/C, No, Ext):** 832-755-1133 **FAX (A/C, No):** 832-201-0955 **E-MAIL ADDRESS:** john@bigtruckagency.com
INSURED 956 793-5883 RIO GRANDE HAULING LLC. 1952 S PRICE RD BROWNSVILLE, TX 78521	**INSURER(S) AFFORDING COVERAGE** / **NAIC #** **INSURER A :** GREAT WEST CASUALTY COMPANY / 11371 **INSURER B :** **INSURER C :** Texas Mutual Insurance Company **INSURER D :** **INSURER E :** **INSURER F :**

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	☑ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☑ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☐ PRO-JECT ☐ LOC ☐ OTHER:			GRT32170B	11/07/2025	11/07/2026	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY ☐ ANY AUTO ☐ OWNED AUTOS ONLY ☑ SCHEDULED AUTOS ☑ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY ☑ PIP ☑ UM/UIM			GRT32170B	11/07/2025	11/07/2026	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
	☐ UMBRELLA LIAB ☐ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ☐ RETENTION $						EACH OCCURRENCE AGGREGATE	$ $
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBEREXCLUDED? Y / N ☐ (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A		0001312578	09/14/2025	09/14/2026	☐ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
A	PHYSICAL DAMAGE			GRT32170B	11/07/2025	11/07/2026	DED: $5,000	COMP/COLL

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

City of Brownsville
1001 E. Elizabeth St
Brownsville TX 78520

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

JOHN MORALES

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Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent must disclose any conflicts of interest related to the goods and/or services associated with this solicitation. A conflict-of-interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s). The City reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

If a conflict of interest exists, the Respondent must:

- Complete Form CIQ
- File the form with the City Secretary
- Include a copy of the completed Form CIQ with the proposal

If no conflict of interest exists, Form CIQ is not required. Regardless of whether a conflict exists, this Form 2 must be completed and signed.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict-of-interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1034 E Levee Street, City Plaza, 1st Floor, Brownsville, TX 78520
Email: City.Secretary@brownsvilletx.gov
Phone: (956) 548-6042

Certification

By signing below, the Respondent certifies that they have reviewed and understand the requirements of Chapter 176, Texas Local Government Code and have determined whether a conflict of interest exists. The Respondent further certifies that, if a conflict of interest exists, a completed Conflict of Interest Questionnaire (Form CIQ) has been or will be filed with the City Secretary in accordance with state law and that a copy of the completed Form CIQ is included with this submission, if applicable. The Respondent affirms that all information provided is true and correct and that they are authorized to bind the entity.

Signature: Fabian de la Garza

Printed Name: Fabian de la Garza

Title: Managing Partner

Date: 8/3/2026

Company Name: Rio Grande Hauling

Phone: 956-793-5883

Email: Fabian@rghauling.com

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY
Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

_____
Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

_____ _____
Signature of vendor doing business with the governmental entity Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC's website in accordance with state law.

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed in accordance with TEC requirements.

Signature: Fabian de la Garza

Printed Name: __Fabian de la Garza_____

Title: _Managing Partner_____

Date: __08/14/2026_____

Company Name: __Rio Grande Hauling_____

Phone: __956-739-2806__

Email: ___Fabian@rghauling.com_____

CERTIFICATE OF INTERESTED PARTIES — FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1503048

Date Filed:
08/14/2026

Date Acknowledged:
08/18/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Rio Grande Hauling LLC
Brownsville, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

288-26-EPW-IFB
Hauling Services

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Rio Grande Hauling	BROWNSVILLE, TX, TX United	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

Form 10 - Cooperative Use Authorization & Administrative Fee Acknowledgment

Purpose

This form allows the Respondent to indicate whether it elects to participate in optional cooperative purchasing arrangements and acknowledges the associated administrative fee requirements if cooperative use is accepted. Cooperative use is not mandatory and is offered at the Respondent's discretion. By completing this form, the Respondent clearly identifies its intent regarding cooperative participation for contracts awarded by the City of Brownsville, Texas.

Solicitation No.: _288-26-EPW-IFB_____

Respondent Information

Legal Entity Name: __Rio Grande Hauling_____

Primary Contact Name: __Fabian de la Garza_____

Title: ___Managing Partner_____

Telephone: _956-793-5883_____ **Email:** __Fabian@rghauling.com____

Optional Cooperative Use Authorization

☒ **YES** – The Respondent **agrees** to allow cooperative use

☐ **NO** – The Respondent **declines** cooperative use

If **YES** is selected, the Respondent acknowledges and agrees that:

Cooperative Use Authorization

It is the intent of the City of Brownsville, Texas ("City") that any contract resulting from this solicitation may be made available for use by other governmental entities, to the maximum extent permitted under applicable federal, state, and local laws, including but not limited to Texas Government Code Chapter 791 (Interlocal Cooperation Act) and other applicable joint purchasing statutes. The awarded contractor agrees to extend the same pricing, terms, and conditions of this contract to any eligible public agency, political subdivision, or governmental entity that elects to purchase goods or services under this contract, provided that such entity issues its own purchase order, contract, or interlocal agreement that references the City of Brownsville's contract. Each participating entity shall be solely responsible for its own contractual obligations, including but not limited to the issuance of purchase orders, receipt of goods or services, and payment of invoices. The City of Brownsville shall not be responsible for the performance, payment, or administration of any obligations incurred by participating entities under this cooperative use provision.

Administrative Fee Acknowledgment

The City of Brownsville will utilize an administrative fee, in the form of a percentage of the cost, that will apply to all contracts between the awarded contractor, the City, or participants resulting from this solicitation. The administrative fee will be remitted by the contractor to Civic Marketplace on a quarterly basis, along with required quarterly reporting. The remuneration fee for this program will be 3% of sales. The administrative fee shall be included in the contractor's pricing and shall not be invoiced separately to the City or participating entities.

Certification

By signing below, the undersigned certifies that they are duly authorized to bind the Respondent, that all statements made in this form are true and correct, and that the Respondent's selection regarding cooperative use accurately reflects its intent.

Signature: Fabian de la Garza

Printed Name: _Fabian de la Garza_____

Title: __Managing Partner_____

Date: 8/4/2026

Company Name: Rio Grande Hauling

Phone: 956-793-5883

Email: fabian@rghauling.com

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Carlos Lastra, City Engineer
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to award the second and final renewal to contract #GTS-67-0622 for Geotechnical and Construction Material Testing Services, by and between the City of Brownsville, a Texas municipal corporation, and the following firms: B2Z Engineering LLC., Millennium Engineers Group, Raba Kistner, Inc., and Terracon Consultants, Inc., for the Street and Drainage Capital Improvements Projects and Miscellaneous Projects for the City of Brownsville. (Engineering and Public Works Department)

Summary:
The Engineering and Public Works Department request to exercise our option for this second and final renewal of the contract #GTS-67-0622 for Geotechnical and Construction Material Testing Services for the Street and Drainage Capital Improvement Projects and Miscellaneous Projects for the City of Brownsville to B2Z Engineering, LLC., Millennium Engineers Group, Raba Kistner, Inc., and Terracon Consultants, Inc.

Initial contract terms and renewals:

- The initial contract period was from September 20, 2022, through September 20, 2025.
- The first renewal of this contract will be from September 21, 2025, through September 20, 2026.
- This second and final renewal of the contract will be from September 20, 2026, through September 20, 2027.

This contract has the option for two (2) additional one (1) year extensions for a total of five (5) years ending on September 20, 2027.

Project Scope and Analysis:

Funding:

Source: TBD

Amount: To be determined based on projects

Local Contribution if Applicable:

Recommendation:
The City of Brownsville Engineering and Public Works Department recommends the approval to award this second and final renewal of contract #GTS-67-0622 for the Geotechnical and Construction Material Testing Services for the Street and Drainage Capital Improvement Projects and Miscellaneous Projects for the City of Brownsville. Form of renewal to be approved by the Office of the City Attorney.

Commission Pillar:
Infrastructure

Attachments:
None

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to Authorize Task Order No. 8 with Jviation, a Woolpert Company, LLC, under Master Agreement RFQ PES-63-0523, in the amount of $321,646.00, for Airfield Signage Upgrade Design, Bidding, Construction Administration, and Construction Coordination Services at the Brownsville South Padre Island International Airport. (Airport Department)

Summary:
The Brownsville South Padre Island International Airport is seeking professional engineering services for the design, bidding, construction administration, and construction coordination of the Airfield Signage Upgrade Project. The project will replace aging airfield guidance signs, associated foundations, and lighting components, and convert the system to LED technology. These improvements will enhance airfield safety, improve sign visibility, and reduce ongoing maintenance costs. The project is funded through an FAA grant with 95% federal participation and a 5% local match.

Project Scope and Analysis:
The Brownsville South Padre Island International Airport is seeking professional engineering services for the design, bidding, construction administration, and construction coordination of the Airfield Signage Upgrade Project. The project will replace aging airfield guidance signs, associated foundations, and lighting components, and convert the system to LED technology. These improvements will enhance airfield safety, improve sign visibility, and reduce ongoing maintenance costs.

This item authorizes Task Order No. 8 under Master Agreement RFQ PES-63-0523 for Professional Architectural and Engineering Services. The master agreement was previously approved by the City Commission, and this task order provides project-specific engineering services for the Airfield Signage Upgrade Project at the Brownsville South Padre Island International Airport. The project is funded through an FAA grant with 95% federal participation and a 5% local match.

TOTAL: $321,646

FAA Match (95%): $305,563.7
City Match (5%): $16,083

Funding:

Source:

Amount: $321,646

Local Contribution if Applicable: 16,082.3 (5% local match)

Recommendation:

Commission Pillar:

Attachments:

1. Procurement Analysis Task Order 8 ; Jviation, A Woolpert Company, LLC (1)

PROCUREMENT ANALYSIS

Date: Wednesday, September 16, 2026
To: Mr. John Cowen Jr., City Mayor
From: Mr. Alan Guard, Interim City Manager
CC: Mr. Damian Espinoza, Procurement Director
Mr. Faisal Khalifa, Airport Director

Agenda Title:
Agenda Item for the City Commission meeting of Tuesday, October 6, 2026.
"Consideration and Action to Authorize Task Order No. 8 with Jviation, a Woolpert Company, LLC, under Master Agreement RFQ PES-63-0523, in the amount of $321,646.00, for Airfield Signage Upgrade Design, Bidding, Construction Administration, and Construction Coordination Services at the Brownsville South Padre Island International Airport.

Executive Summary:

- Department: Airport Department
- Exemption Type: Task Order Under Existing Master Agreement RFQ PES-63-0523
- Contract Number: Task Order No. 8
- Vendor: Jviation, a Woolpert Company, LLC
- Contract Amount: $321,646.00
- Term: Through completion of the Task Order services

Background:
The Brownsville South Padre Island International Airport is seeking professional engineering services for the design, bidding, construction administration, and construction coordination of the Airfield Signage Upgrade Project. The project will replace aging airfield guidance signs, associated foundations, and lighting components, and convert the system to LED technology. These improvements will enhance airfield safety, improve sign visibility, and reduce ongoing maintenance costs.

Exemption Justification:
Professional Services Procurement (Gov't Code §2254) – Selection of professional services based on qualifications, not price.

This item authorizes Task Order No. 8 under Master Agreement RFQ PES-63-0523 for Professional Architectural and Engineering Services. The master agreement was previously approved by the City Commission, and this task order provides project-specific engineering services for the Airfield Signage Upgrade Project at the Brownsville South Padre Island International Airport.

Vendor Information:
Jviation, a Woolpert Company, LLC
Point of Contact: Jason Virzi, PE, Vice President

Exhibits & Supporting Documents:

- Exhibit A – Task Order No. 8
- Exhibit B – Form 2 - Statement of Conflict of Interest
- Exhibit C – Form 3 - Texas Ethics Commission Certificate of Interested Parties (1295)

Recommendation:
The Procurement Department recommends that the City Commission authorize Task Order No. 8 with Jviation, a Woolpert Company, LLC, under Master Agreement RFQ PES-63-0523, in the amount of $321,646.00, for Airfield Signage Upgrade Design, Bidding, Construction Administration, and Construction Coordination Services at the Brownsville South Padre Island International Airport.

Docusign Envelope ID: 61C8E2D6-F660-8A44-8246-4513AA443CCA

EXHIBIT "A"

Brownsville South Padre Island International Airport
Master Agreement for Architectural and Engineering Services

TASK ORDER FORM

Brownsville South Padre International AIRPORT PROJECT NO. 3-48-0031-065-2026

TASK ORDER AUTHORIZATION NUMBER EIGHT
TO AGREEMENT #RFQ PES-63-0523
FOR PROFESSIONAL ARCHITECTURAL & ENGINEERING SERVICES
DATED SEPTEMBER 05, 2023
BETWEEN ARCHITECTURAL AND ENGINEERING FIRM AND
CITY OF BROWNSVILLE, BROWNSVILLE SOUTH PADRE ISLAND INTERNATIONAL AIRPORT, BROWNSVILLE, TX,

City and Architectural & Engineering Firm agree to amend their Master Contract Agreement for improvements to the Brownsville South Padre Island International Airport, Brownsville Texas to include fees for architectural and engineering services. The improvement item is included in the Scope of Services of the original contract. The items covered by this Task Order and/or Amendment are described as follows:

Airfield Signage Upgrade (Design, Bidding, & Construction Services)

City agrees to pay Architectural & Engineering Firm for the services listed under Section 1 of the original Contract Agreement in the following manner:

PART A - BASIC SERVICES DESIGN

Preliminary Design .....Lump Sum of $15,630.00
Design .....Lump Sum of $115,994.00
Bidding .....Lump Sum of $10,660.00

Total PART A.....Lump Sum of $142,284.00

Method of payment shall be as follows:

If work is abandoned, or terminated, after obtaining approval by the Sponsor and the FAA of the final construction plans and specifications, the Sponsor shall reimburse up to 100 percent of the total lump sum as listed under PART A, and 100 percent of the invoiced costs for soils and pavement investigations, topographic surveys, and hydrological studies, or other studies as listed under PART B.

PART B - SPECIAL SERVICES

Construction Administration..... Lump sum of $30,046.00
Post Construction..... Lump sum of $21,744.00
On-Site Construction Coordination..... Lump sum of $117,572.00
QA – Rodriguez Engineering Laboratories..... Lump sum of $10,000.00

TOTAL Part B.....Lump Sum of $179,362.00

TOTAL.....Lump Sum of $321,646.00

Method of payment shall be as follows:

For services rendered under PART B - SPECIAL SERVICES, the Sponsor agrees to make monthly payments based upon the work performed by Jviation, up to 90 percent of the total contract. The final ten percent of the

Docusign Envelope ID: 61C8E2D6-F660-8A44-8246-4513AA443CCA

fee shall be due and payable when the project final inspection and the construction report have been completed, and when reproducible Record Drawings have been submitted to the Sponsor and when the revised Airport Layout Plan has been approved by the FAA or when the construction work has terminated. The Record Drawings and Construction Report shall be submitted within a period of 90 days from end of construction period.

The actual amounts to be invoiced for mileage, per diem, and lodging will be in accordance with the applicable, published IRS and GSA rates at the time of service and may vary from the rates used in the fee estimate.

All other terms and conditions of the original Agreement shall remain in effect.

IN WITNESS WHEREOF, the patties hereto have set their hands and seals on the day and year herein stated.

CITY OF BROWNSVILLE SOUTH PADRE ISLAND INTERNATIONAL AIRPORT BY AND THROUGH THE CITY COMMISSION

IN WITNESS WHEREOF the undersigned have executed this Agreement as of the day and year first written above.

NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESSED OR IMPLIED, TO AMEND THIS CONTRACT, EXCEPT SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE CITY COMMISION OF THE CITY OF BROWNSVILLE.

EXECUTED THIS _____ DAY OF _____, 2026.

OWNER:	CONTRACTOR:
_____	DocuSigned by: Jason Virzi 48C69044F188434...
(Signature)	(Signature)
Alan Guard	Jason Virzi, PE
Print Name:	Print Name:
City Manager	Vice President
Title	Title
City of Brownsville	Jviation, A Woolpert Company, LLC
	Firm's Name

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

Docusign Envelope ID: 61C8E2D6-F660-8A44-8246-4513AA443CCA

SCOPE OF WORK
FOR
Brownsville South Padre Island International Airport
Brownsville, Texas
AIP Project No. 3-48-0031-065-2026
Airfield Signage Upgrade (Design, Bidding, & Construction Services)

This is an Appendix attached to, made a part of and incorporated by reference with the Professional Services Agreement dated August 9, 2023, between City of Brownsville and Jviation, a Woolpert Company, for providing professional services. For the remainder of this scope the Brownsville South Padre Island International Airport is indicated as "Sponsor" and Jviation, a Woolpert Company, is indicated as "Engineer." The construction budget for this project is approximately $1,600,000.00. This construction budget does not include administrative, legal, or professional fees.

This project shall consist of preparing Construction Plans, Contract Documents, Technical Specifications, and Engineer's Design Report, along with Bidding, Construction Administration, Post-Construction Coordination, and On-Site Construction Coordination for the Airfield Signage Upgrade Project. This scope of work is for the consulting services provided by the Engineer for the Sponsor. See Exhibit No. 1 below for the project location.

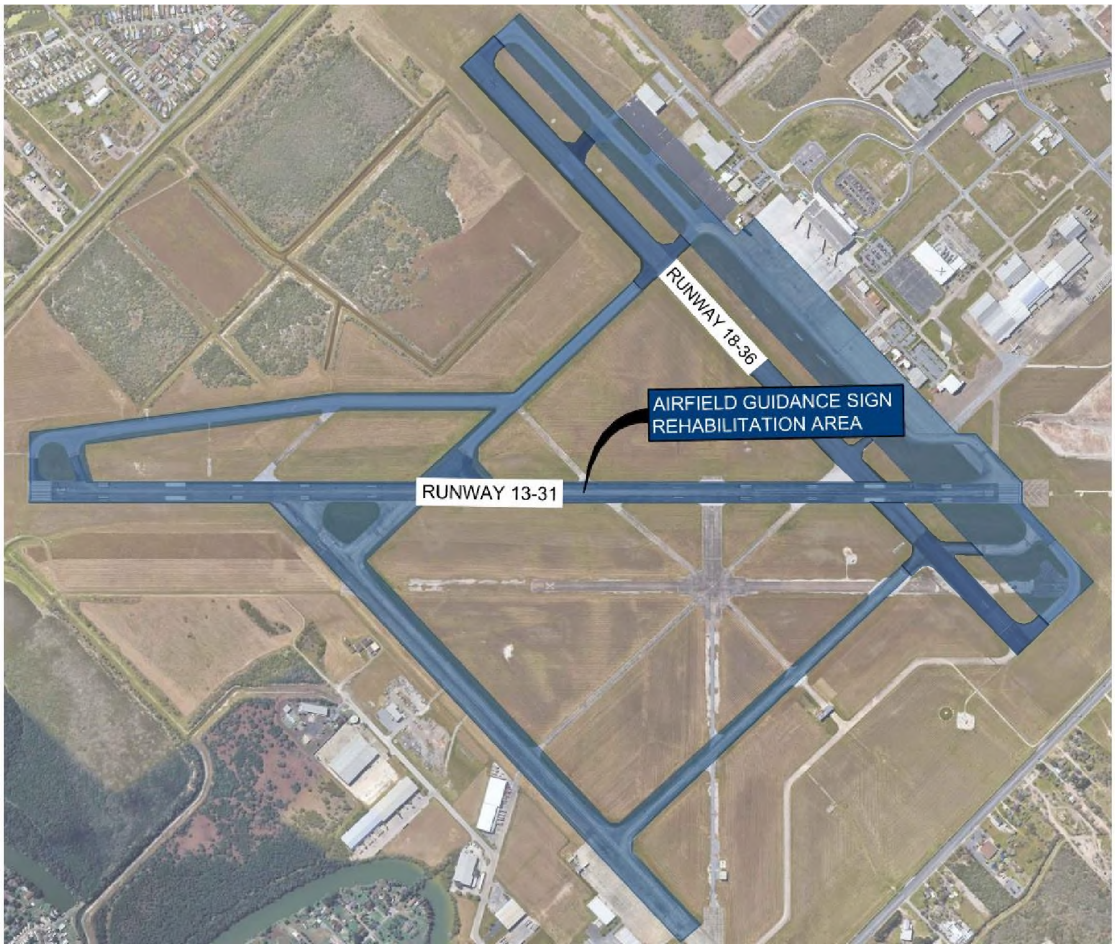


EXHIBIT NO. 1

Docusign Envelope ID: 61C8E2D6-F660-8A44-8246-4513AA443CCA

DESCRIPTION

The proposed project includes the design and construction of airfield signage upgrades. Many existing signs are nearing the end of their useful life and have begun to deteriorate, requiring replacement. The project will replace all existing airfield signs, including foundation pads and light cans, and convert the system to LED lighting. These improvements will provide a consistent type and style of signage, reduce electrical maintenance costs, and enhance aircraft operational safety through improved visibility of airfield guidance signs.

Additionally, the existing taxiway designations at the airport will be updated per the recommendations of FAA Advisory Circular 150/5340-18H - Standards for Airport Sign Systems. Coordination between Woolpert, the Sponsor and the FAA will take place to finalize the future taxiway designations. Once finalized, a new sign table will be created to reflect the new taxiway designations. Locations where existing concrete sign foundations were to be utilized will be evaluated to determine if the existing foundation will be extended or fully removed and installed as new to accommodate the new extended sign lengths due to the new alpha numeric designation convention from the AC. Originally, the concrete sign foundations were going to be reused without modifications inside the runway safety areas, but with sign foundation extensions or full removals and reinstallations, construction phasing will be more complex. Construction phasing plans will be reworked to account for the additional construction activities inside the runway safety areas. The CSPP will be updated to reflect the new construction phasing. Project quantities and associated costs will be updated to reflect the change in construction items.

The engineering fees for this project will be broken into two parts. **Part A-Basic Services** includes the 1) Preliminary Design Phase, 2) Design Phase, 3) Bidding Phase, and Reimbursable Costs During Design and Bidding, and **Part B-Special Services,** which includes the 4) Construction Administration Phase, 5) Post-Construction Coordination Phase, and 6) On-Site Construction Coordination Phase, and Reimbursable Costs During Survey and Construction. Additional services that will be completed by subconsultants to the Engineer, quality assurance testing during construction will also be included under **Part B-Special Services.** Parts A and B and the six phases are described in more detail below.

PART A - BASIC SERVICES consists of the Preliminary Design Phase, Design Phase, and Bidding Phase, all invoiced on a lump sum basis.

1.0 Preliminary Design Phase

1.01 Coordinate and Attend Meetings with the Sponsor and FAA. Meetings with the Sponsor and the FAA will take place to determine critical project dates, establish the proposed design schedule and AIP development schedule, review environmental component(s), determine the feasibility of the proposed project to establish the need for topographical surveying. Various meetings during the design phase will also be conducted to review the progress of the design, discuss construction details and proposed time frame of construction and identify any special requirements for the project.

1.02 Prepare Project Scope of Work and Contract. This task includes establishing the scope of work through meetings outlined above. Fees will be negotiated with the Sponsor and may be subject to an independent fee estimate conducted by a third party hired by the Sponsor. This task also includes drafting the contract for the work to be completed by the Engineer for the Sponsor once negotiations are complete.

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1.03 Prepare Preliminary Construction Cost Estimating. This task includes creating a preliminary construction rough order of magnitude (ROM) cost estimate, a preliminary working days estimate, a preliminary overall project schedule, and a preliminary overall project budget. The preliminary construction ROM cost estimate will be based upon the most current information available at the time of preparation. Work to refine these estimates is included under Task 1.09.

1.04 Provide Project Coordination. The Engineer shall provide project management and coordination services to ensure the completion of the design. These duties include:

- Time the Engineer spends planning, organizing, securing and scheduling resources, and providing instruction to staff to meet project objectives as defined in the approved scope of work.
- The Engineer will analyze the budget semi-monthly to ensure budget and staffing needs are on track to meet design schedules within budget.
- Additional items to be accomplished include compiling and sending additional information requested from the office to related parties, maintaining project files as necessary and other items necessary in day-to-day project coordination.
- The Engineer will prepare and submit monthly invoicing.

The Engineer will complete the following tasks:

- Provide the Sponsor with a monthly Project Status Report (PSR), in writing, reporting on Engineer's progress and any problems that may arise while performing the work. The PSR must include an update of the project schedule, as described in this section, when schedule changes are expected.
- Submit for acceptance and maintain, a design schedule detailing the scheduled performance of the work.
- Create and maintain a Quality Control Checklist (QCC) for the project. The QCC shall include personnel, project milestone checking and peer review procedures at each phase of the project.

1.05 Review Existing Documents. The Engineer will gather and review existing available documentation that may be relevant to the project, including, but not limited to, record drawings (as-builts), design reports, final reports, utility reports/maps and previous surveys. The Engineer may use relevant information from this review to coordinate the design and topographical survey for the project.

1.06 Prepare Federal Grant Application. This task consists of preparing the federal grant application. The application will be submitted during the initial portion of the project. Preparation of the application includes the following:

- Prepare Federal 424 form.
- Prepare Federal Form 5100 – II thru IV.
- Prepare project funding summary.
- Prepare program narrative, discussing the purpose and need of the work and the method of accomplishment.
- Project sketch (8.5" x 11").
- Include preliminary cost estimate.
- Include the Sponsor's certifications.
- Attach the current grant assurances.
- Include DOT Title VI assurances.

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- ✈ Include certification for contract, grants and cooperative agreements.
- ✈ Include Title VI pre-award checklist.
- ✈ Include current FAA advisory circulars required for use in AIP funded projects.

The Engineer shall submit the grant application to the Sponsor for approval and signatures. After obtaining the necessary signatures, the Sponsor or Engineer shall forward a copy of the signed application to the FAA for further processing.

1.07 Prepare Environmental Documentation. The FAA has determined that a Categorical Exclusion (CATEX) applies to the project according to FAA order 1050.1G. The Engineer shall complete a documented CATEX following current FAA guidance and address potential environmental effects resulting from the proposed project. An overall environmental exhibit will be created as part of this scope of work, approved by the FAA, and referenced throughout the project.

TASK 1 DELIVERABLES	TO FAA/STATE	TO SPONSOR
1.01 Meeting Agendas, AIP Development Schedule and Meeting Minutes from Pre-Design Meeting	✓	✓
1.02 Scope of Work and Draft Contract for the Sponsor	✓	✓
1.03 Preliminary Cost Estimate	✓	✓
1.04 Design Schedule, PSR, and Monthly Invoicing	✓	✓
1.06 Federal Grant Application	✓	✓
1.07 Environmental Documentation	✓	✓

TASK 1 MEETINGS/SITE VISITS						
Personnel	**Meeting Prep. (Hours)**	**Travel Time (Hours)**	**Meeting/ On-Site Time (Hours)**	**Auto Rental/ Vehicle (Days)**	**Hotel/ Lodging (Days)**	**Per Diem (Days)**
Task 1.01: Pre-Design Meeting (Virtual/Teams Meeting)						
Project Manager	1	N/A	1	N/A	N/A	N/A
Electrical Project Manager	1	N/A	1	N/A	N/A	N/A
Task 1 Total Reimbursable Expenses				**N/A**	**N/A**	**N/A**

2.0 Design Phase

2.01 Prepare Existing Utility Inventory. This task includes reviewing record drawings and consulting with the Sponsor and local utility companies to identify all utilities within the project site. The Construction Plans will include, to the maximum extent possible, the surveyed locations of observable utility features and the locations identified by utility locates.

2.02 Prepare Contract Documents. This task includes preparing the Contract Documents, including Contract Proposal, Bid Bond, Contractor Information Sheet, Subcontractor/Material Supplier List, Buy America Certification, Buy America Waiver Request, Buy America Conformance Listing, Bid Proposal, Contract, Payment Bond, Performance Bond, Notice of Award, Notice to Proceed, Notice of Contractor's Settlement, General Provisions, FAA AC 150/5370-2 (Current Edition), *Operational Safety on Airports During Construction,* and Wage Rates. The wage rates will be updated at the time of advertisement to

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reflect the most current wage rates available. Preparation will include establishing the location for the bid opening, dates for advertisement and description of the work schedule. Also included in the Contract Documents, and covered under separate tasks below, are the Construction Safety and Phasing Plan, Technical Specifications, and Special Provisions. Preliminary Contract Documents will be prepared as early as possible during the design phase and submitted to the Sponsor for review.

2.03 Prepare Construction Safety and Phasing Plan (CSPP). This task includes meeting with the Sponsor to discuss the current operations of the airport to assist in determining how the proposed construction phasing of the project will affect these operations. From these meetings, a complete Construction Safety and Phasing Plan (CSPP) will be developed to ensure safety compliance when coordinating construction activities and airport operations. The CSPP will be developed in accordance with the requirements of FAA AC 150/5370-2 (Current Edition), *Operational Safety on Airports During Construction.* A construction phasing plan that meets the requirements of the AC and operational needs of the airport will be developed and included in the Contract Documents. This plan will also identify any nighttime work, continuous working times, or other unusual conditions that could affect the Contractor's normal progress on the project. The draft CSPP will be submitted at 90% complete and at 100% complete for ADO review. Upon preliminary approval from the ADO, the CSPP will be submitted to FAA for OE/AAA coordination.

2.04 Prepare Construction Plans. This task includes preparing the following list of construction plans for the project. Additional plans may be added during the design phase as needed:

Plan Name/Description	Number of Sheets
Cover Sheet	1
Index of Drawings, Summary of Approximate Quantities, and General Notes	1
Survey Control Plan	1
Safety Plan	1
Construction Layout Plan	1
Construction Phasing Plan	4
Environmental Requirements and Details	1
Electrical Notes and Legend	1
Electrical Demolition Plan	8
Electrical Layout Plan	8
Electrical Details	2
Total Sheet Count	**29**

2.05 Prepare Technical Specifications. This task includes assembling the technical specifications necessary for the project. Standard FAA specifications will be utilized where possible, with the guidance from FAA AC 150/5370-10 (Current Edition), *Standard Specifications for Construction of Airports*. Additional specifications will be prepared to address work items for materials that are not covered by the standard FAA specifications. The standard specifications to be utilized shall include, but are not limited to, the following:

- Item C-100 Contractor Quality Control Program (CQCP)
- Item C-102 Temporary Air and Water Pollution, Soil Erosion and Siltation Control
- Item C-105 Mobilization
- Item P-610 Concrete for Miscellaneous Structures
- Item T-901 Seeding
- Item T-905 Topsoil
- Item L-108 Underground Power Cable for Airports
- Item L-109 Airport Transformer Vault and Vault Equipment

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- Item L-110 Airport Underground Electrical Duct Banks and Conduits
- Item L-115 Electrical Manholes and Junction Structures
- Item L-125 Installation of Airport Lighting Systems

2.06 Prepare Special Provisions. This task includes preparing the Special Provisions to address, or expound on, site conditions that require additional clarification. These include, but are not limited to: Haul Roads, Airport Security, Radio Communications, Work Schedule, Contractor's Quality Control Program, Sequencing of the Work, Closure of Air Operations Areas, Accident Prevention, Underground Cables/Utilities, Insurance, Indemnification, Sales and Use Taxes, Permits and Compliance with Laws, Executed Contracts, Subletting or Assigning of Contracts, Liquidated Damages, and Acceptance Testing.

2.07 Compile/Submit FAA Form 7460. This task includes preparing and submitting the required FAA Form 7460-1, "Notice of Proposed Construction or Alteration," via the FAA's online Obstruction Evaluation/Airport Airspace Analysis (OE/AAA) system on the Sponsor's behalf. The Engineer will reference FAA Advisory Circular (AC) 150/5300-20 (Current Edition), *Submission of On-Airport Proposals for Aeronautical* Study, and coordinate with the FAA Project Manager and/or Airspace Specialist to determine the locations of required airspace case studies to be submitted. Generally, such cases are required for any restrictive/critical points where construction operations or proposed alterations may affect navigable airspace. Typically, these locations include (but are not limited to): limits of construction, construction phasing limits, haul routes for construction traffic, asphalt and/or concrete batch plants, and key points of any permanent, above-ground alterations. The Engineer will prepare an exhibit depicting the locations and other information pertinent to the cases' impact on the airspace to include with the submission. The Engineer will submit FAA Form 7460-1 and the associated documentation to the FAA via the OE/AAA system for approval a minimum of 45 days prior to the start of construction.

2.08 Calculate Estimated Quantities. This task includes calculating all necessary quantities for the various work items. Quantities must be consistent with the specifications and acceptable quantity calculation practices.

2.09 Prepare Estimate of Probable Construction Cost. Using the final quantities calculated following the completion of the construction plans and specifications, the Engineer will prepare the construction cost estimate. The estimate will be based on information obtained from previous projects, contractors, material suppliers and other available databases.

2.10 Prepare Engineer's Design Report. This task includes preparation of the Engineer's Design Report in accordance with current FAA Southwest Region Engineer's Design Report guidelines. The Engineer's Design Report will include a detailed summary of the project, photographs and descriptions of existing site conditions, estimate of project costs, and a schedule for the completion of the design, bidding, and construction.

2.11 Review Plans at 90% and 100% Complete. During various stages of completion of the design, the Engineer will submit a set of Construction Plans, Specifications, and Contract Documents to the Sponsor for their review. Meetings will be scheduled for periodic reviews, including a 90% plans-in-hand (Virtual/Teams Meeting) review and a 100% (In Person) review. The project will be reviewed with the FAA to obtain their concurrence with the design.

2.12 Provide In-House Quality Control. The Engineer has an established quality control program that will provide both experienced and thorough reviews of all project submittals and will also provide engineering guidance to the design team throughout design development from an experienced, senior-level Professional Engineer.

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Prior to each review set of Construction Plans, Specifications, Contract Documents, and Engineer's Design Report being submitted to the Sponsor and FAA, a thorough, in-house quality control review of the documents will be conducted. This process will include an independent review of the Construction Plans, Specifications, Contract Documents, and Engineer's Design Report being submitted by a licensed Professional Engineer other than the Engineer who performed the design of the project. Comments will be offered by the Engineer that performed the review, and revisions to the Construction Plans, Specifications, Contract Documents, and Engineer's Design Report will be made accordingly.

In addition to the 90% and 100% reviews, the Engineer's in-house quality control program also provides engineering guidance to the design team throughout the project design in an attempt to steer the project in a manner that provides the best engineering judgment.

At the 90% design review, the independent review will re-evaluate the CATEX boundary.

2.13 Prepare and Submit Construction Plans, Specifications, Contract Documents, and Engineer's Design Report. A final set of Construction Plans (11" x 17"), Specifications, Contract Documents, and the Engineer's Design Report will be prepared and submitted to the Sponsor and the FAA. These documents will incorporate all revisions, modifications, and corrections identified during the final review. Paper and electronic copies will be provided.

2.14 Prepare Airfield Signing Plan. This task includes providing or updating the overall airfield signing and marking plan.

TASK 2 DELIVERABLES	TO FAA	TO SPONSOR
2.03 CSPP at 90% and 100% Complete	✓	✓
2.07 FAA Form 7460	✓	✓
2.12 90% Construction Plans, Specifications, Contract Documents, and Engineer's Design Report	✓	✓
2.13 Final Construction Plans, Specifications and Contract Documents, and Engineer's Design Report	✓	✓
2.14 Airfield Signing Plan	✓	✓

TASK 2 MEETINGS/SITE VISITS						
Personnel	**Meeting Prep. (Hours)**	**Travel Time (Hours)**	**Meeting/ On-Site Time (Hours)**	**Auto Rental/ Vehicle (Days)**	**Hotel/ Lodging (Days)**	**Per Diem (Days)**
Task 2.11: Review Plans at 90% Complete (Virtual/Teams Meetings)						
Project Manager	N/A	N/A	4	N/A	N/A	N/A
Electrical Project Manager	N/A	N/A	4	N/A	N/A	N/A
Task 2.11: Plan Review at 100% Complete (Brownsville, TX)						
Project Manager	N/A	8	4	1	1	1
Electrical Project Manager (Virtual)	N/A	N/A	4	N/A	N/A	N/A
Task 2 Total Reimbursable Expenses				**1**	**1**	**1**

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3.0 Bidding Phase

3.01 Provide Bid Assistance. The Engineer will assist the Sponsor, as needed, with the preparation of any required bidding documents. Additionally, the Engineer will advertise the project Invitation for Bids on their website and directly notify potential contractors and plan rooms in order to maximize project exposure and generate interest in the project.

3.02 Prepare/Conduct Pre-Bid Meeting. The Engineer will conduct the pre-bid meeting and pre-bid site visit in sequence with the Sponsor and contract document requirements. As a part of this meeting, the Engineer will also discuss the environmental plan sheet, surveyed areas, and environmental commitments.

3.03 Prepare Addenda. Any necessary addenda will be issued to clarify and modify the project, as required, and based on questions or comments that may arise from potential contractors during the bidding process. Any necessary addenda will be reviewed with the Sponsor and FAA prior to being issued. The addenda will meet all design and construction standards, as required.

3.04 Consult with Prospective Bidders. During the bidding process, the Engineer shall be available to clarify bidding issues with contractors and suppliers and for consultation with the various entities associated with the project.

3.05 Attend Bid Opening. The Engineer shall attend the bid opening for the project, which will be conducted by the Sponsor.

3.06 Review Bid Proposals. Upon the opening of submitted bid proposals by the Sponsor, the Engineer shall review all the bid proposals submitted. A cost analysis of the bid prices will be completed and tabulated; the contractor's qualifications to perform the work will be included, including review of suspension and debarment rules on the www.Sam.gov website, Buy American compliance analysis/review, and project funding review. Inclusion of bid guarantee, acknowledgement of addenda, and in-state licensure verification shall be completed.

3.07 Prepare Recommendation of Award. The Engineer shall prepare a Recommendation of Award for the Sponsor to accept or reject the bids received with a summary of the items listed in Task 2.06. If rejection is recommended, the Engineer will supply an explanation for their recommendation and possible alternative actions the Sponsor can pursue to complete the project.

TASK 3 DELIVERABLES	TO FAA	TO SPONSOR
3.01 Required Bidding Documents	✓	✓
3.02 Pre-Bid Meeting Agenda and Pre-Bid Meeting Minutes	✓	✓
3.03 Addenda	✓	✓
3.06 Bid Tabulations	✓	✓
3.07 Recommendation of Award	✓	✓

TASK 3 MEETINGS/SITE VISITS						
Personnel	**Meeting Prep. (Hours)**	**Travel Time (Hours)**	**Meeting/ On-Site Time (Hours)**	**Auto Rental/ Vehicle (Days)**	**Hotel/ Lodging (Days)**	**Per Diem (Days)**
Task 3.02: Prepare/Conduct Pre-Bid Meeting (Virtual)						

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Project Manager	4	N/A	1	N/A	N/A	N/A
Electrical Project Manager	N/A	N/A	1	N/A	N/A	N/A
Task 3.05: Attend Bid Opening (Virtual)						
Project Manager	1	N/A	1	N/A	N/A	N/A
Task 3 Total Reimbursable Expenses				N/A	N/A	N/A

EX Reimbursable Costs During Design and Bidding. This section includes reimbursable items such as auto rental, lodging, per diem, and other miscellaneous expenses incurred in order to complete **Part A – Basic Services**.

PART B - SPECIAL SERVICES consists of the Design Survey Phase, Construction Administration Phase, Post-Construction Coordination Phase, and the On-Site Construction Coordination Phase, which are invoiced on a lump sum basis. Also included are direct subcontract costs for the quality assurance testing during construction.

4.0 Construction Administration Phase

4.01 Prepare Construction Contract and Documents. In agreement with the FAA, the Engineer shall prepare the Notice of Award, Notice to Proceed, and Contract Agreements, including bonds and insurance documents, which will be updated to include all addenda items issued during bidding, for the Sponsor's approval and signatures. Approximately five copies will be submitted to the successful Contractor for their signatures.

The Engineer will ensure the construction contracts are in order, the bonds have been completed, and the Contractor has been provided with adequate copies of the Construction Plans, Specifications, and Contract Documents, which will be updated to include all addenda items issued during bidding.

4.02 Provide Project Coordination. The Engineer shall provide project management and coordination services to ensure the completion of all construction management tasks required of the Engineer. These duties include:

- Time the Engineer spends planning, organizing, securing and scheduling resources, and providing instruction to staff to meet project objectives as defined in the approved scope of work.
- Additional items to be accomplished include compiling and sending additional information requested from the office to related parties, maintaining project files as necessary and other items necessary in day-to-day project coordination.
- The Project Manager will review progress reports weekly and monthly.
- Assist with change orders and supplemental agreements as necessary. All change orders and supplemental agreements will be coordinated with the Sponsor and FAA staff prior to execution. All change orders and supplemental agreements will be prepared in accordance with the FAA Standard Operating Procedure (SOP) 7.0, *Airport Improvement Program Construction Project Change Orders*.
- Senior construction management staff will consult with and provide guidance to the on-site Construction Manager regarding unique project elements; material quality, production, and/or placement issues; and any other difficulties encountered during construction.
- Clerical staff shall prepare the quantity sheets, testing sheets, construction report format, etc.

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- Office engineering staff, CAD personnel and clerical staff shall be required to assist the Field Personnel as necessary during construction. Specific tasks to be accomplished include providing secondary engineering opinions on issues arising during construction, maintaining project files as necessary and various other tasks necessary in the day-to-day operations.
- The Engineer will prepare and submit monthly invoicing.

The Engineer will complete the following tasks:

- Provide the Sponsor with a monthly Project Status Report (PSR), in writing, reporting on Engineer's progress and any problems that may arise while performing the work. The PSR must include an update of the project schedule, as described in this section, when schedule changes are expected.
- Prepare quarterly performance reports.

4.03 Review Environmental Documentation. This task includes the review of the overall environmental exhibit in relation to final construction documents as well as coordination throughout construction to ensure environmental commitments are maintained and environmental resources are protected.

4.04 Coordinate Quality Assurance Testing. This task includes preparing the requirements for quality assurance testing. Negotiating with the quality assurance firm for a cost to perform the work is also included in this task.

4.05 Prepare/Conduct Pre-Construction Meeting. The Engineer will conduct a pre-construction meeting to review FAA requirements as required per FAA AC 150/5370-12 (Current Edition), *Quality Management for Federally Funded Airport Construction Projects*, prior to the commencement of construction. It is anticipated that representatives of the Engineer will include the Project Manager and a Construction Manager. As a part of this meeting, the Engineer will also discuss the environmental plan sheet, surveyed areas, and environmental commitments. The meeting will be held at the airport and will include the Sponsor, FAA (if possible), Contractor, subcontractors, and airport tenants affected by the project.

4.06 Prepare/Submit Construction Management Plan. This task includes preparing and submitting the Construction Management Plan, which includes resumes of project personnel representing the stakeholders, detailed inspection procedures, required submittal processes, quality control testing methods, quality assurance testing methods, final test result summary forms, and the Contractor's Quality Control Program (CQCP). The Construction Management Plan shall be prepared to follow the requirements of FAA AC 150/5370-12 (Current Edition), *Quality Management for Federally Funded Projects*.

4.07 Review Contractor's Safety Plan Compliance Document. This task includes reviewing and providing comments on the Contractor's Safety Plan Compliance Document (SPCD) as required per FAA AC 150/5370-2 (Current Edition), *Operational Safety on Airports During Construction.* The Engineer shall review to ensure that all applicable construction safety items are addressed and meet the requirements of AC 150/5370-2 (Current Edition) and the Contract's Construction Safety and Phasing Plan (CSPP). The intent of the SPCD is to detail how the Contractor will comply with the CSPP. Following award of the project to the successful Contractor, and prior to the issuance of the Notice to Proceed, the Engineer will review the SPCD, provide comments, and, ultimately, approval of the document. It is anticipated that the document will require at least one re-submittal by the Contractor to address any missing information. An approved copy of the SPCD shall be provided to the FAA.

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4.08 Review Contractor's Quality Control Program. This task includes reviewing and providing comments on the Contractor's Quality Control Program (CQCP) as required per Item C-100 of FAA AC 150/5370-10 (Current Edition), *Standard Specifications for Construction of Airports*. The Engineer shall review the CQCP to ensure that all applicable quality control items are addressed and meet the requirements of Item C-100 and the project's technical specifications. The intent of the CQCP is to detail the methods and procedures that will be utilized to ensure that all materials and construction items are provided and completed in conformance with the project's plans, technical specifications, and/or other applicable requirements. Furthermore, the CQCP shall establish and describe corrective action plans to be implemented should any materials or production processes vary beyond pre-established quality control limits. Following the award of the project to the successful Contractor, and prior to the issuance of the Notice to Proceed, the Engineer will review the CQCP, provide comments, and, ultimately, approval of the document. It is anticipated that the document will require at least one re-submittal by the Contractor to address any missing information. The approved CQCP will be incorporated into the Engineer's Construction Management Plan and submitted to the FAA.

4.09 Review Construction Submittals. This task includes the review of construction submittals, including shop drawings and materials proposed for use on the project, submitted by the Contractor, for general conformance with the Construction Plans, Specifications, and Contract Documents. The Engineer will prepare and maintain a submittal register to log the submittals received. The submittal register will include information on the submitted items including date received, date returned, and action taken, and will be made available to the Sponsor and Contractor upon request. The submittals anticipated to be required and the estimated time it will take to review each submittal are detailed below.

Submittal Description		Estimated Time to Review (Hours)
Item P-152	Excavation, Subgrade, & Embankment	1
Item P-610	Structural Concrete Mix Design	3
Item T-901	Seed/Fertilizer/Tackifier/Hydromulch	1
Item T-905	Topsoil	1
Item L-109	Electrical Vault	4
Item L-109	Constant Current Regulator	1
Item L-108	Wire/Cable	1
Item L-108	Miscellaneous (ID Tags, Tape, Detectable Warning Tape, etc.)	1
Item L-110	Conduit	1
Item L-115	Manhole/Junction Box Shop Drawings	2
Item L-125	Runway and Taxiway Lights	2
Item L-125	Runway and Taxiway Signs	2
Item L-125	Circuit Selector Cabinet	1
Item L-125	Light Base and Transformer Housings	2
Item L-125	Isolation Transformers	1
Division 26	Electrical Components	4
Total Review Time		**28**

Additionally, it is anticipated that there will be a number of resubmittals for the various items to address comments from the Engineer's initial review. It is estimated that reviews of these resubmittals will add approximately 25%, or 7 hours, to the estimated submittal review time from the table above, resulting in an overall estimated submittal review time of 35 hours.

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4.10 Perform Site Visits During Construction. The Project Manager shall make on-site visits, as required, throughout the duration of the project. At this time, it is estimated that the Project Manager will make up to two site visits to the project.

TASK 4 DELIVERABLES	TO FAA	TO SPONSOR
4.01 Notice of Award, Notice to Proceed, and Contract Agreement	✓	✓
4.01 Issue Construction Plans, Specifications, and Contract Documents	✓	✓
4.02 Weekly/Monthly Reports	✓	✓
4.02 Change Orders/Supplemental Agreements	✓	✓
4.05 Pre-Construction Agenda and Meeting Minutes	✓	✓
4.06 Construction Management Plan	✓	✓
4.07 Approved Safety Plan Compliance Document (SPCD)	✓	✓
4.08 Approved Contractor Quality Control Program (CQCP)	✓	✓

TASK 4 MEETINGS/SITE VISITS						
Personnel	**Meeting Prep. (Hours)**	**Travel Time (Hours)**	**Meeting/ On-Site Time (Hours)**	**Auto Rental/ Vehicle (Days)**	**Hotel/ Lodging (Days)**	**Per Diem (Days)**
Task 4.05: Conduct Pre-Construction Meeting (Brownsville, TX)						
Project Manager	2	8	4	1	1	1
Construction Manager	4	8	4	1	1	1
Electrical Project Manager	N/A	N/A	2	N/A	N/A	N/A
Task 4.10: Perform Site Visits During Construction (Brownsville, TX)						
Project Manager	N/A	16	16	2	2	2
Task 4 Total Reimbursable Expenses				**4**	**4**	**4**

5.0 *Post-Construction Coordination Phase*

5.01 Prepare Final Testing Report. The Engineer will submit the quality assurance testing summary report, which will include a narrative of tests taken, verification for minimum number of tests, discussion of problems and tests necessary, and a table (from Construction Management Plan) including the actual number of tests taken for each specification item to the FAA for review and approval.

5.02 Prepare Clean-up Item List. The Engineer will ensure the Contractor has removed all construction equipment and construction debris from the airport, that all access points have been re-secured (fences repaired, gates closed and locked, keys returned, etc.), and the site is clean.

5.03 Conduct Final Inspection. The Engineer, along with the Sponsor and FAA (if available), shall conduct the final inspection. The quality assurance testing summary report must be accepted by the FAA prior to final inspection.

5.04 Prepare Engineering Record Drawings. The Engineer will prepare the record drawings indicating modifications made during construction. The record drawings will be provided to the FAA electronically.

5.05 Prepare Final Construction Report. The Engineer will prepare the final construction report to meet the applicable FAA closeout checklist requirements.

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5.06 Summarize Project Costs. The Engineer will be required to obtain all administrative expenses, engineering fees and costs, testing costs, and construction costs associated with the project and assemble a total project summary. The summary will be analyzed with the associated project funding.

TASK 5 DELIVERABLES	TO FAA	TO SPONSOR
5.01 Final Testing Report	✓	✓
5.02 Clean-up List	✓	✓
5.03 Punchlists	✓	✓
5.04 Record Drawings	✓	✓
5.05 Final Construction Report	✓	✓
5.06 Updated ALP	✓	✓
5.07 Project Cost Summary	✓	✓

TASK 5 MEETINGS/SITE VISITS						
Personnel	**Meeting Prep. (Hours)**	**Travel Time (Hours)**	**Meeting/ On-Site Time (Hours)**	**Auto Rental/ Vehicle (Days)**	**Hotel/ Lodging (Days)**	**Per Diem (Days)**
Task 5.03: Conduct Final Inspection (Brownsville, TX)						
Project Manager	N/A	8	4	1	1	1
Task 5 Total Reimbursable Expenses				**1**	**1**	**1**

6.0 On-Site Construction Coordination Phase

This phase will consist of providing one lead Resident Project Representative (RPR). It shall be the responsibility of the RPR to facilitate sufficient on-site construction coordination to ensure that the project is completed according to good construction practice and the Project Manager's direction. It is estimated that it will take **46 calendar days** to complete construction of the project. Incidental travel costs, including vehicle usage, lodging, per diem, etc., are in addition to the engineering hours expended.

6.01 Provide Resident Engineering. It is estimated that the lead Resident Project Representative (RPR) will work approximately **10 hours per day**. It is assumed that the RPR(s) will be able to complete all daily project documentation during the course of their shift. The total time allotted for the completion of construction is anticipated to be **46 calendar days**. It is assumed that the Contractor will work **six (6) days** per week during the construction period **resulting in 40 working days**. Should the contractor be required to work seven (7) days per week or longer than anticipated hours to maintain the project schedule, the RPR's efforts may increase from those estimated here.

Prior to the commencement of construction, there will be a Pre-Construction Mobilization Phase during which time the RPR(s) will be on-site to coordinate the Contractor's pre-construction survey and required utility locates, identify phase limits and traffic control/barricade locations, verify the adequacy of traffic control and airfield safety devices, and coordinate the setup of any required temporary facilities. The Pre-Construction Mobilization Phase is scheduled for **five (5) working days** prior to the beginning of the project calendar day count, and, thus, are in addition to the number of working days outlined above.

The following tasks will be performed during the course of a typical day's shift during construction:

a. Review survey data and other construction tasks for general compliance with the construction documents.

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b. Coordinate, review, and provide a response to construction and general project Requests for Information (RFIs).
c. Prepare and process field directives and change orders.
d. Conduct labor standards interviews of the Contractor's and subcontractor's employees, and review weekly payroll records as required by the FAA. As part of this effort, all payrolls must be reviewed and logged when received. A log identifying current status of reviews, and any action taken to correct noted discrepancies, will be provided for Sponsor review at time of Request for Reimbursement processing, as appropriate.
e. Review quality control and quality assurance testing results for conformance with the project specifications.
f. Maintain record of the progress of construction, record as-built conditions, and review the quantity records with the Contractor on a periodic basis.
g. Prepare the periodic construction cost estimates and review the quantities with the Contractor. The RPR, Sponsor, and Contractor will resolve discrepancies or disagreements with the Contractor's records. After compiling all costs, the RPR will submit the periodic construction cost estimate to the Sponsor for payment.
h. Maintain daily logs of construction activities for the duration of time on site, including the Construction Project Daily Safety Inspection Checklist as required by the CSPP and SPCD.
i. Verify that construction activities associated with restricted areas, roads, staging areas, stockpiles, borrow/waste areas, etc. are all remaining within the areas cleared under environmental documentation.
j. Prepare a weekly status report using FAA Form 5370-1, *Construction Progress and Inspection Report*. The report will be submitted to the Sponsor, the FAA, and the office following the week of actual construction activities performed.
k. Review payments to subcontractors and ensure timely payment of retainage to subcontractors when payment to the Contractor is made.
l. Coordinate and attend weekly construction progress meetings with the Contractor, Sponsor, and other relevant parties.

6.02 Provide Resident Engineering for Punchlist Work. It is anticipated that, following the substantial completion of the project within the allotted calendar day contract period, it will be necessary for the Contractor to return to the project site to address or correct any outstanding incomplete or unacceptable work items. It is estimated that up to **two (2) 10-hour workdays**, along with **two (2) eight (8)-hour travel days** will be required of **one (1)** Resident Project Representative (RPR) for this task.

TASK 6 DELIVERABLES	TO FAA/STATE	TO SPONSOR
6.01b Coordinate RFIs	✓	✓
6.01c Field Directives and Change Orders	✓	✓
6.01d Payroll Reviews	✓	✓
6.01e Quality Assurance/Quality Control Results Compilation	✓	✓
6.01g Periodic Cost Estimates	✓	✓
6.01j Weekly Reports	✓	✓

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	TASK 6 TOTAL ON-SITE HOURS					
Personnel	**Calendar Days**	**Working Days**	**Working Time (Hours)**	**Travel Time (Hours)**	**Mobilization (Hours)**	**Total Time (Hours)**
	Task 6.01: Provide Resident Engineering (Brownsville, TX)					
Lead RPR	46	40	400	16	**50**	**466**
	Task 6.02: Provide Resident Engineering for Punchlist Work (Brownsville, TX)					
Lead RPR	2	2	20	16		**36**
Task 6 Total Hours			**424**	**32**	**50**	**506**

TASK 6 ON-SITE PERIODS/DURATIONS					
Personnel	**Calendar Days**	**Travel Days**	**Auto Rental/ Vehicle (Days)**	**Hotel/ Lodging (Days)**	**Per Diem (Days)**
Task 6.01: Provide Resident Engineering (Brownsville, TX)					
Lead RPR	46	2	46	46	46
Task 6.02: Provide Resident Engineering for Punchlist Work (Brownsville, TX)					
Lead RPR	2	2	2	2	2
Task 6 Total Reimbursable Expenses			**48**	**48**	**48**

EX Reimbursable Costs During Survey and Construction. This section includes reimbursable items such as auto rental, lodging, per diem, travel and other miscellaneous costs incurred in order to complete **Part B – Special Services**. Section 3, 4, and 5 Reimbursables are invoiced on a lump sum basis, and Section 6 Reimbursables are invoiced on a cost plus fixed fee basis.

Special Considerations

The following special considerations are required for this project but will be completed by subconsultants to the Engineer. The cost for this work will be included in the engineering contract agreement with the Sponsor and the costs are in addition to the engineering fees outlined above.

Quality Assurance Testing. Quality assurance testing will be performed by an independent testing firm under the direct supervision of the Engineer. All quality assurance test summaries must be accepted by the FAA prior to final inspection. Certified materials technicians will perform the necessary material quality assurance testing for the following items, as detailed in the project specifications:

- ✈ Item P-610 Structural Portland Cement Concrete
- ✈ Item P-152 Excavation, Subgrade & Embankment

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Assumptions

The scope of services described previously, and the associated fees, are based on the following rates and assumed responsibilities of the Engineer and Sponsor.

1. For the purposes of estimating the amount of reimbursable expenses which will be incurred by the Engineer, the cost of per diem and lodging are calculated in accordance with current GSA rates. The actual amount to be invoiced for per diem will be in accordance with the published GSA rate at the time of service and may vary from the rate used in the fee estimate. Lodging will be invoiced as an actual expense incurred.

2. During periods of On-Site Construction Coordination covered under Task 7, a $5/day surcharge will be added to the daily vehicle charge which will be reflected in the Engineering Fee as a daily "Field Vehicle and Equipment" expense. This surcharge is intended to cover consumables (such as marking paint, lath, etc.) and the replacement of tools (such as measuring wheels, airfield radios, infrared thermometers, etc.) necessary to monitor and identify the various aspects of the work.

3. It is anticipated there will be a minimum number of trips and site visits to the airport to facilitate the completion of the various phases listed in this scope. The number of trips, as well as the anticipated lengths and details of the trips, are included at the end of each phase above.

4. The Sponsor will provide existing mapping data including as-builts available for the project areas, aerial orthoimagery, subsurface conditions information such as prior geotechnical investigations in the project area and other available information in the possession of the Sponsor.

5. The Sponsor will provide an electronic copy of the current ALP to allow for updating of the plan upon completion of the project.

6. The Sponsor will furnish escorts as needed for the Engineer to conduct field work.

7. The Sponsor will coordinate with tenants as required to facilitate field evaluations and construction.

8. All engineering work will be performed using accepted engineering principles and practices and provide quality products that meet or exceed industry standards. Dimensional criteria will be in accordance with FAA AC 150/5300-13 (Current Edition), *Airport Design,* and related circulars. Construction specifications will be in accordance with FAA AC 150/5370-10 (Current Edition), *Standard Specifications for Construction of Airports,* and the Southwest ADO Regional Updates for Specifying Construction of Airports and related circulars. Project planning, design, and construction will further conform to all applicable standards, including all applicable current FAA Advisory Circulars and Orders required for use in AIP-funded projects and other national, state, or local regulations and standards, as identified and relevant to an airfield design and construction project.

9. The Engineer will utilize the following plan standards for the project:

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- Plans will be prepared using the Engineer's standards, unless the Sponsor provides its own standards upon Notice to Proceed.
- Plan elevations will be vertical datum NAVD 88 derived from the existing control network.
- Plan coordinates will be based on horizontal datum NAD 83/2011 State Plane Coordinates derived from the existing control network.
- All plans will be stamped and signed by a state-licensed Professional Engineer, or Professional Land Surveyor, as required.
- Plans prepared by subconsultants will be prepared using the same base maps, the same coordinate systems and the same plan layout and format as plans prepared by the Engineer.
- The guidance included in FAA Memorandum, *FAA Review of Construction Plans and Specifications for AIP Funded Projects*, will be reviewed, incorporated and will supplement the Engineer's standards.

10. The Engineer will utilize the following assumptions when preparing the project manual for bidding and construction of the project:

    - The project manual Contract Documents will be developed jointly by the Sponsor and the Engineer.
    - The Engineer is responsible for developing the contents of the document and including the Front-End documents which will be supplied by the Sponsor.
    - FAA General Provisions and required contract language will be used.

11. The Engineer must maintain records of design analyses and calculations consistent with typical industry standards, as required by the FAA, for a period of three years after the project is closed by the FAA.

12. Because the Engineer has no control over the cost of construction-related labor, materials, or equipment, the Engineer's opinions of probable construction costs will be made on the basis of experience and qualifications as a practitioner of his/her profession. The Engineer does not guarantee that proposals for construction, construction bids, or actual project construction costs will not vary from Engineer's estimates of construction cost.

13. An AC 150/5300-18B (or Current Edition) compliant survey is not required as a part of this project. No data will be submitted to Airports GIS (AGIS) through the Airport Data and Information Portal (ADIP).

Additional Services

The following items are not included under this agreement but will be considered as extra work:

- Due to the recent changes to the Federal DBE program, no services for setting DBE Program or Project Goals can be provided at this time, and are not included in this scope of work. If these services are requested after the new certification process has been completed, and notice of completion is provided by the Civil Rights Office, Certifying Agencies, or FAA, they will be under a separate scope of work, or an amendment to this scope of work.
- Redesign for the Sponsor's convenience or due to changed conditions after previous alternate direction and/or approval.
- Submittals or deliverables in addition to those listed herein.

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- If a project audit occurs, the Engineer is prepared to assist the Sponsor in gathering and preparing the required materials for the audit.
- Serving as an expert witness for the Owner in any litigation, surety claim, contractor bond activation, or other proceeding involving the project.
- Additional or extended services during construction made necessary by extension of contract time, non-concurrent work, or changes in the work.
- Legal, surety, or insurance support, coordination, and representation.

Extra Work will be as directed by the Sponsor in writing for an additional fee as agreed upon by the Sponsor and the Engineer.

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AIRPORT: **Brownsville/South Padre Island International Airport**
AIP/PROJ. NO.: **3-48-0031-065-2026**
PROJECT NAME: **Airfield Signage Upgrade (Design, Bidding, & Construction Services)**
DATE: **July 9, 2026**

WOOLPERT

FEE BREAKDOWN

Labor Category	Total Hours		Billing Rate			Total Cost
1.0 Preliminary Design Phase (Lump Sum)						
Practice Operations Leader	2 hrs.	x	$ 350.00 /hr	=	$	700.00
Quality Control Manager	2 hrs.	x	$ 295.00 /hr	=	$	590.00
Engineer Project Mgr II	20 hrs.	x	$ 235.00 /hr	=	$	4,700.00
Senior Engineer Project Mgr I	17 hrs.	x	$ 310.00 /hr	=	$	5,270.00
Eng Designer II	8 hrs.	x	$ 205.00 /hr	=	$	1,640.00
Project Coordinator II	4 hrs.	x	$ 155.00 /hr	=	$	620.00
Senior Planner I	5 hrs.	x	$ 290.00 /hr	=	$	1,450.00
SUBTOTAL	**62** hrs.		**SUBTOTAL**		**$**	**15,630.00**
Reimbursables						
Auto Rental	Day	x	$ 130.00 /Day=			
Lodging + Tax & Fees	Day	x	$ 170.00 /Day=			
Per Diem	Day	x	$ 74.00 /Day=			
Travel & Airline Costs	Trip	x	$ 1,000.00 /Trip=			
			SUBTOTAL		**$**	**-**
	PHASE SUBTOTAL				**$**	**15,630.00**

LABOR HOUR BREAKDOWN

	TASK	LABOR CATEGORY									
	Start Date: 5/1/2026 End Date: 7/1/2026	Practice Operations Leader	Quality Control Manager	Engineer Project Mgr II	Senior Engineer Project Mgr I	Eng Designer II	Project Coordinator II	Senior Planner I	Project Accountant I	Engineer in Training II	Phase Item Costs
1.0	**Preliminary Design Phase (Lump Sum)**	Jason Virzi	Chris Giessing	Sebastian De Castro	Zachary Ambariantz	Jude Walker	Katrina Akau	Morgan Einspahr	Silingiwe Bhebhe	Abin Chapagain	
1.01	Coordinate and Attend Meetings with the Sponsor and FAA			1	1						$ 545.00
1.02	Prepare Project Scope of Work and Contract	2	2	4	4			1			$ 3,760.00
1.03	Prepare Preliminary Construction Cost Estimating			1	4						$ 1,475.00
1.04	Provide Project Coordination			10					4		$ 3,010.00
1.05	Review Existing Documents			2	8	8					$ 4,590.00
1.06	Prepare Federal Grant Application			2			4				$ 1,090.00
1.07	Prepare Environmental Documentation							4			$ 1,160.00
	TOTALS	**2**	**2**	**20**	**17**	**8**	**4**	**5**	**4**	**0**	$ 15,630.00
	PERCENTAGES	3%	3%	32%	27%	13%	6%	8%	6%	0%	

Labor Category	Total Hours		Billing Rate			Total Cost
2.0 Design Phase (Lump Sum)						
Practice Operations Leader	0 hrs.	x	$ 350.00 /hr	=		
Quality Control Manager	18 hrs.	x	$ 295.00 /hr	=	$	5,310.00
Engineer Project Mgr II	96 hrs.	x	$ 235.00 /hr	=	$	22,560.00
Senior Engineer Project Mgr I	130 hrs.	x	$ 310.00 /hr	=	$	40,300.00
Eng Designer II	154 hrs.	x	$ 205.00 /hr	=	$	31,570.00
Project Coordinator II	10 hrs.	x	$ 155.00 /hr	=	$	1,550.00
Senior Planner I	2 hrs.	x	$ 290.00 /hr	=	$	580.00
Eng Designer II	14 hrs.	x	$ 205.00 /hr	=	$	2,870.00
Engineer in Training II	52 hrs.	x	$ 190.00 /hr	=	$	9,880.00
SUBTOTAL	**476** hrs.		**SUBTOTAL**		**$**	**114,620.00**
Reimbursables						
Auto Rental	1 Day	x	$ 130.00 /Day=		$	130.00
Lodging + Tax & Fees	1 Day	x	$ 170.00 /Day=		$	170.00
Per Diem	1 Day	x	$ 74.00 /Day=		$	74.00
Travel & Airline Costs	1 Trip	x	$ 1,000.00 /Trip=		$	1,000.00
			SUBTOTAL		**$**	**1,374.00**
	PHASE SUBTOTAL				**$**	**115,994.00**

	TASK	LABOR CATEGORY									
	Start Date: 8/1/2026 End Date: 10/1/2026	Practice Operations Leader	Quality Control Manager	Engineer Project Mgr II	Senior Engineer Project Mgr I	Eng Designer II	Project Coordinator II	Senior Planner I	Eng Designer II	Engineer in Training II	Phase Item Costs
2.0	**Design Phase (Lump Sum)**	Jason Virzi	Chris Giessing	Sebastian De Castro	Zachary Ambariantz	Jude Walker	Katrina Akau	Morgan Einspahr	Scott Henderson	Abin Chapagain	
2.01	Prepare Existing Utility Inventory				8	8					$ 4,120.00
2.02	Prepare Contract Documents			4			2		12		$ 3,710.00
2.03	Prepare Construction Safety and Phasing Plan (CSPP)			8	2	4					$ 3,320.00
2.04	Prepare Preliminary Construction Plans										
	Cover Sheet			1		2					$ 645.00
	Index of Drawings/Summary of Approximate Quantities & General Notes			2		4					$ 1,290.00
	Survey Control Plan			1		2					$ 645.00
	Safety Plan			2		4					$ 1,290.00
	Construction Layout Plan			4		8					$ 2,580.00
	Construction Phasing Plan			12	4	24					$ 8,980.00
	Environmental Requirements and Details			2		4		2			$ 1,870.00
	Electrical Notes and Legend			2	8	12					$ 5,410.00
	Electrical Demolition Plan			2	12	24					$ 9,110.00
	Electrical Layout Plan/Details		2	6	8	24					$ 9,400.00
2.05	Prepare Technical Specifications			2	8		2			12	$ 5,540.00
2.06	Prepare Special Provisions			2	4		2		2		$ 2,430.00
2.07	Compile/Submit FAA Form 7460			2	4					4	$ 2,470.00
2.08	Calculate Estimated Quantities			4	8					8	$ 4,940.00
2.09	Prepare Estimate of Probable Construction Cost			4	8					4	$ 4,180.00
2.10	Prepare Engineer's Design Report			8	16		4			16	$ 10,500.00
2.11	Review Plans at 90% and 100% Complete			12	16	4					$ 8,600.00
2.12	Provide In-House Quality Control		16								$ 4,720.00
2.13	Prepare and Submit Const. Plans, Specs, Contract Documents, & Design Report			8	16	6				8	$ 9,590.00
2.14	Prepare Airfield Signing Plan			8	8	24					$ 9,280.00
	TOTALS	**0**	**18**	**96**	**130**	**154**	**10**	**2**	**14**	**52**	$ 114,620.00
	PERCENTAGES	0%	4%	20%	27%	32%	2%	0%	3%	11%	

Labor Category	Total Hours		Billing Rate			Total Cost
3.0 Bidding Phase (Lump Sum)						
Engineer Project Mgr II	18 hrs.	x	$ 235.00 /hr	=	$	4,230.00
Senior Engineer Project Mgr I	10 hrs.	x	$ 310.00 /hr	=	$	3,100.00
Project Coordinator II	6 hrs.	x	$ 155.00 /hr	=	$	930.00
Eng Designer II	8 hrs.	x	$ 205.00 /hr	=	$	1,640.00
SUBTOTAL	**46** hrs.		**SUBTOTAL**		**$**	**10,660.00**
Reimbursables						
Auto Rental	Day	x	$ 130.00 /Day=			
Lodging + Tax & Fees	Day	x	$ 170.00 /Day=			
Per Diem	Day	x	$ 74.00 /Day=			
Travel & Airline Costs	Trip	x	$ 1,000.00 /Trip=			
			SUBTOTAL		**$**	**-**
	PHASE SUBTOTAL				**$**	**10,660.00**

	TASK	LABOR CATEGORY									
	Start Date: 10/1/2026 End Date: 11/1/2026	Engineer Project Mgr II	Senior Engineer Project Mgr I	Project Coordinator II	Eng Designer II	Engineer in Training II					Phase Item Costs
3.0	**Bidding Phase (Lump Sum)**	Sebastian De Castro	Zachary Ambariantz	Katrina Akau	Scott Henderson	Abin Chapagain					
3.01	Provide Bid Assistance	4		4							$ 1,560.00
3.02	Prepare/Conduct Pre-Bid Meeting	5	1								$ 1,485.00
3.03	Prepare Addenda	2	2	2							$ 1,400.00
3.04	Consult with Prospective Bidders	2	4			4					$ 2,470.00
3.05	Attend Bid Opening	2									$ 470.00
3.06	Review Bid Proposals	2	2		4						$ 1,910.00
3.07	Prepare Recommendation of Award	1	1		4						$ 1,365.00
	TOTALS	**18**	**10**	**6**	**8**	**4**	**0**	**0**	**0**	**0**	$ 10,660.00
	PERCENTAGES	39%	22%	13%	17%	9%	0%	0%	0%	0%	

Labor Category	Total Hours		Billing Rate			Total Cost
4.0 Construction Administration Phase (Lump Sum)						
Engineer Project Mgr II	62 hrs.	x	$ 235.00 /hr	=	$	14,570.00
Senior Engineer Project Mgr I	12 hrs.	x	$ 310.00 /hr	=	$	3,720.00
Eng Designer II	4 hrs.	x	$ 205.00 /hr	=	$	820.00
Construction Manager II	12 hrs.	x	$ 190.00 /hr	=	$	2,280.00
Planner III	2 hrs.	x	$ 290.00 /hr	=	$	580.00
SUBTOTAL	**103** hrs.		**SUBTOTAL**		**$**	**24,550.00**
Reimbursables						
Auto Rental	4 Day	x	$ 130.00 /Day=		$	520.00
Lodging + Tax & Fees	4 Day	x	$ 170.00 /Day=		$	680.00
Per Diem	4 Day	x	$ 74.00 /Day=		$	296.00
Travel & Airline Costs	4 Trip	x	$ 1,000.00 /Trip=		$	4,000.00
			SUBTOTAL		**$**	**5,496.00**
	PHASE SUBTOTAL				**$**	**30,046.00**

TASK		LABOR CATEGORY									
	Start Date: 3/1/2027 End Date: 4/15/2027	Engineer Project Mgr II	Senior Engineer Project Mgr I	Eng Designer II	Construction Manager II	Planner III	Eng Designer II	Senior Construction Mgr I			Phase Item Costs
4.0	**Construction Administration Phase (Lump Sum)**	Sebastian De Castro	Zachary Ambariantz	Scott Henderson	Ty Kimsey	Morgan Einspahr	Jude Walker	Michael Quinn			
4.01	Prepare Construction Contract and Documents	8		4			4				$ 3,520.00
4.02	Provide Project Coordination	8					2	4			$ 3,370.00
4.03	Review Environmental Documentation					2					$ 580.00
4.04	Coordinate Quality Assurance Testing	4	2								$ 1,560.00
4.05	Prepare/Conduct Pre-Construction Meeting	8	2		8						$ 4,020.00
4.06	Prepare/Submit Construction Management Plan	1			4			1			$ 1,265.00
4.07	Review Contractor's Safety Plan Compliance Document	6									$ 1,410.00
4.08	Review Contractor's Quality Control Program	6									$ 1,410.00
4.09	Review Construction Submittals	5	8								$ 3,655.00
4.10	Perform Site Visits During Construction	16									$ 3,760.00
	TOTALS	**62**	**12**	**4**	**12**	**2**	**6**	**5**	**0**	**0**	$ 24,550.00
	PERCENTAGES	60%	12%	4%	12%	2%	6%	5%	0%	0%	

Labor Category	Total Hours		Billing Rate			Total Cost
5.0 Post Construction Coordination Phase (Lump Sum)						
Engineer Project Mgr II	14 hrs.	x	$ 235.00 /hr	=	$	3,290.00
Construction Manager II	40 hrs.	x	$ 190.00 /hr	=	$	7,600.00
Engineering Techn II	24 hrs.	x	$ 155.00 /hr	=	$	3,720.00
Senior Engineer Project Mgr I	8 hrs.	x	$ 310.00 /hr	=	$	2,480.00
Eng Designer II	16 hrs.	x	$ 205.00 /hr	=	$	3,280.00
SUBTOTAL	**102** hrs.		**SUBTOTAL**		**$**	**20,370.00**
Reimbursables						
Auto Rental	1 Day	x	$ 130.00 /Day=		$	130.00
Lodging + Tax & Fees	1 Day	x	$ 170.00 /Day=		$	170.00
Per Diem	1 Day	x	$ 74.00 /Day=		$	74.00
Travel & Airline Costs	1 Trip	x	$ 1,000.00 /Trip=		$	1,000.00
			SUBTOTAL		**$**	**1,374.00**
	PHASE SUBTOTAL				**$**	**21,744.00**

TASK		LABOR CATEGORY									
	Start Date: 4/15/2027 End Date: 12/15/2027	Engineer Project Mgr II	Construction Manager II	Engineering Techn II	Senior Engineer Project Mgr I	Eng Designer II					Phase Item Costs
5.0	**Post Construction Coordination Phase (Lump Sum)**	Sebastian De Castro	Ty Kimsey	Sherilyn Bennion	Zachary Ambariantz	Jude Walker					
5.01	Prepare Final Testing Report	2	4								$ 1,230.00
5.02	Prepare Clean-up Item List	2	4								$ 1,230.00
5.03	Conduct Final Inspection		8								$ 1,520.00
5.04	Prepare Engineering Record Drawings	2	8		4	16					$ 6,510.00
5.05	Prepare Final Construction Report	4	16	24	4						$ 8,940.00
5.06	Summarize Project Costs	4									$ 940.00
	TOTALS	**14**	**40**	**24**	**8**	**16**	**0**	**0**	**0**	**0**	$ 20,370.00
	PERCENTAGES	14%	39%	24%	8%	16%	0%	0%	0%	0%	

Labor Category	Total Hours		Billing Rate			Total Cost
6.0 On-Site Construction Coordination Phase (Lump Sum)						
Construction Manager II	502 hrs.	x	$ 190.00 /hr	=	$	95,380.00
	0 hrs.	x				
	0 hrs.	x				
	0 hrs.	x				
	0 hrs.	x				
	0 hrs.	x				
	0 hrs.	x				
SUBTOTAL	**502** hrs.		**SUBTOTAL**		**$**	**95,380.00**
Reimbursables						
Auto Rental	48 Day	x	$ 135.00 /Day=		$	6,480.00
Lodging + Tax & Fees	48 Day	x	$ 170.00 /Day=		$	8,160.00
Per Diem	48 Day	x	$ 74.00 /Day=		$	3,552.00
Travel & Airline Costs	4 Trip	x	$ 1,000.00 /Trip=		$	4,000.00
			SUBTOTAL		**$**	**22,192.00**
	PHASE SUBTOTAL				**$**	**117,572.00**

	TASK	LABOR CATEGORY									
	Start Date: XX/XX/XXXX End Date: XX/XX/XXXX	Construction Manager II									**Phase Item Costs**
6.0	**On-Site Construction Coordination Phase (Lump Sum)**	Ty Kimsey									
	Estimated Calendar Days from Scope of Work	46									
	Estimated Working Days/Week from Scope of Work	6									
	Total Days Scoped for Resident Engineering	40									
	Estimated Hours/Day from Scope of Work	10									
6.01	Provide Resident Engineering	400									$ 76,000.00
	Travel Time, Mobilization, and Demobilization	66									$ 12,540.00
6.02	Provide Resident Engineering for Punchlist Work	36									$ 6,840.00
	TOTALS	**502**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	$ 95,380.00
	PERCENTAGES	100%	0%	0%	0%	0%	0%	0%	0%	0%	

	CONTRACT HOURS		PHASE FEE	REIMBURSABLE COSTS	TOTAL COST
PART A - BASIC SERVICES (LUMP SUM)					
1.0 Preliminary Design Phase (Lump Sum)	62		$ 15,630.00		$ 15,630.00
2.0 Design Phase (Lump Sum)	476		$ 114,620.00	$ 1,374.00	$ 115,994.00
3.0 Bidding Phase (Lump Sum)	46		$ 10,660.00		$ 10,660.00
	584	**SUBTOTAL**	**$ 140,910.00**	**$ 1,374.00**	**$ 142,284.00**
PART B - SPECIAL SERVICES (LUMP SUM)					
4.0 Construction Administration Phase (Lump Sum)	103		$ 24,550.00	$ 5,496.00	$ 30,046.00
5.0 Post Construction Coordination Phase (Lump Sum)	102		$ 20,370.00	$ 1,374.00	$ 21,744.00
6.0 On-Site Construction Coordination Phase (Lump Sum)	502		$ 95,380.00	$ 22,192.00	$ 117,572.00
	502	**SUBTOTAL**	**$ 140,300.00**	**$ 29,777.00**	**$ 169,362.00**
SUBCONSULTANT 1					
QA - Rodriguez Engineering Laboratories					$ 10,000.00
				SUBTOTAL	**$ 10,000.00**
TOTAL	**1,086.0**		**$ 281,210.00**	**$ - $ 31,151.00**	**$ 321,646.00**

*For the purposes of estimating the cost of mileage, per diem, and lodging are calculated in accordance with applicable IRS and GSA guidelines. At the time of invoicing mileage will be invoiced in accordance with published IRS rates at the time of service and per diem will be invoiced in accordance with published GSA rates at the time of service. Lodging will be invoiced as actual expense incurred except in the cases where specific client requirements exist that limit lodging to GSA standards.

Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent must disclose any conflicts of interest related to the goods and/or services associated with this solicitation. A conflict-of-interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s). The City reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

If a conflict of interest exists, the Respondent must:

- Complete Form CIQ
- File the form with the City Secretary
- Include a copy of the completed Form CIQ with the proposal

If no conflict of interest exists, Form CIQ is not required. Regardless of whether a conflict exists, this Form 2 must be completed and signed.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict-of-interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1001 East Elizabeth Street, Brownsville, Texas 78520
Email: citysecretary@brownsvilletx.gov
Phone: (956) 548-6000

Docusign Envelope ID: 74922672-8103-89B3-81C4-66C685470D17

Certification

By signing below, the Respondent certifies that they have reviewed and understand the requirements of Chapter 176, Texas Local Government Code and have determined whether a conflict of interest exists. The Respondent further certifies that, if a conflict of interest exists, a completed Conflict of Interest Questionnaire (Form CIQ) has been or will be filed with the City Secretary in accordance with state law and that a copy of the completed Form CIQ is included with this submission, if applicable. The Respondent affirms that all information provided is true and correct and that they are authorized to bind the entity.

Signature: DocuSigned by: Jason Virzi 88C66044F188434...

Printed Name: Jason Virzi

Title: Vice President

Date: 06 July 2026

Company Name: Woolpert, Inc.

Phone: 303-957-7581

Email: jason.virzi@woolpert.com

Docusign Envelope ID: 74922672-8103-89B3-81C4-66C685470D17

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY
Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

_____
Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

_____ _____
Signature of vendor doing business with the governmental entity Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC's website in accordance with state law.

Docusign Envelope ID: 74922672-8103-89B3-81C4-66C685470D17

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed in accordance with TEC requirements.

Signature: DocuSigned by: Jason Virzi 88C86044F188434...

Printed Name: Jason Virzi

Title: Vice President

Date: 06 July 2026

Company Name: Woolpert, Inc.

Phone: 303-957-7581

Email: jason.virzi@woolpert.com



CERTIFICATE OF INTERESTED PARTIES — FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1516040

Date Filed:
09/15/2026

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
Woolpert, Inc.
Dayton, OH United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
RFQ PES-63-0523
Architectural/Engineering Design, Bidding, and Consulting Services

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Cattran, Scott	Dayton, OH United States	X	
Rashid, Salman	Houston, TX United States	X	
Churman, Neil	Dayton, OH United States	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is Jason Virzi, and my date of birth is December 5, 1975.

My address is 720 S. Colorado Blvd, Ste. 1200-S, Glendale (city), CO (state), 80246 (zip code), USA (country).

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Jefferson County, State of Colorado, on the 15th day of September (month), 2026 (year).

DocuSigned by:
Jason Virzi
88C66D44F188434...
Signature of authorized agent of contracting business entity
(Declarant)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1516040

Date Filed:
09/15/2026

Date Acknowledged:
09/16/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Woolpert, Inc.
Dayton, OH United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

RFQ PES-63-0523
Architectural/Engineering Design, Bidding, and Consulting Services

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Cattran, Scott	Dayton, OH United States	X	
Rashid, Salman	Houston, TX United States	X	
Churman, Neil	Dayton, OH United States	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Stephen Muse, Accountant III
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to Authorize a Contract with ClearGov, Inc in the amount of $171,966 for Contract No. 371-26-FIN-CP, for a term of Three (3) Years, approximately $57,322 per year, for budgeting and financial management software services. (Financial Services Department)

Summary:
The Finance Department and Enterprise Project Management Office currently utilize ClearGov for various budgeting and financial management functions. This agreement will consolidate the City's existing ClearGov services under a single agreement to support operational, personnel, and capital budgeting, financial reporting, budget tracking, and financial transparency.

The Procurement Department recommends that the City Commission authorize a contract with ClearGov, Inc. under a Buyboard Cooperative Agreement No.792-26 in accordance with Texas Local Gov't Code §271.102, for a three (3) year term in an amount not to exceed $171,965.09. Approval of this agenda item will authorize the full contract value.

Project Scope and Analysis:
Contract Amount: $171,965.09
October 1, 2026 (Year 1): $54,548.80
October 1, 2027 (Year 2): $57,276.24
October 1, 2028 (Year 3): $60,140.05

Funding:

Source: Annual Budget

Amount: 01-9110-848-205

Local Contribution if Applicable:

Recommendation:
Financial Services recommends approval.

Commission Pillar:
Governance

Attachments:
1. 371-26-FIN-CP-ClearGov (Legal signed)
2. Procurement Analysis 371-26-FIN-CP

Docusign Envelope ID: 4C73A5AD-86CF-8DEB-83A3-597FB8B23823

Contract Summary Form

Contract Number 371-26-FIN-CP

Procurement Info	
Procurement Method:	**Cooperative**
New Contract:	**Yes ☒ No ☐**
Advertisement Dates, if any:	**NA**
Award Date:	
Contractor	
Vendor Name:	ClearGov, Inc.
Address:	2 Mill & Main Place, Suite 630, Maynard, MA 01754
Point of Contact / Project Manager*:	Michael Masters Martinez
Email Address:	mmasters@cleargov.com
City Contact Information	
Department:	**Finance**
Point of Contact / Project Manager:	Maria Ramos
Email Address:	Maria.Ramos@brownsvilletx.gov
Contract Term	
Contract Amount:	$171,965.09
Contract Base/Primary Term:	Three (3) Years; end date September 30, 2029
Renewal Periods (if any):	NA
Total Term of Contract:	Three (3) Years; end date September 30, 2029
City Internal Use	
Signature Sections	**Signature Page: 3 and 5**
State or Federal Funds:	**Yes ☐ No ☒**
GL Account:	

Docusign Envelope ID: 4C73A5AD-86CF-8DEB-83A3-597FB8B23823

COOPERATIVE PURCHASE AGREEMENT
371-26-FIN-CP

This Cooperative Purchase Agreement ("Agreement") is entered into by and between ClearGov, Inc. ("Vendor") and the City of Brownsville, ("City"), a Texas home rule municipality.

The Cooperative Purchase Agreement includes the following documents which shall be construed in the order of precedence in which they are listed:

1. This Cooperative Purchase Agreement.
2. Exhibit A – Proposal
3. Exhibit B – Buyboard Contract No. 792-26
4. Exhibit C – Form 2 – Statement of Conflict of Interest
5. Exhibit D – Form 3 – Texas Ethics Commission Certificate of Interested Parties (1295)

Exhibits A, B, C, and D which are attached hereto and incorporated herein, are made a part of this Agreement for all purposes. Vendor agrees to provide City with the services and goods included in Exhibit A pursuant to the terms and conditions of this Cooperative Purchase Agreement, including all exhibits thereto.

City shall pay Vendor in accordance with the fee schedule in Exhibit A and in accordance with the provisions of this Agreement. Total payment made under this Agreement by City shall not exceed One Hundred Seventy-One Thousand Nine Hundred Sixty-Five Dollars and Nine Cents ($171,965.09). Vendor shall not provide any additional items or services or bill for expenses incurred for City not specified by this Agreement unless City requests and approves in writing the additional costs for such services. City shall not be liable for any additional expenses of Vendor not specified by this Agreement unless City first approves such expenses in writing.

The term of this Agreement shall commence on approval by the City Commission or designee and end on September 30, 2029. **Survival of Agreement.** Notwithstanding the expiration of BuyBoard Contract No. 792-26 on March 31, 2029, this Agreement, having been entered into during the effective term of the cooperative contract, shall remain in full force and effect through September 30, 2029, unless earlier terminated in accordance with its terms

Vendor agrees that City shall, until the expiration of final payment under this Agreement, or the final conclusion of any audit commenced during the said three years, have access to and the right to examine at reasonable times any directly pertinent books, documents, papers and records, including, but not limited to, all electronic records, of Vendor involving transactions relating to this Agreement at no additional cost to City. Vendor agrees that City shall have access during normal working hours to all necessary Vendor facilities and shall be provided adequate and appropriate workspace in order to conduct audits in compliance with the provisions of this section. City shall give Vendor reasonable advance notice of intended audits.

VENDOR ACKNOWLEDGES THAT CITY IS A GOVERNMENT ENTITY AND AS SUCH CANNOT INDEMNIFY OR HOLD HARMLESS A PARTY WITHOUT FIRST CREATING A SINKING FUND OR LEVYING A TAX. VENDOR FURTHER ACKNOWLEDGES THAT THE CITY HAS NO INTENTION OF CREATING SUCH A SINKING FUND OR LEVYING A TAX. THE PARTIES AGREE THAT ANY PROVISION CONTAINED WITHIN THE CONTRACT DOCUMENTS REQUIRING THE CITY TO INDEMNIFY OR HOLD HARMLESS THE VENDOR IS HEREBY STRICKEN.

Docusign Envelope ID: 4C73A5AD-86CF-8DEB-83A3-597FB8B23823

Notices required pursuant to the provisions of this Agreement shall be conclusively determined to have been delivered when (1) hand-delivered to the other party, its agents, employees, servants or representatives, (2) delivered by facsimile with electronic confirmation of the transmission, or (3) received by the other party by United States Mail, registered, return receipt requested, addressed as follows:

To CITY:	To VENDOR:
City of Brownsville	ClearGov, Inc.
Attn: City Manager	
1001 East Elizabeth Street	2 Mill & Main; Suite 630
Brownsville, Texas 78520	Maynard, Massachusetts 01754
With copy to Brownsville City Attorney's Office at same address.	

The undersigned represents and warrants that he or she has the power and authority to execute this Agreement and bind the respective parties.

CITY OF BROWNSVILLE:	VENDOR:
Signature: _____	Signature: Signed by: Armita Rostamian 00AC8E75BE5C475...
Print Name: _____	Print Name: Armita Rostamian
Title: _____	Title: Chief Financial Officer
Date: _____	Date: 9/15/2026 | 4:18 PM MDT

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

Docusign Envelope ID: 4C73A5AD-86CF-8DEB-83A3-597FB8B23823

ClearGov®

Exhibit A

Service Order Consolidation

2 Mill & Main; Suite 630; Maynard, MA 01754

Created By	Liem Ngo
Contact Email	Lngo@cleargov.com

Order Date	**Sep 10, 2026**
Order Valid If Signed By	**Sep 30, 2026**

Customer Information

Customer	City of Brownsville, TX	**Contact**	Alan Guard	**Billing Contact**	Stephen Muse
Address	1001 E Elizabeth Street	**Title**	City Manager	**Title**	Finance Director
City, St, Zip	Brownsville, TX 78520	**Email**	alan.guard@brownsvilletx.gov	**Email**	Stephen.Muse@brownsvilletx.gov
Phone	956-548-6015			**PO (Y/N)**	

This Service Order will be contracted through...

Procurement Aggregator	ClearGov Contract
Buyboard	Buyboard Proposal No. #792-26

The Services you will receive and the Fees for those Services are:

Subscription Services		Service Fees
ClearGov Capital Project Tracking – Civic Edition	Tier 3	$ 12,360.00
ClearGov Operational Budgeting – Civic Edition	Tier 3	$ 18,179.50
ClearGov Personnel Budgeting – Civic Edition	Tier 3	$ 17,304.00
ClearGov Capital Budgeting – Civic Edition	Tier 3	$ 11,845.00
ClearGov Digital Budget Book – Civic Edition	Tier 3	$ 10,815.00
ClearGov Transparency – Civic Edition	Tier 3	$ 9,939.50
ClearGov Strategic Planning – Civic Edition	Tier 3	$ 12,051.00
Bundle Discount: Modules	Tier 3	$ (37,945.20)
Total ClearGov Subscription Service Fee - Billed ANNUALLY IN ADVANCE		$ 54,548.80

ClearGov will provide your Services according to this schedule:

Period	Start Date	End Date	Description
Initial	Oct 1, 2026	Sep 30, 2029	ClearGov Subscription Services

To be clear, you will be billed as follows:

Billing Date(s)	Amount(s)	Notes
Oct 1, 2026	$54,548.80	Annual Subscription Fee
Oct 1, 2027	$57,276.24	Annual Subscription Fee
Oct 1, 2028	$60,140.05	Annual Subscription Fee

Additional subscription years and/or renewals will be billed annually in accordance with pricing and terms set forth herein.

Billing Terms & Conditions		
Valid Until	**Sep 30, 2026**	Pricing set forth herein is valid only if ClearGov Service Order is executed on or before this date.
Payment	**Net 30**	All invoices are due Net 30 days from the date of invoice.
Rate Increase	5% per annum	The Annual Subscription Service Fee shall automatically increase by this amount.

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General Terms & Conditions	
Taxes	The Service Fees and Billing amounts set forth above in this ClearGov Service Order **DO NOT** include applicable taxes. In accordance with the laws of the applicable state, in the event that sales, use or other taxes apply to this transaction, ClearGov shall include such taxes on applicable invoices and Customer is solely responsible for such taxes, unless documentation is provided to ClearGov demonstrating Customer's exemption from such taxes.
Term & Termination	Subject to the termination rights and obligations set forth in the ClearGov BCM Service Agreement, this ClearGov Service Order commences upon the Order Date set forth herein and shall continue until the completion of the Service Period(s) for the Service (s) set forth herein. Each Service shall commence upon the Start Date set forth herein and shall continue until the completion of the applicable Service Period.
Auto-Renewal	After the Initial Period, the Service Period for any ClearGov Annual Subscription Services shall automatically renew for successive annual periods (each an ***"Annual Term"***), unless either Party provides written notice of its desire not to renew at least sixty (60) days prior to the end of the then current Annual Term.
Original Service Orders	As of 10/1/26, this ClearGov Service Order supersedes the ClearGov Service Orders with an Order Date of 12/20/2023, 10/2/2024, 06/24/2025 (the "Original Service Orders"). The Original Service Orders shall be null and void as of 10/1/26.
Appropriations	Customer shall have the option to terminate this ClearGov Service Order in advance of any annual renewal in the event that the applicable appropriating body does not appropriate funds for such upcoming renewal period.
Agreement	The signature herein affirms your commitment to pay for the Service(s) ordered in accordance with the terms set forth in this ClearGov Service Order and also acknowledges that you have read and agree to the terms and conditions set forth in the ClearGov BCM Service Agreement found at the following URL: http://www.ClearGov.com/terms-and-conditions. This Service Order incorporates by reference the terms of such ClearGov BCM Service Agreement.

Customer	
Signature	
Name	Alan Guard
Title	City Manager

ClearGov, Inc.	
Signature	Signed by: Armita Rostamian 00AC8E75BE5C475...
Name	Armita Rostamian
Title	Chief Financial Officer

Please e-mail signed Service Order to Orders@ClearGov.com or Fax to (774) 759-3045

Order Type (ClearGov Internal Use Only)			
Select Order Type for this Service Order	RN	**If XS: Original Service Order Date**	

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

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Statement of Work

This Statement of Work outlines the roles and responsibilities by both ClearGov and Customer required for the activation and onboarding of the ClearGov Service. ClearGov will begin this onboarding process upon execution of this Service Order. All onboarding services and communications will be provided through remote methods - email, phone, and web conferencing.

ClearGov Responsibilities

- ClearGov will activate ClearGov Service subscription(s) as of the applicable Start Date(s). ClearGov will create the initial Admin User account, and the Customer Admin User will be responsible for creating additional User accounts.

- ClearGov will assign an Implementation Manager (IM) responsible for managing the activation and onboarding process. ClearGov IM will coordinate with other ClearGov resources, as necessary.

- ClearGov IM will provide a Kickoff Call scheduling link to the Customer's Primary Contact. Customer should schedule Kickoff Call within two weeks after the Service Order has been executed.

- If Customer is subscribing to any products that require data onboarding:
  - ClearGov IM will provide a Data Discovery Call scheduling link to the Customer's Primary Contact. Customer should schedule Data Discovery Call based on the availability of Customer's staff.
  - ClearGov will provide Customer with financial data requirements and instructions, based on the ClearGov Service subscription(s).
  - ClearGov will review financial data files and confirm that data is complete, or request additional information, if necessary. Once complete financial data files have been received, ClearGov will format the data, upload it to the ClearGov platform and complete an initial mapping of the data.
  - After initial mapping, ClearGov will schedule a Data Review call with a ClearGov Data Onboarding Consultant (DOC), who will present how the data was mapped, ask for feedback, and address open questions. Depending upon Customer feedback and the complexity of data mapping requests, there may be additional follow-up calls or emails required to complete the data onboarding process.

- ClearGov will inform Customer of all training, learning, and support options. ClearGov recommends all Users attend ClearGov Academy training sessions and/or read Support Center articles before using the ClearGov Service to ensure a quick ramp and success. As needed, ClearGov will design and deliver customized remote training and configuration workshops for Admins and one for End Users - via video conference - and these sessions will be recorded for future reference.

- ClearGov will make commercially reasonable efforts to complete the onboarding/activation process in a timely fashion, provided Customer submits financial data files and responds to review and approval requests by ClearGov in a similarly timely fashion. Any delay by Customer in meeting these deliverable requirements may result in a delayed data onboarding process. Any such delay shall not affect or change the Service Period(s) as set forth in the applicable Service Order.

Customer Responsibilities

- Customer's Primary Contact will coordinate the necessary personnel to attend the Kickoff and Data Discovery Calls within two weeks after the Service Order has been executed. If Customer needs to change the date/time of either of these calls, the Primary Contact will notify the ClearGov IM at least one business day in advance.

- If Customer is subscribing to any products that require data onboarding:
  - Customer will provide a complete set of requested financial data files (revenue, expense, chart of accounts, etc.) to ClearGov in accordance with the requirements provided by ClearGov.
  - Customer's Primary Contact will coordinate the necessary personnel to attend the Data Discovery and Data Review calls. It is recommended that all stakeholders with input on how data should be mapped should attend. Based on these calls and any subsequent internal review, Customer shall provide a detailed list of data mapping requirements and requested changes to data mapping drafts in a timely manner, and Customer will approve the final data mapping, once completed to Customer's satisfaction.

- Customer will complete recommended on-demand training modules in advance of customized training & configuration workshops.

- Customer shall be solely responsible for importing and/or inputting applicable text narrative, custom graphics, performance metrics, capital requests, personnel data, and other such information for capital budget, personnel budget, budget books, projects, dashboards, etc.

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Electronic Delivery

Tyler Bridges
ClearGov Inc.
2 Mill and Main Place, Suite 630
Maynard, MA 01754

Welcome to BuyBoard!

Re: ***Notice of The Local Government Purchasing Cooperative Contract Award;*** Proposal Invitation No. 792-26, Software as a Service (SaaS), Cybersecurity Assessments, and Related Products and Services

Congratulations, The Local Government Purchasing Cooperative (Cooperative) has awarded your company a BuyBoard® contract based on the above-referenced Proposal Invitation. The contract is effective for an initial one-year term of April 1, 2026, through March 31, 2027, and may be subject to two possible one-year renewals. Please refer to the Proposal Invitation for the contract documents, including the General Terms and Conditions of the Contract.

To review the items your company has been awarded, please review Proposal Tabulation No. 792-26 at: www.buyboard.com/vendor. Only items marked as awarded to your company are included in this contract award, and only those awarded items may be sold through the BuyBoard contract. All sales must comply with the contract terms and must be at or below the awarded pricing as set forth in the General Terms and Conditions.

A list of Cooperative members is available on the buyboard.com website. In addition, the BuyBoard Administrator's vendor relations staff is available to assist you in locating available BuyBoard informational resources and answering questions you may have as an awarded BuyBoard vendor.

On behalf of the Cooperative, we appreciate your interest in the Cooperative and we are looking forward to your participation in the program. If you have any questions, feel free to contact me at bids@buyboard.com.

Sincerely,

Ava Benford, Department Director, Cooperative Procurement
Texas Association of School Boards, Inc.,
Administrator for The Local Government Purchasing Cooperative

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Electronic Delivery

Tyler Bridges
ClearGov Inc.
2 Mill and Main Place, Suite 630
Maynard, MA 01754

Welcome to BuyBoard!

Re: ***Notice of National Purchasing Cooperative Award;*** Proposal Invitation No. 792-26, Software as a Service (SaaS), Cybersecurity Assessments, and Related Products and Services

Congratulations, The National Purchasing Cooperative (National Cooperative) has awarded your company a BuyBoard® contract based on the above-referenced Proposal Invitation. The contract is effective for an initial one-year term of April 1, 2026, through March 31, 2027, and may be subject to two possible one-year renewals. Please refer to the Proposal Invitation for the contract documents, including the National Purchasing Cooperative Vendor Award Agreement and General Terms and Conditions of the Contract.

To review the items your company has been awarded, please review Proposal Tabulation No. 792-26 at www.buyboard.com/vendor. Only items marked as awarded to your company are included in this contract award, and only those awarded items may be sold through the BuyBoard contract. All sales must comply with the contract terms and must be at or below the awarded pricing as set forth in the General Terms and Conditions.

A list of National Cooperative members is available on the buyboard.com website. In addition, the BuyBoard Administrator's vendor relations staff is available to assist you in locating available BuyBoard informational resources and answering questions you may have as an awarded BuyBoard vendor.

On behalf of the National Cooperative, we are looking forward to your participation in the program. If you have any questions, feel free to contact me at bids@buyboard.com.

Sincerely,

Ava Benford, Department Director, Cooperative Procurement
Texas Association of School Boards, Inc.,
Administrator for The Local Government Purchasing Cooperative

v.01.03.2025

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PROPOSER'S ACCEPTANCE AND AGREEMENT

Proposal Invitation Name Software as a Service (SaaS), Cybersecurity Assessments, and Related Products and Services	**Proposal Due Date/Opening Date and Time** October 2, 2025, at 4:00 PM
Proposal Invitation Number 792-26	**Location of Proposal Opening** Texas Association of School Boards, Inc. BuyBoard Department 12007 Research Blvd. Austin, TX 78759
Contract Term April 1, 2026, through March 31, 2027, with two possible one-year renewals.	**Anticipated Cooperative Board Meeting Date** February 2026

By signature below, the undersigned acknowledges and agrees that you are authorized to submit this Proposal, including making all acknowledgements, consents, and certifications herein, on behalf of Proposer and, to the best of your knowledge, the information provided is true, accurate, and complete.

ClearGov, Inc.
Name of Proposing Company

September 30, 2025
Date

2 Mill and Main Place, Suite 630
Street Address

Bryan A Burdick
Signature of Authorized Company Official

Maynard, MA 01754
City, State, Zip

Bryan A. Burdick
Printed Name of Authorized Company Official

(855) 553-2715 Ext. 7087
Telephone Number of Authorized Company Official

President
Position or Title of Authorized Company Official

(774) 759-3045
Fax Number of Authorized Company Official

47-5205793
Federal ID Number

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PROPOSAL FORMS PART 1: COMPLIANCE FORMS

INSTRUCTIONS:

Proposer must review and complete all forms in this Proposal Forms Part 1:

- Proposal Acknowledgements
- Felony Conviction Disclosure
- Resident/Nonresident Certification
- Debarment Certification
- Vendor Employment Certification
- No Boycott Verification
- No Excluded Nation or Foreign Terrorist Organization Certification
- Historically Underutilized Business Certification
- Acknowledgement of BuyBoard Technical Requirements
- Construction-Related Goods and Services Affirmation
- Deviation and Compliance
- Vendor Consent for Name Brand Use
- Confidential/Proprietary Information
- EDGAR Vendor Certification
- Compliance Forms Signature Page

An authorized representative of Proposer *must initial in the bottom right corner of each page* **where indicated and complete and sign the Compliance Forms Signature Page. Proposer's failure to fully complete, initial, and sign forms as required may result in your Proposal being rejected as non-responsive.**

PROPOSAL ACKNOWLEDGEMENTS

The proposing company ("you" or "your") hereby acknowledges and agrees as follows:

1. You have carefully examined and understand all information and documentation associated with this Proposal Invitation, including the Instructions to Proposers, General Information, General Terms and Conditions, attachments/forms, appendices, item specifications, and line items (collectively "Requirements");
2. By your response ("Proposal") to this Proposal Invitation, you propose to supply the products or services submitted at the pricing quoted in your Proposal and in strict compliance with the Requirements, unless specific deviations or exceptions are noted in the Proposal;
3. By your Proposal, you acknowledge and certify all items set forth in the General Terms and Conditions, Section B.12 (Certifications), including all non-collusion certifications and certifications regarding legal, ethical, and other matters set forth therein.
4. Any and all deviations and exceptions to the Requirements have been noted in your Proposal on the required form and no others will be claimed;

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5. If the Cooperative accepts any part of your Proposal and awards you a Contract, you will furnish all awarded products or services at the pricing quoted and in strict compliance with the Requirements (unless specific deviations or exceptions are noted on the required form and accepted by the Cooperative), including without limitation the Requirements related to:
   a. conducting business with Cooperative members, including offering pricing to members that is the best you offer compared to similarly situated customers in similar circumstances;
   b. payment of a service fee in the amount specified and as provided for in this Proposal Invitation;
   c. the **possible** award of a piggy-back contract by the National Purchasing Cooperative or nonprofit entity, in which event you will offer the awarded products and services in accordance with the Requirements; and
   d. submitting price sheets or catalogs in the proper format as required by the Cooperative as a prerequisite to activation of your Contract;
6. You have clearly identified on the included form any information in your Proposal that you believe to be confidential or proprietary or that you do not consider to be public information subject to public disclosure under the Texas Public Information Act or similar public information law;
7. The individual submitting this Proposal is duly authorized to enter into the contractual relationship represented by this Proposal Invitation on your behalf and bind you to the Requirements, and such individual (and any individual signing a form or Proposal document) is authorized and has the requisite knowledge to provide the information and make the representations and certifications required in the Requirements;
8. You have carefully reviewed your Proposal, and certify that all information provided is true, complete, and accurate to the best of your knowledge, and you authorize the Cooperative to take such action as it deems appropriate to verify such information; and
9. Any misstatement, falsification, or omission in your Proposal, whenever or however discovered, will be grounds for disqualifying you from consideration for a contract award under this Proposal Invitation, termination of a contract award, or any other remedy or action provided for in the General Terms and Conditions or by law.

FELONY CONVICTION DISCLOSURE

Subsection (a) of Section 44.034 of the Texas Education Code (Notification of Criminal History of Contractor) states: "A person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony."

Section 44.034 further states in Subsection (b): "A school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for services performed before the termination of the contract."

Please check (√) one of the following:

☐ My company is a publicly-held corporation. (Advance notice requirement does not apply to publicly-held corporation.)
☒ My company is not owned or operated by anyone who has been convicted of a felony.
☐ My company is owned/operated by the following individual(s) who has/have been convicted of a felony:

Name of Felon(s): _____

Details of Conviction(s): _____

_____

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RESIDENT/NONRESIDENT CERTIFICATION

Chapter 2252, Subchapter A, of the Texas Government Code establishes certain requirements applicable to proposers who are not Texas residents. Under the statute, a "resident" proposer is a person whose principal place of business is in Texas, including a contractor whose ultimate parent company or majority owner has its principal place of business in Texas. A "nonresident" proposer is a person who is not a Texas resident. Please indicate the status of your company as a "resident" proposer or a "nonresident" proposer under these definitions.

Please check (√) one of the following:

☐ I certify that my company is a **Resident Proposer.**
☒ I certify that my company is a **Nonresident Proposer.**

If your company is a Nonresident Proposer, you must provide the following information for your resident state (the state in which your company's principal place of business is located):

ClearGov, Inc.	2 Mill and Main Place, Suite 630	
Company Name	Address	
Maynard	MA	01754
City	State	Zip Code

A. Does your resident state require a proposer whose principal place of business is in Texas to under-price proposers whose resident state is the same as yours by a prescribed amount or percentage to receive a comparable contract?

☐ Yes ☒ No

B. What is the prescribed amount or percentage? $_____ or _____%

DEBARMENT CERTIFICATION

By signature on the Compliance Forms Signature Page, I certify that neither my company nor an owner or principal of my company has been debarred, suspended or otherwise made ineligible for participation in Federal Assistance programs under Executive Order 12549, "Debarment and Suspension," as described in the Federal Register and Rules and Regulations. Neither my company nor an owner or principal of my company is currently listed on the government-wide exclusions in SAM, debarred, suspended, or otherwise excluded by agencies or declared ineligible under any statutory or regulatory authority. My company agrees to immediately notify the Cooperative and all Cooperative members with pending purchases or seeking to purchase from my company if my company or an owner or principal is later listed on the government-wide exclusions in SAM, or is debarred, suspended, or otherwise excluded by agencies or declared ineligible under any statutory or regulatory authority.

VENDOR EMPLOYMENT CERTIFICATION

Section 44.031(b) of the Texas Education Code establishes certain criteria that a school district must consider when determining to whom to award a contract. Among the criteria for certain contracts is whether the vendor or the vendor's ultimate parent or majority owner (i) has its principal place of business in Texas; or (ii) employs at least 500 people in Texas. If neither your company nor the ultimate parent company or majority owner has its principal place of business in Texas, does your company, ultimate parent company, or majority owner employ at least 500 people in Texas?

Please check (√) one of the following:

☐ Yes ☒ No

Initial: BB

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NO BOYCOTT VERIFICATION

A Texas governmental entity may not enter into a contract with a value of $100,000 or more that is to be paid wholly or partly from public funds with a company (excluding a sole proprietorship) that has 10 or more full-time employees for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel and will not boycott Israel during the term of the contract (TEX. GOV'T CODE Ch. 2271), (2) does not boycott energy companies and will not boycott energy companies during the term of the contract (TEX. GOV'T CODE Ch. 2276), and (3) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of the contract against a firearm entity or firearm trade association (TEX. GOV'T CODE Ch. 2274). Accordingly, this certification form is included to the extent required by law.

"Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes. TEX. GOV'T CODE §808.001(1).

"Boycott energy company" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (A) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (B) does business with a company described by Paragraph (A). TEX. GOV'T CODE §809.001(1).

"Discriminate against a firearm entity or firearm trade association" means, (A) with respect to the entity or association, to: (i) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (ii) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (iii) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; and (B) does not include: (i) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories; and (ii) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship: (aa) to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency; or (bb) for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity's or association's status as a firearm entity or firearm trade association. TEX. GOV'T CODE §2274.001(3).

By signature on the Compliance Forms Signature Page, to the extent applicable, I certify and verify that Vendor does not boycott Israel, boycott energy companies, or discriminate against a firearm entity or firearm trade association and will not do so during the term of any contract awarded under this Proposal Invitation, that this certification is true, complete and accurate, and that I am authorized by my company to make this certification.

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NO EXCLUDED NATION OR FOREIGN TERRORIST ORGANIZATION CERTIFICATION

Chapter 2252 of the Texas Government Code provides that a Texas governmental entity may not enter into a contract with a company engaged in active business operations with Sudan, Iran, or a foreign terrorist organization – specifically, any company identified on a list prepared and maintained by the Texas Comptroller under Texas Government Code §§806.051, 807.051, or 2252.153. (A company that the U.S. Government affirmatively declares to be excluded from its federal sanctions regime relating to Sudan, Iran, or any federal sanctions regime relating to a foreign terrorist organization is not subject to the contract prohibition.)

By signature on the Compliance Forms Signature Page, I certify and verify that Vendor is not on the Texas Comptroller's list identified above; that this certification is true, complete and accurate; and that I am authorized by my company to make this certification.

HISTORICALLY UNDERUTILIZED BUSINESS CERTIFICATION

A Proposer that has been certified as a Historically Underutilized Business (also known as a Minority/Women Business Enterprise or "MWBE" and all referred to in this form as a "HUB") is encouraged to indicate its HUB certification status when responding to this Proposal Invitation. The BuyBoard website will indicate HUB certifications for awarded Vendors that properly indicate and document their HUB certification on this form. *(Please check (√) all that apply)*

☐ I certify that my company has been certified as a HUB in the following categories:

☐ **Minority Owned Business** ☐ **Women Owned Business**
☐ **Service-Disabled Veteran Owned Business (veteran defined by 38 U.S.C. §101(2), who has a service-connected disability as defined by 38 U.S.C. § 101(16), and who has a disability rating of 20% or more as determined by the U. S. Department of Veterans Affairs or Department of Defense)**

Certification Number: _____

Name of Certifying Agency: _____

☒ My company has **NOT** been certified as a HUB.

ACKNOWLEDGEMENT OF BUYBOARD TECHNICAL REQUIREMENTS

Vendor shall review the BuyBoard Technical Requirements included in this Proposal Invitation. By signature on the Compliance Forms Signature Page, the undersigned affirms that Proposer has obtained a copy of the BuyBoard Technical Requirements, has read and understands the requirements, and certifies that Vendor is able to meet and will comply with those requirements except as follows: *[List and explain BuyBoard Technical Requirements, if any, to which your company cannot or will not comply.]*

Note: In accordance with the General Terms and Conditions of the Contract, to the extent Vendor is awarded a Contract under this Proposal Invitation but is unable or unwilling to meet the applicable BuyBoard Technical Requirements, the information available on the BuyBoard for Vendor's awarded products or services may be limited, potentially placing Vendor at a disadvantage and impacting the ability of Cooperative members to search, find, review, and purchase Vendor's awarded products and services on the BuyBoard website. Further, to the extent Vendor has acknowledged ability to meet and comply with the BuyBoard Technical Requirements, any subsequent failure or refusal by Vendor to promptly provide information upon request to the Cooperative administrator in accordance with those technical requirements may be deemed an event of default under the Contract. **Initial:** BB

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CONSTRUCTION-RELATED GOODS AND SERVICES AFFIRMATION

The Cooperative issued the BuyBoard Procurement and Construction-Related Goods and Services Advisory for Texas Members ("Advisory"), which provides information specifically relevant to the procurement of construction-related goods and services by Texas Cooperative members. The Advisory, available at buyboard.com/Vendor/Resources.aspx, provides an overview of certain legal requirements that are potentially relevant to a Cooperative member's procurement of construction or construction-related goods and services, including those for projects that may involve or require architecture, engineering or independent testing services. A copy of the Advisory can also be provided upon request. Because many BuyBoard contracts include goods or installation services that might be considered construction-related, Proposer must make this Construction Related-Goods and Services Affirmation regardless of type of goods or services associated with this Proposal Invitation.

A contract awarded under this Proposal Invitation covers only the specific goods and/or services awarded by the Cooperative. As explained in the Advisory ("Advisory"), **Texas law prohibits the procurement of architecture or engineering services through a purchasing cooperative. This Proposal Invitation and any Contract awarded thereunder does not include such services. Architecture or engineering services must be procured by a Cooperative member separately, in accordance with the Professional Services Procurement Act (Chapter 2254 of the Texas Government Code) and other applicable law and local policy.**

By signature on the Compliance Forms Signature Page, Proposer affirms that Proposer has obtained a copy of the Advisory, has read and understands the Advisory, and is authorized by Proposer to make this affirmation. If Proposer sells construction-related goods or services to a Cooperative member under a Contract awarded under this Proposal Invitation, Proposer will comply with the Advisory and applicable legal requirements, make a good faith effort to make its Cooperative member customers or potential Cooperative member customers aware of such requirements, and provide a Cooperative member with a copy of the Advisory before accepting the member's Purchase Order or other agreement for construction-related goods or services.

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DEVIATION AND COMPLIANCE

If your company intends to deviate from the General Terms and Conditions, Proposal Specifications or other requirements associated with this Proposal Invitation, you MUST list all such deviations on this form, and provide complete and detailed information regarding the deviations on this form or an attachment to this form. **Prior to completing this form, Vendor shall review the General Terms and Conditions section B.4 (Deviations from Item Specifications and General Terms and Conditions). Please note that, as provided in section B.4, certain provisions of the General Terms and Conditions are NOT subject to deviation, and certain deviations will be deemed rejected without further action by the Cooperative. Any attempted deviation, whether directly or indirectly, to provisions identified in this Proposal Invitation as not subject to deviation shall be deemed rejected by the Cooperative and, unless otherwise withdrawn by Vendor, may result in Vendor's Proposal being rejected in its entirety.**

The Cooperative will consider any deviations in its contract award decision and reserves the right to accept or reject a proposal based upon any submitted deviation.

In the absence of any deviation identified and described in accordance with the above, your company must fully comply with the General Terms and Conditions, Proposal Specifications and all other requirements associated with this Proposal Invitation if awarded a Contract under this Proposal Invitation. A deviation will not be effective unless accepted by the Cooperative. The Cooperative, by and through the Cooperative administrator, may, in its sole discretion, seek clarification from and/or communicate with Proposer(s) regarding any submitted deviation, consistent with general procurement principles of fair competition. The Cooperative reserves the right to accept or reject a Proposal based upon any submitted deviation.

Please check (√) one of the following:

☒ **No**; Deviations
☐ **Yes**; Deviations

List and fully explain any deviations you are submitting:

Initial: BB

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VENDOR CONSENT FOR NAME BRAND USE

BuyBoard members seeking to make purchases using a Contract awarded under this Proposal Invitation may view information regarding awarded Vendors, including but not limited to product catalogs, pricelists, pricing, and Proposals, through the BuyBoard website. To improve and enhance the experience of BuyBoard members seeking to procure goods and services under the Contract utilizing the BuyBoard website, any Vendor logo, product images, and similar brand and trademark information provided by Vendor for purposes of the Contract ("Vendor Information") may be posted on the BuyBoard website.

You acknowledge that, by submitting your Proposal, unless you specifically opt out below, you consent to use of your company's Vendor Information on the BuyBoard website if awarded a Contract. You further acknowledge that whether, where, and when to include the Vendor Information on the BuyBoard website shall be at the sole discretion of the BuyBoard Administrator. Vendor retains, however, the right of general quality control over the BuyBoard Administrator's authorized display of proprietary Vendor Information. Neither the BuyBoard nor its administrator will be responsible for the use or distribution of Vendor Information by BuyBoard members or any other third party using the BuyBoard website. This Vendor Consent shall be effective for the full term of the Contract, including renewals, unless Vendor provides a signed, written notice revoking consent to contractadmin@buyboard.com. BuyBoard shall have up to thirty days from the date of receipt of a termination or revocation of a Vendor Consent to remove Vendor information from the BuyBoard website.

This Vendor Consent is subject to the Terms and Conditions of the Contract, including, but not limited to, those terms pertaining to Disclaimer of Warranty and Limitation of Liability, Indemnification, and Intellectual Property Infringement.

Vendor logo files must be submitted in one of the formats set forth in the BuyBoard Technical Requirements. Proposers are requested to submit this information with Vendor's Proposal. (This consent shall not authorize use of your company's Vendor Information by BuyBoard if your company is not awarded a Contract.)

OPT OUT:

If your company wishes to opt out of the Vendor Consent for Name Brand Use, you must check the opt out box below.
DO NOT select this box unless your company is opting out of this Vendor Consent for Name Brand Use.

☐ By checking this box, Vendor hereby declines to provide consent for use of Vendor Information (as defined herein) on the BuyBoard website. **By opting out, Vendor acknowledges and agrees that, if Vendor is awarded a Contract under this Proposal Invitation, information available on the BuyBoard for Vendor's awarded products or services may be limited, potentially placing Vendor at a disadvantage and impacting the ability of Cooperative members to search, find, review, and purchase Vendor's awarded products and services on the BuyBoard website.**

Initial: BB

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CONFIDENTIAL/PROPRIETARY INFORMATION

A. Public Disclosure Laws

All Proposals, forms, documentation, catalogs, pricelists, or other materials submitted by Vendor to the Cooperative in response to this Proposal Invitation, may be subject to the disclosure requirements of the Texas Public Information Act (Texas Government Code chapter 552.001, *et. seq.*) or similar disclosure law. Proposer must clearly identify on this form any information in its Proposal (including forms, documentation, or other materials submitted with the Proposal) that Proposer considers proprietary or confidential. If Proposer fails to properly identify the information, the Cooperative shall have no obligation to notify Vendor or seek protection of such information from public disclosure should a member of the public or other third party request access to the information under the Texas Public Information Act or similar disclosure law. When required by the Texas Public Information Act or other disclosure law, Proposer may be notified of any third-party request for information in a Proposal that Proposer has identified in this form as proprietary or confidential.

Does your Proposal (including forms, documentation, catalogs, pricelists, or other materials submitted with the Proposal) contain information which Vendor considers proprietary or confidential?

Please check (√) one of the following:

☒ **NO,** I certify that none of the information included with this Proposal is considered confidential or proprietary.

☐ **YES,** I certify that this Proposal contains information considered confidential or proprietary and all such information is specifically identified on this form.

If you responded "YES", you must clearly identify below the specific information you consider confidential or proprietary. List each page number, form number, or other information sufficient to make the information readily identifiable. The Cooperative and Cooperative administrator shall not be responsible for a Proposer's failure to clearly identify information considered confidential or proprietary. Further, by submitting a Proposal, Proposer acknowledges that the Cooperative and Cooperative administrator will disclose information when required by law, even if such information has been identified herein as information Vendor considers confidential or proprietary.

Confidential / Proprietary Information:

_____

_____

_____

_____

_____

(Attach additional sheets if needed.)

Initial: BB

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B. Copyright Information

Does your Proposal (including forms, documentation, pricelists, catalogs, or other materials submitted with the Proposal) contain copyright information?

Please check (√) one of the following:

[X] **NO,** Proposal (including forms, documentation, pricelists, catalogs, or other materials submitted with the Proposal) does not contain copyright information.

[ ] **YES,** Proposal (including forms, documentation, pricelists, catalogs, or other materials submitted with the Proposal) does contain copyright information.

If you responded "YES", clearly identify below the specific documents or pages containing copyright information.

Copyright Information: _____

_____

_____

_____

(Attach additional sheets if needed.)

C. Consent to Release Confidential/Proprietary/Copyright Information to BuyBoard Members

BuyBoard members (Cooperative and nonprofit members) seeking to make purchases through the BuyBoard may wish to view information included in the Proposals of awarded Vendors. If you identified information on this form as confidential, proprietary, or subject to copyright, and you are awarded a BuyBoard contract, your acceptance of the BuyBoard contract award constitutes your consent to the disclosure of such information to BuyBoard members, including posting of such information on the secure BuyBoard website for members. Note: Neither the Cooperative nor Cooperative administrator will be responsible for the use or distribution of information by BuyBoard members or any other party.

D. Consent to Release Proposal Tabulation

Notwithstanding anything in this Confidential/Proprietary Information form to the contrary, by submitting a Proposal, Vendor consents and agrees that, upon Contract award, the Cooperative may publicly release, including posting on the public BuyBoard website, a copy of the proposal tabulation and award information for the Contract including Vendor name; proposed catalog/pricelist name(s); proposed percentage discount(s), hourly labor rate(s), or other specified pricing; and Vendor award or non-award information.

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EDGAR VENDOR CERTIFICATION
(2 CFR Part 200 and Appendix II)

When a Cooperative member seeks to procure goods and services using funds under a federal grant or contract, specific federal laws, regulations, and requirements may apply in addition to those under state law. This includes, but is not limited to, the procurement standards of the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards, 2 CFR 200 (sometimes referred to as the "Uniform Guidance" or new "EDGAR"). All Vendors submitting a Proposal must complete this EDGAR Certification Form regarding Vendor's willingness and ability to comply with certain requirements which *may* be applicable to specific Cooperative member purchases using federal grant funds. Completed forms will be made available to Cooperative members for their use while considering their purchasing options when using federal grant funds. Cooperative members may also require Vendors to enter into ancillary agreements, in addition to the terms and conditions of the BuyBoard contract, to address the member's specific contractual needs, including contract requirements for a procurement using federal grants or contracts.

For each of the items below, Vendor should certify Vendor's agreement and ability to comply, where applicable, by having Vendor's authorized representative check the applicable boxes, initial each page, and sign the Compliance Forms Signature Page. If you fail to complete any item in this form, the Cooperative will consider and may list the Vendor's response on the BuyBoard as "NO," the Vendor is unable or unwilling to comply. A "NO" response to any of the items may, if applicable, impact the ability of a Cooperative member to purchase from the Vendor using federal funds.

1. Vendor Violation or Breach of Contract Terms:

Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 USC 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Provisions regarding Vendor default are included in the BuyBoard General Terms and Conditions, including Section E.18, Remedies for Default and Termination of Contract. Any Contract award will be subject to such BuyBoard General Terms and Conditions, as well as any additional terms and conditions in any Purchase Order or Cooperative member ancillary contract agreed upon by Vendor and the Cooperative member which must be consistent with and protect the Cooperative member at least to the same extent as the BuyBoard Terms and Conditions. The remedies under the Contract are in addition to any other remedies that may be available under law or in equity. By submitting a Proposal, you agree to these Vendor violation and breach of contract terms.

■ **YES**, I agree. ☐ **NO**, I do not agree.

2. Termination for Cause or Convenience:

For any Cooperative member purchase or contract in excess of $10,000 made using federal funds, you agree that the following term and condition shall apply:

The Cooperative member may terminate or cancel any Purchase Order under this Contract at any time, with or without cause, by providing seven (7) business days advance written notice to the Vendor. If this Agreement is terminated in accordance with this Paragraph, the Cooperative member shall only be required to pay Vendor for goods or services delivered to the Cooperative member prior to the termination and not otherwise returned in accordance with Vendor's return policy. If the Cooperative member has paid Vendor for goods or services not yet provided as of the date of termination, Vendor shall immediately refund such payment(s).

If an alternate provision for termination of a Cooperative member purchase for cause and convenience, including the manner by which it will be effected and the basis for settlement, is included in the Cooperative member's Purchase Order or ancillary agreement agreed to by the Vendor, the Cooperative member's provision shall control.

■ **YES**, I agree. ☐ **NO**, I do not agree. **Initial:** BB

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3. Equal Employment Opportunity:

Except as otherwise provided under 41 CFR Part 60, all Cooperative member purchases or contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 shall be deemed to include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR Part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

The equal opportunity clause provided under 41 CFR 60-1.4(b) is hereby incorporated by reference. Vendor agrees that such provision applies to any Cooperative member purchase or contract that meets the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 and Vendor agrees that it shall comply with such provision.

■ **YES**, I agree. ☐ **NO**, I do not agree.

4. Davis-Bacon Act:

When required by Federal program legislation, Vendor agrees that, for all Cooperative member prime construction contracts/purchases in excess of $2,000, Vendor shall comply with the Davis-Bacon Act (40 USC 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, Vendor is required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determinate made by the Secretary of Labor. In addition, Vendor shall pay wages not less than once a week.

Current prevailing wage determinations issued by the Department of Labor are available at www.sam.gov. Vendor agrees that, for any purchase to which this requirement applies, the award of the purchase to the Vendor is conditioned upon Vendor's acceptance of the wage determination.

Vendor further agrees that it shall also comply with the Copeland "Anti-Kickback" Act (40 USC 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.

■ **YES**, I agree. ☐ **NO**, I do not agree.

5. Contract Work Hours and Safety Standards Act:

Where applicable, for all Cooperative member contracts or purchases in excess of $100,000 that involve the employment of mechanics or laborers, Vendor agrees to comply with 40 USC 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 USC 3702 of the Act, Vendor is required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week.

The requirements of 40 USC 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

■ **YES**, I agree. ☐ **NO**, I do not agree.

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6. Right to Inventions Made Under a Contract or Agreement:

If the Cooperative member's Federal award meets the definition of "funding agreement" under 37 CFR 401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance or experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Vendor agrees to comply with the above requirements when applicable.

■ **YES**, I agree. ☐ **NO**, I do not agree.

7. Clean Air Act and Federal Water Pollution Control Act:

Clean Air Act (42 USC 7401-7671q.) and the Federal Water Pollution Control Act (33 USC 1251-1387), as amended – Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 USC 7401-7671q.) and the Federal Water Pollution Control Act, as amended (33 USC 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

When required, Vendor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act and the Federal Water Pollution Control Act.

■ **YES**, I agree. ☐ **NO**, I do not agree.

8. Debarment and Suspension:

Debarment and Suspension (Executive Orders 12549 and 12689) – A contract award (see 2 CFR 180.220) must not be made to parties listed on the government-wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR Part 1966 Comp. p. 189) and 12689 (3 CFR Part 1989 Comp. p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Vendor certifies that Vendor is not currently listed on the government-wide exclusions in SAM, is not debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549. Vendor further agrees to immediately notify the Cooperative and all Cooperative members with pending purchases or seeking to purchase from Vendor if Vendor is later listed on the government-wide exclusions in SAM, or is debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549.

■ **YES**, I agree. ☐ **NO**, I do not agree.

9. Byrd Anti-Lobbying Amendment:

Byrd Anti-Lobbying Amendment (31 USC 1352) - Vendors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 USC 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award. As applicable, Vendor agrees to file all certifications and disclosures required by, and otherwise comply with, the Byrd Anti-Lobbying Amendment (31 USC 1352).

■ **YES**, I agree. ☐ **NO**, I do not agree.

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10. Procurement of Recovered Materials:

For Cooperative member purchases utilizing Federal funds, Vendor agrees to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act where applicable and provide such information and certifications as a Cooperative member may require to confirm estimates and otherwise comply. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery, and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

■ **YES**, I agree. ☐ **NO**, I do not agree.

11. Domestic Preferences for Procurements:

Where appropriate and consistent with law, 2 CFR §200.322 contains certain considerations for domestic preferences for procurements which may be applicable to Cooperative members using federal funds. When required by a Cooperative member, Vendor agrees to provide such information or certification as may reasonably be requested by the Cooperative member regarding Vendor's products, including whether goods, products, or materials are produced in the United States.

■ **YES**, I agree. ☐ **NO**, I do not agree.

12. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

2 CFR §200.216 prohibits expending federal loan or grant funds to procure or obtain covered telecommunications equipment or services. To the extent applicable and when required by a Cooperative member, Vendor agrees to provide such information or certification as may reasonably be requested by the Cooperative member to confirm whether any telecommunications equipment or services provided by Vendor is covered telecommunications equipment or services under 2 CFR §200.216.

■ **YES**, I agree. ☐ **NO**, I do not agree.

13. General Compliance and Cooperation with Cooperative Members:

In addition to the foregoing specific requirements, Vendor agrees, in accepting any Purchase Order from a Cooperative member, it shall make a good faith effort to work with Cooperative members to provide such information and to satisfy such requirements as may apply to a particular Cooperative member purchase or purchases including, but not limited to, applicable recordkeeping and record retention requirements.

■ **YES**, I agree. ☐ **NO**, I do not agree.

Initial: BB

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COMPLIANCE FORMS SIGNATURE PAGE

By initialing pages and by signature below, I certify that I have reviewed the following forms; that the information provided therein is true, complete, and accurate; and that I am authorized by my company to make all certifications, consents, acknowledgements, and agreements contained herein:

- Proposal Acknowledgements
- Felony Conviction Disclosure
- Debarment Certification
- Resident/Nonresident Certification
- Vendor Employment Certification
- No Boycott Verification
- No Excluded Nation or Foreign Terrorist Organization Certification
- Historically Underutilized Business Certification
- Construction-Related Goods and Services Affirmation
- Acknowledgement of BuyBoard Technical Requirements
- Deviation and Compliance
- Vendor Consent for Name Brand Use
- Confidential/Proprietary Information
- EDGAR Vendor Certification

ClearGov, Inc.
Company Name

Bryan A Burdick
Signature of Authorized Company Official

Bryan A. Burdick, President
Printed Name and Title

September 30, 2025
Date

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PROPOSAL FORMS PART 2: VENDOR INFORMATION FORMS

INSTRUCTIONS:

Proposer must completely and accurately provide all information requested in the following Vendor Information Forms or your Proposal may be rejected as non-responsive:

- Vendor Business Name
- Vendor Contact Information
- Federal and State/Purchasing Cooperative Experience
- Governmental References
- Company Profile
- Texas Regional Service Designation
- State Service Designation
- National Purchasing Cooperative Vendor Award Agreement *(Vendors serving outside Texas only)*
- Local/Authorized Seller Listings
- Manufacturer Dealer Designation
- Proposal Invitation Questionnaire

To the extent any information requested is not applicable to your company, you must so indicate on the form.

VENDOR BUSINESS NAME

By submitting a Proposal, Vendor is seeking to enter into a legal contract with the Cooperative. As such, Vendor must be an individual or legal business entity capable of entering into a binding contract.

Name of Proposing Company:

ClearGov, Inc.

(List the legal name of the company seeking to contract with the Cooperative. Do NOT list an assumed name, dba, aka, etc. here. Such information may be provided below. If you are submitting a joint proposal with another entity to provide the same proposed goods or services, each submitting entity should complete a separate vendor information form. Separately operating legal business entities, even if affiliated entities, which propose to provide goods or services separately must submit their own Proposals.)

Please check (√) one of the following:

Type of Business: ☐ Individual/Sole Proprietor ■ Corporation ☐ Limited Liability Company ☐ Partnership

☐ Other (Specify: _____)

State of Incorporation (if applicable): Delaware

Federal Employer Identification Number: 47-5205793
(Vendor must include a completed IRS W-9 form with their Proposal)

Name by which Vendor, if awarded, wishes to be identified on the BuyBoard: *(Note: If different than the Name of Proposing Company listed above, only valid trade names (dba, aka, etc.) of the Proposing Company may be used and a copy of your Assumed Name Certificate(s), if applicable, must be attached.)* _____

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Form **W-9**
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See *Specific Instructions* on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

ClearGov Inc.

2 Business name/disregarded entity name, if different from above.

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor ☑ C corporation ☐ S corporation ☐ Partnership ☐ Trust/estate

☐ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) . . . . .

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions)

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any)

(Applies to accounts maintained outside the United States.)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . . ☐

5 Address (number, street, and apt. or suite no.). See instructions.

2 Mill and Main Pl, Ste 630

Requester's name and address (optional)

6 City, state, and ZIP code

Maynard, MA 01754

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

4	7	–	5	2	0	5	7	9	3

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here | **Signature of U.S. person** Bruce Lueddeke **Date** 5/5/2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

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VENDOR CONTACT INFORMATION

Vendor shall provide the requested Vendor Contact Information in the electronic proposal submission system including contract, purchase order, RFQ, and invoice contacts (or, if submitting a hard copy Proposal, timely request and complete the Vendor Contact Information form in accordance with the Instructions to Proposers).

FEDERAL AND STATE/PURCHASING COOPERATIVE EXPERIENCE

The Cooperative strives to provide Cooperative members with the best services and products at the best prices available from Vendors with the technical resources and ability to serve Cooperative members. Please respond to the following questions.

1. Provide the dollar value of sales to or through purchasing cooperatives at or based on an established catalog or market price during the previous 12-month period or the last fiscal year: $ 4,800,000. (The period of the 12-month period is 01/01/2024 / 12/31/2024). In the event that a dollar value is not an appropriate measure of the sales, provide and describe your own measure of the sales of the item(s).
2. By submitting a proposal, you agree that, based on your written discounting policies, the discounts you offer the Cooperative are equal to or better than the best price you offer other purchasing cooperatives for the same items under equivalent circumstances.
3. Provide the information requested below for other purchasing cooperatives for which Proposer currently serves, or in the past has served, as an awarded vendor. Rows should be added to accommodate as many purchasing cooperatives as required.

PURCHASING GROUP	CURRENT VENDOR? (Y/N)	FORMER VENDOR (Y/N)? – IF YES, LIST YEARS AS VENDOR	AWARDED COMMODITY CATEGORY(IES)
1. Federal General Services Administration	N	N	
2. T-PASS (State of Texas)	N	N	
3. OMNIA Partners	N	N	
4. Sourcewell (NJPA)	N	N	
5. E&I Cooperative	N	N	
6. Houston-Galveston Area Council (HGAC)	N	N	
7. Choice Partners	N	N	
8. The Interlocal Purchasing System (TIPS)	Y		SaaS
9. Other	Y		SaaS

☐ **MY COMPANY DOES NOT CURRENTLY HAVE ANY OF THE ABOVE OR SIMILAR TYPE CONTRACTS.**

CURRENT BUYBOARD VENDORS

If you are a current BuyBoard vendor in the same contract category as proposed in this Proposal Invitation, indicate the discount for your current BuyBoard contract and the proposed discount in this Proposal. Explain any difference between your current and proposed discounts.

Current Discount (%): 0% **Proposed Discount (%):** 0%

Explanation: ClearGov does not offer discounts through any other procurement cooperatives and has made a strategic decision to utilize a standard rate card for all customers.

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GOVERNMENTAL REFERENCES

For your Proposal to be considered, you must supply a minimum of five (5) individual governmental entity references. The Cooperative may contact any and all references provided as part of the Proposal evaluation. Provide the information requested below, including the existing pricing/discounts you offer each customer. The Cooperative may determine whether pricing/discounts are fair and reasonable by comparing pricing/discounts stated in your Proposal with the pricing/discounts you offer other governmental customers. Attach additional pages if necessary.

	Entity Name	Contact	Phone#	Email Address	Discount	Quantity/ Volume
1.	Grand Island, NE	Patrick Brown	308-385-5444	patrickb@grand-island.com	0%	1
2.	Hilton Head, SC	John Troyer	843-341-4650	johntr@hiltonheadislandsc.gov	0%	1
3.	Naperville, IL	Sherrian Kelly	630-420-6059	kellys@naperville.il.us	0%	1
4.	Orange County, VA	Glenda Paul	540-672-3313	gbradley@orangecountyva.gov	0%	1
5.	Tri-Town School Union, MA	Steven Greenberg	978-887-0771	sgreenberg@tritownschoolunion.com	0%	1

Do you ever modify your written policies or standard governmental sales practices as identified in the above chart to give better discounts (lower pricing) than indicated? **YES** ☐ **NO** ■ If YES, please explain:

_____

_____

_____

COMPANY PROFILE

Information on awarded Cooperative Contracts is available to Cooperative Members on the BuyBoard website. If your company is awarded a Contract under this Proposal Invitation, please provide a brief company description that you would like to have included with your company profile on the BuyBoard website. **Submit your company profile in a separate file, in Word format, with your Proposal.** (Note: Vendor is solely responsible for any content provided for inclusion on the BuyBoard website. The Cooperative reserves the right to exclude or remove any content in its sole discretion, with or without prior notice, including but not limited to any content deemed by the Cooperative to be inappropriate, irrelevant to the Contract, inaccurate, or misleading.)

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Company Profile

ClearGov® makes it easy to plan, build, and present your budget with confidence. Over 1,400 local governments, counties, schools, and special districts use ClearGov to bring stakeholders together in one central platform to manage the complete budget cycle - planning and tracking, budgeting, reporting, and engaging the community. Modern software built for the specific needs of the public sector, ClearGov is how to build the budget quickly and accurately, tell your financial story in a way that builds trust and support, and spend more time on the strategic initiatives that will help your community thrive. ClearGov is proudly endorsed by the National Association of Counties (NACo) and is an Affinity Partner with the International Association of School Business Officials (ASBO). For more information, visit www.cleargov.com.

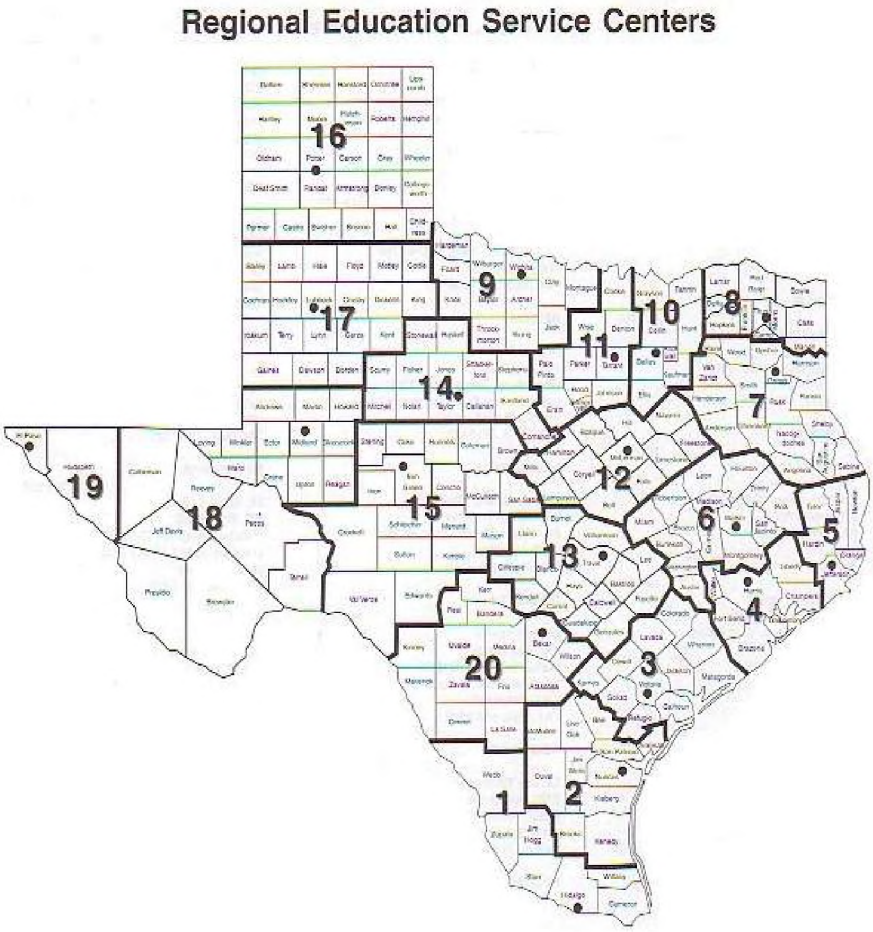
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TEXAS REGIONAL SERVICE DESIGNATION

This form must be completed in the electronic proposal submission system (or, if submitting a hard copy Proposal, timely request and complete the form in accordance with the Instructions to Proposers).

The Cooperative (referred to as "Texas Cooperative" in this form and in the State Service Designation form) offers vendors the opportunity to service its members throughout the entire State of Texas. In the electronic proposal submission system, you must indicate if you will service Texas Cooperative members statewide or, if you do not plan to service all Texas Cooperative members statewide, you ***must*** indicate the specific regions you will service. If you propose to serve different regions for different products or services included in your Proposal, you must complete and submit a separate Texas Regional Service Designation form for each group of products and clearly indicate the products or services to which the designation applies. **(Additional forms can be obtained by contacting** bids@buyboard.com ***at least five (5) business days prior to the Proposal Due Date.***) ***By designating a region or regions, you are certifying that you are authorized and willing to provide the proposed products and services in those regions. Designating regions in which you are either unable or unwilling to provide the specified products and services shall be grounds for either rejection of your Proposal or, if awarded, termination of your Contract.*** Additionally, if you do not plan to service Texas Cooperative members (i.e., if you will service only states other than Texas), ***you must so indicate on the form in the electronic proposal submission system.***



Region and Headquarters

1	Edinburg
2	Corpus Christi
3	Victoria
4	Houston
5	Beaumont
6	Huntsville
7	Kilgore
8	Mount Pleasant
9	Wichita Falls
10	Richardson
11	Fort Worth
12	Waco
13	Austin
14	Abilene
15	San Angelo
16	Amarillo
17	Lubbock
18	Midland
19	El Paso
20	San Antonio

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STATE SERVICE DESIGNATION

This form must be completed in the electronic proposal submission system (or, if submitting a hard copy Proposal, timely request and complete the in accordance with the Instructions to Proposers).

As set forth in the Proposal Invitation, it is the Cooperative's intent that other governmental entities in the United States have the opportunity to purchase goods or services awarded under the Contract, subject to applicable state law, through a piggy-back award or similar agreement through the National Purchasing Cooperative BuyBoard. If you plan to service the entire United States or only specific states, *you must complete the State Service Designation information in the electronic proposal submission system. (Note: If you plan to service Texas Cooperative members, be sure that you complete the Texas Regional Service Designation form.) In addition to this form, to be considered for a piggy-back award by the National Purchasing Cooperative, you must have an authorized representative sign the National Purchasing Cooperative Vendor Award Agreement that follows this page.*

If you serve different states for different products or services included in your Proposal, you must complete and submit a separate State Service Designation form for each group of products and clearly indicate the products or services to which the designation applies. **(Additional forms can be obtained by contacting bids@buyboard.com** *at least five (5) business days prior to the Proposal Due Date.) By designating a state or states, you are certifying that you are authorized and willing to provide the proposed products and services in those states. Designating states in which you are either unable or unwilling to provide the specified products and services shall be grounds for either rejection of your Proposal or, if awarded, termination of your Contract.*

- I will service all states in the United States.
- I will not service all states in the United States.

Alabama
Alaska
Arizona
Arkansas
California (Public Contract Code 20118 & 20652)
Colorado
Connecticut
Delaware
District of Columbia
Florida
Georgia
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maine
Maryland
Massachusetts
Michigan
Minnesota
Mississippi
Missouri
Montana
Nebraska
Nevada
New Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Ohio
Oklahoma
Oregon
Pennsylvania
Rhode Island
South Carolina
South Dakota
Tennessee
Texas
Utah
Vermont
Virginia
Washington
West Virginia
Wisconsin
Wyoming

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NATIONAL PURCHASING COOPERATIVE VENDOR AWARD AGREEMENT

In accordance with the Terms and Conditions associated with this Proposal Invitation, a contract awarded under this Proposal Invitation may be "piggy-backed" by another governmental entity. The National Purchasing Cooperative is an intergovernmental purchasing cooperative formed by certain school districts outside of Texas to serve its members throughout the United States. If you agree to be considered for a piggy-back award by the National Purchasing Cooperative, you agree to the following terms and agree to serve National Purchasing Cooperative members in the states you have indicated on the State Service Designation form, in your Proposal.

By signing this form, Proposer (referred to in this Agreement as "Vendor") agrees as follows:

1. Vendor acknowledges that if The Local Government Purchasing Cooperative ("Texas Cooperative") awards Vendor a contract under this Proposal Invitation ("Underlying Award"), the National Purchasing Cooperative ("National Cooperative") may - but is not required to - "piggy-back" on or re-award all or a portion of that Underlying Award ("Piggy-Back Award"). By signing this National Cooperative Vendor Award Agreement ("Agreement"), Vendor accepts and agrees to be bound by any such Piggy-Back Award as provided for herein.

2. In the event National Cooperative awards Vendor a Piggy-Back Award, the National Cooperative Administrator ("BuyBoard Administrator") will notify Vendor in writing of such Piggy-Back Award, which award shall commence on the effective date stated in the Notice and end on the expiration date of the Underlying Award, subject to annual renewals as authorized in writing by the BuyBoard Administrator. Vendor agrees that no further signature or other action is required of Vendor in order for the Piggy-Back Award and this Agreement to be binding upon Vendor. Vendor further agrees that no interlineations or changes to this Agreement by Vendor will be binding on National Cooperative, unless such changes are agreed to by its BuyBoard Administrator in writing.

3. Vendor agrees that it shall offer its goods and services to National Cooperative members at the same pricing and same general terms and conditions, subject to applicable state laws in the state of purchase, as required by the Underlying Award. However, nothing in this Agreement prevents Vendor from offering National Cooperative members better (i.e., lower) competitive pricing and more favorable terms and conditions than those in the Underlying Award.

4. Vendor hereby agrees and confirms that it will serve those states it has designated on the State Service Designation Form of this Proposal Invitation. Any changes to the states designated on the State Service Designation Form must be approved in writing by the BuyBoard Administrator.

5. Vendor agrees to pay National Cooperative the service fee provided for in the Underlying Award based on the amount of purchases generated from National Cooperative members through the Piggy-Back Award. Vendor shall remit payment to National Cooperative on such schedule as it specifies (which shall not be more often than monthly). Further, upon request, Vendor shall provide National Cooperative with copies of all purchase orders generated from National Cooperative members, vendor invoices, and/or such other documentation regarding those purchase orders as the Cooperative's administrators may require in their reasonable discretion for purposes of reviewing and verifying purchase activity. Vendor further agrees that National Cooperative shall have the right, upon reasonable written notice, to review Vendor's records pertaining to purchases made by National Cooperative members in order to verify the accuracy of service fees.

6. Vendor agrees that the Underlying Award, including its General Terms and Conditions, are adopted by reference to the fullest extent such provisions can reasonably apply to the post-proposal/contract award phase. The rights and responsibilities that would ordinarily inure to the Texas Cooperative pursuant to the Underlying Award shall inure to National Cooperative; and, conversely, the rights and responsibilities that would ordinarily inure to Vendor in the Underlying Award shall inure to Vendor in this Agreement. Vendor recognizes and agrees that Vendor and National Cooperative are the only parties to this Agreement, and that nothing in this Agreement has application to other third parties, including the Texas Cooperative. In the event of conflict between this Agreement and the terms of the Underlying Award, the terms of this Agreement shall control, and then only to the extent necessary to reconcile the conflict.

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7. This Agreement shall be governed and construed in accordance with the laws of the State of Texas and venue for any dispute shall lie in the federal district court of Travis County, Texas.

8. Vendor acknowledges and agrees that the award of a Piggy-Back Award is within the sole discretion of National Cooperative, and that this Agreement does not take effect unless and until National Cooperative awards Vendor a Piggy-Back Award and the BuyBoard Administrator notifies Vendor in writing of such Piggy-Back Award as provided for herein.

WHEREFORE, by signing below Vendor agrees to the foregoing and warrants that it has the authority to enter into this Agreement.

ClearGov, Inc.	792-26
Name of Vendor	Proposal Invitation Number
Bryan A Burdick	Bryan A. Burdick
Signature of Authorized Company Official	Printed Name of Authorized Company Official

September 30, 2025

Date

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LOCATION/AUTHORIZED SELLER LISTINGS

If you have more than one location/authorized seller that will service a Contract awarded under this Proposal Invitation, please list each location/authorized seller below. If additional sheets are required, please duplicate this form as necessary. NOTE: Awarded Vendors shall remain responsible for all aspects of the Contract, including processing of Purchase Orders, and shall be responsible for the performance of all locations and authorized sellers under and in accordance with the Contract. ***If you are a product manufacturer and wish to designate Designated Dealers as defined in the General Terms and Conditions to receive Cooperative member Purchase Orders on your behalf, you must complete the Manufacturer Designated Dealer form.***

Location/Authorized Seller Name	**Contact Person**	**Contact Information** (Mailing Address, Phone, Fax, Email)
Not Applicable		

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MANUFACTURER DEALER DESIGNATION

If Vendor is a manufacturer that sells products through a dealer network and wishes to designate a dealer or multiple dealers ("Designated Dealers") to receive Cooperative member Purchase Orders on Vendor's behalf, you must complete this form for each dealer you wish to designate.

Regardless of any Designated Dealers submitted by Vendor, Vendor specifically agrees and acknowledges that any such designations are for Vendor's convenience only and shall not, if Vendor is awarded a Contract, relieve Vendor of any obligations under the Contract, including payment of Cooperative service fees on all Purchase Orders submitted to Vendor or any Designated Dealer. In accordance with the General Terms and Conditions, an awarded Vendor shall remain responsible and liable for all of its obligations under the Contract and the performance of both Vendor and any of Vendor's Designated Dealers under and in accordance with the Contract and remain subject to all remedies for default thereunder, including, but not limited to suspension and termination of Vendor's Contract for nonpayment of service fees.

If awarded, Vendor authorizes the Cooperative, in its sole discretion, to list any Vendor Designated Dealers in the BuyBoard system and to receive Purchase Orders directly from Cooperative members on behalf of Vendor. To the extent a Vendor with Designated Dealers receives a Purchase Order directly, it shall be the responsibility of Vendor to appropriately process such Purchase Order in accordance with the Contract, including but not limited to timely forwarding such Purchase Order to a Designated Dealer for processing.

The Cooperative reserves the right, in its sole discretion, to refuse addition of, or request removal of, any Designated Dealer, and Vendor agrees to immediately require such Designated Dealer to cease accepting Purchase Orders or otherwise acting on Vendor's behalf under the Contract. Further, the Cooperative administrator shall be authorized to remove or suspend any or all Designated Dealers from the BuyBoard at any time in its sole discretion.

If you wish to designate a dealer to service a contract awarded under this Proposal Invitation, please list the Designated Dealer below. If you wish to designate multiple dealers, please duplicate this form as necessary.

Not Applicable

Designated Dealer Name

Designated Dealer Contact Person

Designated Dealer Address

City

State

Zip Code

Phone Number

Fax Number

Email address

Designated Dealer Tax ID Number* **(*attach W-9)**

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PROPOSAL INVITATION QUESTIONNAIRE

The Cooperative will use your responses to the questions below in evaluating your Proposal and technical and financial resources to provide the goods and perform the services ("Work") under the BuyBoard contract contemplated by this Proposal Invitation ("Contract"). Proposers must fully answer each question, numbering your responses to correspond to the questions/numbers below. Proposers must complete below or attach your responses to this questionnaire and submit in one document with your Proposal. **You must submit the questionnaire and responses with your Proposal or the Proposal will not be considered.**

1. List the number of years Proposer has been in business and former business names (if applicable). Note whether your company is currently for sale or involved in any transaction that would significantly alter its business or result in acquisition by another entity.

ClearGov, Inc. was incorporated in 2015 and has been in business for close to 10 years. ClearGov is not currently for sale or involved in any transaction that would significantly alter its business or result in acquisition by another entity.

2. Describe the resources Proposer has to manage staff and successfully perform the Work contemplated under this Contract. State the number and summarize the experience of company personnel who may be utilized for the Work, including those who will be available to Cooperative members for assistance with project development, technical issues, and product selection for Work associated with this Contract.

ClearGov currently provides software solutions to over 1,400 local government, school district and special district customers across all 50 states. ClearGov has a dedicated staff of Client Success managers who support our customers.

3. **Marketing Strategy:** For your Proposal to be considered, you must submit the Marketing Strategy you will use if the Cooperative accepts all or part of your Proposal. *(Example: Explain how your company will initially inform Cooperative members of your BuyBoard Contract, and how you will continue to support the BuyBoard for the duration of the Contract term.)* Attach additional pages if necessary.

The bulk of ClearGov's prospect/client interactions are directly between customers and our sales executives. We have instructed our sales team to present BuyBoard as the first and preferred option if a customer wishes to contract through a procurement cooperative/aggregator. We also encourage customers to become BuyBoard members if they are not already part of the BuyBoard community. Finally, ClearGov will continue to include BuyBoard on the Partners page of our ClearGov website.

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4. Describe Proposer's financial capability to perform the Contract. State or describe the firm's financial strength and rating, bonding capacity, and insurance coverage limits. State whether the firm, or any of the firm's past or present owners, principal shareholders or stockholders, or officers, have been a debtor party to a bankruptcy, receivership, or insolvency proceeding in the last 7 years, and identify any such debtor party by name and relationship to or position with your firm.

ClearGov is financially solvent and rapidly growing; None of the firm's past or present owners, principal shareholders, or officers have filed for bankruptcy, receivership or insolvency.

5. Does your company have any outstanding financial judgments and/or is it currently in default on any loan or financing agreement? If so, provide detailed information on the nature of such items and prospects for resolution.

None.

6. List all contracts, if any, in the last 10 years on which Proposer has defaulted, failed to complete or deliver the work, or that have been terminated for any reason. For each such contract, provide the project name, scope, value and date and the name of the procuring entity. Fully explain the circumstances of the default, failure to complete or deliver the work, or termination.

None.

7. List all litigation or other legal proceedings (including arbitration proceedings), if any, in the last 10 years brought against your firm, or any of the firm's past or present owners, principal shareholders or stockholders, officers, agents or employees, that relate to or arise from a contract similar to this Contract or the Work contemplated under this Contract. Provide the style of the lawsuit or proceeding (name of parties and court or tribunal in which filed), nature of the claim, and resolution or current status.

None.

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8. For software-related products, does your company permit escrow of source code and other items needed to provide the customer with continued use of the software in the event of Vendor bankruptcy or other issues which cause the functionality of the software to cease? Explain.

No. ClearGov's product is a turnkey, SaaS solution. We do not do custom software development work.

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PROPOSAL SPECIFICATION SUMMARY

The categories and items specified for this Proposal Invitation are summarized below. For full Proposal Specifications, you must review and complete the Proposal Specification information in the electronic proposal submission system in accordance with the Instructions to Proposers (or, if submitting a hard copy Proposal, timely request and complete the Proposal Specification Form in accordance with the Instructions to Proposers).

PROPOSAL NOTE 1: Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. *No paper catalogs or manufacturer/vendor websites will be accepted.*

PROPOSAL NOTE 2: This Proposal Invitation is limited to products within the specified categories. For purposes of clarification, the specified SaaS categories do **not** include board or meeting agenda preparation products, policy and manual management products, or School Health and Related Services (SHARS) Medicaid reimbursement products.

Section I: Software as a Service (SaaS) Products and Related Services

1. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Asset Management/Tracking Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
2. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Business/Financial Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
3. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Communications Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
4. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Curriculum/Instruction** (K-12, special education, and higher education) **Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
5. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Document/Record Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
6. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Facility/Maintenance Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
7. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Grant Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
8. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Information Technology Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
9. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Legal Cases and Courtroom Docket Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a

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subscription basis and hosted by software provider.

10. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Payroll/Performance Appraisal/Workforce Recruitment Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
11. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Student Services (Appraisal, Discipline, Orientation) Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.

Section II: Cybersecurity Assessments, and Related Products and Services

12. Discount (%) off catalog/pricelist for **Cybersecurity Assessments, Products and Related Services** - all types of cybersecurity assessments and products used with networks and technology infrastructures including pre-breach mitigation monitoring services and breach mitigation services related to data/information security incidents.

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REQUIRED FORMS CHECKLIST

(Please check (√) the following)

[x] Reviewed/Completed: **Proposer's Acceptance and Agreement**

PROPOSAL FORMS PART 1: COMPLIANCE FORMS

[x] Reviewed/Completed: **Proposal Acknowledgements**
[x] Reviewed/Completed: **Felony Conviction Disclosure**
[x] Reviewed/Completed: **Resident/Nonresident Certification**
[x] Reviewed/Completed: **Debarment Certification**
[x] Reviewed/Completed: **Vendor Employment Certification**
[x] Reviewed/Completed: **No Boycott Verification**
[x] Reviewed/Completed: **No Excluded Nation or Foreign Terrorist Organization Certification**
[x] Reviewed/Completed: **Historically Underutilized Business Certification**
[x] Reviewed/Completed: **Acknowledgement of BuyBoard Technical Requirements**
[x] Reviewed/Completed: **Construction-Related Goods and Services Affirmation**
[x] Reviewed/Completed: **Deviation and Compliance**
[x] Reviewed/Completed: **Vendor Consent for Name Brand Use**
[x] Reviewed/Completed: **Confidential/Proprietary Information**
[x] Reviewed/Completed: **EDGAR Vendor Certification**
[x] Reviewed/Completed: **Compliance Forms Signature Page**

PROPOSAL FORMS PART 2: VENDOR INFORMATION FORMS

[x] Reviewed/Completed: **Vendor Business Name**
[x] Reviewed/Completed: **Vendor Contact Information** (*complete in electronic proposal submission system)*
[x] Reviewed/Completed: **Federal and State/Purchasing Cooperative Experience**
[x] Reviewed/Completed: **Governmental References**
[x] Reviewed/Completed: **Company Profile**
[x] Reviewed/Completed: **Texas Regional Service Designation** (*complete in electronic proposal submission system)*
[x] Reviewed/Completed: **State Service Designation** (*complete in electronic proposal submission system)*
[x] Reviewed/Completed: **National Purchasing Cooperative Vendor Award Agreement** *(Vendors serving outside Texas only)*
[x] Reviewed/Completed: **Local/Authorized Seller Listings**
[x] Reviewed/Completed: **Manufacturer Dealer Designation**
[x] Reviewed/Completed: **Proposal Invitation Questionnaire**
[x] Reviewed/Completed: **Proposal Specifications** *Discount (%) off Catalog/Pricelist and/or other required pricing information including Catalogs/Pricelists (or no bid response) must be submitted with the Proposal or the Proposal will not be considered.*

ClearGov Inc Information

Contact:	Tyler Bridges
Address:	2 Mill and Main Place Suite 630 Maynard, MA 01754
Phone:	(855) 553-2715
Fax:	(774) 759-3045
Toll Free:	(855) 553-2715
Email:	tbridges@cleargov.com
Web Address:	www.cleargov.com

By submitting your response, you certify that you are authorized to represent and bind your company.

Tyler Bridges
Signature

tbridges@cleargov.com
Email

Submitted at 10/2/2025 02:34:48 PM (CT)

Requested Attachments

BuyBoard Proposal Invitation No. 792-26, Software as a Service (SaaS), Cybersecurity Assessments, and Related Products and Services

ClearGov - BuyBoard Proposal Invitation No. 792-26.pdf

REQUIRED-In PDF format, upload all COMPLETED and FILLED in proposal invitation documents available for download at www.buyboard.com.vendor. Click on the **"Current and Upcoming Proposal Invitations"** button to view and download the forms for this proposal including any additional pages, as necessary. NOTICE: DO NOT complete proposal forms in internet browser. No data will be stored. Download file to computer and complete proposal forms prior to submitting. (DO NOT password protect uploaded files.)

Manufacturer Catalog(s) and/or Product Price list(s)

ClearGov - Rate Cards.pdf

REQUIRED-In PDF format ONLY, upload manufacturer catalog(s) and/or product price list(s) in accordance with proposal invitation instructions. Vendors shall submit catalog(s)/price list(s) with their Proposal response or Proposal will not be considered. No paper catalogs or manufacturer/vendor websites will be accepted. File size must not exceed 250MB. (DO NOT password protect uploaded files.)

Exceptions and/or Detailed Information Related to Discount % and/or Hourly Labor Rate Proposed

No response

In PDF format and if necessary, vendor shall attach detailed information regarding exceptions to pricing and/or discount percentage and define the services that are proposed to be provided. NOTE: IF DETAILED INFORMATION IS NOT SUBMITTED, PROPOSAL MAY NOT BE CONSIDERED. (DO NOT password protect uploaded files.)

Company Profile

ClearGov - Company Profile.docx

REQUIRED-Information on awarded Cooperative Contracts is available to Cooperative Members on the BuyBoard website. If your company is awarded a Contract under this Proposal Invitation, please provide a brief company description that you would like to have included with your company profile on the BuyBoard website. Submit your company profile in a separate file, in **Word format**, with your Proposal. *(Note: Vendor is solely responsible for any content provided for inclusion on the BuyBoard website. The Cooperative reserves the right to exclude or remove any content in its sole discretion, with or without prior notice, including but not limited to any content deemed by the Cooperative to be inappropriate, irrelevant to the Contract, inaccurate, or misleading.)* (DO NOT password protect uploaded files.)

IRS Form W-9 Request for Taxpayer Identification Number and Certification

ClearGov - IRS Form W-9.pdf

REQUIRED-In PDF format, upload W-9 form. (DO NOT password protect uploaded files.)

Response Attachments

ClearGov - Sole Source Provider Letter.pdf

This letter confirms that ClearGov is the sole source provider for the products detailed herein.

Bid Attributes

1 Name of Proposing Company (Legal Name)

By submitting a Proposal, Vendor is seeking to enter into a legal contract with the Cooperative. As such, Vendor must be an individual or legal business entity capable of entering into a binding contract. List the LEGAL NAME of the company seeking to contract with the Cooperative. Do NOT list an assumed name, dba, aka, etc. here. Such information may be provided below.

ClearGov Inc.

2 Vendor Business Name

Name by which Vendor, if awarded, wishes to be identified on the BuyBoard. If different than the Name of Proposing Company listed above, only valid trade names (dba, aka, etc.) of the Proposing Company may be used.

ClearGov Inc.

3 Vendor Mailing/Street Address

Vendor Mailing/Street Address

2 Mill and Main Place, Suite 630

4 Vendor Mailing/Street Address - City

Vendor Mailing/Street Address - City

Maynard

5 Vendor Mailing/Street Address - State

Vendor Mailing/Street Address - State (Abbreviate State Name)

MA

6 Vendor Mailing/Street Address - Zip Code

Vendor Mailing/Street Address - Zip Code

01754

7 Federal Identification Number

Federal Identification Number

47-5205793

8 No Boycott Verification/No Excluded Nation or Foreign Terrorist Organization Certification/Historically Underutilized Business Certification

No Boycott Verification/No Excluded Nation or Foreign Terrorist Organization Certification/Historically Underutilized Business Certification

9 **No Boycott Certification**

A Texas governmental entity may not enter into a contract with a value of $100,000 or more that is to be paid wholly or partly from public funds with a company (excluding a sole proprietorship) that has 10 or more full-time employees for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel and will not boycott Israel during the term of the contract (TEX. GOV'T CODE Ch. 2271), (2) does not boycott energy companies and will not boycott energy companies during the term of the contract (TEX. GOV'T CODE Ch. 2276), and (3) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of the contract against a firearm entity or firearm trade association (TEX. GOV'T CODE Ch. 2274). Accordingly, this certification form is included to the extent required by law.
"Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes. TEX. GOV'T CODE §808.001(1).

"Boycott energy company" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (A) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (B) does business with a company described by Paragraph (A). TEX. GOV'T CODE §809.001(1).

"Discriminate against a firearm entity or firearm trade association" means, (A) with respect to the entity or association, to: (i) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (ii) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (iii) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; and (B) does not include: (i) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories; and (ii) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship: (aa) to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency; or (bb) for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity's or association's status as a firearm entity or firearm trade association. TEX. GOV'T CODE §2274.001(3).

By signature on the Compliance Forms Signature Page, to the extent applicable, I certify and verify that Vendor does not boycott Israel, boycott energy companies, or discriminate against a firearm entity or firearm trade association and will not do so during the term of any contract awarded under this Proposal Invitation, that this certification is true, complete and accurate, and that I am authorized by my company to make this certification.

Yes

10 **No Excluded Nation or Foreign Terrorist Organization Certification**

Chapter 2252 of the Texas Government Code provides that a Texas governmental entity may not enter into a contract with a company engaged in active business operations with Sudan, Iran, or a foreign terrorist organization – specifically, any company identified on a list prepared and maintained by the Texas Comptroller under Texas Government Code §§806.051, 807.051, or 2252.153. (A company that the U.S. Government affirmatively declares to be excluded from its federal sanctions regime relating to Sudan, Iran, or any federal sanctions regime relating to a foreign terrorist organization is not subject to the contract prohibition.)

By signature on the Compliance Forms Signature Page, I certify and verify that Vendor is not on the Texas Comptroller's list identified above; that this certification is true, complete and accurate; and that I am authorized by my company to make this certification.

Yes

11 **Historically Underutilized Business Certification**

A Proposer that has been certified as a Historically Underutilized Business (also known as a Minority/Women Business Enterprise or "MWBE" and all referred to in this form as a "HUB") is encouraged to indicate its HUB certification status when responding to this Proposal Invitation. The BuyBoard website will indicate HUB certifications for awarded Vendors that properly indicate and document their HUB certification on this form.

I certify that my company has been certified as a MWBE/HUB in the following categories: *(Please check all that apply)*

12 **Minority Owned Business**

Minority Owned Business

☐ *Minority Owned Business*

13 **Women Owned Business**

Women Owned Business

☐ *Women Owned Business*

14 **Service-Disabled Veteran Owned Business**

Service-Disabled Veteran Owned Business (veteran defined by 38 U.S.C. §101(2), who has a service-connected disability as defined by 38 U.S.C. § 101(16), and who has a disability rating of 20% or more as determined by the U. S. Department of Veterans Affairs or Department of Defense)

☐ *Service-Disabled Veteran Owned Business*

15 **Certification Number**

Certification Number

No response

16 **Name of Certifying Agency**

Certifying Agency

No response

17 **Non-MWBE/HUB**

My company has NOT been certified as a MWBE/HUB

☐ *Non-HUB*

18 **Vendor General Contact Information**

Proposal/Contract General Contact Information

19 **Vendor Proposal/Contract Contact - First Name**

Vendor Proposal/Contract Contact - First Name

Tyler

20 **Vendor Proposal/Contract Contact - Last Name**

Vendor Proposal/Contract Contact - Last Name

Bridges

21 **Vendor Proposal/Contract Contact E-mail Address**

Vendor Proposal/Contract Contact E-mail Address

tbridges@cleargov.com

22 **Vendor Proposal/Contract Mailing Address**

Vendor Proposal/Contract Mailing Address

2 Mill and Main Place, Suite 630

23 **Vendor Proposal/Contact Mailing Address - City**

Vendor Proposal/Contact Mailing Address - City

Maynard

24 **Vendor Proposal/Contact Mailing Address - State**

Vendor Proposal/Contact Mailing Address - State (Abbreviate State Name)

MA

25 **Vendor Proposal/Contact Mailing Address - Zip Code**

Vendor Proposal/Contact Mailing Address - Zip Code

01754

26 **Vendor Proposal/Contact Phone Number**

Vendor Proposal/Contact Phone Number (xxx-xxx-xxxx)

855-553-2715

27 **Vendor Proposal/Contact Extension Number**

Vendor Proposal/Contact Extension Number

7087

28 **Company Website**

Company Website (www.XXXXX.com)

www.cleargov.com

29 **Purchase Orders Contact Information**

All Purchase Orders from Cooperative members will be available through the Internet. Vendors need Internet access and at least one e-mail address so that notification of new orders can be sent to the Internet contact when a new purchase order arrives. An information guide will be provided to Vendors to assist them with retrieving their orders.

Please select options below for receipt of Purchase Orders and provide the requested information:

- I will use the internet to receive Purchase Orders at the following address

Yes

30 **Purchase Order E-mail Address**

Purchase Order E-mail Address

orders@cleargov.com

31 **Purchase Order Contact - First Name**

Purchase Order Contact - First Name

Brenda

32 **Purchase Order Contact - Last Name**

Purchase Order Contact - Last Name

Luebbers

33 **Purchase Order Contact Phone Number**

Purchase Order Contact Phone Number (xxx-xxx-xxxx)

855-553-2715

34 **Purchase Order Contact Extension Number**

Purchase Order Contact Extension Number

7003

35 **Alternate Purchase Order E-mail Address**

Alternate Purchase Order E-mail Address

bluebbers@cleargov.com

36 **Alternate Purchase Order Contact - First Name**

Alternate Purchase Order Contact - First Name

Brenda

37 **Alternate Purchase Order Contact - Last Name**

Alternate Purchase Order Contact - Last Name

Luebbers

38 **Alternate Purchase Order Contact Phone Number**

Alternate Purchase Order Contact Phone Number (xxx-xxx-xxxx)

508-365-2050

39 **Alternate Purchase Order Contact Extension Number**

Alternate Purchase Order Contact Extension Number

No response

40 **Purchase Orders Contact Information**

All Purchase Orders from Cooperative members will be available through the Internet. Vendors need Internet access and at least one e-mail address so that notification of new orders can be sent to the Internet contact when a new purchase order arrives. An information guide will be provided to Vendors to assist them with retrieving their orders.

Please select options below for receipt of Purchase Orders and provide the requested information:

- Purchase Orders may be received by the Designated Dealer(s) identified on my company's Dealer Designation form as provided to the Cooperative administrator. I understand that my company shall remain responsible for the Contract and the performance of all Designated Dealers under and in accordance with the Contract.

No

41 **Request for Quotes (RFQ)**

Cooperative members will send RFQs to you by e-mail. Please provide e-mail addresses for the receipt of RFQs:

42 **Request for Quote (RFQ) E-mail Address**

Request for Quote (RFQ) E-mail Address

tbridges@cleargov.com

43 **Request for Quote (RFQ) Contact - First Name**

Request for Quote (RFQ) Contact - First Name

Tyler

44 **Request for Quote (RFQ) Contact - Last Name**

Request for Quote (RFQ) Contact - Last Name

Bridges

45 **Request for Quote (RFQ) Contact Phone Number**

Request for Quote (RFQ) Contact Phone Number (xxx-xxx-xxxx)

855-553-2715

46 **Request for Quote (RFQ) Contact Extension Number**

Request for Quote (RFQ) Contact Extension Number

7087

47 **Alternate Request for Quote (RFQ) E-mail Address**

Alternate Request for Quote (RFQ) E-mail Address

No response

48 **Alternate Request for Quote (RFQ) Contact - First Name**

Alternate Request for Quote (RFQ) Contact - First Name

No response

49 **Alternate Request for Quote (RFQ) Contact - Last Name**

Alternate Request for Quote (RFQ) Contact - Last Name

No response

50 **Alternate Request for Quote (RFQ) Contact Phone Number**

Alternate Request for Quote (RFQ) Contact Phone Number (xxx-xxx-xxxx)

No response

51 **Alternate Request for Quote (RFQ) Contact Extension Number**

Alternate Request for Quote (RFQ) Contact Extension Number

No response

52 **Invoices**

Your company will be billed monthly for the service fee due under a Contract awarded under this Proposal Invitation. **All invoices are available on the BuyBoard website and e-mail notifications will be sent when they are ready to be retrieved.**

53 **Invoices**

Please choose only one (1) of the following options for receipt of invoices and provide the requested information:

(a) Service fee invoices and related communications should be provided directly to my company at:

or

(b) In lieu of my company, I request and authorize all service fee invoices to be provided directly to the following billing agent:

If Vendor authorizes a billing agent to receive and process service fee invoices, in accordance with the General Terms and Conditions of the Contract, Vendor specifically acknowledges and agrees that nothing in that designation shall relieve Vendor of its responsibilities and obligations under the Contract including, but not limited to, payment of all service fees under any Contract awarded Vendor.

Service fee invoices and notices direct to company

54 **Invoice Company Name**

Invoice Company Name

ClearGov Inc.

55 **Invoice Company Department Name**

Invoice Company Department Name

Finance

56 **Invoice Contact - First Name**

Invoice Contact - First Name

Brenda

57 **Invoice Contact - Last Name**

Invoice Contact - Last Name

Luebbers

58 **Invoice Mailing Address**

Invoice Mailing Address (P.O. Box or Street Address)

2 Mill and Main Place, Suite 630

59 **Invoice Mailing Address - City**

Invoice Mailing Address - City

Maynard

60 **Invoice Mailing Address - State**

Invoice Mailing Address - State (Abbreviate State Name)

MA

61 **Invoice Mailing Address - Zip Code**

Invoice Mailing Address (Zip Code)

01754

62 **Invoice Contact Phone Number**

Invoice Contact Phone Number (xxx-xxx-xxxx)

855-553-2715

63 **Invoice Contact Extension Number**

Invoice Contact Extension Number

7003

64 **Invoice Contact Fax Number**

Invoice Contact Fax Number (xxx-xxx-xxxx)

774-759-3045

65 **Invoice Contact E-mail Address**

Invoice Contact E-mail

bluebbers@cleargov.com

66 **Invoice Contact Alternate E-mail Address**

Invoice Contact Alternate E-mail Address

finance@cleargov.com

67 **Billing Agent Company Name**

Billing Agent Company Name

No response

68 **Billing Agent Department Name**

Billing Agent Department Name

No response

69 **Billing Agent Contact - First Name**

Billing Agent Contact - First Name

No response

70 **Billing Agent Contact - Last Name**

Billing Agent Contact - Last Name

No response

71 **Billing Agent Mailing Address**

Billing Agent Mailing Address (P.O. Box or Street Address)

No response

72 **Billing Agent Mailing Address - City**

Billing Agent Mailing Address - City

No response

73 **Billing Agent Mailing Address - State**

Billing Agent Mailing Address - State (Abbreviate State Name)

No response

74 **Billing Agent Mailing Address - Zip Code**

Billing Agent Mailing Address - Zip Code

No response

75 **Billing Agent Contact Phone Number**

Billing Agent Contact Phone Number (xxx-xxx-xxxx)

No response

76 **Billing Agent Contact Extension Number**

Billing Agent Contact Extension Number

No response

77 **Billing Agent Fax Number**

Billing Agent Fax Number

No response

78 **Billing Agent Contact E-mail Address**

Billing Agent Contact E-mail Address

No response

79 **Billing Agent Alternative E-mail Address**

Billing Agent Alternative E-mail Address

No response

80 **Shipping Via**

Common Carrier, Company Truck, Prepaid and Add to Invoice, or Other

Other

81 **Payment Terms**

Note: Vendor payment terms must comply with the BuyBoard General Terms and Conditions and the Texas Prompt Payment Act (Texas Government Code Ch. 2251).

Net 30 days

82 **Vendor's Internal/Assigned Reference/Quote Number**

Vendor's Internal/Assigned Reference/Quote Number

No response

83 **State or Attach Return Policy**

Note: Only return requirements and processes will be deemed part of Vendor's return policy. Any unrelated contract terms, terms of sale, or other information not specifically related to return requirements and processes included in Vendor's return policy shall not apply to any awarded Contract unless specifically included as a deviation in the Deviation and Compliance Form and accepted by the Cooperative.

ClearGov offers a 30-Day money-back guarantee.

84 **Electronic Payments**

Are electronic payments acceptable to your company?

Yes

85 **Credit Card Payments**

Are credit card payments acceptable to your company?

Yes

86 **Texas Regional Service Designation**

Texas Regional Service Designation - Refer to Form in Proposal Invitation

The Cooperative (referred to as "Texas Cooperative" in this form and in the State Service Designation form) offers vendors the opportunity to service its members throughout the entire State of Texas. If you do not plan to service all Texas Cooperative members statewide, you **must** indicate the specific regions you will service on this form. If you propose to serve different regions for different products or services included in your Proposal, you must complete and submit a separate Texas Regional Service Designation form for each group of products and clearly indicate the products or services to which the designation applies. ***By designating a region or regions, you are certifying that you are authorized and willing to provide the proposed products and services in those regions. Designating regions in which you are either unable or unwilling to provide the specified products and services shall be grounds for either rejection of your Proposal or, if awarded, termination of your Contract.*** Additionally, if you do not plan to service Texas Cooperative members (i.e., if you will service only states other than Texas), you must so indicate on this form.

87 **Company Name**

Company Name

ClearGov Inc.

88 **Texas Regional Service Designation**

Select only one of the following options. If you select **"I will NOT serve all Regions of Texas"**, you must then check the individual Regions you wish to serve.

I will serve all Regions of Texas

89 **Region 1**

Region 1 - Edinburg

☐ *Region 1*

90 **Region 2**

Region 2 - Corpus Christi

☐ *Region 2*

91 **Region 3**

Region 3 - Victoria

☐ *Region 3*

92 **Region 4**

Region 4 - Houston

☐ *Region 4*

93 **Region 5**

Region 5 - Beaumont

☐ *Region 5*

94 **Region 6**

Region 6 - Huntsville

☐ *Region 6*

95	**Region 7** Region 7 - Kilgore ☐ *Region 7*
96	**Region 8** Region 8 - Mount Pleasant ☐ *Region 8*
97	**Region 9** Region 9 - Wichita Falls ☐ *Region 9*
98	**Region 10** Region 10 - Richardson ☐ *Region 10*
99	**Region 11** Region 11 - Fort Worth ☐ *Region 11*
100	**Region 12** Region 12 - Waco ☐ *Region 12*
101	**Region 13** Region 13 - Austin ☐ *Region 13*
102	**Region 14** Region 14 - Abilene ☐ *Region 14*
103	**Region 15** Region 15 - San Angelo ☐ *Region 15*
104	**Region 16** Region 16 - Amarillo ☐ *Region 16*
105	**Region 17** Region 17 - Lubbock ☐ *Region 17*
106	**Region 18** Region 18 - Midland ☐ *Region 18*

107

Region 19

Region 19 - El Paso

☐ *Region 19*

108

Region 20

Region 20 - San Antonio

☐ *Region 20*

109

State Service Designation

State Service Designation - Refer to Form in Proposal Invitation.

As set forth in the Proposal Invitation, it is the Cooperative's intent that other governmental entities in the United States have the opportunity to purchase goods or services awarded under the Contract, subject to applicable state law, through a piggy-back award or similar agreement through the National Purchasing Cooperative BuyBoard. If you plan to service the entire United States or only specific states, you must complete this form accordingly. *(Note: If you plan to service Texas Cooperative members, be sure that you complete the Texas Regional Service Designation form.)* ***In addition to this form, to be considered for a piggy-back award by the National Purchasing Cooperative, you must have an authorized representative sign the National Purchasing Cooperative Vendor Award Agreement that follows this form.***

If you serve different states for different products or services included in your Proposal, you must complete and submit a separate State Service Designation form for each group of products and clearly indicate the products or services to which the designation applies. *By designating a state or states, you are certifying that you are authorized and willing to provide the proposed products and services in those states. Designating states in which you are either unable or unwilling to provide the specified products and services shall be grounds for either rejection of your Proposal or, if awarded, termination of your Contract.*

110

Company Name

Company Name

ClearGov Inc.

111

State Service Designation

Select only one of the following options. If you select "I will NOT serve all States", you must then check the individual States you wish to serve.

I will serve all states in the United States

112

Alabama

Alabama

☐ *Alabama*

113

Alaska

Alaska

☐ *Alaska*

114

Arizona

Arizona

☐ *Arizona*

115

Arkansas

Arkansas

☐ *Arkansas*

116	**California** California (Public Contract Code 20118 & 20652) ☐ *California*
117	**Colorado** Colorado ☐ *Colorado*
118	**Connecticut** Connecticut ☐ *Connecticut*
119	**Delaware** Delaware ☐ *Delaware*
120	**District of Columbia** District of Columbia ☐ *District of Columbia*
121	**Florida** Florida ☐ *Florida*
122	**Georgia** Georgia ☐ *Georgia*
123	**Hawaii** Hawaii ☐ *Hawaii*
124	**Idaho** Idaho ☐ *Idaho*
125	**Illinois** Illinois ☐ *Illinois*
126	**Indiana** Indiana ☐ *Indiana*
127	**Iowa** Iowa ☐ *Iowa*

128	**Kansas** Kansas ☐ *Kansas*
129	**Kentucky** Kentucky ☐ *Kentucky*
130	**Louisiana** Louisiana ☐ *Louisiana*
131	**Maine** Maine ☐ *Maine*
132	**Maryland** Maryland ☐ *Maryland*
133	**Massachusetts** Massachusetts ☐ *Massachusetts*
134	**Michigan** Michigan ☐ *Michigan*
135	**Minnesota** Minnesota ☐ *Minnesota*
136	**Mississippi** Mississippi ☐ *Mississippi*
137	**Missouri** Missouri ☐ *Missouri*
138	**Montana** Montana ☐ *Montana*
139	**Nebraska** Nebraska ☐ *Nebraska*

140	**Nevada** Nevada ☐ *Nevada*
141	**New Hampshire** New Hampshire ☐ *New Hampshire*
142	**New Jersey** New Jersey ☐ *New Jersey*
143	**New Mexico** New Mexico ☐ *New Mexico*
144	**New York** New York ☐ *New York*
145	**North Carolina** North Carolina ☐ *North Carolina*
146	**North Dakota** North Dakota ☐ *North Dakota*
147	**Ohio** Ohio ☐ *Ohio*
148	**Oklahoma** Oklahoma ☐ *Oklahoma*
149	**Oregon** Oregon ☐ *Oregon*
150	**Pennsylvania** Pennsylvania ☐ *Pennsylvania*
151	**Rhode Island** Rhode Island ☐ *Rhode Island*

152	**South Carolina** South Carolina ☐ *South Carolina*
153	**South Dakota** South Dakota ☐ *South Dakota*
154	**Tennessee** Tennessee ☐ *Tennessee*
155	**Texas** Texas ☐ *Texas*
156	**Utah** Utah ☐ *Utah*
157	**Vermont** Vermont ☐ *Vermont*
158	**Virginia** Virginia ☐ *Virginia*
159	**Washington** Washington ☐ *Washington*
160	**West Virginia** West Virginia ☐ *West Virginia*
161	**Wisconsin** Wisconsin ☐ *Wisconsin*
162	**Wyoming** Wyoming ☐ *Wyoming*

Bid Lines

1 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Asset Management/Tracking Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

PROPOSAL NOTE 2: This Proposal Invitation is limited to products within the specified categories. For purposes of clarification, the specified SaaS categories do **not** include board or meeting agenda preparation products, policy and manual management products, or School Health and Related Services (SHARS) Medicaid reimbursement products

Vendors proposing multiple manufacturer product lines and/or catalog/price list per line item must submit the information as follows or proposal may not be considered:

- Select **"Add Alternate"** for each additional manufacturer product line and/or catalog/price list proposed
- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

2 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Business/Financial Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

Total: 0%

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

PROPOSAL NOTE 2: This Proposal Invitation is limited to products within the specified categories. For purposes of clarification, the specified SaaS categories do **not** include board or meeting agenda preparation products, policy and manual management products, or School Health and Related Services (SHARS) Medicaid reimbursement products

Vendors proposing multiple manufacturer product lines and/or catalog/price list per line item must submit the information as follows or proposal may not be considered:

- Select **"Add Alternate"** for each additional manufacturer product line and/or catalog/price list proposed
- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

ClearGov - Rate Cards

3 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Communications Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

Total: 0%

Item Notes: *PROPOSAL NOTE 1:* Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

PROPOSAL NOTE 2: This Proposal Invitation is limited to products within the specified categories. For purposes of clarification, the specified SaaS categories do not include board or meeting agenda preparation products, policy and manual management products, or School Health and Related Services (SHARS) Medicaid reimbursement products

Vendors proposing multiple manufacturer product lines and/or catalog/price list per line item must submit the information as follows or proposal may not be considered:

- Select **"Add Alternate"** for each additional manufacturer product line and/or catalog/price list proposed
- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

ClearGov - Rate Cards

4 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Curriculum/Instruction** (K-12, special education, and higher education) **Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

PROPOSAL NOTE 2: This Proposal Invitation is limited to products within the specified categories. For purposes of clarification, the specified SaaS categories do **not** include board or meeting agenda preparation products, policy and manual management products, or School Health and Related Services (SHARS) Medicaid reimbursement products

Vendors proposing multiple manufacturer product lines and/or catalog/price list per line item must submit the information as follows or proposal may not be considered:

- Select **"Add Alternate"** for each additional manufacturer product line and/or catalog/price list proposed
- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

5 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Document/Record Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

PROPOSAL NOTE 2: This Proposal Invitation is limited to products within the specified categories. For purposes of clarification, the specified SaaS categories do **not** include board or meeting agenda preparation products, policy and manual management products, or School Health and Related Services (SHARS) Medicaid reimbursement products

Vendors proposing multiple manufacturer product lines and/or catalog/price list per line item must submit the information as follows or proposal may not be considered:

- Select **"Add Alternate"** for each additional manufacturer product line and/or catalog/price list proposed
- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

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6 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Facility/Maintenance Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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- Select **"Add Alternate"** for each additional manufacturer product line and/or catalog/price list proposed
- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

7 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Grant Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

8 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Information Technology Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

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- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

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9 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Legal Cases and Courtroom Docket Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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Vendors proposing multiple manufacturer product lines and/or catalog/price list per line item must submit the information as follows or proposal may not be considered:

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Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

10

Section I: Software as a Service (SaaS) Products and Related Services

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Payroll/Performance Appraisal/Workforce Recruitment Management Applications and Related Services-** all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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Vendors proposing multiple manufacturer product lines and/or catalog/price list per line item must submit the information as follows or proposal may not be considered:

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- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

11

Section I: Software as a Service (SaaS) Products and Related Services

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Student Services (Appraisal, Discipline, Orientation) Management Applications and Related Services-** all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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Vendors proposing multiple manufacturer product lines and/or catalog/price list per line item must submit the information as follows or proposal may not be considered:

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- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

12

Section II: Cybersecurity Assessments, and Related Products and Services

Discount (%) off catalog/price list for **Cybersecurity Assessments, Products and Related Services** - all types of cybersecurity assessments and products used with networks and technology infrastructures including pre-breach mitigation monitoring services and breach mitigation services related to data/information security incidents. . Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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Item Attributes

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NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

Response Total: $0.00

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October 1, 2025

The Local Government Purchasing Cooperative
Attn: TASB Asst. Division Director, Cooperative Procurement
12007 Research Blvd.
Austin, TX 78759

To Whom It May Concern,

ClearGov provides unique budget planning, building and reporting solutions for local government agencies: towns, cities, counties, school districts, special districts, etc. More than 1,400 customers have purchased the ClearGov platform via sole source. For starters, this letter confirms that ClearGov, Inc. is the sole source provider for the following modules:

- ClearGov Operational Budgeting
- ClearGov Personnel Budgeting
- ClearGov Capital Budgeting
- ClearGov Digital Budget Book
- ClearGov Transparency
- ClearGov Strategic Planning
- ClearGov Digital Financial Reporting
- ClearGov Capital Project Tracking
- ClearGov ClearForms

All of these products are proprietary software solutions for which ClearGov, Inc. exclusively owns all intellectual property rights, and these products are protected by copyrights, trademarks and service marks. In addition, there are no agents or dealers authorized to represent any of these ClearGov products.

In addition, while it may be possible to build and present your budget using other technologies, no company offers the unique combination of features and functionality delivered by ClearGov. In addition, all ClearGov modules are designed and built to work seamlessly together. What follows is a partial list of the key features and functionality offered in each ClearGov Budget Cycle Management module.

Operational Budgeting

- Ability to create multi-year operational budget forecasts & adjust variables by individual categories.
- Ability to collaboratively build a budget via a single, shared online workspace

- Ability to create an unlimited number of budget versions
- Ability to view historical trend analysis at fund, department, object or line item level
- Collaborative workflows to assign and track budget requests by department
- Includes drill-down functionality to review and/or request budget information at the line item or even sub-line item detail
- Ability to automatically generate a baseline budget based on multiple options, i.e. zero-based budgeting, forecasted budget, fixed percentage increase, etc.
- Ability for department heads to assign sub-requesters to portions of their budget
- Ability to review and approve/reject budget requests by individual request or by batch
- Ability to lock-down budget line items, e.g. headcount costs
- Ability to share budgets online for review by committee members
- Ability to add change justifications notes, comments and supporting materials to any line (or sub-line) item within the budget
- Integrated graphs that provide visual feedback throughout the budgeting process including historical trends and budget surplus/deficit
- Ability to track and report a thorough audit trail of all changes, comments and budget versions
- Includes a variety of pre-built reports as well as robust report builder and chart builder functionality that doesn't require programming knowledge
- Ability to export budget reports to Excel or other formats compatible with multiple ERP systems
- Ability to build, analyze, and approve/deny Funding Packages that include Personnel requests, e.g. new budget programs

Personnel Budgeting

- Ability to create and customize multi-year personnel budget plans and scenarios
- Ability to define units, wage schedules, benefits and additional pay elements, etc. by position, role and department, including position control functionality
- Collaborative workflows for the collection or personnel requests and changes
- Includes a filterable dashboard summary of all personnel requests by type, department, etc.
- Ability to see projected total compensation breakdown at an employee level
- Ability to present proposed personnel budget scenario(s) for review in a shared, online dashboard and respond to on-the-fly what-if requests
- Ability to support personnel vacancy, retirement and furlough planning scenarios
- Ability to support collective bargaining, what-if planning scenarios
- Includes a variety of pre-built reports as well as robust report builder and chart builder functionality that doesn't require programming knowledge
- Ability to export budget reports to Excel or other formats compatible with multiple ERP systems

Capital Budgeting:

- Ability to create and customize multi-year capital budget plans and scenarios
- Collaborative workflows for collecting capital requests
- Ability to automatically create detailed, shareable capital project summary pages
- Ability to add notes, comments, images, supplement documents, etc. to capital project summaries
- Ability to customize multiple types of capital request forms
- A filterable dashboard summary of all capital projects by type, department, funding source, etc
- Ability to score and rank capital requests by priority and strategic objectives

- Includes capital budget scenario planning functionality to enable allocation of capital projects across multiple funding sources
- Capital improvement website module with timelines, public commentary and ability for visitors to sign up for project change email notifications
- Includes a variety of pre-built reports as well as robust report builder and chart builder functionality that doesn't require programming knowledge
- Ability to export budget reports to Excel or other formats compatible with multiple ERP systems

Digital Budget Book:

- Ability to automatically create a customizable budget book template
- Ability to create and present a budget book via an interactive, accessible Website with built-in navigation
- Includes built-in GFOA and ASBO award criteria guidelines
- Includes templated pages for fund pages, department pages, revenue pages, etc.
- Includes a pre-populated, customizable glossary of terms
- Includes automated narrative generation, powered by ClearGov AI
- Automatically populates pages with financial data, charts, tables, etc.
- Collaborative workflows for multi-user editing and creation of budget book pages
- Ability to embed dynamic data into narrative text throughout budget book
- Ability to embed customizable Financial Statements throughout budget book
- Ability to automatically update financial data throughout budget book
- Ability to upload and embed images, spreadsheets and other objects into budget book pages
- Ability to add links to attachments within budget book pages
- Ability to customize colors, fonts, graphics and other look & feel components
- Ability to create and embed custom financial and non-financial charts, graphs and tables
- Ability to generate and embed organizational charts
- Ability to automatically embed submitted and approved capital improvement projects
- Ability to duplicate the budget book & update financial data as the basis for next FY budget book
- Ability to automatically format and print to .PDF any portion of the budget book and/or the complete budget book with dynamic Table of Contents and page numbering

Transparency:

- Ability to provide fiscal transparency via automated infographic profiles
- Ability to view financial data via multiple ERP dimensions, i.e. department, object, rev. source, etc.
- Includes drill-down functionality to view financial information in granular detail
- Includes census demographic profile data
- Ability to add commentary/context to all panels, charts and graphs within the transparency profile
- Ability to add custom panels to transparency profile
- Ability to display budget vs. actuals and provide regular updates
- Ability to display historical and forecasted financial figures
- Ability to create custom graphs and embed them in the transparency profile and/or directly in the municipal website.
- Ability to include department dashboards to communicate key performance metrics, including financial and non-financial graphs and metrics
- Ability to deliver a searchable, filterable open checkbook to provide check-level detail transparency

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Strategic Planning:

- Ability to create, manage and execute any type of strategic plan, including focus areas, goals and action items
- Automated workflow to enable updates to action items and goals
- Automated dashboard to present plan progress with built-in filters and drill-down
- Ability to allocate budget to specific focus areas and goals
- Collaborative workflows for multi-user editing and creation of plan components and plan presentation pages
- Ability to automatically create a customizable plan template
- Ability to create and present any plan via an interactive, accessible Website with built-in navigation
- Includes templated pages for SWOT analysis, focus areas, strategic objectives, etc.
- Ability to upload and embed images, spreadsheets and other objects into plan pages
- Ability to add links to attachments within plan pages
- Ability to customize colors, fonts, graphics and other look & feel components
- Ability to create and embed custom financial and non-financial charts, graphs and tables
- Plan pages built with responsive design to automatically resize and optimize viewing for desktop, pad or mobile environments
- Ability to automatically format and print to .PDF any portion of the plan and/or the complete plan document with dynamic Table of Contents and page numbering
- Seamless integration with budget data

Digital Financial Reporting

- Ability to automatically create a customizable Annual Comprehensive Financial Report (ACFR) and Annual Financial Report (AFR) template
- Ability to automatically publish an online, ADA accessible and mobile-optimized version of the AFR or ACFR and integrate directly into any Website
- Collaborative workflows for multi-user editing and creation of financial reporting pages
- Ability to embed and update dynamic data into narrative text throughout the report
- Ability to upload and embed images, spreadsheets and other objects into report pages
- Ability to add links to attachments within report pages
- Ability to create and embed custom financial and non-financial charts, graphs and tables
- Ability to automatically format and print to .PDF any portion of the report and/or the complete report with dynamic Table of Contents and page numbering
- Seamless integration with a dynamic statement builder application
- Ability to create financial statements from best-practice templates
- Ability to map trial balance information into financial statements
- Ability to automatically update financial data in financial statements
- Includes built-in GFOA award criteria guidelines

Capital Project Tracking

- Ability to create, manage and execute any capital project
- Ability to define phases and action items for each project
- Ability to track progress and status across all projects, phases and action items

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- Automated workflow to enable updates to projects, phases and action items
- Automated dashboard to present progress across all projects
- Seamless integration with Capital Budgeting data
- Expedited sync workflow to quickly transition projects from budget requests to actionable projects
- Ability to allocate budget and spend to specific projects and phases, and to allocate funding for projects and categorize by specific funding sources
- Collaborative workflows for multi-user editing and creation of project components
- Ability to templatize project types to reduce time for project setup
- Ability to deliver a list of projects via an interactive, accessible website with built-in navigation
- Ability to upload and embed images, attachments and other objects into projects details
- Ability to set the specific location or area on a map for project location
- Ability to export a list of projects with high level detail, progress and financial information
- Ability for public website visitors to subscribe to email notifications for project updates
- Project pages built with responsive design to automatically resize and optimize viewing for desktop, pad or mobile environments

ClearForms

- Fully self-service, no-code setup functionality
- Ability to customize and brand public form and landing pages
- Ability to customize URLs for portal and landing pages
- Ability to clone existing workflows and forms
- Includes flexible digital forms builder
- Includes flexible digital survey step builder
- Includes version control for workflows
- Ability to review queue and approve processes (mobile-responsive)
- Ability to require that subprocess(e)s must be completed before main workflow is finalized
- Ability to create custom, print-at-home output documents (PDFs) for issued licenses and permits
- Supports conditional logic for branching workflows - including sections, reviews, assignments, subprocesses, and payments
- Includes no-code formula editor for application/license fees and calculations
- Includes discussion pane for direct government/applicant communication
- Includes status updates and automated/custom email notifications
- Includes activity log for step notifications
- Ability to create, import, and store workflow data entities, e.g. parcel data for building permits
- Built-in directory for searching applicants and entities
- Supports team functionality with role-based permissions for segregation and transfer of duties between staff in real time
- Integrated payments via credit/debit card or ACH
- Integrated handling for charge disputes and refunds
- Supports automated payouts on customer's self-determined schedule (daily, weekly, monthly)
- Supports online signatures from applicants and reviewers
- Supports comprehensive, exportable transaction history
- Includes data visualization for performance management, i.e. workflow activity, completion time, license revenue, et. al.
- Includes smart dashboards for both administrators and applicants

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We look forward to having the opportunity to continue working with you. Please let me know if you have any questions or require additional information.

Sincerely yours,



Bryan A. Burdick
President, ClearGov, Inc.

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Exhibit C

Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent must disclose any conflicts of interest related to the goods and/or services associated with this solicitation. A conflict-of-interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s). The City reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

If a conflict of interest exists, the Respondent must:

- Complete Form CIQ
- File the form with the City Secretary
- Include a copy of the completed Form CIQ with the proposal

If no conflict of interest exists, Form CIQ is not required. Regardless of whether a conflict exists, this Form 2 must be completed and signed.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict-of-interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1034 E Levee Street, City Plaza, 1st Floor, Brownsville, TX 78520
Email: City.Secretary@brownsvilletx.gov
Phone: (956) 548-6042

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Certification

By signing below, the Respondent certifies that they have reviewed and understand the requirements of Chapter 176, Texas Local Government Code and have determined whether a conflict of interest exists. The Respondent further certifies that, if a conflict of interest exists, a completed Conflict of Interest Questionnaire (Form CIQ) has been or will be filed with the City Secretary in accordance with state law and that a copy of the completed Form CIQ is included with this submission, if applicable. The Respondent affirms that all information provided is true and correct and that they are authorized to bind the entity.

Signature: Signed by: Armita Rostamian 00AC8E75BE5C475...

Printed Name: Armita Rostamian

Title: Chief Financial Officer

Date: 9/15/2026 | 4:18 PM MDT

Company Name: ClearGov, Inc.

Phone: 855-553-2715

Email: arostamian@cleargov.com

Docusign Envelope ID: 4C73A5AD-86CF-8DEB-83A3-597FB8B23823

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

N/A

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

N/A

Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

N/A

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

N/A ☐ Yes ☐ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

N/A ☐ Yes ☐ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

N/A

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7

Signed by: Armita Rostamian
00AC85F6B55C475...

Signature of vendor doing business with the governmental entity

9/15/2026 | 4:18 PM MDT

Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

Docusign Envelope ID: 4C73A5AD-86CF-8DEB-83A3-597FB8B23823

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC's website in accordance with state law.

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed in accordance with TEC requirements.

Signature: Signed by: Armita Rostamian 00AC8E75BE5C475...

Printed Name: Armita Rostamian

Title: Chief Financial Officer

Date: 9/15/2026 | 4:18 PM MDT

Company Name: ClearGov, Inc.

Phone: 855-533-2715

Email: arostamian@cleargov.com

CERTIFICATE OF INTERESTED PARTIES — FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

Docusign Envelope ID: 843A42FD-B5E3-8426-82F6-60CC58590FC9

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1517045

Date Filed:
09/17/2026

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
ClearGov Inc.
Maynard , MA United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
371-26-FIN-CP
2026 Renewal Capital Project Tracking and Strategic Planning Software

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is Armita Rostamian, and my date of birth is 02/12/1980.

My address is 2 Mill and Main Pl, Suite 630, Maynard (city), MA (state), 01754 (zip code), USA (country).

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Danville County, State of California, on the 17th day of Sept (month), 20 26 (year).

Signed by:
Armita Rostamian
86AC8E75BE5C475...
Signature of authorized agent of contracting business entity
(Declarant)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1517045

Date Filed:
09/17/2026

Date Acknowledged:
09/22/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

ClearGov Inc.
Maynard , MA United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

371-26-FIN-CP
2026 Renewal Capital Project Tracking and Strategic Planning Software

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

PROCUREMENT ANALYSIS

Date: Tuesday, September 22, 2026
To: Mr. John Cowen Jr., City Mayor
From: Mr. Alan Guard, City Manager
CC: Mr. Damian Espinoza, Procurement Director
Mr. Stephen Muse, Finance Director

Agenda Title:
Agenda Item for the City Commission meeting of Tuesday, October 6, 2026.
"Consideration and Action to Authorize a Contract with ClearGov, Inc in the amount of $171,965.09 for Contract No. 371-26-FIN-CP, for a term of Three (3) Years, for budgeting and financial management software services for the Finance Department."

Executive Summary:

- Department: Finance Department
- Exemption Type: Cooperative Purchase Exemption
- Contract Number: 371-26-FIN-CP
- Vendor: ClearGov, Inc.
- Contract Amount: 171,965.09
- Term: Three (3) Years; end date of September 30, 2029

Background:
The Finance Department and Enterprise Project Management Office currently utilize ClearGov for various budgeting and financial management functions. This agreement will consolidate the City's existing ClearGov services under a single agreement to support operational, personnel, and capital budgeting, financial reporting, budget tracking, and financial transparency.

Exemption Justification:
Authorized use of contracts competitively solicited and awarded by another governmental entity or cooperative organization in compliance with Texas Local Government Code §271.102.

Procurement has verified that this contract falls under an active Buyboard Cooperative Agreement No. 792-26.

Vendor Information:
ClearGov, Inc.
2 Mill & Main Place, Suite 630, Maynard, MA 01754
Point of Contact: Michael Masters Martinez, Sr. Client Success Manager
Phone/Email: (800) 307-7488 | mmasters@cleargov.com

Exhibits & Supporting Documents:

- Exhibit A - Quote
- Exhibit B – Buyboard Cooperative Agreement No. 792-26
- Exhibit C – Form 1295 Acknowledged

Recommendation:

The Procurement Department recommends that the City Commission authorize a contract with **ClearGov, Inc.** under a Buyboard Cooperative Agreement No.792-26 in accordance with Texas Local Gov't Code §271.102, for a three (3) year term in an amount not to exceed $171,965.09.

Approval of this agenda item will authorize the full contract value.

Exhibit A

ClearGov

Service Order Consolidation

2 Mill & Main; Suite 630; Maynard, MA 01754

Created By	Liem Ngo
Contact Email	Lngo@cleargov.com

Order Date	**Sep 1, 2026**
Order Valid If Signed By	**Sep 30, 2026**

Customer Information

Customer	City of Brownsville, TX	**Contact**	~~Helen Ramirez~~	**Billing Contact**	Stephen Muse
Address	1001 E Elizabeth Street	**Title**	City Manager	**Title**	~~Assistant~~ Finance Director
City, St, Zip	Brownsville, TX 78520	**Email**	~~helen.ramirez@brownsvilletx.gov~~	**Email**	Stephen.Muse@brownsvilletx.gov
Phone	956-548-6015			**PO (Y/N)**	

This Service Order will be contracted through...

Procurement Aggregator	ClearGov Contract
Buyboard	Buyboard Proposal No. #792-26

The Services you will receive and the Fees for those Services are:

Subscription Services		Service Fees
ClearGov Capital Project Tracking – Civic Edition	Tier 3	$ 12,360.00
ClearGov Operational Budgeting – Civic Edition	Tier 3	$ 18,179.50
ClearGov Personnel Budgeting – Civic Edition	Tier 3	$ 17,304.00
ClearGov Capital Budgeting – Civic Edition	Tier 3	$ 11,845.00
ClearGov Digital Budget Book – Civic Edition	Tier 3	$ 10,815.00
ClearGov Transparency – Civic Edition	Tier 3	$ 9,939.50
ClearGov Strategic Planning – Civic Edition	Tier 3	$ 12,051.00
Bundle Discount: Modules	Tier 3	$ (37,945.20)
Total ClearGov Subscription Service Fee - Billed ANNUALLY IN ADVANCE		$ 54,548.80

ClearGov will provide your Services according to this schedule:

Period	Start Date	End Date	Description
Initial	Oct 1, 2026	Sep 30, 2029	ClearGov Subscription Services

To be clear, you will be billed as follows:

Billing Date(s)	Amount(s)	Notes
Oct 1, 2026	$54,548.80	Annual Subscription Fee
Oct 1, 2027	$57,276.24	Annual Subscription Fee
Oct 1, 2028	$60,140.05	Annual Subscription Fee

Additional subscription years and/or renewals will be billed annually in accordance with pricing and terms set forth herein.

Billing Terms & Conditions

Valid Until	**Sep 30, 2026**	Pricing set forth herein is valid only if ClearGov Service Order is executed on or before this date.
Payment	**Net 30**	All invoices are due Net 30 days from the date of invoice.
Rate Increase	5% per annum	The Annual Subscription Service Fee shall automatically increase by this amount.

General Terms & Conditions

Taxes	The Service Fees and Billing amounts set forth above in this ClearGov Service Order **DO NOT** include applicable taxes. In accordance with the laws of the applicable state, in the event that sales, use or other taxes apply to this transaction, ClearGov shall include such taxes on applicable invoices and Customer is solely responsible for such taxes, unless documentation is provided to ClearGov demonstrating Customer's exemption from such taxes.
Term & Termination	Subject to the termination rights and obligations set forth in the ClearGov BCM Service Agreement, this ClearGov Service Order commences upon the Order Date set forth herein and shall continue until the completion of the Service Period(s) for the Service(s) set forth herein. Each Service shall commence upon the Start Date set forth herein and shall continue until the completion of the applicable Service Period.
Auto-Renewal	After the Initial Period, the Service Period for any ClearGov Annual Subscription Services shall automatically renew for successive annual periods (each an [illegible] unless either Party provides written notice of its desire not to renew at least sixty (60) days prior to the end of the then current Annual Term.

Original Service Orders	As of 10/1/26, this ClearGov Service Order supersedes the ClearGov Service Orders with an Order Date of 12/20/2023, 10/2/2024, 06/24/2025 (the "Original Service Orders"). The Original Service Orders shall be null and void as of 10/1/26.
Appropriations	Customer shall have the option to terminate this ClearGov Service Order in advance of any annual renewal in the event that the applicable appropriating body does not appropriate funds for such upcoming renewal period.
Agreement	The signature herein affirms your commitment to pay for the Service(s) ordered in accordance with the terms set forth in this ClearGov Service Order and also acknowledges that you have read and agree to the terms and conditions set forth in the ClearGov BCM Service Agreement found at the following URL: http://www.ClearGov.com/terms-and-conditions. This Service Order incorporates by reference the terms of such ClearGov BCM Service Agreement.

Customer	
Signature	
Name	~~Helen Ramirez~~
Title	City Manager

ClearGov, Inc.	
Signature	
Name	
Title	

Please e-mail signed Service Order to Orders@ClearGov.com or Fax to (774) 759-3045

Order Type (ClearGov Internal Use Only)			
Select Order Type for this Service Order	AM	**If XS: Original Service Order Date**	

P.O. Box 400, Austin, Texas 78767
800.695.2919 • info@buyboard.com • buyboard.com

Electronic Delivery

Tyler Bridges
ClearGov Inc.
2 Mill and Main Place, Suite 630
Maynard, MA 01754

Welcome to BuyBoard!

Re: *Notice of The Local Government Purchasing Cooperative Contract Award;* Proposal Invitation No. 792-26, Software as a Service (SaaS), Cybersecurity Assessments, and Related Products and Services

Congratulations, The Local Government Purchasing Cooperative (Cooperative) has awarded your company a BuyBoard® contract based on the above-referenced Proposal Invitation. The contract is effective for an initial one-year term of April 1, 2026, through March 31, 2027, and may be subject to two possible one-year renewals. Please refer to the Proposal Invitation for the contract documents, including the General Terms and Conditions of the Contract.

To review the items your company has been awarded, please review Proposal Tabulation No. 792-26 at: www.buyboard.com/vendor. Only items marked as awarded to your company are included in this contract award, and only those awarded items may be sold through the BuyBoard contract. All sales must comply with the contract terms and must be at or below the awarded pricing as set forth in the General Terms and Conditions.

A list of Cooperative members is available on the buyboard.com website. In addition, the BuyBoard Administrator's vendor relations staff is available to assist you in locating available BuyBoard informational resources and answering questions you may have as an awarded BuyBoard vendor.

On behalf of the Cooperative, we appreciate your interest in the Cooperative and we are looking forward to your participation in the program. If you have any questions, feel free to contact me at bids@buyboard.com.

Sincerely,



Ava Benford, Department Director, Cooperative Procurement
Texas Association of School Boards, Inc.,
Administrator for The Local Government Purchasing Cooperative

Electronic Delivery

Tyler Bridges
ClearGov Inc.
2 Mill and Main Place, Suite 630
Maynard, MA 01754

Welcome to BuyBoard!

Re: *Notice of National Purchasing Cooperative Award;* Proposal Invitation No. 792-26, Software as a Service (SaaS), Cybersecurity Assessments, and Related Products and Services

Congratulations, The National Purchasing Cooperative (National Cooperative) has awarded your company a BuyBoard® contract based on the above-referenced Proposal Invitation. The contract is effective for an initial one-year term of April 1, 2026, through March 31, 2027, and may be subject to two possible one-year renewals. Please refer to the Proposal Invitation for the contract documents, including the National Purchasing Cooperative Vendor Award Agreement and General Terms and Conditions of the Contract.

To review the items your company has been awarded, please review Proposal Tabulation No. 792-26 at www.buyboard.com/vendor. Only items marked as awarded to your company are included in this contract award, and only those awarded items may be sold through the BuyBoard contract. All sales must comply with the contract terms and must be at or below the awarded pricing as set forth in the General Terms and Conditions.

A list of National Cooperative members is available on the buyboard.com website. In addition, the BuyBoard Administrator's vendor relations staff is available to assist you in locating available BuyBoard informational resources and answering questions you may have as an awarded BuyBoard vendor.

On behalf of the National Cooperative, we are looking forward to your participation in the program. If you have any questions, feel free to contact me at bids@buyboard.com.

Sincerely,

Ava Benford, Department Director, Cooperative Procurement
Texas Association of School Boards, Inc.,
Administrator for The Local Government Purchasing Cooperative

v.01.03.2025

PROPOSER'S ACCEPTANCE AND AGREEMENT

Proposal Invitation Name Software as a Service (SaaS), Cybersecurity Assessments, and Related Products and Services	**Proposal Due Date/Opening Date and Time** October 2, 2025, at 4:00 PM
Proposal Invitation Number 792-26	**Location of Proposal Opening** Texas Association of School Boards, Inc. BuyBoard Department 12007 Research Blvd. Austin, TX 78759
Contract Term April 1, 2026, through March 31, 2027, with two possible one-year renewals.	**Anticipated Cooperative Board Meeting Date** February 2026

By signature below, the undersigned acknowledges and agrees that you are authorized to submit this Proposal, including making all acknowledgements, consents, and certifications herein, on behalf of Proposer and, to the best of your knowledge, the information provided is true, accurate, and complete.

ClearGov, Inc.
Name of Proposing Company

September 30, 2025
Date

2 Mill and Main Place, Suite 630
Street Address

Bryan A Burdick
Signature of Authorized Company Official

Maynard, MA 01754
City, State, Zip

Bryan A. Burdick
Printed Name of Authorized Company Official

(855) 553-2715 Ext. 7087
Telephone Number of Authorized Company Official

President
Position or Title of Authorized Company Official

(774) 759-3045
Fax Number of Authorized Company Official

47-5205793
Federal ID Number

PROPOSAL FORMS PART 1: COMPLIANCE FORMS

INSTRUCTIONS:

Proposer must review and complete all forms in this Proposal Forms Part 1:

- Proposal Acknowledgements
- Felony Conviction Disclosure
- Resident/Nonresident Certification
- Debarment Certification
- Vendor Employment Certification
- No Boycott Verification
- No Excluded Nation or Foreign Terrorist Organization Certification
- Historically Underutilized Business Certification
- Acknowledgement of BuyBoard Technical Requirements
- Construction-Related Goods and Services Affirmation
- Deviation and Compliance
- Vendor Consent for Name Brand Use
- Confidential/Proprietary Information
- EDGAR Vendor Certification
- Compliance Forms Signature Page

An authorized representative of Proposer *must initial in the bottom right corner of each page* where indicated and complete and sign the Compliance Forms Signature Page. Proposer's failure to fully complete, initial, and sign forms as required may result in your Proposal being rejected as non-responsive.

PROPOSAL ACKNOWLEDGEMENTS

The proposing company ("you" or "your") hereby acknowledges and agrees as follows:

1. You have carefully examined and understand all information and documentation associated with this Proposal Invitation, including the Instructions to Proposers, General Information, General Terms and Conditions, attachments/forms, appendices, item specifications, and line items (collectively "Requirements");
2. By your response ("Proposal") to this Proposal Invitation, you propose to supply the products or services submitted at the pricing quoted in your Proposal and in strict compliance with the Requirements, unless specific deviations or exceptions are noted in the Proposal;
3. By your Proposal, you acknowledge and certify all items set forth in the General Terms and Conditions, Section B.12 (Certifications), including all non-collusion certifications and certifications regarding legal, ethical, and other matters set forth therein.
4. Any and all deviations and exceptions to the Requirements have been noted in your Proposal on the required form and no others will be claimed;

Initial: BB

5. If the Cooperative accepts any part of your Proposal and awards you a Contract, you will furnish all awarded products or services at the pricing quoted and in strict compliance with the Requirements (unless specific deviations or exceptions are noted on the required form and accepted by the Cooperative), including without limitation the Requirements related to:
   a. conducting business with Cooperative members, including offering pricing to members that is the best you offer compared to similarly situated customers in similar circumstances;
   b. payment of a service fee in the amount specified and as provided for in this Proposal Invitation;
   c. the **possible** award of a piggy-back contract by the National Purchasing Cooperative or nonprofit entity, in which event you will offer the awarded products and services in accordance with the Requirements; and
   d. submitting price sheets or catalogs in the proper format as required by the Cooperative as a prerequisite to activation of your Contract;
6. You have clearly identified on the included form any information in your Proposal that you believe to be confidential or proprietary or that you do not consider to be public information subject to public disclosure under the Texas Public Information Act or similar public information law;
7. The individual submitting this Proposal is duly authorized to enter into the contractual relationship represented by this Proposal Invitation on your behalf and bind you to the Requirements, and such individual (and any individual signing a form or Proposal document) is authorized and has the requisite knowledge to provide the information and make the representations and certifications required in the Requirements;
8. You have carefully reviewed your Proposal, and certify that all information provided is true, complete, and accurate to the best of your knowledge, and you authorize the Cooperative to take such action as it deems appropriate to verify such information; and
9. Any misstatement, falsification, or omission in your Proposal, whenever or however discovered, will be grounds for disqualifying you from consideration for a contract award under this Proposal Invitation, termination of a contract award, or any other remedy or action provided for in the General Terms and Conditions or by law.

FELONY CONVICTION DISCLOSURE

Subsection (a) of Section 44.034 of the Texas Education Code (Notification of Criminal History of Contractor) states: "A person or business entity that enters into a contract with a school district must give advance notice to the district if the person or an owner or operator has been convicted of a felony. The notice must include a general description of the conduct resulting in the conviction of a felony."

Section 44.034 further states in Subsection (b): "A school district may terminate a contract with a person or business entity if the district determines that the person or business entity failed to give notice as required by Subsection (a) or misrepresented the conduct resulting in the conviction. The district must compensate the person or business entity for services performed before the termination of the contract."

Please check (√) one of the following:

☐ My company is a publicly-held corporation. (Advance notice requirement does not apply to publicly-held corporation.)
☒ My company is not owned or operated by anyone who has been convicted of a felony.
☐ My company is owned/operated by the following individual(s) who has/have been convicted of a felony:

Name of Felon(s): _____

Details of Conviction(s): _____

_____

Initial: BB

RESIDENT/NONRESIDENT CERTIFICATION

Chapter 2252, Subchapter A, of the Texas Government Code establishes certain requirements applicable to proposers who are not Texas residents. Under the statute, a "resident" proposer is a person whose principal place of business is in Texas, including a contractor whose ultimate parent company or majority owner has its principal place of business in Texas. A "nonresident" proposer is a person who is not a Texas resident. Please indicate the status of your company as a "resident" proposer or a "nonresident" proposer under these definitions.

Please check (√) one of the following:

☐ I certify that my company is a **Resident Proposer.**
☒ I certify that my company is a **Nonresident Proposer.**

If your company is a Nonresident Proposer, you must provide the following information for your resident state (the state in which your company's principal place of business is located):

ClearGov, Inc.	2 Mill and Main Place, Suite 630		
Company Name	Address		
Maynard	MA	01754	
City	State	Zip Code	

A. Does your resident state require a proposer whose principal place of business is in Texas to under-price proposers whose resident state is the same as yours by a prescribed amount or percentage to receive a comparable contract?

☐ Yes ☒ No

B. What is the prescribed amount or percentage? $_____ or _____%

DEBARMENT CERTIFICATION

By signature on the Compliance Forms Signature Page, I certify that neither my company nor an owner or principal of my company has been debarred, suspended or otherwise made ineligible for participation in Federal Assistance programs under Executive Order 12549, "Debarment and Suspension," as described in the Federal Register and Rules and Regulations. Neither my company nor an owner or principal of my company is currently listed on the government-wide exclusions in SAM, debarred, suspended, or otherwise excluded by agencies or declared ineligible under any statutory or regulatory authority. My company agrees to immediately notify the Cooperative and all Cooperative members with pending purchases or seeking to purchase from my company if my company or an owner or principal is later listed on the government-wide exclusions in SAM, or is debarred, suspended, or otherwise excluded by agencies or declared ineligible under any statutory or regulatory authority.

VENDOR EMPLOYMENT CERTIFICATION

Section 44.031(b) of the Texas Education Code establishes certain criteria that a school district must consider when determining to whom to award a contract. Among the criteria for certain contracts is whether the vendor or the vendor's ultimate parent or majority owner (i) has its principal place of business in Texas; or (ii) employs at least 500 people in Texas. If neither your company nor the ultimate parent company or majority owner has its principal place of business in Texas, does your company, ultimate parent company, or majority owner employ at least 500 people in Texas?

Please check (√) one of the following:

☐ Yes ☒ No

Initial: BB

NO BOYCOTT VERIFICATION

A Texas governmental entity may not enter into a contract with a value of $100,000 or more that is to be paid wholly or partly from public funds with a company (excluding a sole proprietorship) that has 10 or more full-time employees for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel and will not boycott Israel during the term of the contract (TEX. GOV'T CODE Ch. 2271), (2) does not boycott energy companies and will not boycott energy companies during the term of the contract (TEX. GOV'T CODE Ch. 2276), and (3) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of the contract against a firearm entity or firearm trade association (TEX. GOV'T CODE Ch. 2274). Accordingly, this certification form is included to the extent required by law.

"Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes. TEX. GOV'T CODE §808.001(1).

"Boycott energy company" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (A) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (B) does business with a company described by Paragraph (A). TEX. GOV'T CODE §809.001(1).

"Discriminate against a firearm entity or firearm trade association" means, (A) with respect to the entity or association, to: (i) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (ii) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (iii) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; and (B) does not include: (i) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories; and (ii) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship: (aa) to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency; or (bb) for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity's or association's status as a firearm entity or firearm trade association. TEX. GOV'T CODE §2274.001(3).

By signature on the Compliance Forms Signature Page, to the extent applicable, I certify and verify that Vendor does not boycott Israel, boycott energy companies, or discriminate against a firearm entity or firearm trade association and will not do so during the term of any contract awarded under this Proposal Invitation, that this certification is true, complete and accurate, and that I am authorized by my company to make this certification.

Initial: BB

NO EXCLUDED NATION OR FOREIGN TERRORIST ORGANIZATION CERTIFICATION

Chapter 2252 of the Texas Government Code provides that a Texas governmental entity may not enter into a contract with a company engaged in active business operations with Sudan, Iran, or a foreign terrorist organization – specifically, any company identified on a list prepared and maintained by the Texas Comptroller under Texas Government Code §§806.051, 807.051, or 2252.153. (A company that the U.S. Government affirmatively declares to be excluded from its federal sanctions regime relating to Sudan, Iran, or any federal sanctions regime relating to a foreign terrorist organization is not subject to the contract prohibition.)

By signature on the Compliance Forms Signature Page, I certify and verify that Vendor is not on the Texas Comptroller's list identified above; that this certification is true, complete and accurate; and that I am authorized by my company to make this certification.

HISTORICALLY UNDERUTILIZED BUSINESS CERTIFICATION

A Proposer that has been certified as a Historically Underutilized Business (also known as a Minority/Women Business Enterprise or "MWBE" and all referred to in this form as a "HUB") is encouraged to indicate its HUB certification status when responding to this Proposal Invitation. The BuyBoard website will indicate HUB certifications for awarded Vendors that properly indicate and document their HUB certification on this form. *(Please check (√) all that apply)*

☐ I certify that my company has been certified as a HUB in the following categories:

☐ **Minority Owned Business** ☐ **Women Owned Business**
☐ **Service-Disabled Veteran Owned Business (veteran defined by 38 U.S.C. §101(2), who has a service-connected disability as defined by 38 U.S.C. § 101(16), and who has a disability rating of 20% or more as determined by the U. S. Department of Veterans Affairs or Department of Defense)**

Certification Number: _____

Name of Certifying Agency: _____

☒ My company has **NOT** been certified as a HUB.

ACKNOWLEDGEMENT OF BUYBOARD TECHNICAL REQUIREMENTS

Vendor shall review the BuyBoard Technical Requirements included in this Proposal Invitation. By signature on the Compliance Forms Signature Page, the undersigned affirms that Proposer has obtained a copy of the BuyBoard Technical Requirements, has read and understands the requirements, and certifies that Vendor is able to meet and will comply with those requirements except as follows: *[List and explain BuyBoard Technical Requirements, if any, to which your company **cannot** or will **not** comply.]*

Note: In accordance with the General Terms and Conditions of the Contract, to the extent Vendor is awarded a Contract under this Proposal Invitation but is unable or unwilling to meet the applicable BuyBoard Technical Requirements, the information available on the BuyBoard for Vendor's awarded products or services may be limited, potentially placing Vendor at a disadvantage and impacting the ability of Cooperative members to search, find, review, and purchase Vendor's awarded products and services on the BuyBoard website. Further, to the extent Vendor has acknowledged ability to meet and comply with the BuyBoard Technical Requirements, any subsequent failure or refusal by Vendor to promptly provide information upon request to the Cooperative administrator in accordance with those technical requirements may be deemed an event of default under the Contract. **Initial:** BB

CONSTRUCTION-RELATED GOODS AND SERVICES AFFIRMATION

The Cooperative issued the BuyBoard Procurement and Construction-Related Goods and Services Advisory for Texas Members ("Advisory"), which provides information specifically relevant to the procurement of construction-related goods and services by Texas Cooperative members. The Advisory, available at buyboard.com/Vendor/Resources.aspx, provides an overview of certain legal requirements that are potentially relevant to a Cooperative member's procurement of construction or construction-related goods and services, including those for projects that may involve or require architecture, engineering or independent testing services. A copy of the Advisory can also be provided upon request. Because many BuyBoard contracts include goods or installation services that might be considered construction-related, Proposer must make this Construction Related-Goods and Services Affirmation regardless of type of goods or services associated with this Proposal Invitation.

A contract awarded under this Proposal Invitation covers only the specific goods and/or services awarded by the Cooperative. As explained in the Advisory ("Advisory"), **Texas law prohibits the procurement of architecture or engineering services through a purchasing cooperative. This Proposal Invitation and any Contract awarded thereunder does not include such services. Architecture or engineering services must be procured by a Cooperative member separately, in accordance with the Professional Services Procurement Act (Chapter 2254 of the Texas Government Code) and other applicable law and local policy.**

By signature on the Compliance Forms Signature Page, Proposer affirms that Proposer has obtained a copy of the Advisory, has read and understands the Advisory, and is authorized by Proposer to make this affirmation. If Proposer sells construction-related goods or services to a Cooperative member under a Contract awarded under this Proposal Invitation, Proposer will comply with the Advisory and applicable legal requirements, make a good faith effort to make its Cooperative member customers or potential Cooperative member customers aware of such requirements, and provide a Cooperative member with a copy of the Advisory before accepting the member's Purchase Order or other agreement for construction-related goods or services.

Initial: BB

DEVIATION AND COMPLIANCE

If your company intends to deviate from the General Terms and Conditions, Proposal Specifications or other requirements associated with this Proposal Invitation, you MUST list all such deviations on this form, and provide complete and detailed information regarding the deviations on this form or an attachment to this form. **Prior to completing this form, Vendor shall review the General Terms and Conditions section B.4 (Deviations from Item Specifications and General Terms and Conditions). Please note that, as provided in section B.4, certain provisions of the General Terms and Conditions are NOT subject to deviation, and certain deviations will be deemed rejected without further action by the Cooperative. Any attempted deviation, whether directly or indirectly, to provisions identified in this Proposal Invitation as not subject to deviation shall be deemed rejected by the Cooperative and, unless otherwise withdrawn by Vendor, may result in Vendor's Proposal being rejected in its entirety.**

The Cooperative will consider any deviations in its contract award decision and reserves the right to accept or reject a proposal based upon any submitted deviation.

In the absence of any deviation identified and described in accordance with the above, your company must fully comply with the General Terms and Conditions, Proposal Specifications and all other requirements associated with this Proposal Invitation if awarded a Contract under this Proposal Invitation. A deviation will not be effective unless accepted by the Cooperative. The Cooperative, by and through the Cooperative administrator, may, in its sole discretion, seek clarification from and/or communicate with Proposer(s) regarding any submitted deviation, consistent with general procurement principles of fair competition. The Cooperative reserves the right to accept or reject a Proposal based upon any submitted deviation.

Please check (√) one of the following:

☒ **No**; Deviations
☐ **Yes**; Deviations

List and fully explain any deviations you are submitting:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Initial: BB

VENDOR CONSENT FOR NAME BRAND USE

BuyBoard members seeking to make purchases using a Contract awarded under this Proposal Invitation may view information regarding awarded Vendors, including but not limited to product catalogs, pricelists, pricing, and Proposals, through the BuyBoard website. To improve and enhance the experience of BuyBoard members seeking to procure goods and services under the Contract utilizing the BuyBoard website, any Vendor logo, product images, and similar brand and trademark information provided by Vendor for purposes of the Contract ("Vendor Information") may be posted on the BuyBoard website.

You acknowledge that, by submitting your Proposal, unless you specifically opt out below, you consent to use of your company's Vendor Information on the BuyBoard website if awarded a Contract. You further acknowledge that whether, where, and when to include the Vendor Information on the BuyBoard website shall be at the sole discretion of the BuyBoard Administrator. Vendor retains, however, the right of general quality control over the BuyBoard Administrator's authorized display of proprietary Vendor Information. Neither the BuyBoard nor its administrator will be responsible for the use or distribution of Vendor Information by BuyBoard members or any other third party using the BuyBoard website. This Vendor Consent shall be effective for the full term of the Contract, including renewals, unless Vendor provides a signed, written notice revoking consent to contractadmin@buyboard.com. BuyBoard shall have up to thirty days from the date of receipt of a termination or revocation of a Vendor Consent to remove Vendor information from the BuyBoard website.

This Vendor Consent is subject to the Terms and Conditions of the Contract, including, but not limited to, those terms pertaining to Disclaimer of Warranty and Limitation of Liability, Indemnification, and Intellectual Property Infringement.

Vendor logo files must be submitted in one of the formats set forth in the BuyBoard Technical Requirements. Proposers are requested to submit this information with Vendor's Proposal. (This consent shall not authorize use of your company's Vendor Information by BuyBoard if your company is not awarded a Contract.)

OPT OUT:

If your company wishes to opt out of the Vendor Consent for Name Brand Use, you must check the opt out box below. *DO NOT select this box unless your company is opting out of this Vendor Consent for Name Brand Use.*

☐ By checking this box, Vendor hereby declines to provide consent for use of Vendor Information (as defined herein) on the BuyBoard website. **By opting out, Vendor acknowledges and agrees that, if Vendor is awarded a Contract under this Proposal Invitation, information available on the BuyBoard for Vendor's awarded products or services may be limited, potentially placing Vendor at a disadvantage and impacting the ability of Cooperative members to search, find, review, and purchase Vendor's awarded products and services on the BuyBoard website.**

Initial: BB

CONFIDENTIAL/PROPRIETARY INFORMATION

A. Public Disclosure Laws

All Proposals, forms, documentation, catalogs, pricelists, or other materials submitted by Vendor to the Cooperative in response to this Proposal Invitation, may be subject to the disclosure requirements of the Texas Public Information Act (Texas Government Code chapter 552.001, *et. seq.*) or similar disclosure law. Proposer must clearly identify on this form any information in its Proposal (including forms, documentation, or other materials submitted with the Proposal) that Proposer considers proprietary or confidential. If Proposer fails to properly identify the information, the Cooperative shall have no obligation to notify Vendor or seek protection of such information from public disclosure should a member of the public or other third party request access to the information under the Texas Public Information Act or similar disclosure law. When required by the Texas Public Information Act or other disclosure law, Proposer may be notified of any third-party request for information in a Proposal that Proposer has identified in this form as proprietary or confidential.

Does your Proposal (including forms, documentation, catalogs, pricelists, or other materials submitted with the Proposal) contain information which Vendor considers proprietary or confidential?

Please check (√) one of the following:

☒ **NO**, I certify that none of the information included with this Proposal is considered confidential or proprietary.

☐ **YES**, I certify that this Proposal contains information considered confidential or proprietary and all such information is specifically identified on this form.

If you responded "YES", you must clearly identify below the specific information you consider confidential or proprietary. List each page number, form number, or other information sufficient to make the information readily identifiable. The Cooperative and Cooperative administrator shall not be responsible for a Proposer's failure to clearly identify information considered confidential or proprietary. Further, by submitting a Proposal, Proposer acknowledges that the Cooperative and Cooperative administrator will disclose information when required by law, even if such information has been identified herein as information Vendor considers confidential or proprietary.

Confidential / Proprietary Information:

_____

_____

_____

_____

_____

(Attach additional sheets if needed.)

Initial: BB

B. Copyright Information

Does your Proposal (including forms, documentation, pricelists, catalogs, or other materials submitted with the Proposal) contain copyright information?

Please check (√) one of the following:

☒ **NO,** Proposal (including forms, documentation, pricelists, catalogs, or other materials submitted with the Proposal) does not contain copyright information.

☐ **YES,** Proposal (including forms, documentation, pricelists, catalogs, or other materials submitted with the Proposal) does contain copyright information.

If you responded "YES", clearly identify below the specific documents or pages containing copyright information.

Copyright Information: _____

_____

_____

_____

(Attach additional sheets if needed.)

C. Consent to Release Confidential/Proprietary/Copyright Information to BuyBoard Members

BuyBoard members (Cooperative and nonprofit members) seeking to make purchases through the BuyBoard may wish to view information included in the Proposals of awarded Vendors. If you identified information on this form as confidential, proprietary, or subject to copyright, and you are awarded a BuyBoard contract, your acceptance of the BuyBoard contract award constitutes your consent to the disclosure of such information to BuyBoard members, including posting of such information on the secure BuyBoard website for members. Note: Neither the Cooperative nor Cooperative administrator will be responsible for the use or distribution of information by BuyBoard members or any other party.

D. Consent to Release Proposal Tabulation

Notwithstanding anything in this Confidential/Proprietary Information form to the contrary, by submitting a Proposal, Vendor consents and agrees that, upon Contract award, the Cooperative may publicly release, including posting on the public BuyBoard website, a copy of the proposal tabulation and award information for the Contract including Vendor name; proposed catalog/pricelist name(s); proposed percentage discount(s), hourly labor rate(s), or other specified pricing; and Vendor award or non-award information.

Initial: BB

EDGAR VENDOR CERTIFICATION
(2 CFR Part 200 and Appendix II)

When a Cooperative member seeks to procure goods and services using funds under a federal grant or contract, specific federal laws, regulations, and requirements may apply in addition to those under state law. This includes, but is not limited to, the procurement standards of the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards, 2 CFR 200 (sometimes referred to as the "Uniform Guidance" or new "EDGAR"). All Vendors submitting a Proposal must complete this EDGAR Certification Form regarding Vendor's willingness and ability to comply with certain requirements which ***may*** be applicable to specific Cooperative member purchases using federal grant funds. Completed forms will be made available to Cooperative members for their use while considering their purchasing options when using federal grant funds. Cooperative members may also require Vendors to enter into ancillary agreements, in addition to the terms and conditions of the BuyBoard contract, to address the member's specific contractual needs, including contract requirements for a procurement using federal grants or contracts.

For <u>each</u> of the items below, Vendor should certify Vendor's agreement and ability to comply, where applicable, by having Vendor's authorized representative check the applicable boxes, initial each page, and sign the Compliance Forms Signature Page. If you fail to complete any item in this form, the Cooperative will consider and may list the Vendor's response on the BuyBoard as "NO," the Vendor is unable or unwilling to comply. A "NO" response to any of the items may, if applicable, impact the ability of a Cooperative member to purchase from the Vendor using federal funds.

1. Vendor Violation or Breach of Contract Terms:

Contracts for more than the simplified acquisition threshold, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 USC 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Provisions regarding Vendor default are included in the BuyBoard General Terms and Conditions, including Section E.18, Remedies for Default and Termination of Contract. Any Contract award will be subject to such BuyBoard General Terms and Conditions, as well as any additional terms and conditions in any Purchase Order or Cooperative member ancillary contract agreed upon by Vendor and the Cooperative member which must be consistent with and protect the Cooperative member at least to the same extent as the BuyBoard Terms and Conditions. The remedies under the Contract are in addition to any other remedies that may be available under law or in equity. By submitting a Proposal, you agree to these Vendor violation and breach of contract terms.

■ **YES**, I agree. ☐ **NO**, I do not agree.

2. Termination for Cause or Convenience:

For any Cooperative member purchase or contract in excess of $10,000 made using federal funds, you agree that the following term and condition shall apply:

The Cooperative member may terminate or cancel any Purchase Order under this Contract at any time, with or without cause, by providing seven (7) business days advance written notice to the Vendor. If this Agreement is terminated in accordance with this Paragraph, the Cooperative member shall only be required to pay Vendor for goods or services delivered to the Cooperative member prior to the termination and not otherwise returned in accordance with Vendor's return policy. If the Cooperative member has paid Vendor for goods or services not yet provided as of the date of termination, Vendor shall immediately refund such payment(s).

If an alternate provision for termination of a Cooperative member purchase for cause and convenience, including the manner by which it will be effected and the basis for settlement, is included in the Cooperative member's Purchase Order or ancillary agreement agreed to by the Vendor, the Cooperative member's provision shall control.

■ **YES**, I agree. ☐ **NO**, I do not agree. **Initial:** BB

3. Equal Employment Opportunity:

Except as otherwise provided under 41 CFR Part 60, all Cooperative member purchases or contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 shall be deemed to include the equal opportunity clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 FR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR Part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

The equal opportunity clause provided under 41 CFR 60-1.4(b) is hereby incorporated by reference. Vendor agrees that such provision applies to any Cooperative member purchase or contract that meets the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 and Vendor agrees that it shall comply with such provision.

■ **YES**, I agree. ☐ **NO**, I do not agree.

4. Davis-Bacon Act:

When required by Federal program legislation, Vendor agrees that, for all Cooperative member prime construction contracts/purchases in excess of $2,000, Vendor shall comply with the Davis-Bacon Act (40 USC 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, Vendor is required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determinate made by the Secretary of Labor. In addition, Vendor shall pay wages not less than once a week.

Current prevailing wage determinations issued by the Department of Labor are available at www.sam.gov. Vendor agrees that, for any purchase to which this requirement applies, the award of the purchase to the Vendor is conditioned upon Vendor's acceptance of the wage determination.

Vendor further agrees that it shall also comply with the Copeland "Anti-Kickback" Act (40 USC 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled.

■ **YES**, I agree. ☐ **NO**, I do not agree.

5. Contract Work Hours and Safety Standards Act:

Where applicable, for all Cooperative member contracts or purchases in excess of $100,000 that involve the employment of mechanics or laborers, Vendor agrees to comply with 40 USC 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 USC 3702 of the Act, Vendor is required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week.

The requirements of 40 USC 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

■ **YES**, I agree. ☐ **NO**, I do not agree.

Initial: BB

6. Right to Inventions Made Under a Contract or Agreement:

If the Cooperative member's Federal award meets the definition of "funding agreement" under 37 CFR 401.2(a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance or experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Vendor agrees to comply with the above requirements when applicable.

■ **YES**, I agree. ☐ **NO**, I do not agree.

7. Clean Air Act and Federal Water Pollution Control Act:

Clean Air Act (42 USC 7401-7671q.) and the Federal Water Pollution Control Act (33 USC 1251-1387), as amended – Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non-Federal award to agree to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 USC 7401-7671q.) and the Federal Water Pollution Control Act, as amended (33 USC 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

When required, Vendor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act and the Federal Water Pollution Control Act.

■ **YES**, I agree. ☐ **NO**, I do not agree.

8. Debarment and Suspension:

Debarment and Suspension (Executive Orders 12549 and 12689) – A contract award (see 2 CFR 180.220) must not be made to parties listed on the government-wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR Part 1966 Comp. p. 189) and 12689 (3 CFR Part 1989 Comp. p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Vendor certifies that Vendor is not currently listed on the government-wide exclusions in SAM, is not debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549. Vendor further agrees to immediately notify the Cooperative and all Cooperative members with pending purchases or seeking to purchase from Vendor if Vendor is later listed on the government-wide exclusions in SAM, or is debarred, suspended, or otherwise excluded by agencies or declared ineligible under statutory or regulatory authority other than Executive Order 12549.

■ **YES**, I agree. ☐ **NO**, I do not agree.

9. Byrd Anti-Lobbying Amendment:

Byrd Anti-Lobbying Amendment (31 USC 1352) - Vendors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 USC 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award. As applicable, Vendor agrees to file all certifications and disclosures required by, and otherwise comply with, the Byrd Anti-Lobbying Amendment (31 USC 1352).

■ **YES**, I agree. ☐ **NO**, I do not agree.

Initial: BB

10. Procurement of Recovered Materials:

For Cooperative member purchases utilizing Federal funds, Vendor agrees to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act where applicable and provide such information and certifications as a Cooperative member may require to confirm estimates and otherwise comply. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery, and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

■ **YES**, I agree. ☐ **NO**, I do not agree.

11. Domestic Preferences for Procurements:

Where appropriate and consistent with law, 2 CFR §200.322 contains certain considerations for domestic preferences for procurements which may be applicable to Cooperative members using federal funds. When required by a Cooperative member, Vendor agrees to provide such information or certification as may reasonably be requested by the Cooperative member regarding Vendor's products, including whether goods, products, or materials are produced in the United States.

■ **YES**, I agree. ☐ **NO**, I do not agree.

12. Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment

2 CFR §200.216 prohibits expending federal loan or grant funds to procure or obtain covered telecommunications equipment or services. To the extent applicable and when required by a Cooperative member, Vendor agrees to provide such information or certification as may reasonably be requested by the Cooperative member to confirm whether any telecommunications equipment or services provided by Vendor is covered telecommunications equipment or services under 2 CFR §200.216.

■ **YES**, I agree. ☐ **NO**, I do not agree.

13. General Compliance and Cooperation with Cooperative Members:

In addition to the foregoing specific requirements, Vendor agrees, in accepting any Purchase Order from a Cooperative member, it shall make a good faith effort to work with Cooperative members to provide such information and to satisfy such requirements as may apply to a particular Cooperative member purchase or purchases including, but not limited to, applicable recordkeeping and record retention requirements.

■ **YES**, I agree. ☐ **NO**, I do not agree.

Initial: BB

COMPLIANCE FORMS SIGNATURE PAGE

By initialing pages and by signature below, I certify that I have reviewed the following forms; that the information provided therein is true, complete, and accurate; and that I am authorized by my company to make all certifications, consents, acknowledgements, and agreements contained herein:

- Proposal Acknowledgements
- Felony Conviction Disclosure
- Debarment Certification
- Resident/Nonresident Certification
- Vendor Employment Certification
- No Boycott Verification
- No Excluded Nation or Foreign Terrorist Organization Certification
- Historically Underutilized Business Certification
- Construction-Related Goods and Services Affirmation
- Acknowledgement of BuyBoard Technical Requirements
- Deviation and Compliance
- Vendor Consent for Name Brand Use
- Confidential/Proprietary Information
- EDGAR Vendor Certification

ClearGov, Inc.

Company Name

Bryan A Burdick

Signature of Authorized Company Official

Bryan A. Burdick, President

Printed Name and Title

September 30, 2025

Date

P.O. Box 400, Austin, Texas 78767
800.695.2919 • bids@buyboard.com • buyboard.com

PROPOSAL FORMS PART 2: VENDOR INFORMATION FORMS

INSTRUCTIONS:

Proposer must completely and accurately provide all information requested in the following Vendor Information Forms or your Proposal may be rejected as non-responsive:

- Vendor Business Name
- Vendor Contact Information
- Federal and State/Purchasing Cooperative Experience
- Governmental References
- Company Profile
- Texas Regional Service Designation
- State Service Designation
- National Purchasing Cooperative Vendor Award Agreement *(Vendors serving outside Texas only)*
- Local/Authorized Seller Listings
- Manufacturer Dealer Designation
- Proposal Invitation Questionnaire

To the extent any information requested is not applicable to your company, you must so indicate on the form.

VENDOR BUSINESS NAME

By submitting a Proposal, Vendor is seeking to enter into a legal contract with the Cooperative. As such, Vendor must be an individual or legal business entity capable of entering into a binding contract.

Name of Proposing Company:

ClearGov, Inc.

*(List the **legal** name of the company seeking to contract with the Cooperative. Do **NOT** list an assumed name, dba, aka, etc. here. Such information may be provided below. If you are submitting a joint proposal with another entity to provide the same proposed goods or services, each submitting entity should complete a separate vendor information form. Separately operating legal business entities, even if affiliated entities, which propose to provide goods or services separately must submit their own Proposals.)*

Please check (√) one of the following:

Type of Business: ☐ Individual/Sole Proprietor ■ Corporation ☐ Limited Liability Company ☐ Partnership

☐ Other (Specify: _____)

State of Incorporation (if applicable): Delaware

Federal Employer Identification Number: 47-5205793
*(Vendor must include a completed **IRS W-9** form with their Proposal)*

Name by which Vendor, if awarded, wishes to be identified on the BuyBoard: *(Note: If different than the Name of Proposing Company listed above, only valid trade names (dba, aka, etc.) of the Proposing Company may be used and a copy of your Assumed Name Certificate(s), if applicable, must be attached.)* _____

Form **W-9**
(Rev. March 2024)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give form to the requester. Do not send to the IRS.

Before you begin. For guidance related to the purpose of Form W-9, see *Purpose of Form*, below.

Print or type. See *Specific Instructions* on page 3.

1 Name of entity/individual. An entry is required. (For a sole proprietor or disregarded entity, enter the owner's name on line 1, and enter the business/disregarded entity's name on line 2.)

ClearGov Inc.

2 Business name/disregarded entity name, if different from above.

3a Check the appropriate box for federal tax classification of the entity/individual whose name is entered on line 1. Check only **one** of the following seven boxes.

☐ Individual/sole proprietor ☑ C corporation ☐ S corporation ☐ Partnership ☐ Trust/estate

☐ LLC. Enter the tax classification (C = C corporation, S = S corporation, P = Partnership) . . . . .

Note: Check the "LLC" box above and, in the entry space, enter the appropriate code (C, S, or P) for the tax classification of the LLC, unless it is a disregarded entity. A disregarded entity should instead check the appropriate box for the tax classification of its owner.

☐ Other (see instructions)

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from Foreign Account Tax Compliance Act (FATCA) reporting code (if any)

(Applies to accounts maintained outside the United States.)

3b If on line 3a you checked "Partnership" or "Trust/estate," or checked "LLC" and entered "P" as its tax classification, and you are providing this form to a partnership, trust, or estate in which you have an ownership interest, check this box if you have any foreign partners, owners, or beneficiaries. See instructions . . . . . ☐

5 Address (number, street, and apt. or suite no.). See instructions.

2 Mill and Main Pl, Ste 630

Requester's name and address (optional)

6 City, state, and ZIP code

Maynard, MA 01754

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. See also *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

			–			–				

or

Employer identification number

4	7	–	5	2	0	5	7	9	3

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and, generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here | **Signature of U.S. person** Bruce Lueddke **Date** 5/5/2025

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

What's New

Line 3a has been modified to clarify how a disregarded entity completes this line. An LLC that is a disregarded entity should check the appropriate box for the tax classification of its owner. Otherwise, it should check the "LLC" box and enter its appropriate tax classification.

New line 3b has been added to this form. A flow-through entity is required to complete this line to indicate that it has direct or indirect foreign partners, owners, or beneficiaries when it provides the Form W-9 to another flow-through entity in which it has an ownership interest. This change is intended to provide a flow-through entity with information regarding the status of its indirect foreign partners, owners, or beneficiaries, so that it can satisfy any applicable reporting requirements. For example, a partnership that has any indirect foreign partners may be required to complete Schedules K-2 and K-3. See the Partnership Instructions for Schedules K-2 and K-3 (Form 1065).

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS is giving you this form because they

VENDOR CONTACT INFORMATION

Vendor shall provide the requested Vendor Contact Information in the electronic proposal submission system including contract, purchase order, RFQ, and invoice contacts (or, if submitting a hard copy Proposal, timely request and complete the Vendor Contact Information form in accordance with the Instructions to Proposers).

FEDERAL AND STATE/PURCHASING COOPERATIVE EXPERIENCE

The Cooperative strives to provide Cooperative members with the best services and products at the best prices available from Vendors with the technical resources and ability to serve Cooperative members. Please respond to the following questions.

1. Provide the dollar value of sales to or through purchasing cooperatives at or based on an established catalog or market price during the previous 12-month period or the last fiscal year: $ 4,800,000. (The period of the 12-month period is 01/01/2024 / 12/31/2024). In the event that a dollar value is not an appropriate measure of the sales, provide and describe your own measure of the sales of the item(s).
2. By submitting a proposal, you agree that, based on your written discounting policies, the discounts you offer the Cooperative are equal to or better than the best price you offer other purchasing cooperatives for the same items under equivalent circumstances.
3. Provide the information requested below for other purchasing cooperatives for which Proposer currently serves, or in the past has served, as an awarded vendor. Rows should be added to accommodate as many purchasing cooperatives as required.

PURCHASING GROUP	CURRENT VENDOR? (Y/N)	FORMER VENDOR (Y/N)? – IF YES, LIST YEARS AS VENDOR	AWARDED COMMODITY CATEGORY(IES)
1. Federal General Services Administration	N	N	
2. T-PASS (State of Texas)	N	N	
3. OMNIA Partners	N	N	
4. Sourcewell (NJPA)	N	N	
5. E&I Cooperative	N	N	
6. Houston-Galveston Area Council (HGAC)	N	N	
7. Choice Partners	N	N	
8. The Interlocal Purchasing System (TIPS)	Y		SaaS
9. Other	Y		SaaS

☐ **MY COMPANY DOES NOT CURRENTLY HAVE ANY OF THE ABOVE OR SIMILAR TYPE CONTRACTS.**

CURRENT BUYBOARD VENDORS

If you are a current BuyBoard vendor in the same contract category as proposed in this Proposal Invitation, indicate the discount for your current BuyBoard contract and the proposed discount in this Proposal. Explain any difference between your current and proposed discounts.

Current Discount (%): 0% **Proposed Discount (%):** 0%

Explanation: ClearGov does not offer discounts through any other procurement cooperatives and has made a strategic decision to utilize a standard rate card for all customers.

GOVERNMENTAL REFERENCES

For your Proposal to be considered, you must supply a minimum of five (5) individual governmental entity references. The Cooperative may contact any and all references provided as part of the Proposal evaluation. Provide the information requested below, including the existing pricing/discounts you offer each customer. The Cooperative may determine whether pricing/discounts are fair and reasonable by comparing pricing/discounts stated in your Proposal with the pricing/discounts you offer other governmental customers. Attach additional pages if necessary.

	Entity Name	Contact	Phone#	Email Address	Discount	Quantity/ Volume
1.	Grand Island, NE	Patrick Brown	308-385-5444	patrickb@grand-island.com	0%	1
2.	Hilton Head, SC	John Troyer	843-341-4650	johntr@hiltonheadislandsc.gov	0%	1
3.	Naperville, IL	Sherrian Kelly	630-420-6059	kellys@naperville.il.us	0%	1
4.	Orange County, VA	Glenda Paul	540-672-3313	gbradley@orangecountyva.gov	0%	1
5.	Tri-Town School Union, MA	Steven Greenberg	978-887-0771	sgreenberg@tritownschoolunion.com	0%	1

Do you ever modify your written policies or standard governmental sales practices as identified in the above chart to give better discounts (lower pricing) than indicated? **YES** ☐ **NO** ■ If YES, please explain:

_____

_____

_____

COMPANY PROFILE

Information on awarded Cooperative Contracts is available to Cooperative Members on the BuyBoard website. If your company is awarded a Contract under this Proposal Invitation, please provide a brief company description that you would like to have included with your company profile on the BuyBoard website. **Submit your company profile in a separate file, in Word format, with your Proposal**. (Note: Vendor is solely responsible for any content provided for inclusion on the BuyBoard website. The Cooperative reserves the right to exclude or remove any content in its sole discretion, with or without prior notice, including but not limited to any content deemed by the Cooperative to be inappropriate, irrelevant to the Contract, inaccurate, or misleading.)



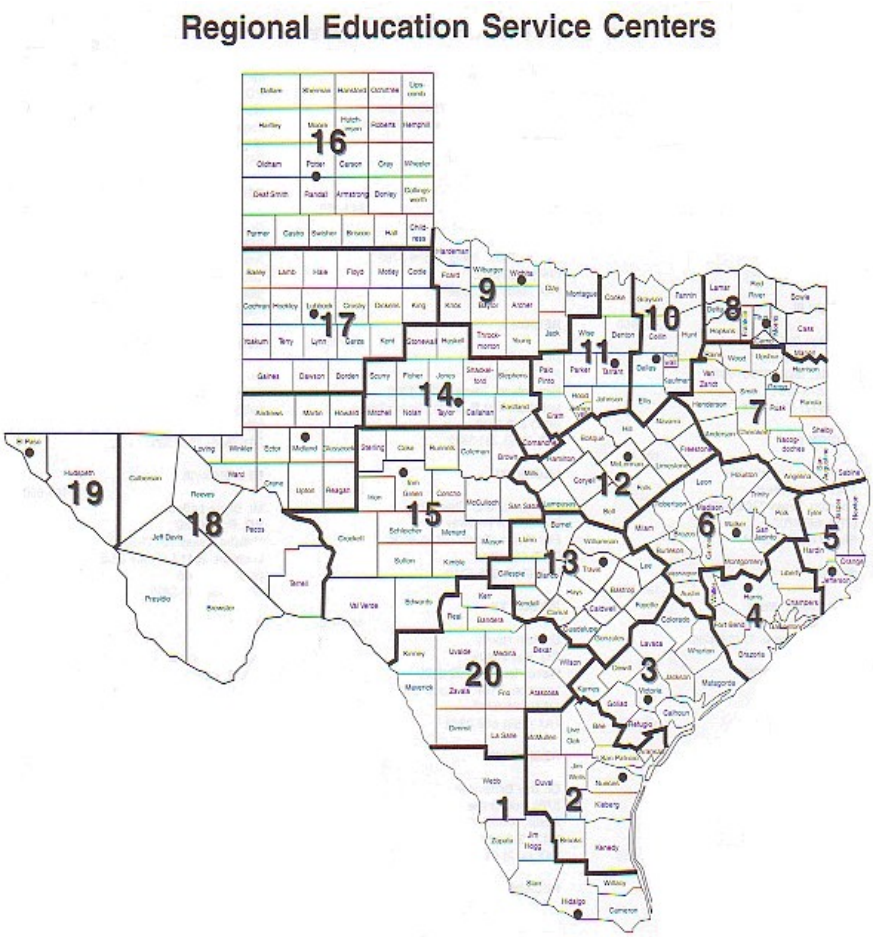
Company Profile

ClearGov® makes it easy to plan, build, and present your budget with confidence. Over 1,400 local governments, counties, schools, and special districts use ClearGov to bring stakeholders together in one central platform to manage the complete budget cycle - planning and tracking, budgeting, reporting, and engaging the community. Modern software built for the specific needs of the public sector, ClearGov is how to build the budget quickly and accurately, tell your financial story in a way that builds trust and support, and spend more time on the strategic initiatives that will help your community thrive. ClearGov is proudly endorsed by the National Association of Counties (NACo) and is an Affinity Partner with the International Association of School Business Officials (ASBO). For more information, visit www.cleargov.com.

TEXAS REGIONAL SERVICE DESIGNATION

This form must be completed in the electronic proposal submission system (or, if submitting a hard copy Proposal, timely request and complete the form in accordance with the Instructions to Proposers).

The Cooperative (referred to as "Texas Cooperative" in this form and in the State Service Designation form) offers vendors the opportunity to service its members throughout the entire State of Texas. In the electronic proposal submission system, you must indicate if you will service Texas Cooperative members statewide or, if you do not plan to service all Texas Cooperative members statewide, you ***must*** indicate the specific regions you will service. If you propose to serve different regions for different products or services included in your Proposal, you must complete and submit a separate Texas Regional Service Designation form for each group of products and clearly indicate the products or services to which the designation applies. **(Additional forms can be obtained by contacting** bids@buyboard.com *at least five (5) business days prior to the Proposal Due Date*.) ***By designating a region or regions, you are certifying that you are authorized and willing to provide the proposed products and services in those regions. Designating regions in which you are either unable or unwilling to provide the specified products and services shall be grounds for either rejection of your Proposal or, if awarded, termination of your Contract.*** Additionally, if you do not plan to service Texas Cooperative members (i.e., if you will service only states other than Texas), *you must so indicate on the form in the electronic proposal submission system.*



Region and Headquarters

1	Edinburg
2	Corpus Christi
3	Victoria
4	Houston
5	Beaumont
6	Huntsville
7	Kilgore
8	Mount Pleasant
9	Wichita Falls
10	Richardson
11	Fort Worth
12	Waco
13	Austin
14	Abilene
15	San Angelo
16	Amarillo
17	Lubbock
18	Midland
19	El Paso
20	San Antonio

STATE SERVICE DESIGNATION

This form must be completed in the electronic proposal submission system (or, if submitting a hard copy Proposal, timely request and complete the in accordance with the Instructions to Proposers).

As set forth in the Proposal Invitation, it is the Cooperative's intent that other governmental entities in the United States have the opportunity to purchase goods or services awarded under the Contract, subject to applicable state law, through a piggy-back award or similar agreement through the National Purchasing Cooperative BuyBoard. If you plan to service the entire United States or only specific states, *you must complete the State Service Designation information in the electronic proposal submission system. (Note: If you plan to service Texas Cooperative members, be sure that you complete the Texas Regional Service Designation form.)* ***In addition to this form, to be considered for a piggy-back award by the National Purchasing Cooperative, you must have an authorized representative sign the National Purchasing Cooperative Vendor Award Agreement that follows this page.***

If you serve different states for different products or services included in your Proposal, you must complete and submit a separate State Service Designation form for each group of products and clearly indicate the products or services to which the designation applies. **(Additional forms can be obtained by contacting bids@buyboard.com** ***at least five (5) business days prior to the Proposal Due Date.) By designating a state or states, you are certifying that you are authorized and willing to provide the proposed products and services in those states. Designating states in which you are either unable or unwilling to provide the specified products and services shall be grounds for either rejection of your Proposal or, if awarded, termination of your Contract.***

- I will service all states in the United States.
- I will not service all states in the United States.

Alabama
Alaska
Arizona
Arkansas
California (Public Contract Code 20118 & 20652)
Colorado
Connecticut
Delaware
District of Columbia
Florida
Georgia
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maine
Maryland
Massachusetts
Michigan
Minnesota
Mississippi
Missouri
Montana
Nebraska
Nevada
New Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Ohio
Oklahoma
Oregon
Pennsylvania
Rhode Island
South Carolina
South Dakota
Tennessee
Texas
Utah
Vermont
Virginia
Washington
West Virginia
Wisconsin
Wyoming

NATIONAL PURCHASING COOPERATIVE VENDOR AWARD AGREEMENT

In accordance with the Terms and Conditions associated with this Proposal Invitation, a contract awarded under this Proposal Invitation may be "piggy-backed" by another governmental entity. The National Purchasing Cooperative is an intergovernmental purchasing cooperative formed by certain school districts outside of Texas to serve its members throughout the United States. If you agree to be considered for a piggy-back award by the National Purchasing Cooperative, you agree to the following terms and agree to serve National Purchasing Cooperative members in the states you have indicated on the State Service Designation form, in your Proposal.

By signing this form, Proposer (referred to in this Agreement as "Vendor") agrees as follows:

1. Vendor acknowledges that if The Local Government Purchasing Cooperative ("Texas Cooperative") awards Vendor a contract under this Proposal Invitation ("Underlying Award"), the National Purchasing Cooperative ("National Cooperative") may - but is not required to - "piggy-back" on or re-award all or a portion of that Underlying Award ("Piggy-Back Award"). By signing this National Cooperative Vendor Award Agreement ("Agreement"), Vendor accepts and agrees to be bound by any such Piggy-Back Award as provided for herein.

2. In the event National Cooperative awards Vendor a Piggy-Back Award, the National Cooperative Administrator ("BuyBoard Administrator") will notify Vendor in writing of such Piggy-Back Award, which award shall commence on the effective date stated in the Notice and end on the expiration date of the Underlying Award, subject to annual renewals as authorized in writing by the BuyBoard Administrator. Vendor agrees that no further signature or other action is required of Vendor in order for the Piggy-Back Award and this Agreement to be binding upon Vendor. Vendor further agrees that no interlineations or changes to this Agreement by Vendor will be binding on National Cooperative, unless such changes are agreed to by its BuyBoard Administrator in writing.

3. Vendor agrees that it shall offer its goods and services to National Cooperative members at the same pricing and same general terms and conditions, subject to applicable state laws in the state of purchase, as required by the Underlying Award. However, nothing in this Agreement prevents Vendor from offering National Cooperative members better (i.e., lower) competitive pricing and more favorable terms and conditions than those in the Underlying Award.

4. Vendor hereby agrees and confirms that it will serve those states it has designated on the State Service Designation Form of this Proposal Invitation. Any changes to the states designated on the State Service Designation Form must be approved in writing by the BuyBoard Administrator.

5. Vendor agrees to pay National Cooperative the service fee provided for in the Underlying Award based on the amount of purchases generated from National Cooperative members through the Piggy-Back Award. Vendor shall remit payment to National Cooperative on such schedule as it specifies (which shall not be more often than monthly). Further, upon request, Vendor shall provide National Cooperative with copies of all purchase orders generated from National Cooperative members, vendor invoices, and/or such other documentation regarding those purchase orders as the Cooperative's administrators may require in their reasonable discretion for purposes of reviewing and verifying purchase activity. Vendor further agrees that National Cooperative shall have the right, upon reasonable written notice, to review Vendor's records pertaining to purchases made by National Cooperative members in order to verify the accuracy of service fees.

6. Vendor agrees that the Underlying Award, including its General Terms and Conditions, are adopted by reference to the fullest extent such provisions can reasonably apply to the post-proposal/contract award phase. The rights and responsibilities that would ordinarily inure to the Texas Cooperative pursuant to the Underlying Award shall inure to National Cooperative; and, conversely, the rights and responsibilities that would ordinarily inure to Vendor in the Underlying Award shall inure to Vendor in this Agreement. Vendor recognizes and agrees that Vendor and National Cooperative are the only parties to this Agreement, and that nothing in this Agreement has application to other third parties, including the Texas Cooperative. In the event of conflict between this Agreement and the terms of the Underlying Award, the terms of this Agreement shall control, and then only to the extent necessary to reconcile the conflict.

7. This Agreement shall be governed and construed in accordance with the laws of the State of Texas and venue for any dispute shall lie in the federal district court of Travis County, Texas.

8. Vendor acknowledges and agrees that the award of a Piggy-Back Award is within the sole discretion of National Cooperative, and that this Agreement does not take effect unless and until National Cooperative awards Vendor a Piggy-Back Award and the BuyBoard Administrator notifies Vendor in writing of such Piggy-Back Award as provided for herein.

WHEREFORE, by signing below Vendor agrees to the foregoing and warrants that it has the authority to enter into this Agreement.

ClearGov, Inc.	792-26
Name of Vendor	Proposal Invitation Number
Bryan A Burdick	Bryan A. Burdick
Signature of Authorized Company Official	Printed Name of Authorized Company Official

September 30, 2025
Date

LOCATION/AUTHORIZED SELLER LISTINGS

If you have more than one location/authorized seller that will service a Contract awarded under this Proposal Invitation, please list each location/authorized seller below. If additional sheets are required, please duplicate this form as necessary. NOTE: Awarded Vendors shall remain responsible for all aspects of the Contract, including processing of Purchase Orders, and shall be responsible for the performance of all locations and authorized sellers under and in accordance with the Contract. ***If you are a product manufacturer and wish to designate Designated Dealers as defined in the General Terms and Conditions to receive Cooperative member Purchase Orders on your behalf, you must complete the Manufacturer Designated Dealer form.***

Location/Authorized Seller Name	**Contact Person**	**Contact Information** (Mailing Address, Phone, Fax, Email)
Not Applicable		

P.O. Box 400, Austin, Texas 78767
800.695.2919 • bids@buyboard.com • buyboard.com

MANUFACTURER DEALER DESIGNATION

If Vendor is a manufacturer that sells products through a dealer network and wishes to designate a dealer or multiple dealers ("Designated Dealers") to receive Cooperative member Purchase Orders on Vendor's behalf, you must complete this form for each dealer you wish to designate.

Regardless of any Designated Dealers submitted by Vendor, Vendor specifically agrees and acknowledges that any such designations are for Vendor's convenience only and shall not, if Vendor is awarded a Contract, relieve Vendor of any obligations under the Contract, including payment of Cooperative service fees on all Purchase Orders submitted to Vendor or any Designated Dealer. In accordance with the General Terms and Conditions, an awarded Vendor shall remain responsible and liable for all of its obligations under the Contract and the performance of both Vendor and any of Vendor's Designated Dealers under and in accordance with the Contract and remain subject to all remedies for default thereunder, including, but not limited to suspension and termination of Vendor's Contract for nonpayment of service fees.

If awarded, Vendor authorizes the Cooperative, in its sole discretion, to list any Vendor Designated Dealers in the BuyBoard system and to receive Purchase Orders directly from Cooperative members on behalf of Vendor. To the extent a Vendor with Designated Dealers receives a Purchase Order directly, it shall be the responsibility of Vendor to appropriately process such Purchase Order in accordance with the Contract, including but not limited to timely forwarding such Purchase Order to a Designated Dealer for processing.

The Cooperative reserves the right, in its sole discretion, to refuse addition of, or request removal of, any Designated Dealer, and Vendor agrees to immediately require such Designated Dealer to cease accepting Purchase Orders or otherwise acting on Vendor's behalf under the Contract. Further, the Cooperative administrator shall be authorized to remove or suspend any or all Designated Dealers from the BuyBoard at any time in its sole discretion.

If you wish to designate a dealer to service a contract awarded under this Proposal Invitation, please list the Designated Dealer below. If you wish to designate multiple dealers, please duplicate this form as necessary.

Not Applicable

Designated Dealer Name

Designated Dealer Contact Person

Designated Dealer Address

City

State

Zip Code

Phone Number

Fax Number

Email address

Designated Dealer Tax ID Number* **(*attach W-9)**

PROPOSAL INVITATION QUESTIONNAIRE

The Cooperative will use your responses to the questions below in evaluating your Proposal and technical and financial resources to provide the goods and perform the services ("Work") under the BuyBoard contract contemplated by this Proposal Invitation ("Contract"). Proposers must fully answer each question, numbering your responses to correspond to the questions/numbers below. Proposers must complete below or attach your responses to this questionnaire and submit in one document with your Proposal. **You must submit the questionnaire and responses with your Proposal or the Proposal will not be considered.**

1. List the number of years Proposer has been in business and former business names (if applicable). Note whether your company is currently for sale or involved in any transaction that would significantly alter its business or result in acquisition by another entity.

ClearGov, Inc. was incorporated in 2015 and has been in business for close to 10 years. ClearGov is not currently for sale or involved in any transaction that would significantly alter its business or result in acquisition by another entity.

2. Describe the resources Proposer has to manage staff and successfully perform the Work contemplated under this Contract. State the number and summarize the experience of company personnel who may be utilized for the Work, including those who will be available to Cooperative members for assistance with project development, technical issues, and product selection for Work associated with this Contract.

ClearGov currently provides software solutions to over 1,400 local government, school district and special district customers across all 50 states. ClearGov has a dedicated staff of Client Success managers who support our customers.

3. **Marketing Strategy:** For your Proposal to be considered, you must submit the Marketing Strategy you will use if the Cooperative accepts all or part of your Proposal. *(Example: Explain how your company will initially inform Cooperative members of your BuyBoard Contract, and how you will continue to support the BuyBoard for the duration of the Contract term.)* Attach additional pages if necessary.

The bulk of ClearGov's prospect/client interactions are directly between customers and our sales executives. We have instructed our sales team to present BuyBoard as the first and preferred option if a customer wishes to contract through a procurement cooperative/aggregator. We also encourage customers to become BuyBoard members if they are not already part of the BuyBoard community. Finally, ClearGov will continue to include BuyBoard on the Partners page of our ClearGov website.

4. Describe Proposer's financial capability to perform the Contract. State or describe the firm's financial strength and rating, bonding capacity, and insurance coverage limits. State whether the firm, or any of the firm's past or present owners, principal shareholders or stockholders, or officers, have been a debtor party to a bankruptcy, receivership, or insolvency proceeding in the last 7 years, and identify any such debtor party by name and relationship to or position with your firm.

ClearGov is financially solvent and rapidly growing; None of the firm's past or present owners, principal shareholders, or officers have filed for bankruptcy, receivership or insolvency.

5. Does your company have any outstanding financial judgments and/or is it currently in default on any loan or financing agreement? If so, provide detailed information on the nature of such items and prospects for resolution.

None.

6. List all contracts, if any, in the last 10 years on which Proposer has defaulted, failed to complete or deliver the work, or that have been terminated for any reason. For each such contract, provide the project name, scope, value and date and the name of the procuring entity. Fully explain the circumstances of the default, failure to complete or deliver the work, or termination.

None.

7. List all litigation or other legal proceedings (including arbitration proceedings), if any, in the last 10 years brought against your firm, or any of the firm's past or present owners, principal shareholders or stockholders, officers, agents or employees, that relate to or arise from a contract similar to this Contract or the Work contemplated under this Contract. Provide the style of the lawsuit or proceeding (name of parties and court or tribunal in which filed), nature of the claim, and resolution or current status.

None.

8. For software-related products, does your company permit escrow of source code and other items needed to provide the customer with continued use of the software in the event of Vendor bankruptcy or other issues which cause the functionality of the software to cease? Explain.

No. ClearGov's product is a turnkey, SaaS solution. We do not do custom software development work.

PROPOSAL SPECIFICATION SUMMARY

The categories and items specified for this Proposal Invitation are summarized below. For full Proposal Specifications, you must review and complete the Proposal Specification information in the electronic proposal submission system in accordance with the Instructions to Proposers (or, if submitting a hard copy Proposal, timely request and complete the Proposal Specification Form in accordance with the Instructions to Proposers).

PROPOSAL NOTE 1: Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. *No paper catalogs or manufacturer/vendor websites will be accepted.*

PROPOSAL NOTE 2: This Proposal Invitation is limited to products within the specified categories. For purposes of clarification, the specified SaaS categories do **not** include board or meeting agenda preparation products, policy and manual management products, or School Health and Related Services (SHARS) Medicaid reimbursement products.

Section I: Software as a Service (SaaS) Products and Related Services

1. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Asset Management/Tracking Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
2. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Business/Financial Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
3. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Communications Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
4. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Curriculum/Instruction** (K-12, special education, and higher education) **Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
5. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Document/Record Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
6. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Facility/Maintenance Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
7. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Grant Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
8. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Information Technology Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
9. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Legal Cases and Courtroom Docket Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a

subscription basis and hosted by software provider.

10. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Payroll/Performance Appraisal/Workforce Recruitment Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.
11. Discount (%) off catalog/pricelist for **Software as a Service (SaaS) Products for Student Services (Appraisal, Discipline, Orientation) Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider.

Section II: Cybersecurity Assessments, and Related Products and Services

12. Discount (%) off catalog/pricelist for **Cybersecurity Assessments, Products and Related Services** - all types of cybersecurity assessments and products used with networks and technology infrastructures including pre-breach mitigation monitoring services and breach mitigation services related to data/information security incidents.

P.O. Box 400, Austin, Texas 78767
800.695.2919 • bids@buyboard.com • buyboard.com

REQUIRED FORMS CHECKLIST

(Please check (√) the following)

☒ Reviewed/Completed: **Proposer's Acceptance and Agreement**

PROPOSAL FORMS PART 1: COMPLIANCE FORMS

☒ Reviewed/Completed: **Proposal Acknowledgements**
☒ Reviewed/Completed: **Felony Conviction Disclosure**
☒ Reviewed/Completed: **Resident/Nonresident Certification**
☒ Reviewed/Completed: **Debarment Certification**
☒ Reviewed/Completed: **Vendor Employment Certification**
☒ Reviewed/Completed: **No Boycott Verification**
☒ Reviewed/Completed: **No Excluded Nation or Foreign Terrorist Organization Certification**
☒ Reviewed/Completed: **Historically Underutilized Business Certification**
☒ Reviewed/Completed: **Acknowledgement of BuyBoard Technical Requirements**
☒ Reviewed/Completed: **Construction-Related Goods and Services Affirmation**
☒ Reviewed/Completed: **Deviation and Compliance**
☒ Reviewed/Completed: **Vendor Consent for Name Brand Use**
☒ Reviewed/Completed: **Confidential/Proprietary Information**
☒ Reviewed/Completed: **EDGAR Vendor Certification**
☒ Reviewed/Completed: **Compliance Forms Signature Page**

PROPOSAL FORMS PART 2: VENDOR INFORMATION FORMS

☒ Reviewed/Completed: **Vendor Business Name**
☒ Reviewed/Completed: **Vendor Contact Information** (*complete in electronic proposal submission system)*
☒ Reviewed/Completed: **Federal and State/Purchasing Cooperative Experience**
☒ Reviewed/Completed: **Governmental References**
☒ Reviewed/Completed: **Company Profile**
☒ Reviewed/Completed: **Texas Regional Service Designation** (*complete in electronic proposal submission system)*
☒ Reviewed/Completed: **State Service Designation** (*complete in electronic proposal submission system)*
☒ Reviewed/Completed: **National Purchasing Cooperative Vendor Award Agreement** *(Vendors serving outside Texas only)*
☒ Reviewed/Completed: **Local/Authorized Seller Listings**
☒ Reviewed/Completed: **Manufacturer Dealer Designation**
☒ Reviewed/Completed: **Proposal Invitation Questionnaire**
☒ Reviewed/Completed: **Proposal Specifications** *Discount (%) off Catalog/Pricelist and/or other required pricing information including Catalogs/Pricelists (or no bid response) must be submitted with the Proposal or the Proposal will not be considered.*

ClearGov Inc Information

Contact:	Tyler Bridges
Address:	2 Mill and Main Place Suite 630 Maynard, MA 01754
Phone:	(855) 553-2715
Fax:	(774) 759-3045
Toll Free:	(855) 553-2715
Email:	tbridges@cleargov.com
Web Address:	www.cleargov.com

By submitting your response, you certify that you are authorized to represent and bind your company.

Tyler Bridges
Signature

tbridges@cleargov.com
Email

Submitted at 10/2/2025 02:34:48 PM (CT)

Requested Attachments

BuyBoard Proposal Invitation No. 792-26, Software as a Service (SaaS), Cybersecurity Assessments, and Related Products and Services

ClearGov - BuyBoard Proposal Invitation No. 792-26.pdf

REQUIRED-In PDF format, upload all COMPLETED and FILLED in proposal invitation documents available for download at www.buyboard.com.vendor. Click on the **"Current and Upcoming Proposal Invitations"** button to view and download the forms for this proposal including any additional pages, as necessary. NOTICE: DO NOT complete proposal forms in internet browser. No data will be stored. Download file to computer and complete proposal forms prior to submitting. (**DO NOT** password protect uploaded files.)

Manufacturer Catalog(s) and/or Product Price list(s)

ClearGov - Rate Cards.pdf

REQUIRED-In **PDF format ONLY,** upload manufacturer catalog(s) and/or product price list(s) in accordance with proposal invitation instructions. Vendors shall submit catalog(s)/price list(s) with their Proposal response or Proposal will not be considered. No paper catalogs or manufacturer/vendor websites will be accepted. File size must not exceed 250MB. (**DO NOT** password protect uploaded files.)

Exceptions and/or Detailed Information Related to Discount % and/or Hourly Labor Rate Proposed

No response

In PDF format and if necessary, vendor shall attach detailed information regarding exceptions to pricing and/or discount percentage and define the services that are proposed to be provided. NOTE: IF DETAILED INFORMATION IS NOT SUBMITTED, PROPOSAL MAY NOT BE CONSIDERED. (**DO NOT** password protect uploaded files.)

Company Profile

ClearGov - Company Profile.docx

REQUIRED-Information on awarded Cooperative Contracts is available to Cooperative Members on the BuyBoard website. If your company is awarded a Contract under this Proposal Invitation, please provide a brief company description that you would like to have included with your company profile on the BuyBoard website. Submit your company profile in a separate file, in **Word format**, with your Proposal. *(Note: Vendor is solely responsible for any content provided for inclusion on the BuyBoard website. The Cooperative reserves the right to exclude or remove any content in its sole discretion, with or without prior notice, including but not limited to any content deemed by the Cooperative to be inappropriate, irrelevant to the Contract, inaccurate, or misleading.)* (**DO NOT** password protect uploaded files.)

IRS Form W-9 Request for Taxpayer Identification Number and Certification

ClearGov - IRS Form W-9.pdf

REQUIRED-In PDF format, upload W-9 form. (**DO NOT** password protect uploaded files.)

Response Attachments

ClearGov - Sole Source Provider Letter.pdf

This letter confirms that ClearGov is the sole source provider for the products detailed herein.

Bid Attributes

1 Name of Proposing Company (Legal Name)

By submitting a Proposal, Vendor is seeking to enter into a legal contract with the Cooperative. As such, Vendor must be an individual or legal business entity capable of entering into a binding contract. List the **LEGAL NAME** of the company seeking to contract with the Cooperative. Do **NOT** list an assumed name, dba, aka, etc. here. Such information may be provided below.

ClearGov Inc.

2 Vendor Business Name

Name by which Vendor, if awarded, wishes to be identified on the BuyBoard. If different than the Name of Proposing Company listed above, only valid trade names (dba, aka, etc.) of the Proposing Company may be used.

ClearGov Inc.

3 Vendor Mailing/Street Address

Vendor Mailing/Street Address

2 Mill and Main Place, Suite 630

4 Vendor Mailing/Street Address - City

Vendor Mailing/Street Address - City

Maynard

5 Vendor Mailing/Street Address - State

Vendor Mailing/Street Address - State (Abbreviate State Name)

MA

6 Vendor Mailing/Street Address - Zip Code

Vendor Mailing/Street Address - Zip Code

01754

7 Federal Identification Number

Federal Identification Number

47-5205793

8 No Boycott Verification/No Excluded Nation or Foreign Terrorist Organization Certification/Historically Underutilized Business Certification

No Boycott Verification/No Excluded Nation or Foreign Terrorist Organization Certification/Historically Underutilized Business Certification

9 **No Boycott Certification**

A Texas governmental entity may not enter into a contract with a value of $100,000 or more that is to be paid wholly or partly from public funds with a company (excluding a sole proprietorship) that has 10 or more full-time employees for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel and will not boycott Israel during the term of the contract (TEX. GOV'T CODE Ch. 2271), (2) does not boycott energy companies and will not boycott energy companies during the term of the contract (TEX. GOV'T CODE Ch. 2276), and (3) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and will not discriminate during the term of the contract against a firearm entity or firearm trade association (TEX. GOV'T CODE Ch. 2274). Accordingly, this certification form is included to the extent required by law.
"Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes. TEX. GOV'T CODE §808.001(1).

"Boycott energy company" means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (A) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (B) does business with a company described by Paragraph (A). TEX. GOV'T CODE §809.001(1).

"Discriminate against a firearm entity or firearm trade association" means, (A) with respect to the entity or association, to: (i) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (ii) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (iii) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; and (B) does not include: (i) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories; and (ii) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship: (aa) to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency; or (bb) for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity's or association's status as a firearm entity or firearm trade association. TEX. GOV'T CODE §2274.001(3).

By signature on the Compliance Forms Signature Page, to the extent applicable, I certify and verify that Vendor does not boycott Israel, boycott energy companies, or discriminate against a firearm entity or firearm trade association and will not do so during the term of any contract awarded under this Proposal Invitation, that this certification is true, complete and accurate, and that I am authorized by my company to make this certification.

Yes

10 **No Excluded Nation or Foreign Terrorist Organization Certification**

Chapter 2252 of the Texas Government Code provides that a Texas governmental entity may not enter into a contract with a company engaged in active business operations with Sudan, Iran, or a foreign terrorist organization – specifically, any company identified on a list prepared and maintained by the Texas Comptroller under Texas Government Code §§806.051, 807.051, or 2252.153. (A company that the U.S. Government affirmatively declares to be excluded from its federal sanctions regime relating to Sudan, Iran, or any federal sanctions regime relating to a foreign terrorist organization is not subject to the contract prohibition.)

By signature on the Compliance Forms Signature Page, I certify and verify that Vendor is not on the Texas Comptroller's list identified above; that this certification is true, complete and accurate; and that I am authorized by my company to make this certification.

Yes

11 **Historically Underutilized Business Certification**

A Proposer that has been certified as a Historically Underutilized Business (also known as a Minority/Women Business Enterprise or “MWBE” and all referred to in this form as a “HUB”) is encouraged to indicate its HUB certification status when responding to this Proposal Invitation. The BuyBoard website will indicate HUB certifications for awarded Vendors that properly indicate and document their HUB certification on this form.

I certify that my company has been certified as a MWBE/HUB in the following categories: *(Please check all that apply)*

12 **Minority Owned Business**

Minority Owned Business

☐ *Minority Owned Business*

13 **Women Owned Business**

Women Owned Business

☐ *Women Owned Business*

14 **Service-Disabled Veteran Owned Business**

Service-Disabled Veteran Owned Business (veteran defined by 38 U.S.C. §101(2), who has a service-connected disability as defined by 38 U.S.C. § 101(16), and who has a disability rating of 20% or more as determined by the U. S. Department of Veterans Affairs or Department of Defense)

☐ *Service-Disabled Veteran Owned Business*

15 **Certification Number**

Certification Number

No response

16 **Name of Certifying Agency**

Certifying Agency

No response

17 **Non-MWBE/HUB**

My company has NOT been certified as a MWBE/HUB

☐ *Non-HUB*

18 **Vendor General Contact Information**

Proposal/Contract General Contact Information

19 **Vendor Proposal/Contract Contact - First Name**

Vendor Proposal/Contract Contact - First Name

Tyler

20 **Vendor Proposal/Contract Contact - Last Name**

Vendor Proposal/Contract Contact - Last Name

Bridges

21 **Vendor Proposal/Contract Contact E-mail Address**

Vendor Proposal/Contract Contact E-mail Address

tbridges@cleargov.com

22 **Vendor Proposal/Contract Mailing Address**

Vendor Proposal/Contract Mailing Address

2 Mill and Main Place, Suite 630

23 **Vendor Proposal/Contact Mailing Address - City**

Vendor Proposal/Contact Mailing Address - City

Maynard

24 **Vendor Proposal/Contact Mailing Address - State**

Vendor Proposal/Contact Mailing Address - State (Abbreviate State Name)

MA

25 **Vendor Proposal/Contact Mailing Address - Zip Code**

Vendor Proposal/Contact Mailing Address - Zip Code

01754

26 **Vendor Proposal/Contact Phone Number**

Vendor Proposal/Contact Phone Number (xxx-xxx-xxxx)

855-553-2715

27 **Vendor Proposal/Contact Extension Number**

Vendor Proposal/Contact Extension Number

7087

28 **Company Website**

Company Website (www.XXXXX.com)

www.cleargov.com

29 **Purchase Orders Contact Information**

All Purchase Orders from Cooperative members will be available through the Internet. Vendors need Internet access and at least one e-mail address so that notification of new orders can be sent to the Internet contact when a new purchase order arrives. An information guide will be provided to Vendors to assist them with retrieving their orders.

Please select options below for receipt of Purchase Orders and provide the requested information:

- I will use the internet to receive Purchase Orders at the following address

Yes

30 **Purchase Order E-mail Address**

Purchase Order E-mail Address

orders@cleargov.com

31 **Purchase Order Contact - First Name**

Purchase Order Contact - First Name

Brenda

32 **Purchase Order Contact - Last Name**

Purchase Order Contact - Last Name

Luebbers

33 **Purchase Order Contact Phone Number**

Purchase Order Contact Phone Number (xxx-xxx-xxxx)

855-553-2715

34 **Purchase Order Contact Extension Number**

Purchase Order Contact Extension Number

7003

35 **Alternate Purchase Order E-mail Address**

Alternate Purchase Order E-mail Address

bluebbers@cleargov.com

36 **Alternate Purchase Order Contact - First Name**

Alternate Purchase Order Contact - First Name

Brenda

37 **Alternate Purchase Order Contact - Last Name**

Alternate Purchase Order Contact - Last Name

Luebbers

38 **Alternate Purchase Order Contact Phone Number**

Alternate Purchase Order Contact Phone Number (xxx-xxx-xxxx)

508-365-2050

39 **Alternate Purchase Order Contact Extension Number**

Alternate Purchase Order Contact Extension Number

No response

40 **Purchase Orders Contact Information**

All Purchase Orders from Cooperative members will be available through the Internet. Vendors need Internet access and at least one e-mail address so that notification of new orders can be sent to the Internet contact when a new purchase order arrives. An information guide will be provided to Vendors to assist them with retrieving their orders.

Please select options below for receipt of Purchase Orders and provide the requested information:

- Purchase Orders may be received by the Designated Dealer(s) identified on my company's Dealer Designation form as provided to the Cooperative administrator. I understand that my company shall remain responsible for the Contract and the performance of all Designated Dealers under and in accordance with the Contract.

No

41 **Request for Quotes (RFQ)**

Cooperative members will send RFQs to you by e-mail. Please provide e-mail addresses for the receipt of RFQs:

42 **Request for Quote (RFQ) E-mail Address**

Request for Quote (RFQ) E-mail Address

tbridges@cleargov.com

43 **Request for Quote (RFQ) Contact - First Name**

Request for Quote (RFQ) Contact - First Name

Tyler

44 **Request for Quote (RFQ) Contact - Last Name**

Request for Quote (RFQ) Contact - Last Name

Bridges

45 **Request for Quote (RFQ) Contact Phone Number**

Request for Quote (RFQ) Contact Phone Number (xxx-xxx-xxxx)

855-553-2715

46 **Request for Quote (RFQ) Contact Extension Number**

Request for Quote (RFQ) Contact Extension Number

7087

47 **Alternate Request for Quote (RFQ) E-mail Address**

Alternate Request for Quote (RFQ) E-mail Address

No response

48 **Alternate Request for Quote (RFQ) Contact - First Name**

Alternate Request for Quote (RFQ) Contact - First Name

No response

49 **Alternate Request for Quote (RFQ) Contact - Last Name**

Alternate Request for Quote (RFQ) Contact - Last Name

No response

50 **Alternate Request for Quote (RFQ) Contact Phone Number**

Alternate Request for Quote (RFQ) Contact Phone Number (xxx-xxx-xxxx)

No response

51 **Alternate Request for Quote (RFQ) Contact Extension Number**

Alternate Request for Quote (RFQ) Contact Extension Number

No response

52 **Invoices**

Your company will be billed monthly for the service fee due under a Contract awarded under this Proposal Invitation. **All invoices are available on the BuyBoard website and e-mail notifications will be sent when they are ready to be retrieved**.

53 **Invoices**

Please choose only one (1) of the following options for receipt of invoices and provide the requested information:

(a) Service fee invoices and related communications should be provided directly to my company at:

or

(b) In lieu of my company, I request and authorize all service fee invoices to be provided directly to the following billing agent:

If Vendor authorizes a billing agent to receive and process service fee invoices, in accordance with the General Terms and Conditions of the Contract, Vendor specifically acknowledges and agrees that nothing in that designation shall relieve Vendor of its responsibilities and obligations under the Contract including, but not limited to, payment of all service fees under any Contract awarded Vendor.

Service fee invoices and notices direct to company

54 **Invoice Company Name**

Invoice Company Name

ClearGov Inc.

55 **Invoice Company Department Name**

Invoice Company Department Name

Finance

56 **Invoice Contact - First Name**

Invoice Contact - First Name

Brenda

57 **Invoice Contact - Last Name**

Invoice Contact - Last Name

Luebbers

58 **Invoice Mailing Address**

Invoice Mailing Address (P.O. Box or Street Address)

2 Mill and Main Place, Suite 630

59 **Invoice Mailing Address - City**

Invoice Mailing Address - City

Maynard

60 **Invoice Mailing Address - State**

Invoice Mailing Address - State (Abbreviate State Name)

MA

61 **Invoice Mailing Address - Zip Code**

Invoice Mailing Address (Zip Code)

01754

62 **Invoice Contact Phone Number**

Invoice Contact Phone Number (xxx-xxx-xxxx)

855-553-2715

63 **Invoice Contact Extension Number**

Invoice Contact Extension Number

7003

64 **Invoice Contact Fax Number**

Invoice Contact Fax Number (xxx-xxx-xxxx)

774-759-3045

65 **Invoice Contact E-mail Address**

Invoice Contact E-mail

bluebbers@cleargov.com

66 **Invoice Contact Alternate E-mail Address**

Invoice Contact Alternate E-mail Address

finance@cleargov.com

67 **Billing Agent Company Name**

Billing Agent Company Name

No response

68 **Billing Agent Department Name**

Billing Agent Department Name

No response

69 **Billing Agent Contact - First Name**

Billing Agent Contact - First Name

No response

70 **Billing Agent Contact - Last Name**

Billing Agent Contact - Last Name

No response

71 **Billing Agent Mailing Address**

Billing Agent Mailing Address (P.O. Box or Street Address)

No response

72 **Billing Agent Mailing Address - City**

Billing Agent Mailing Address - City

No response

73 **Billing Agent Mailing Address - State**

Billing Agent Mailing Address - State (Abbreviate State Name)

No response

74 **Billing Agent Mailing Address - Zip Code**

Billing Agent Mailing Address - Zip Code

No response

75 **Billing Agent Contact Phone Number**

Billing Agent Contact Phone Number (xxx-xxx-xxxx)

No response

76 **Billing Agent Contact Extension Number**

Billing Agent Contact Extension Number

No response

77 **Billing Agent Fax Number**

Billing Agent Fax Number

No response

78 **Billing Agent Contact E-mail Address**

Billing Agent Contact E-mail Address

No response

79 **Billing Agent Alternative E-mail Address**

Billing Agent Alternative E-mail Address

No response

80 **Shipping Via**

Common Carrier, Company Truck, Prepaid and Add to Invoice, or Other

Other

81 **Payment Terms**

Note: Vendor payment terms must comply with the BuyBoard General Terms and Conditions and the Texas Prompt Payment Act (Texas Government Code Ch. 2251).

Net 30 days

82 **Vendor's Internal/Assigned Reference/Quote Number**

Vendor's Internal/Assigned Reference/Quote Number

No response

83 **State or Attach Return Policy**

Note: Only return requirements and processes will be deemed part of Vendor's return policy. Any unrelated contract terms, terms of sale, or other information not specifically related to return requirements and processes included in Vendor's return policy shall not apply to any awarded Contract unless specifically included as a deviation in the Deviation and Compliance Form and accepted by the Cooperative.

ClearGov offers a 30-Day money-back guarantee.

84 **Electronic Payments**

Are electronic payments acceptable to your company?

Yes

85 **Credit Card Payments**

Are credit card payments acceptable to your company?

Yes

86 **Texas Regional Service Designation**

Texas Regional Service Designation - Refer to Form in Proposal Invitation

The Cooperative (referred to as “Texas Cooperative” in this form and in the State Service Designation form) offers vendors the opportunity to service its members throughout the entire State of Texas. If you do not plan to service all Texas Cooperative members statewide, you **must** indicate the specific regions you will service on this form. If you propose to serve different regions for different products or services included in your Proposal, you must complete and submit a separate Texas Regional Service Designation form for each group of products and clearly indicate the products or services to which the designation applies. ***By designating a region or regions, you are certifying that you are authorized and willing to provide the proposed products and services in those regions. Designating regions in which you are either unable or unwilling to provide the specified products and services shall be grounds for either rejection of your Proposal or, if awarded, termination of your Contract.*** Additionally, if you do not plan to service Texas Cooperative members (i.e., if you will service only states other than Texas), you must so indicate on this form.

87 **Company Name**

Company Name

ClearGov Inc.

88 **Texas Regional Service Designation**

Select only one of the following options**.** If you select **"I will NOT serve all Regions of Texas",** you must then check the individual Regions you wish to serve.

I will serve all Regions of Texas

89 **Region 1**

Region 1 - Edinburg

☐ *Region 1*

90 **Region 2**

Region 2 - Corpus Christi

☐ *Region 2*

91 **Region 3**

Region 3 - Victoria

☐ *Region 3*

92 **Region 4**

Region 4 - Houston

☐ *Region 4*

93 **Region 5**

Region 5 - Beaumont

☐ *Region 5*

94 **Region 6**

Region 6 - Huntsville

☐ *Region 6*

95	**Region 7** Region 7 - Kilgore ☐ *Region 7*
96	**Region 8** Region 8 - Mount Pleasant ☐ *Region 8*
97	**Region 9** Region 9 - Wichita Falls ☐ *Region 9*
98	**Region 10** Region 10 - Richardson ☐ *Region 10*
99	**Region 11** Region 11 - Fort Worth ☐ *Region 11*
100	**Region 12** Region 12 - Waco ☐ *Region 12*
101	**Region 13** Region 13 - Austin ☐ *Region 13*
102	**Region 14** Region 14 - Abilene ☐ *Region 14*
103	**Region 15** Region 15 - San Angelo ☐ *Region 15*
104	**Region 16** Region 16 - Amarillo ☐ *Region 16*
105	**Region 17** Region 17 - Lubbock ☐ *Region 17*
106	**Region 18** Region 18 - Midland ☐ *Region 18*

107	**Region 19** Region 19 - El Paso ☐ *Region 19*
108	**Region 20** Region 20 - San Antonio ☐ *Region 20*
109	**State Service Designation** **State Service Designation - Refer to Form in Proposal Invitation.** As set forth in the Proposal Invitation, it is the Cooperative's intent that other governmental entities in the United States have the opportunity to purchase goods or services awarded under the Contract, subject to applicable state law, through a piggy-back award or similar agreement through the National Purchasing Cooperative BuyBoard. If you plan to service the entire United States or only specific states, you must complete this form accordingly. *(Note: If you plan to service Texas Cooperative members, be sure that you complete the Texas Regional Service Designation form.)* ***In addition to this form, to be considered for a piggy-back award by the National Purchasing Cooperative, you must have an authorized representative sign the National Purchasing Cooperative Vendor Award Agreement that follows this form.*** If you serve different states for different products or services included in your Proposal, you must complete and submit a separate State Service Designation form for each group of products and clearly indicate the products or services to which the designation applies. *By designating a state or states, you are certifying that you are authorized and willing to provide the proposed products and services in those states. Designating states in which you are either unable or unwilling to provide the specified products and services shall be grounds for either rejection of your Proposal or, if awarded, termination of your Contract.*
110	**Company Name** Company Name ClearGov Inc.
111	**State Service Designation** **Select only one of the following options. If you select "I will NOT serve all States", you must then check the individual States you wish to serve.** I will serve all states in the United States
112	**Alabama** Alabama ☐ *Alabama*
113	**Alaska** Alaska ☐ *Alaska*
114	**Arizona** Arizona ☐ *Arizona*
115	**Arkansas** Arkansas ☐ *Arkansas*

116	**California** California (Public Contract Code 20118 & 20652) ☐ *California*
117	**Colorado** Colorado ☐ *Colorado*
118	**Connecticut** Connecticut ☐ *Connecticut*
119	**Delaware** Delaware ☐ *Delaware*
120	**District of Columbia** District of Columbia ☐ *District of Columbia*
121	**Florida** Florida ☐ *Florida*
122	**Georgia** Georgia ☐ *Georgia*
123	**Hawaii** Hawaii ☐ *Hawaii*
124	**Idaho** Idaho ☐ *Idaho*
125	**Illinois** Illinois ☐ *Illinois*
126	**Indiana** Indiana ☐ *Indiana*
127	**Iowa** Iowa ☐ *Iowa*

128	**Kansas** Kansas ☐ *Kansas*
129	**Kentucky** Kentucky ☐ *Kentucky*
130	**Louisiana** Louisiana ☐ *Louisiana*
131	**Maine** Maine ☐ *Maine*
132	**Maryland** Maryland ☐ *Maryland*
133	**Massachusetts** Massachusetts ☐ *Massachusetts*
134	**Michigan** Michigan ☐ *Michigan*
135	**Minnesota** Minnesota ☐ *Minnesota*
136	**Mississippi** Mississippi ☐ *Mississippi*
137	**Missouri** Missouri ☐ *Missouri*
138	**Montana** Montana ☐ *Montana*
139	**Nebraska** Nebraska ☐ *Nebraska*

140	**Nevada** Nevada ☐ *Nevada*
141	**New Hampshire** New Hampshire ☐ *New Hampshire*
142	**New Jersey** New Jersey ☐ *New Jersey*
143	**New Mexico** New Mexico ☐ *New Mexico*
144	**New York** New York ☐ *New York*
145	**North Carolina** North Carolina ☐ *North Carolina*
146	**North Dakota** North Dakota ☐ *North Dakota*
147	**Ohio** Ohio ☐ *Ohio*
148	**Oklahoma** Oklahoma ☐ *Oklahoma*
149	**Oregon** Oregon ☐ *Oregon*
150	**Pennsylvania** Pennsylvania ☐ *Pennsylvania*
151	**Rhode Island** Rhode Island ☐ *Rhode Island*

152	**South Carolina** South Carolina ☐ *South Carolina*
153	**South Dakota** South Dakota ☐ *South Dakota*
154	**Tennessee** Tennessee ☐ *Tennessee*
155	**Texas** Texas ☐ *Texas*
156	**Utah** Utah ☐ *Utah*
157	**Vermont** Vermont ☐ *Vermont*
158	**Virginia** Virginia ☐ *Virginia*
159	**Washington** Washington ☐ *Washington*
160	**West Virginia** West Virginia ☐ *West Virginia*
161	**Wisconsin** Wisconsin ☐ *Wisconsin*
162	**Wyoming** Wyoming ☐ *Wyoming*

Bid Lines

1 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Asset Management/Tracking Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

PROPOSAL NOTE 2: This Proposal Invitation is limited to products within the specified categories. For purposes of clarification, the specified SaaS categories do **not** include board or meeting agenda preparation products, policy and manual management products, or School Health and Related Services (SHARS) Medicaid reimbursement products

Vendors proposing multiple manufacturer product lines and/or catalog/price list per line item must submit the information as follows or proposal may not be considered:

- Select **"Add Alternate"** for each additional manufacturer product line and/or catalog/price list proposed
- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

2 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Business/Financial Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

Total: 0%

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

PROPOSAL NOTE 2: This Proposal Invitation is limited to products within the specified categories. For purposes of clarification, the specified SaaS categories do **not** include board or meeting agenda preparation products, policy and manual management products, or School Health and Related Services (SHARS) Medicaid reimbursement products

Vendors proposing multiple manufacturer product lines and/or catalog/price list per line item must submit the information as follows or proposal may not be considered:

- Select **"Add Alternate"** for each additional manufacturer product line and/or catalog/price list proposed
- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

ClearGov - Rate Cards

3 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Communications Management Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

Total: 0%

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

ClearGov - Rate Cards

4 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Curriculum/Instruction** (K-12, special education, and higher education) **Applications and Related Services** - all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

5 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Document/Record Management Applications and Related Services -** all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

6 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Facility/Maintenance Management Applications and Related Services -** all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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- Vendor's must list one specific percentage discount for each manufacturer and/or catalog/price list listed

Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

7 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Grant Management Applications and Related Services -** all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

8 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Information Technology Management Applications and Related Services -** all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

9 **Section I: Software as a Service (SaaS) Products and Related Services**

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Legal Cases and Courtroom Docket Management Applications and Related Services -** all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

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Item Attributes

1. State Name of Manufacturer Catalog or Product Price list Proposed with Discount Percentage

NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

10

Section I: Software as a Service (SaaS) Products and Related Services

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Payroll/Performance Appraisal/Workforce Recruitment Management Applications and Related Services-** all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

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Item Attributes

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NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

11

Section I: Software as a Service (SaaS) Products and Related Services

Discount (%) off catalog/price list for **Software as a Service (SaaS) Products for Student Services (Appraisal, Discipline, Orientation) Management Applications and Related Services-** all types of software as a service products, web-based enterprise applications, or cloud-based operations management software with a delivery model that is provided on a subscription basis and hosted by software provider. Catalog/Price list MUST be included or proposal will not be considered.

No Bid

Item Notes: ***PROPOSAL NOTE 1:*** Vendors shall submit catalog(s)/pricelist(s) with their Proposal response or the Proposal will not be considered. Vendors shall submit catalog(s)/pricelist(s) with the Proposal in a readily available and readable electronic format, with Excel or searchable PDF preferred. **No paper catalogs or manufacturer/vendor websites will be accepted.**

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Item Attributes

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NOTE: Do not reference SKU, Reference Numbers, Websites, and/or "See Attached/Enclosed".

No response

12

Section II: Cybersecurity Assessments, and Related Products and Services

Discount (%) off catalog/price list for **Cybersecurity Assessments, Products and Related Services** - all types of cybersecurity assessments and products used with networks and technology infrastructures including pre-breach mitigation monitoring services and breach mitigation services related to data/information security incidents. . Catalog/Price list MUST be included or proposal will not be considered.

No Bid

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Item Attributes

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No response

Response Total: $0.00

October 1, 2025

The Local Government Purchasing Cooperative
Attn: TASB Asst. Division Director, Cooperative Procurement
12007 Research Blvd.
Austin, TX 78759

To Whom It May Concern,

ClearGov provides unique budget planning, building and reporting solutions for local government agencies: towns, cities, counties, school districts, special districts, etc. More than 1,400 customers have purchased the ClearGov platform via sole source. For starters, this letter confirms that ClearGov, Inc. is the sole source provider for the following modules:

- ClearGov Operational Budgeting
- ClearGov Personnel Budgeting
- ClearGov Capital Budgeting
- ClearGov Digital Budget Book
- ClearGov Transparency
- ClearGov Strategic Planning
- ClearGov Digital Financial Reporting
- ClearGov Capital Project Tracking
- ClearGov ClearForms

All of these products are proprietary software solutions for which ClearGov, Inc. exclusively owns all intellectual property rights, and these products are protected by copyrights, trademarks and service marks. In addition, there are no agents or dealers authorized to represent any of these ClearGov products.

In addition, while it may be possible to build and present your budget using other technologies, no company offers the unique combination of features and functionality delivered by ClearGov. In addition, all ClearGov modules are designed and built to work seamlessly together. What follows is a partial list of the key features and functionality offered in each ClearGov Budget Cycle Management module.

Operational Budgeting

- Ability to create multi-year operational budget forecasts & adjust variables by individual categories.
- Ability to collaboratively build a budget via a single, shared online workspace

- Ability to create an unlimited number of budget versions
- Ability to view historical trend analysis at fund, department, object or line item level
- Collaborative workflows to assign and track budget requests by department
- Includes drill-down functionality to review and/or request budget information at the line item or even sub-line item detail
- Ability to automatically generate a baseline budget based on multiple options, i.e. zero-based budgeting, forecasted budget, fixed percentage increase, etc.
- Ability for department heads to assign sub-requesters to portions of their budget
- Ability to review and approve/reject budget requests by individual request or by batch
- Ability to lock-down budget line items, e.g. headcount costs
- Ability to share budgets online for review by committee members
- Ability to add change justifications notes, comments and supporting materials to any line (or sub-line) item within the budget
- Integrated graphs that provide visual feedback throughout the budgeting process including historical trends and budget surplus/deficit
- Ability to track and report a thorough audit trail of all changes, comments and budget versions
- Includes a variety of pre-built reports as well as robust report builder and chart builder functionality that doesn't require programming knowledge
- Ability to export budget reports to Excel or other formats compatible with multiple ERP systems
- Ability to build, analyze, and approve/deny Funding Packages that include Personnel requests, e.g. new budget programs

Personnel Budgeting

- Ability to create and customize multi-year personnel budget plans and scenarios
- Ability to define units, wage schedules, benefits and additional pay elements, etc. by position, role and department, including position control functionality
- Collaborative workflows for the collection or personnel requests and changes
- Includes a filterable dashboard summary of all personnel requests by type, department, etc.
- Ability to see projected total compensation breakdown at an employee level
- Ability to present proposed personnel budget scenario(s) for review in a shared, online dashboard and respond to on-the-fly what-if requests
- Ability to support personnel vacancy, retirement and furlough planning scenarios
- Ability to support collective bargaining, what-if planning scenarios
- Includes a variety of pre-built reports as well as robust report builder and chart builder functionality that doesn't require programming knowledge
- Ability to export budget reports to Excel or other formats compatible with multiple ERP systems

Capital Budgeting:

- Ability to create and customize multi-year capital budget plans and scenarios
- Collaborative workflows for collecting capital requests
- Ability to automatically create detailed, shareable capital project summary pages
- Ability to add notes, comments, images, supplement documents, etc. to capital project summaries
- Ability to customize multiple types of capital request forms
- A filterable dashboard summary of all capital projects by type, department, funding source, etc
- Ability to score and rank capital requests by priority and strategic objectives

- Includes capital budget scenario planning functionality to enable allocation of capital projects across multiple funding sources
- Capital improvement website module with timelines, public commentary and ability for visitors to sign up for project change email notifications
- Includes a variety of pre-built reports as well as robust report builder and chart builder functionality that doesn't require programming knowledge
- Ability to export budget reports to Excel or other formats compatible with multiple ERP systems

Digital Budget Book:

- Ability to automatically create a customizable budget book template
- Ability to create and present a budget book via an interactive, accessible Website with built-in navigation
- Includes built-in GFOA and ASBO award criteria guidelines
- Includes templated pages for fund pages, department pages, revenue pages, etc.
- Includes a pre-populated, customizable glossary of terms
- Includes automated narrative generation, powered by ClearGov AI
- Automatically populates pages with financial data, charts, tables, etc.
- Collaborative workflows for multi-user editing and creation of budget book pages
- Ability to embed dynamic data into narrative text throughout budget book
- Ability to embed customizable Financial Statements throughout budget book
- Ability to automatically update financial data throughout budget book
- Ability to upload and embed images, spreadsheets and other objects into budget book pages
- Ability to add links to attachments within budget book pages
- Ability to customize colors, fonts, graphics and other look & feel components
- Ability to create and embed custom financial and non-financial charts, graphs and tables
- Ability to generate and embed organizational charts
- Ability to automatically embed submitted and approved capital improvement projects
- Ability to duplicate the budget book & update financial data as the basis for next FY budget book
- Ability to automatically format and print to .PDF any portion of the budget book and/or the complete budget book with dynamic Table of Contents and page numbering

Transparency:

- Ability to provide fiscal transparency via automated infographic profiles
- Ability to view financial data via multiple ERP dimensions, i.e. department, object, rev. source, etc.
- Includes drill-down functionality to view financial information in granular detail
- Includes census demographic profile data
- Ability to add commentary/context to all panels, charts and graphs within the transparency profile
- Ability to add custom panels to transparency profile
- Ability to display budget vs. actuals and provide regular updates
- Ability to display historical and forecasted financial figures
- Ability to create custom graphs and embed them in the transparency profile and/or directly in the municipal website.
- Ability to include department dashboards to communicate key performance metrics, including financial and non-financial graphs and metrics
- Ability to deliver a searchable, filterable open checkbook to provide check-level detail transparency

Strategic Planning:

- Ability to create, manage and execute any type of strategic plan, including focus areas, goals and action items
- Automated workflow to enable updates to action items and goals
- Automated dashboard to present plan progress with built-in filters and drill-down
- Ability to allocate budget to specific focus areas and goals
- Collaborative workflows for multi-user editing and creation of plan components and plan presentation pages
- Ability to automatically create a customizable plan template
- Ability to create and present any plan via an interactive, accessible Website with built-in navigation
- Includes templated pages for SWOT analysis, focus areas, strategic objectives, etc.
- Ability to upload and embed images, spreadsheets and other objects into plan pages
- Ability to add links to attachments within plan pages
- Ability to customize colors, fonts, graphics and other look & feel components
- Ability to create and embed custom financial and non-financial charts, graphs and tables
- Plan pages built with responsive design to automatically resize and optimize viewing for desktop, pad or mobile environments
- Ability to automatically format and print to .PDF any portion of the plan and/or the complete plan document with dynamic Table of Contents and page numbering
- Seamless integration with budget data

Digital Financial Reporting

- Ability to automatically create a customizable Annual Comprehensive Financial Report (ACFR) and Annual Financial Report (AFR) template
- Ability to automatically publish an online, ADA accessible and mobile-optimized version of the AFR or ACFR and integrate directly into any Website
- Collaborative workflows for multi-user editing and creation of financial reporting pages
- Ability to embed and update dynamic data into narrative text throughout the report
- Ability to upload and embed images, spreadsheets and other objects into report pages
- Ability to add links to attachments within report pages
- Ability to create and embed custom financial and non-financial charts, graphs and tables
- Ability to automatically format and print to .PDF any portion of the report and/or the complete report with dynamic Table of Contents and page numbering
- Seamless integration with a dynamic statement builder application
- Ability to create financial statements from best-practice templates
- Ability to map trial balance information into financial statements
- Ability to automatically update financial data in financial statements
- Includes built-in GFOA award criteria guidelines

Capital Project Tracking

- Ability to create, manage and execute any capital project
- Ability to define phases and action items for each project
- Ability to track progress and status across all projects, phases and action items

- Automated workflow to enable updates to projects, phases and action items
- Automated dashboard to present progress across all projects
- Seamless integration with Capital Budgeting data
- Expedited sync workflow to quickly transition projects from budget requests to actionable projects
- Ability to allocate budget and spend to specific projects and phases, and to allocate funding for projects and categorize by specific funding sources
- Collaborative workflows for multi-user editing and creation of project components
- Ability to templatize project types to reduce time for project setup
- Ability to deliver a list of projects via an interactive, accessible website with built-in navigation
- Ability to upload and embed images, attachments and other objects into projects details
- Ability to set the specific location or area on a map for project location
- Ability to export a list of projects with high level detail, progress and financial information
- Ability for public website visitors to subscribe to email notifications for project updates
- Project pages built with responsive design to automatically resize and optimize viewing for desktop, pad or mobile environments

ClearForms

- Fully self-service, no-code setup functionality
- Ability to customize and brand public form and landing pages
- Ability to customize URLs for portal and landing pages
- Ability to clone existing workflows and forms
- Includes flexible digital forms builder
- Includes flexible digital survey step builder
- Includes version control for workflows
- Ability to review queue and approve processes (mobile-responsive)
- Ability to require that subprocess(e)s must be completed before main workflow is finalized
- Ability to create custom, print-at-home output documents (PDFs) for issued licenses and permits
- Supports conditional logic for branching workflows - including sections, reviews, assignments, subprocesses, and payments
- Includes no-code formula editor for application/license fees and calculations
- Includes discussion pane for direct government/applicant communication
- Includes status updates and automated/custom email notifications
- Includes activity log for step notifications
- Ability to create, import, and store workflow data entities, e.g. parcel data for building permits
- Built-in directory for searching applicants and entities
- Supports team functionality with role-based permissions for segregation and transfer of duties between staff in real time
- Integrated payments via credit/debit card or ACH
- Integrated handling for charge disputes and refunds
- Supports automated payouts on customer's self-determined schedule (daily, weekly, monthly)
- Supports online signatures from applicants and reviewers
- Supports comprehensive, exportable transaction history
- Includes data visualization for performance management, i.e. workflow activity, completion time, license revenue, et. al.
- Includes smart dashboards for both administrators and applicants

We look forward to having the opportunity to continue working with you. Please let me know if you have any questions or require additional information.

Sincerely yours,



Bryan A. Burdick
President, ClearGov, Inc.

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1517045

Date Filed:
09/17/2026

Date Acknowledged:
09/22/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

ClearGov Inc.
Maynard , MA United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

371-26-FIN-CP
2026 Renewal Capital Project Tracking and Strategic Planning Software

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Felix Sauceda Jr., Deputy City Manager
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to execute an Interlocal Agreement between the City of Brownsville and Cameron County regarding the Fiscal Year 2026 Edward Byrne Memorial Justice Assistance Grant (JAG) Program Local Solicitation application for the amount of $90,450, which will allow the City of Brownsville and Cameron County to purchase equipment items. (Police Department)

Summary:
The City of Brownsville, acting as the grant's fiscal agent, is applying for the FY 2026 Edward Byrne Memorial Justice Assistance Grant (JAG) Program Local Solicitation application for the amount of $90,450.00. (Police Department)

Project Scope and Analysis:
An Interlocal Agreement is required for this grant.

Funding:

Source: "TBD Pending Award"

Amount: 90,450.00

Local Contribution if Applicable: N/A

Recommendation:
Staff Recommends Approval

Commission Pillar:
Public Safety

Attachments:
1. Interlocal Agreement
2. JAG Allocations

INTERLOCAL COOPERATION AGREEMENT BETWEEN THE CITY OF BROWNSVILLE, TEXAS AND THE COUNTY OF CAMERON, TEXAS FOR THE FY 2026 EDWARD BYRNE MEMORIAL JUSTICE ASSISTANCE GRANT (JAG) PROGRAM LOCAL SOLICITATION

This agreement is made and entered by and between the CITY OF BROWNSVILLE, TEXAS acting by and through its governing body and the City Commissioners, hereinafter referred to as CITY, and COUNTY OF CAMERON, TEXAS acting by and through its governing body, the COUNTY Commissioners Court, all of Cameron County, State of Texas. This Agreement shall become effective upon execution by the authorized officials of both parties.

WHEREAS this Agreement is made under the authority of Sections V.T.C.A., 791 Government Code; and

WHEREAS, the CITY and COUNTY have agreed to divide a 2026 JAG award in the amount of $90,450.00 for the performance of the governmental functions described hereunder. Funds shall be distributed as follows: CITY shall receive $67,817.00 and COUNTY $22,633.00;

WHEREAS, each governing body finds that the performance of this Agreement is in the best interest of all parties, that the undertaking will benefit the public, and that the division of grant funds fairly compensates the performing party for said functions under this Agreement;

NOW THEREFORE, the CITY and COUNTY agree as follows:

SECTION 1. CITY and COUNTY agree that CITY will be the fiscal agent, apply for the FY 2026 Edward Byrne Memorial Justice Assistance Grant (JAG) Program Local Solicitation and be responsible for all financial and programmatic requirements.

SECTION 2. COUNTY agrees to submit quarterly expenditures and supporting documentations to CITY for reimbursement. Reimbursements are subject to on a request for reimbursement basis.

SECTION 3. COUNTY agrees to submit quarterly progress and performance data to CITY due ten days after the quarter ends.

SECTION 4. COUNTY is required to maintenance and provide an inventory list of all items purchased under this grant and update as necessary to CITY, as part of grant requirement.

SECTION 5. Nothing in the performance of this Agreement shall impose any liability for claims against CITY other than claims for which liability may be imposed by the Texas Tort Claims Act.

SECTION 6. Nothing in the performance of this Agreement shall impose any liability for claims against the COUNTY other than claims for which liability may be imposed by the Texas Tort Claims Act.

SECTION 7. Each party to this Agreement will be responsible for its own actions in the performance of their governmental functions under this Agreement and shall not be liable for any civil liability that may arise from the performance of said functions by the other party.

SECTION 8. The parties to this Agreement do not intend for any third party to obtain a right by virtue of this Agreement.

SECTION 9. By entering into this Agreement, the parties do not intend to create any obligations express or implied other than those set out herein; further, this Agreement shall not create any rights in any party not a signatory hereto.

SECTION 10. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas.

FY 2026 EDWARD BYRNE MEMORIAL JUSTICE ASSISTANCE GRANT (JAG) PROGRAM
INTERLOCAL COOPERATION AGREEMENT

APPROVED BY THE CITY OF BROWNSVILLE, TEXAS

CITY OF BROWNSVILLE, TEXAS

By: _____
John Cowen, Jr.
Mayor

Date: _____

ATTEST:

By: _____
Mayra A. Rios
City Secretary

Date: _____

APPROVED AS TO FORM
AND LEGALITY:

09.21.2026

Jennifer M. Avendaño
First Assistant City Attorney

FY 2026 EDWARD BYRNE MEMORIAL JUSTICE ASSISTANCE GRANT (JAG) PROGRAM
INTERLOCAL COOPERATION AGREEMENT

APPROVED BY THE COUNTY OF CAMERON, TEXAS

COUNTY OF CAMERON, TEXAS

By: _____
Eddie Trevino, Jr.
County Judge

Date: _____

ATTEST:

By: _____
Sylvia Garza-Perez
County Clerk

Date: _____

2026 Texas Local JAG Allocations

Only jurisdictions listed below in the state are eligible to receive FY 2026 JAG funding directly from BJA, with award amounts determined by the annual formula. Important notes:

1) Disparate jurisdictions are listed in shaded groups below, in alphabetic order by county. A single jurisdiction must serve as the fiscal agent on behalf of the group. BJA will only fund one award for the disparate group. Disparate jurisdictions are responsible for determining individual amounts within the Joint Allocation and for documenting allocations via a memorandum of understanding.

2) Jurisdictions eligible for a direct allocation (i.e., not part of a disparate group) are listed alphabetically below the shaded, disparate groupings.

For additional details on eligibility and disparate group requirements, refer to the JAG the Frequently Asked Questions here: https://bja.ojp.gov/program/jag/frequently-asked-questions. For additional details regarding the JAG formula and award calculation process, please refer to the JAG Technical report here: https://bjs.ojp.gov/library/publications/justice-assistance-grant-jag-program-2024.

State	Jurisdiction Name	Government Type	Direct Allocation	Joint Allocation
TX	BELL County	County	*	
TX	KILLEEN City	Municipal	$68,912	
TX	TEMPLE City	Municipal	$27,094	$96,006
TX	BEXAR County	County	$81,474	
TX	SAN ANTONIO City	Municipal	$893,281	$974,755
TX	BOWIE County	County	*	
TX	TEXARKANA City	Municipal	$12,863	$12,863
TX	BRAZOS County	County	*	
TX	BRYAN City	Municipal	$23,865	
TX	COLLEGE STATION City	Municipal	$18,911	$42,776
TX	CAMERON County	County	$22,633	
TX	BROWNSVILLE City	Municipal	$67,817	$90,450
TX	COLLIN County	County	*	
TX	ALLEN City	Municipal	$10,892	
TX	FRISCO City	Municipal	$18,637	
TX	MCKINNEY City	Municipal	$19,978	
TX	PLANO City	Municipal	$37,822	$87,329
TX	CORYELL County	County	*	
TX	COPPERAS COVE City	Municipal	$12,616	$12,616
TX	DALLAS County	County	*	
TX	BALCH SPRINGS City	Municipal	$10,400	
TX	CARROLLTON City	Municipal	$19,075	
TX	DALLAS City	Municipal	$777,132	
TX	DESOTO City	Municipal	$14,751	
TX	DUNCANVILLE City	Municipal	$11,303	
TX	GARLAND City	Municipal	$47,921	
TX	GRAND PRAIRIE City	Municipal	$34,593	
TX	IRVING City	Municipal	$65,655	
TX	LANCASTER City	Municipal	$17,324	
TX	MESQUITE City	Municipal	$60,483	
TX	RICHARDSON City	Municipal	$14,149	
TX	ROWLETT City	Municipal	$11,549	$1,084,335

TX	DENTON County	County	*	
TX	DENTON City	Municipal	$33,115	
TX	LEWISVILLE City	Municipal	$24,877	$57,992
TX	ECTOR County	County	*	
TX	ODESSA City	Municipal	$38,233	$38,233
TX	EL PASO County	County	$28,052	
TX	EL PASO City	Municipal	$168,886	$196,938
TX	GALVESTON County	County	$12,124	
TX	GALVESTON City	Municipal	$22,660	$34,784
TX	GRAYSON County	County	*	
TX	SHERMAN City	Municipal	$14,505	$14,505
TX	GREGG County	County	*	
TX	LONGVIEW City	Municipal	$27,149	$27,149
TX	GUADALUPE County	County	*	
TX	SEGUIN City	Municipal	$10,482	$10,482
TX	HARRIS County	County	$798,369	
TX	HOUSTON City	Municipal	$2,172,226	$2,970,595
TX	HAYS County	County	$15,463	
TX	SAN MARCOS City	Municipal	$28,846	$44,309
TX	HOWARD County	County	*	
TX	BIG SPRING City	Municipal	$14,231	$14,231
TX	JEFFERSON County	County	*	
TX	BEAUMONT City	Municipal	$109,416	
TX	PORT ARTHUR City	Municipal	$34,346	$143,762
TX	JIM WELLS County	County	*	
TX	ALICE City	Municipal	$10,728	$10,728
TX	LAMAR County	County	*	
TX	PARIS City	Municipal	$13,629	$13,629
TX	LUBBOCK County	County	$11,960	
TX	LUBBOCK City	Municipal	$202,302	$214,262
TX	MCLENNAN County	County	*	
TX	WACO City	Municipal	$63,082	$63,082
TX	MIDLAND County	County	$15,326	
TX	MIDLAND City	Municipal	$47,565	$62,891
TX	NAVARRO County	County	*	
TX	CORSICANA City	Municipal	$11,275	$11,275
TX	NUECES County	County	*	
TX	CORPUS CHRISTI City	Municipal	$221,404	$221,404
TX	POTTER County	County	*	

TX	AMARILLO City	Municipal	$121,403	$121,403
TX	SCURRY County	County	*	
TX	SNYDER City	Municipal	$11,029	$11,029
TX	SMITH County	County	$24,439	
TX	TYLER City	Municipal	$41,051	$65,490
TX	TARRANT County	County	$12,233	
TX	ARLINGTON City	Municipal	$171,705	
TX	FORT WORTH City	Municipal	$395,709	$579,647
TX	TAYLOR County	County	*	
TX	ABILENE City	Municipal	$47,647	$47,647
TX	TOM GREEN County	County	*	
TX	SAN ANGELO City	Municipal	$23,126	$23,126
TX	TRAVIS County	County	$72,086	
TX	AUSTIN City	Municipal	$409,831	$481,917
TX	VICTORIA County	County	*	
TX	VICTORIA City	Municipal	$20,663	$20,663
TX	WALKER County	County	*	
TX	HUNTSVILLE City	Municipal	$20,362	$20,362
TX	WEBB County	County	*	
TX	LAREDO City	Municipal	$79,804	$79,804
TX	WICHITA County	County	*	
TX	WICHITA FALLS City	Municipal	$37,412	$37,412
TX	ALAMO City	Municipal	$11,549	
TX	ALTON City	Municipal	$11,823	
TX	ANGELINA County	County	$13,136	
TX	BASTROP County	County	$24,385	
TX	BAYTOWN City	Municipal	$30,405	
TX	BRAZORIA County	County	$18,035	
TX	COMAL County	County	$10,728	
TX	CONROE City	Municipal	$23,263	
TX	DONNA City	Municipal	$20,362	
TX	EDINBURG City	Municipal	$26,355	
TX	EULESS City	Municipal	$11,139	
TX	FORT BEND County	County	$71,375	
TX	GEORGETOWN City	Municipal	$12,398	
TX	HARLINGEN City	Municipal	$17,953	
TX	HENDERSON County	County	$12,452	
TX	HIDALGO County	County	$56,268	
TX	HUMBLE City	Municipal	$13,191	
TX	HUNT County	County	$18,391	
TX	JOHNSON County	County	$13,164	
TX	KAUFMAN County	County	$14,751	
TX	KYLE City	Municipal	$12,206	
TX	LEAGUE CITY City	Municipal	$10,482	
TX	LIBERTY County	County	$16,886	
TX	LUFKIN City	Municipal	$15,134	

TX	MCALLEN City	Municipal	$19,896	
TX	MISSION City	Municipal	$17,543	
TX	MONTGOMERY County	County	$102,711	
TX	NEW BRAUNFELS City	Municipal	$15,408	
TX	NORTH RICHLAND HILLS City	Municipal	$12,671	
TX	PARKER County	County	$12,233	
TX	PASADENA City	Municipal	$73,208	
TX	PEARLAND City	Municipal	$10,728	
TX	PFLUGERVILLE City	Municipal	$10,290	
TX	PHARR City	Municipal	$16,284	
TX	ROUND ROCK City	Municipal	$16,503	
TX	TEXAS CITY City	Municipal	$15,983	
TX	WESLACO City	Municipal	$14,341	
TX	WILLIAMSON County	County	$16,776	
	Local total		**$8,880,287**	

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Simon Ortiz, Transit Manager, Gennie Garcia, B Metro Director
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to approve the renewal of one (1) year contract with TRIPPP Consulting that provides Transportation Rideshare company service with Uber to the City of Brownsville and Cameron County for Brownsville Metro's Route 30 for $149,230, as budgeted. (Brownsville Metro)

Summary:
Brownsville Metro is partnered with TRIPPP Consulting and Cameron County for Uber rideshare and on-demand rides for a service that provides access to public transportation to low-income areas of Cameron County in the southernmost rural part of the county. It allows residents the ability to transfer to other routes within the City of Brownsville and Brownsville Metro's urban service area. We are seeking to renew the contract for one (1) year to continue providing service.

Project Scope and Analysis:
Brownsville Metro began an innovative way to improve transportation access beyond Route 30 in November 2025. Brownsville Metro provided rideshare services through Uber and TRIPPP Consulting for the pilot year of FY 26. The program has been very successful with an increase in ridership of 250% from FY 25 and 486% increase from November 2025 to August 2026. The projected cost for the renewal period of one (1) year is $149,230 for a projected number of 9,936 trips. This will include a fixed fee of $30,000 for the renewal period. Of the $149,230 please note that 60% will be covered by Cameron County and 40% by the City of Brownsville/BMetro. More specifically, Cameron County will reimburse the City $89,538. The City will cover $59,692 (this will be partially reimbursed with FTA funds).

Funding:

Source: 65-562-848-584

Amount: $149,230 (Total: 60% County; 40% City/BMetro)

Local Contribution if Applicable: 59,692 (City/BMetro Portion)

Recommendation:
Staff recommends approval

Commission Pillar:
Quality of Life & Vibrancy

Attachments:
1. Attachment I - Project Description TRIPPP FY 27
2. TRIPP - First Renewal signed

(Attachment 1)- PROJECT DESCRIPTION

The purpose of this project is to continue to provide access to the southernmost rural part of Cameron County, to connect with the urbanized area, which will allow residents to continue the ability to transfer to other routes within the city, a service provided by Brownsville Metro.

Brownsville Metro is partnered with Uber, a Transportation Network Company and TRIPPP Consulting for Uber rides for Fiscal Year 27. This service will continue to be fare free with direct drop off (Door to Door or Point to Point) with extended hours of service from 6am to 8pm. Service will continue to provide connectivity to the following routes: 6- Southmost, 7- Jose Colunga/East Side Transfer Station, and 9- Austin.

Cost Breakdown:

Route 30 Oct 1, 2026 - September 30, 2027			
FY 27 Budget	**Brownsville**	**Cameron County**	**Total**
FY 2026	$35,412.52	$52,215.70	$87,628.22
FY 2027	$59,692.00	$89,538.00	$149,230.00
Increase	**$24,279.48**	**$37,322.30**	**$61,601.78**

City of Brownsville
Procurement Department

First Renewal for Program Management and Oversight of Route 30 Pilot Program
 # 340-25-BMT-SS

This **FIRST RENEWAL** ("Renewal") to the Agreement for Program Management and Oversight of Route 30 Pilot Program, Agreement No. 340-25-BMT-SS ("Agreement"), by and between the City of Brownsville ("City"), a Texas municipal corporation, and **TRIPPP Consulting, LLC** ("Consultant"), is entered into after approval by the Brownsville City Commission and as of the date the last party signs this Renewal below (the "Effective Date"). City and Consultant are collectively referred to as the "Parties."

WHEREAS, the City has recognized the necessity to renew the above-mentioned Agreement with the Consultant; and

WHEREAS, the City and Consultant now desire to renew the Agreement as stated herein.

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is acknowledged, the Parties hereby agree as follows:

The First Renewal of the Agreement shall be for the period of **October 1, 2026, through September 30, 2027**, subject to approval by the Brownsville City Commission, with a total estimated budget of **One Hundred Forty-Nine Thousand Two Hundred Thirty Dollars ($149,230.00)**, as further detailed in **Exhibit A**.

Contract Term and Renewal

1. The initial term of the Agreement commenced upon approval and execution of the Agreement by the City of Brownsville.
2. Pursuant to the Agreement, the Parties may renew the Agreement for additional one-year terms upon mutual written agreement and approval by the Brownsville City Commission.
3. The Parties hereby exercise the First Renewal of the Agreement for the period of October 1, 2026, through September 30, 2027.
4. The First Renewal is subject to the appropriation and availability of funds by the City.

Compensation

During the First Renewal period, the Consultant shall continue to receive a monthly management fee of Two Thousand Five Hundred Dollars ($2,500.00), not to exceed Thirty Thousand Dollars ($30,000.00) for the one-year renewal period, in accordance with the Agreement.

In addition to the management fee, the City shall reimburse the Consultant for voucher-based costs associated with the Route 30 Pilot Program in accordance with the BMetro Route 30 FY27 Estimated Budget, attached hereto and incorporated herein as Exhibit A.

The total estimated budget for the First Renewal period shall be **One Hundred Forty-Nine Thousand Two Hundred Thirty Dollars ($149,230.00)**, inclusive of the annual management fee, as further detailed in Exhibit A.

The Parties acknowledge that the estimated voucher-based costs and allocation between the City of Brownsville and Cameron County are set forth in Exhibit A. The Consultant shall continue to monitor voucher usage and program costs in accordance with the terms of the Agreement.

Exhibit A

The **BMetro Route 30 FY27 Estimated Budget** is attached to this Renewal as **Exhibit A** and incorporated herein by reference.

These services shall be performed in accordance with the terms and conditions of the Agreement.

Except as expressly renewed herein, all terms and conditions of the Agreement between the City and Consultant shall remain in full force and effect.

IN WITNESS WHEREOF, City and Consultant have executed this First Renewal to the Agreement as of the date last written below.

TRIPPP Consulting, LLC.

By: _____

Date: 9/28/26

City of Brownsville, Texas

By: _____

Date: _____

APPROVED AS TO FORM

Alyssa J. Castillon
Assistant City Attorney

Exhibit "A"

BMetro Route 30 FY27 Estimated Budget

	Brownsville	Cameron County	Total	Savings from FY25	Total Trips	Increase from FY25
Actual FY25	$117,936.00	$117,936.00	$235,872.00	$0.00	1,503	0.00%
Estimated FY26	$54,485.61	$54,485.61	$108,971.22	$126,900.78	6,015	300.20%
Proposed FY27	$59,692.00	$89,538.00	$149,230.00	$86,642.00	9,936	561.07%
				$213,542.78		

		40%	*60%*			
Month	**Trips**	**City Cost**	**County Cost**	**Marketing**	**Management**	**Total Cost**
10/1/2026	745	$3,576.00	$5,364.00	$0.00	$2,500.00	$11,440.00
11/1/2026	759	$3,643.93	$5,465.90	$0.00	$2,500.00	$11,609.83
12/1/2026	774	$3,713.16	$5,569.73	$0.00	$2,500.00	$11,782.89
1/1/2027	788	$3,783.69	$5,675.54	$0.00	$2,500.00	$11,959.24
2/1/2027	803	$3,855.57	$5,783.36	$0.00	$2,500.00	$12,138.93
3/1/2027	819	$3,928.82	$5,893.23	$0.00	$2,500.00	$12,322.04
4/1/2027	834	$4,003.45	$6,005.18	$0.00	$2,500.00	$12,508.63
5/1/2027	850	$4,079.51	$6,119.26	$0.00	$2,500.00	$12,698.76
6/1/2027	866	$4,157.00	$6,235.51	$0.00	$2,500.00	$12,892.51
7/1/2027	882	$4,235.97	$6,353.96	$0.00	$2,500.00	$13,089.93
8/1/2027	899	$4,316.44	$6,474.67	$0.00	$2,500.00	$13,291.11
9/1/2027	916	$4,398.44	$6,597.66	$0.00	$2,500.00	$13,496.11
Total	**9,936**	**$47,692.00**	**$71,538.00**	**$0.00**	**$30,000.00**	**$149,230.00**

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Will Trevino, City Attorney, Alan Guard, City Manager
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to approve an Administrative Services Agreement between the City of Brownsville and the Brownsville Community Improvement Corporation (BCIC). (City Manager's Office)

Summary:
The Brownsville Community Improvement Corporation (BCIC) and the City of Brownsville have a shared interest in supporting one another through resource allocation of personnel and administrative functions and support the entering into an Administrative Services Agreement.

Project Scope and Analysis:

Funding:

Source: Not Applicable

Amount:

Local Contribution if Applicable:

Recommendation:
Staff recommends approval

Commission Pillar:
Economic Development, Planning & Zoning, Infrastructure, Public Safety, Quality of Life & Vibrancy, Governance

Attachments:
1. ASA - FY 2026

Docusign Envelope ID: 7F81D6C6-6780-841E-817E-FDE365BA214E

THE STATE OF TEXAS §
§
COUNTY OF CAMERON §

ADMINISTRATIVE SERVICES AGREEMENT
BETWEEN THE CITY OF BROWNSVILLE AND
THE BROWNSVILLE COMMUNITY IMPROVEMENT CORPORATION

This Service Agreement is made on this 1st day of October 2025, in the City Of Brownsville, State Of Texas, by and between the BROWNSVILLE COMMUNITY IMPROVEMENT CORPORATION, a Texas non-profit corporation having a place of business at 1304 East Adams Street, Brownsville, Cameron County, Texas 78520, hereinafter referred to as "BCIC," and the CITY OF BROWNSVILLE, TEXAS, an incorporated home-rule municipality of the State Of Texas having its administrative offices at 1001 Elizabeth St., Brownsville, Cameron County, Texas 78520, hereinafter referred to as "CITY."

WHEREAS, the BCIC is a corporation established under the auspices of the CITY to enhance economic development and quality of life in the City Of Brownsville, pursuant to Article 5190.6 of the Texas Revised Civil Statutes, the Development Corporation Act of 1979 (as amended).

WHEREAS, the CITY is interested in enhancing economic development and quality of life in the City Of Brownsville, and has acted to provide certain sales tax revenues to fund the BCIC to fulfill such goals and endeavors.

WHEREAS, the BCIC has become interested in enhancing economic development and quality of life with a minimum of cost and without spending its funds to create another bureaucracy, and has expressed an interest in having the CITY provide certain support services to BCIC, including personnel.

WHEREAS, the BCIC has entered into an agreement with the CITY to utilize certain facilities and personnel of the CITY to perform certain administrative functions and services for the BCIC.

WHEREAS, in order to encourage the BCIC to successfully enhance economic development, and in order to enhance economic development and generate revenue for itself and to compensate itself for the provision of such services, the CITY is willing and able to enter into an agreement to serve as a service contractor for the BCIC, on a compensated basis.

WHEREAS, each party hereto is willing to enter into this Agreement, and is legally authorized to do so.

NOW, THEREFORE, for and in consideration of the premises and mutual promises of the parties and the mutual benefits they will gain by the performance thereof, all in accordance with the provisions hereinafter set forth, the BROWNSVILLE COMMUNITY IMPROVEMENT CORPORATION and the CITY OF BROWNSVILLE, TEXAS agree as follows:

I.
General and Administrative Services

Docusign Envelope ID: 7F81D6C6-6780-841E-817E-FDE365BA214E

The parties agree that the CITY will serve as a service contractor for the BCIC, whereby the BCIC, in operating as a non-profit corporation seeking to enhance economic development and quality of life in and for Brownsville, TX, will utilize certain designated employees of the CITY to act and operate to attempt to fulfill such goals and endeavors.

Pursuant to prior corporate action of the BCIC, these services to be rendered include and are not limited to the provision of the recordation of BCIC financial affairs, the preparation of financial reports thereof, the preparation of a budget thereof, the issuance of financial reports where required, the maintenance of the financial records and ledgers of the corporation, and legal services, Human Resources Services, IT (MIS) services, payroll, time keeping, Accounts Payables, Retirement Services, Health Insurance Coverage, Employee Benefits package, Credit Rating Assistance, and Bond Services.

The City agrees to add BCIC staff members to the City's healthcare plans, dental plans, and ancillary benefits. BCIC agrees to reimburse the City for its share of the premium contributions, plan(s) administrative expenses, stop-loss premiums, and any other associated costs as appropriate and applicable. This amount does not include medical/dental/prescription reimbursable claims not to exceed $100,000 annually per covered individual, at which point the City will directly cover covered individual claims over $100,000 up to $300,000 before stop-loss coverage will assume the remaining claims liability.

II.
Compensation

As compensation for all services rendered and expenses incurred under this Agreement, during the term of this Agreement, including the provision or use of equipment, labor and materials, the BCIC shall pay to the CITY the sum of $24,000 per year in equal monthly payments.

The City agrees that any compensation due to any employees of the CITY serving hereunder will be paid to said employees by the CITY in accordance with the terms of the contracts of employment of said individuals with the CITY, and all compensation payable there under shall be subject to withholding for federal income taxes, FICA, FUTA and other legally required withholding taxes and contributions, which shall not be the responsibility of the BCIC under any circumstances.

BCIC agrees to reimburse the City as stated in Section I, General and Administrative Services, as relates to the employee benefit plan.

III.
Term Of Agreement

This agreement for monthly services shall not exceed a term of one year, commencing October 1, 2025 and terminating September 30, 2026. Upon mutual agreement, this Agreement may be extended for up to one additional year under the same terms as contained in this Agreement.

IV.
Status Of Parties

Docusign Envelope ID: 7F81D6C6-6780-841E-817E-FDE365BA214E

Both parties hereto shall not be construed to have the relationship of partners, joint venturers, principal-agent or employer-employee. The parties hereto are separate corporate entities who enter into this contract for their respective (and the public's) benefit. No employee of the CITY shall be construed or deemed an employee of the BCIC.

V.
Termination

This Agreement may be terminated at any time by the BCIC by providing sixty days written notice of termination of this Agreement to Brownsville City Commission.

VI.
Insurance; Indemnity

Both of the parties agree to accept the errors and omissions insurance coverage as provided through the general liability policy in effect for the City of Brownsville.

VII.
No Assignment

This Agreement shall not be assigned in whole or in part by either party without the consent and approval of the other party, set forth in writing and signed by both parties. Any assignee will be bound by the terms of this Agreement.

VIII.
Compliance With All Laws

Both parties will act, at all times, in compliance with all pertinent and applicable laws and regulations.

IX.
Notice

All notices to either party shall be sent by certified or registered mail, addressed to the pertinent party as set forth above, at its respective address as set forth above, or at such other address as may be otherwise designated.

X.
No Waiver

Any waiver by either party of any default under or breach of this Agreement shall not be construed to be a continuing waiver of such default or breach, nor as a waiver of or permission for (express or implied) any other or subsequent default or breach.

XI.
Parties Bound

This Agreement shall be binding upon and inure to the benefit of the parties to this Agreement and their respective commissioners, directors, officers, agents, representatives, employees, administrators, successors and assigns, as appropriate.

Docusign Envelope ID: 7F81D6C6-6780-841E-817E-FDE365BA214E

XII.
Entire Agreement: Amendment

This instrument contains the entire agreement between the parties relating to the rights herein granted and obligations herein assumed, and supersedes any prior understandings, representations, memorandums or agreements regarding the service relationship that is the subject of this Agreement. Any oral representations or modifications concerning this instrument shall be of no force or effect. This Agreement may be amended, provided that no amendment, modification or alteration of the terms of this Agreement shall be binding unless the same is in writing and duly executed by the parties hereto.

XIII.
Breach Of Obligation

This Agreement is entire as to all of the performances to be rendered under it. Breach of any obligation to be performed by either party shall constitute a breach of the entire agreement and shall give the other party the right to terminate this Agreement, in accordance with the paragraph regarding termination above.

XIV.
Law Governing; Venue

This Agreement shall be governed by and construed in accordance with the laws of the State Of Texas (and where applicable, the laws of the United States of America). The obligations and undertakings of each of the parties to this Agreement shall be performable in Cameron County, Texas.

XV.
Invalidity

If any term, provision, covenant or condition of this Agreement is held by a tribunal of competent jurisdiction to be invalid, void or unenforceable, the remainder of the provisions of this Agreement shall remain in full force and effect and shall not be affected, impaired or invalidated. Moreover, it is the intention of the parties to this Agreement that in lieu of each clause or provision of this Agreement that is held to be invalid, void or unenforceable, there be added as a part of this Agreement a clause or provision as similar in terms to such invalid, void or unenforceable clause or provision as may be possible which shall nevertheless be valid, legal and enforceable.

XVI.
Construction Of Instrument

Both of the parties hereto have been represented by or have had the opportunity to be represented by counsel in the negotiation and drafting of this Agreement, and accordingly, this Agreement shall not be construed in favor of either party.

XVII.
"Act Of God" Excuses Performance

In the event that either party shall be prevented from completing performance of their respective obligations hereunder by an act of God or any other occurrence whatsoever which is

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beyond the control of the parties hereto, then they shall be excused from any further performance of their obligations and undertakings hereunder, provided however, that in the event that any such performance is only interrupted or delayed, the affected party shall be excused from such performance for such period of time as is reasonably necessary after such occurrence to remedy the effects thereof.

XVIII.
Alternate Dispute Resolution

ONLY THE CITY, THROUGH ACTION OF THE CITY COMMISSION, OR THE BCIC BOARD, THROUGH VOTE OF THE BCIC BOARD, MAY SUBMIT ANY DISPUTE, CONTROVERSY OR CLAIM ARISING OUT OF OR RELATING TO THIS AGREEMENT, OR THE BREACH, TERMINATION OR INVALIDITY THEREOF, TO NON-BINDING MEDIATION BEFORE ANY MUTUALLY AGREED UPON ATTORNEY-MEDIATOR. NO PARTY SHALL HAVE THE RIGHT TO REQUIRE THAT THIS CASE BE SUBMITTED TO BINDING ARBITRATION.

XIX.
Authority

The BCIC certifies that it is authorized to enter into this Agreement, and that its Board of Directors has authorized the execution of such Agreement by its presiding officer, its Chair. The CITY certifies that it is authorized to enter into this Agreement, and that its City Commission has authorized the execution of such Agreement by its administrative officer, its City Manager.

Signature Page Follows

Docusign Envelope ID: 7F81D6C6-6780-841E-817E-FDE365BA214E

EXECUTED in duplicate on this _____ day of _____, 202_ at Brownsville, Cameron County, Texas.

BROWNSVILLE COMMUNITY IMPROVEMENT CORPORATION

BY: DocuSigned by: Cesar Lopez ED96A1D0B290489... _____
BCIC Chair

BY: DocuSigned by: E14EA23913FD4D6... _____
BCIC Secretary

CITY OF BROWNSVILLE, TEXAS

BY: _____
City Manager

BY: _____
City Secretary

APPROVED AS TO FORM AND LEGALITY

_____
Guillermo (Will) S. Trevino
City Attorney
City of Brownsville, Texas

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Carlos Lastra, City Engineer
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to approve **Resolution Number 2026-129** for the agreement between the Texas Department of Transportation (TxDOT) and the City of Brownsville to authorize the street closure(s) for the 26th Annual Veterans Day Parade. (Engineering & Public Works Department).

Summary:
The City of Brownsville will sponsor and assist with the 26th Annual Veterans Day Parade. The event will require the temporary closure of Southmost Blvd. from International Blvd. (SH 4) to 30th St.

Project Scope and Analysis:
Agreement with the Texas Department of Transportation to authorize the street closure(s) for the 26th Annual Veterans Day Parade.

Funding:

Source: N/A

Amount: N/A

Local Contribution if Applicable:

Recommendation:
The City of Brownsville Engineering and Public Works Department recommends approving an Agreement with the Texas Department of Transportation authorizing street closure(s) for the 26th Annual Veterans Day Parade.

Commission Pillar:
Quality of Life & Vibrancy

Attachments:
1. 26th Annual Veterans Day Parade

2. Resolution Number 2026-129 rWT
3. Exhibit A - 26th Annual Veterans Day Parade - 2026
4. Exhibit B - Letter from BPD to Texas Department of Transportation 202
5. Exhibit C - 26th Annual Veterans' Parade
6. Application-Temporary Closure of State ROW - 26th Annual Veterans Day Parade (2026) (1)

Engineering and Public Works Department

AGENDA #26TH ANNUAL VETERANS DAY PARADE

25th Annual Veterans Day Parade

The 26th Annual Veterans Day Parade in the City of Brownsville is a great opportunity to honor all the men and women who bravely served our country. They are our protectors, warfighters, and peacekeepers.



26th Annual Veterans Day Parade

It's an opportunity for us as a community to show our appreciation and gratitude to the men and women who have dedicated their lives to serving our country.



2026-129
RESOLUTION NUMBER

A RESOLUTION BY THE CITY COMMISSION OF THE CITY OF BROWNSVILLE, TEXAS, APPROVING AGREEMENT BETWEEN THE CITY OF BROWNSVILLE AND THE TEXAS DEPARTMENT OF TRANSPORTATION TEMPORARY CLOSURE OF A STATE RIGHT-OF-WAY FOR THE ANNUAL VETERANS DAY PARADE ON NOVEMBER 7, 2026.

WHEREAS, the state owns and operates a system of highways for public use and benefit, including Brownsville, in Cameron County; and

WHEREAS, the City of Brownsville (the "City") is sponsoring and assisting with the Annual Veterans Day Parade on November 7, 2026; and

WHEREAS, the event will require the temporary closure of a portion of FM 1419 (Southmost Blvd.) from SH 4 (International Blvd.) to E. 30th St.; and

WHEREAS, the State, in recognition of the public purpose of the event, wishes to cooperate with the City so long as the safety and convenience of the traveling public is ensured and that the closure of the State's right-of-way will be performed within the State's requirement, and in connection therewith, the State requires an agreement between the City and the State in regard thereto; and

NOW, THEREFORE, BE RESOLVED BY THE CITY OF BROWNSVILLE THAT the MAYOR is authorized to enter into an Agreement for the Temporary Closure of State Right-Of-Way with TxDOT for this Parade.

PASSED AND **APPROVED** on this 6th day of October 2026.

City of Brownsville, Texas

_____
John Cowen
Mayor

ATTEST:

_____
Mayra A. Rios, TRMC
City Secretary

Southmost Veterans Parade Committee

September 01, 2026

Re: 26th Annual Veterans Day Parade

Dear Friends,

On behalf of the Southmost **Veterans Day Parade Committee** and **the City of Brownsville,** we would like to ask for your support and participation in our **26th Annual Veterans Day Parade** to be held on Saturday, November 7, 2026 at 2:00 P.M.

The Parade is our way of honoring all the brave men and women who have served or are serving in the armed forces of the United States. On this day, we pay tribute to the men and women who have served our country. Our Nation has remained strong and free because of its sacrifices.

We plan to begin the parade at Porter High School and proceed down Coolidge Street through Southmost Blvd. Then proceed from Southmost Road South to Cromack Elementary School, located at Southmost Road and 30th Street.

I would like to extend this opportunity to you to be a part of this historic celebration. Please join us in this patriotic endeavor and make this year's parade a huge success. We are counting on our community support. We extend a special thanks to you, schools, groups, businesses, and individuals who have supported us for the past 23 years.

For more information, please call Connie Rosas (956)459-0958, Evaristo Gamez (956)465-7909, Laura Ortiz (956)640-4457, Arnold Salinas (956)465-9687, Reyes Torres (956)442-9292, and Rafael Ruiz (956)551-6672.

Best regards,

Bobby Salazar

Bobby Salazar
SVDP Chairperson (956) 266-0138

BROWNSVILLE POLICE DEPARTMENT

Felix Sauceda
Chief of Police

September 21, 2025

Texas Department of Transportation
600 W. IH2
Pharr, TX 78577

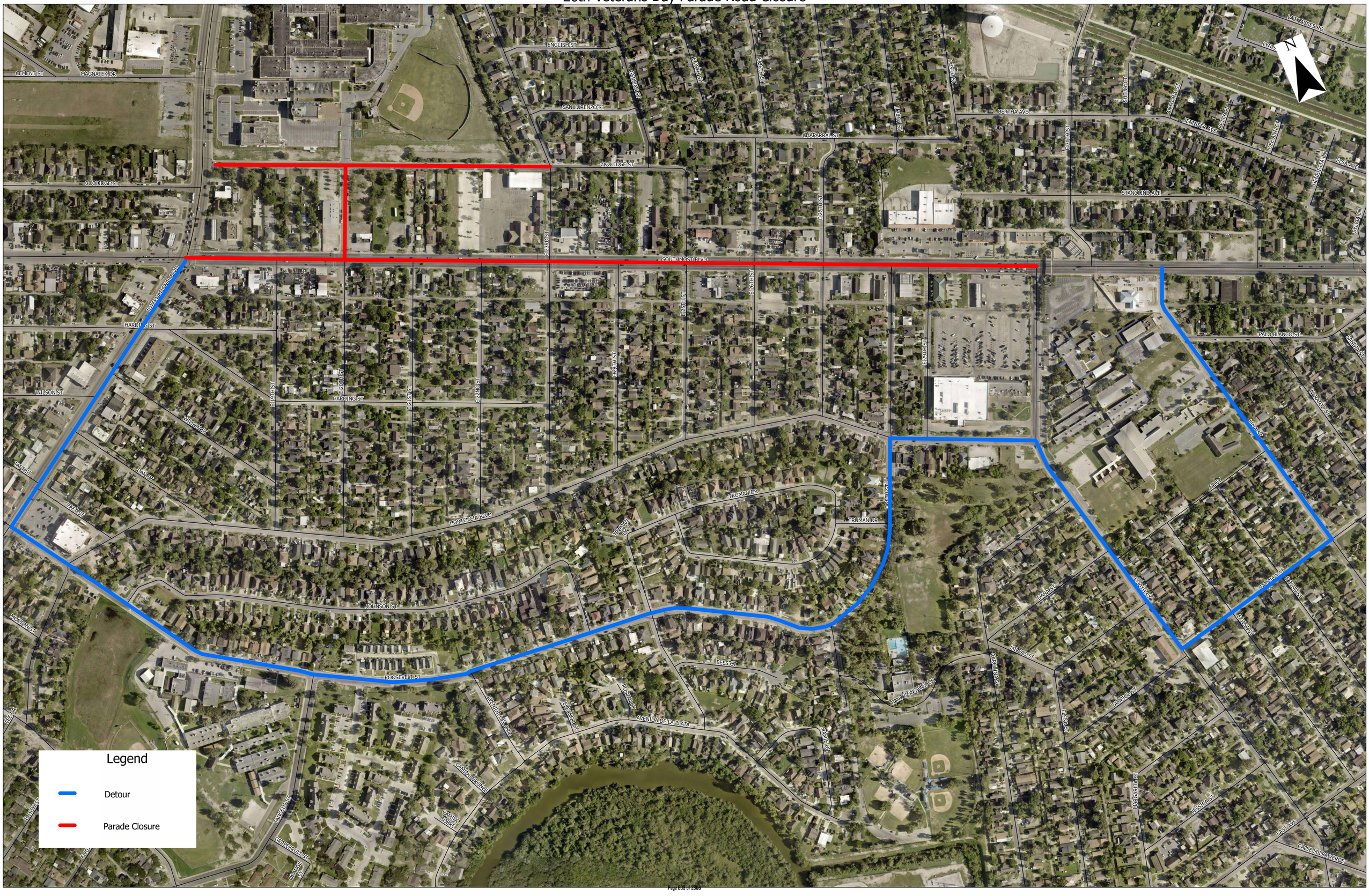
I am writing to formally acknowledge the receipt of the traffic plan(s) and associated responsibilities for the 26th Annual Veterans Day Parade scheduled for Saturday, November 7, 2026 starting at 2:00 PM. As is customary during this annual celebration, the Brownsville Police Department will be responsible for the comprehensive management of traffic along Southmost Rd and the implementation of detour routes.

Thank you for entrusting us with this vital task, and we look forward to ensuring the safety and smooth traffic flow during this festive event.

D. L. De Leon

Office of the Chief of Police
Brownsville Police Department
600 E. Jackson St.
Brownsville, Texas 78520
Cell: 956-592-5274

26th Veterans Day Parade Road Closure



Agreement No._____

STATE OF TEXAS §

COUNTY OF §

AGREEMENT FOR THE TEMPORARY CLOSURE OF STATE RIGHT-OF-WAY

THIS AGREEMENT is made by and between the State of Texas, acting by and through the Texas Department of Transportation, hereinafter called the "State," and the City of Brownsville, a municipal corporation, acting by and through its duly authorized officers, hereinafter called the "City."

W I T N E S S E T H

WHEREAS, the State owns and operates a system of highways for public use and benefit, including Brownsville, in Cameron, County; and

WHEREAS, the City has requested the temporary closure of FM 1419 (southmost Rd.) from SH 4 (International Blvd.) to E. 30th St. for the purpose of 26th Annual Veterans Day Parade, as described in the attached "Exhibit A," hereinafter identified as the "Event;" and

WHEREAS, the Event will be located within the City's incorporated area; and

WHEREAS, the State, in recognition of the public purpose of the Event, wishes to cooperate with the City so long as the safety and convenience of the traveling public is ensured and that the closure of the State's right-of-way will be performed within the State's requirements; and

WHEREAS, on the 6th day of October, 20 26, the Brownsville City Council passed Resolution / Ordinance No. 2026-129, attached hereto and identified as "Exhibit B," establishing that the Event serves a public purpose and authorizing the City to enter into this agreement with the State; and

WHEREAS, 43 TAC, Section 22.12 establishes the rules and procedures for the temporary closure of a segment of the State highway system; and

WHEREAS, this agreement has been developed in accordance with the rules and procedures of 43 TAC, Section 22.12;

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and agreements of the parties hereto, to be by them respectively kept and performed as hereinafter set forth, it is agreed as follows:

A G R E E M E N T

Article 1. CONTRACT PERIOD

This agreement becomes effective upon final execution by the State and shall terminate upon completion of the Event or unless terminated or modified as hereinafter provided.

Article 2. EVENT DESCRIPTION

The description of the Event, including the proposed schedule of start and stop times, approximate number of people attending the Event, and equipment involved shall be attached hereto and identified as "Exhibit C."

Article 3. OPERATIONS OF THE EVENT

A. The City shall assume all costs for the operations associated with the Event, to include but not limited to, plan development, materials, labor, public notification, providing protective barriers and barricades, protection of highway traffic and highway facilities, and all traffic control and temporary signing.

B. The City shall submit to the State for review and approval the construction plans, if construction or modifications to the State's right-of-way is required, the traffic control and signing plans, traffic enforcement plans, and all other plans deemed necessary by the State.

C. The City will not initiate closure prior to 24 hours before the scheduled Event and all barriers and barricades will be removed and the highway reopened to traffic within 24 hours after the completion of the Event.

D. The City will provide adequate enforcement personnel to prevent vehicles from stopping and parking along the main lanes of highway right-of-way and otherwise prevent interference with the main lane traffic by both vehicles and pedestrians. The City will prepare a traffic enforcement plan, to be approved by the State in writing at least 48 hours prior to the scheduled Event. Additionally, the City shall provide to the State a letter of certification from the law enforcement agency that will be providing traffic control for the Event, certifying that they agree with the enforcement plan and will be able to meet its requirements.

E. The City hereby assures the State that there will be appropriate passage allowance for emergency vehicle travel and adequate access for abutting property owners during construction and closure of the highway facility. These allowances and accesses will be included in the City's traffic control plan.

F. The City will avoid or minimize damage, and will, at its own expense, restore or repair damage occurring outside the State's right-of-way and restore or repair the State's right-of-way, including roadway and drainage structures, signs, and pavement, etc. to a condition equal to that existing before the closure, and, to the extent practicable, restore the natural environment, including landscape features.

Article 4. OWNERSHIP OF DOCUMENTS

Upon completion or termination of this agreement, all documents prepared by the City will remain the property of the City. All data prepared under this agreement shall be made available to the State without restriction or limitation on their further use.

Article 5. TERMINATION

A. This agreement may be terminated by any of the following conditions:

(1) By mutual written agreement and consent of both parties.

(2) By the State upon determination that use of the State's right-of-way is not feasible or is not in the best interest of the State and the traveling public.

(3) By either party, upon the failure of the other party to fulfill the obligations as set forth herein.

(4) By satisfactory completion of all services and obligations as set forth herein.

B. The termination of this agreement shall extinguish all rights, duties, obligations and liabilities of the State and City under this agreement. If the potential termination of this agreement is due to the failure of the City to fulfill its contractual obligations as set forth herein, the State will notify the City that possible breach of contract has occurred. The City

must remedy the breach as outlined by the State within ten (10) days from receipt of the State's notification. In the event the City does not remedy the breach to the satisfaction of the State, the City shall be liable to the State for the costs of remedying the breach and any additional costs occasioned by the State.

Article 6. DISPUTES
Should disputes arise as to the parties' responsibilities or additional work under this agreement, the State's decision shall be final and binding.

Article 7. RESPONSIBILITIES OF THE PARTIES
The State and the Local Government agree that neither party is an agent, servant, or employee of the other party and each party agrees it is responsible for its individual acts and deeds as well as the acts and deeds of its contractors, employees, representatives, and agents.

Article 8. INSURANCE
A. Prior to beginning any work upon the State's right-of-way, the City and/or its contractors shall furnish to the State a completed "Certificate of Insurance" (TxDOT Form 1560, latest edition) and shall maintain the insurance in full force and effect during the period that the City and/or its contractors are encroaching upon the State right-of-way.
B. In the event the City is a self-insured entity, the City shall provide the State proof of its self-insurance. The City agrees to pay any and all claims and damages that may occur during the period of this closing of the highway in accordance with the terms of this agreement.

Article 9. AMENDMENTS
Any changes in the time frame, character, agreement provisions or obligations of the parties hereto shall be enacted by written amendment executed by both the City and the State.

Article 10. COMPLIANCE WITH LAWS
The City shall comply with all applicable federal, state and local environmental laws, regulations, ordinances and any conditions or restrictions required by the State to protect the natural environment and cultural resources of the State's right-of-way.

Article 11. LEGAL CONSTRUCTION
In case one or more of the provisions contained in this agreement shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions hereof and this agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

Article 12. NOTICES
All notices to either party by the other required under this agreement shall be delivered personally or sent by certified U.S. mail, postage prepaid, addressed to such party at the following respective addresses:

City:	State:
_____	Texas Department of Transportation
City of Brownsville	_____
1001 E. Elizabeth St.	_____
Brownsville, TX, 78520	_____

All notices shall be deemed given on the date so delivered or so deposited in the mail, unless otherwise provided herein. Either party hereto may change the above address by sending written notice of such change to the other in the manner provided herein.

Article 13. SOLE AGREEMENT
This agreement constitutes the sole and only agreement between the parties hereto and supersedes any prior understandings or written or oral agreements respecting the within subject matter.

IN TESTIMONY WHEREOF, the parties hereto have caused these presents to be executed in duplicate counterparts.

THE CITY OF Brownsville
Executed on behalf of the City by:

By_____ Date_____
City Official

Typed or Printed Name and Title _____

_____

THE STATE OF TEXAS
Executed for the Executive Director and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies or work programs heretofore approved and authorized by the Texas Transportation Commission.

By_____ Date_____
District Engineer

By _____ Date _____
Director of Maintenance

Exhibit A

- **LETTER (LETTERHEAD) WITH EVENT NAME, DATE(S), ETC.**

Exhibit B

- **LETTER FROM THE LAW ENFORCEMENT OFFICE PROVIDING THE TRAFFIC CONTROL PLANS.**

Exhibit C

- **MAP REFLECTING LOCATION(S) WHERE CLOSURE WILL TAKE PLACE.**

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Felix Sauceda Jr., Deputy City Manager
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** on **Resolution Number 2026-134** in supporting the submission of the FY 2027 Crime Victims Notification Systems Grant #6010001 for $73,359.00 through the Office of the Governor, Public Safety Office and accept the terms and conditions of said grant for the City of Brownsville. (Police Department)

Summary:
The Office of the Governor, Public Safety Office is providing grant funding for the FY 2027 Crime Victims Notification Systems Grant. This grant will be for the second year of the subscription fee for our current software.

Project Scope and Analysis:
Through the Office of the Governor, the Brownsville Police Department will be applying for the software subscription. This grant does not require a match of the total project. Grant project term begins on September 1, 2026 and concludes on August 31, 2027. A signed resolution is a mandatory requirement and must be submitted with application.

Funding:

Source: "TBD Pending Award"

Amount: 73,359.00

Local Contribution if Applicable: N/A

Recommendation:
Staff Recommends Approval.

Commission Pillar:
Public Safety

Attachments:

1. Resolution 2026-134

RESOLUTION NUMBER 2026-134

A RESOLUTION OF THE CITY OF BROWNSVILLE SUPPORTING THE SUBMISSION OF THE FY 2027 CRIME VICTIMS NOTIFICATION SYSTEMS GRANT APPLICATION THROUGH THE OFFICE OF THE GOVERNOR, PUBLIC SAFETY OFFICE.

WHEREAS, the City of Brownsville finds it in the best interest of the citizens of Brownsville, Texas that the FY 2027 Crime Victims Notification Systems Grant be operated during FY 2027; and

WHEREAS, the City of Brownsville agrees to provide all applicable matching funds, if required, for the FY 2027 Crime Victims Notification Systems Grant; and

WHEREAS, the City of Brownsville agrees that in the event of loss or misuse of the Office of the Governor funds, the City of Brownsville assures that the funds will be returned to the Office of the Governor in full.

WHEREAS, the City of Brownsville designates the City Manager as the grantee's authorized official. The authorized official is given the power to apply for, accept, reject, alter or terminate the grant on behalf of the applicant agency.

WHEREAS, the City of Brownsville designates the Finance Director as the Financial Officer for this grant. The Financial Officer is given the power to submit financial and/or performance reports or alter a grant on behalf of the applicant agency.

NOW THEREFORE, BE IT RESOLVED, that the City of Brownsville approves submission of the grant application for the FY 2027 Crime Victims Notification Systems Grant to the Office of the Governor.

Passed and approved this _____ day of _____, 2026.

Grant Number: 6010001

_____

Attest: John Cowen Jr.
Mayor

_____
Mayra A. Rios
City Secretary

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Carlos Lastra, City Engineer
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to approve **Resolution Number 2026-130** for the agreement between the Texas Department of Transportation (TxDOT) and the City of Brownsville to authorize the street closure(s) for the Christmas Parade.(Engineering & Public Works Department)

Summary:
The City of Brownsville will sponsor and assist with the 74th Annual Christmas Parade. The event will require the temporary closure of a portion of Elizabeth St., Palm Blvd., and Central Blvd. (BUS 77Z) from W. 9th St. to International Blvd. (SH 4).

Project Scope and Analysis:
Agreement with the Texas Department of Transportation to authorize the street closure(s) for the 74th Annual Christmas Parade.

Funding:

Source: N/A

Amount: N/A

Local Contribution if Applicable:

Recommendation:
The City of Brownsville Engineering and Public Works Department recommends approving an Agreement with the Texas Department of Transportation authorizing street closure(s) for the 74th Annual Christmas Parade.

Commission Pillar:
Quality of Life & Vibrancy

Attachments:
1. Resolution Number 2026-130

2. Application-Temporary Closure of State ROW - 74th Brownsville Christmas Parade
3. 74th Christmas Parade
4. Exhibit C - Christmas Parade Street Closures (2)
5. Exhibit A - Charro Days Fiesta, Christmas Parade 2026 Correspondence
6. Exhibit B - Letter from BPD to Texas Department of Transportation 2026

RESOLUTION NUMBER 2026-130

A RESOLUTION BY THE CITY COMMISSION OF THE CITY OF BROWNSVILLE, TEXAS, APPROVING AGREEMENT BETWEEN THE CITY OF BROWNSVILLE AND THE TEXAS DEPARTMENT OF TRANSPORTATION TEMPORARY CLOSURE OF A STATE RIGHT-OF-WAY FOR THE ANNUAL CHRISTMAS PARADE ON DECEMBER 5, 2026.

WHEREAS, the state owns and operates a system of highways for public use and benefit, including Brownsville, in Cameron County; and

WHEREAS, the City of Brownsville (the "City") is sponsoring and assisting with the annual Christmas Parade on December 5, 2026, in case of inclement weather, the alternate date will be Saturday, December 12, 2026; and;

WHEREAS, the event will require the temporary closure of a portion of Elizabeth St., Palm Blvd., and Central Blvd. (BUS 77Z) from W. 9th St. to International Blvd. (SH 4); and

WHEREAS, the State, in recognition of the public purpose of the event, wishes to cooperate with the City so long as the safety and convenience of the traveling public is ensured, and that the closure of the State's right-of-way will be performed within the State's requirements, and in connection therewith, the State requires an agreement between the City and the State in regard thereto; and

NOW, THEREFORE, BE RESOLVED BY THE CITY OF BROWNSVILLE THAT the MAYOR is authorized to enter into an Agreement for the Temporary Closure of State Right-Of-Way with TxDOT for this Parade.

PASSED AND **APPROVED** on this 6th day of October 2026.

City of Brownsville, Texas

_____

John Cowen
Mayor

ATTEST:

_____

Mayra A. Rios, TRMC
City Secretary

Agreement No._____

STATE OF TEXAS §

COUNTY OF §

AGREEMENT FOR THE TEMPORARY CLOSURE OF STATE RIGHT-OF-WAY

THIS AGREEMENT is made by and between the State of Texas, acting by and through the Texas Department of Transportation, hereinafter called the "State," and the City of Brownsville, a municipal corporation, acting by and through its duly authorized officers, hereinafter called the "City."

W I T N E S S E T H

WHEREAS, the State owns and operates a system of highways for public use and benefit, including Brownsville, in Cameron, County; and

WHEREAS, the City has requested the temporary closure of a segment of Bus 77Z, Elizabeth St, and SH 4 (International Blvd.) for the purpose of 74th Brownsville Christmas Parade, as described in the attached "Exhibit A," hereinafter identified as the "Event;" and

WHEREAS, the Event will be located within the City's incorporated area; and

WHEREAS, the State, in recognition of the public purpose of the Event, wishes to cooperate with the City so long as the safety and convenience of the traveling public is ensured and that the closure of the State's right-of-way will be performed within the State's requirements; and

WHEREAS, on the 6th day of October, 2026, the Brownsville City Council passed Resolution / Ordinance No. 2026-130, attached hereto and identified as "Exhibit B," establishing that the Event serves a public purpose and authorizing the City to enter into this agreement with the State; and

WHEREAS, 43 TAC, Section 22.12 establishes the rules and procedures for the temporary closure of a segment of the State highway system; and

WHEREAS, this agreement has been developed in accordance with the rules and procedures of 43 TAC, Section 22.12;

NOW, THEREFORE, in consideration of the premises and of the mutual covenants and agreements of the parties hereto, to be by them respectively kept and performed as hereinafter set forth, it is agreed as follows:

A G R E E M E N T

Article 1. CONTRACT PERIOD

This agreement becomes effective upon final execution by the State and shall terminate upon completion of the Event or unless terminated or modified as hereinafter provided.

Article 2. EVENT DESCRIPTION

The description of the Event, including the proposed schedule of start and stop times, approximate number of people attending the Event, and equipment involved shall be attached hereto and identified as "Exhibit C."

Article 3. OPERATIONS OF THE EVENT

A. The City shall assume all costs for the operations associated with the Event, to include but not limited to, plan development, materials, labor, public notification, providing protective barriers and barricades, protection of highway traffic and highway facilities, and all traffic control and temporary signing.

B. The City shall submit to the State for review and approval the construction plans, if construction or modifications to the State's right-of-way is required, the traffic control and signing plans, traffic enforcement plans, and all other plans deemed necessary by the State.

C. The City will not initiate closure prior to 24 hours before the scheduled Event and all barriers and barricades will be removed and the highway reopened to traffic within 24 hours after the completion of the Event.

D. The City will provide adequate enforcement personnel to prevent vehicles from stopping and parking along the main lanes of highway right-of-way and otherwise prevent interference with the main lane traffic by both vehicles and pedestrians. The City will prepare a traffic enforcement plan, to be approved by the State in writing at least 48 hours prior to the scheduled Event. Additionally, the City shall provide to the State a letter of certification from the law enforcement agency that will be providing traffic control for the Event, certifying that they agree with the enforcement plan and will be able to meet its requirements.

E. The City hereby assures the State that there will be appropriate passage allowance for emergency vehicle travel and adequate access for abutting property owners during construction and closure of the highway facility. These allowances and accesses will be included in the City's traffic control plan.

F. The City will avoid or minimize damage, and will, at its own expense, restore or repair damage occurring outside the State's right-of-way and restore or repair the State's right-of-way, including roadway and drainage structures, signs, and pavement, etc. to a condition equal to that existing before the closure, and, to the extent practicable, restore the natural environment, including landscape features.

Article 4. OWNERSHIP OF DOCUMENTS

Upon completion or termination of this agreement, all documents prepared by the City will remain the property of the City. All data prepared under this agreement shall be made available to the State without restriction or limitation on their further use.

Article 5. TERMINATION

A. This agreement may be terminated by any of the following conditions:

(1) By mutual written agreement and consent of both parties.

(2) By the State upon determination that use of the State's right-of-way is not feasible or is not in the best interest of the State and the traveling public.

(3) By either party, upon the failure of the other party to fulfill the obligations as set forth herein.

(4) By satisfactory completion of all services and obligations as set forth herein.

B. The termination of this agreement shall extinguish all rights, duties, obligations and liabilities of the State and City under this agreement. If the potential termination of this agreement is due to the failure of the City to fulfill its contractual obligations as set forth herein, the State will notify the City that possible breach of contract has occurred. The City

must remedy the breach as outlined by the State within ten (10) days from receipt of the State's notification. In the event the City does not remedy the breach to the satisfaction of the State, the City shall be liable to the State for the costs of remedying the breach and any additional costs occasioned by the State.

Article 6. DISPUTES
Should disputes arise as to the parties' responsibilities or additional work under this agreement, the State's decision shall be final and binding.

Article 7. RESPONSIBILITIES OF THE PARTIES
The State and the Local Government agree that neither party is an agent, servant, or employee of the other party and each party agrees it is responsible for its individual acts and deeds as well as the acts and deeds of its contractors, employees, representatives, and agents.

Article 8. INSURANCE
A. Prior to beginning any work upon the State's right-of-way, the City and/or its contractors shall furnish to the State a completed "Certificate of Insurance" (TxDOT Form 1560, latest edition) and shall maintain the insurance in full force and effect during the period that the City and/or its contractors are encroaching upon the State right-of-way.
B. In the event the City is a self-insured entity, the City shall provide the State proof of its self-insurance. The City agrees to pay any and all claims and damages that may occur during the period of this closing of the highway in accordance with the terms of this agreement.

Article 9. AMENDMENTS
Any changes in the time frame, character, agreement provisions or obligations of the parties hereto shall be enacted by written amendment executed by both the City and the State.

Article 10. COMPLIANCE WITH LAWS
The City shall comply with all applicable federal, state and local environmental laws, regulations, ordinances and any conditions or restrictions required by the State to protect the natural environment and cultural resources of the State's right-of-way.

Article 11. LEGAL CONSTRUCTION
In case one or more of the provisions contained in this agreement shall for any reason be held invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions hereof and this agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

Article 12. NOTICES
All notices to either party by the other required under this agreement shall be delivered personally or sent by certified U.S. mail, postage prepaid, addressed to such party at the following respective addresses:

City:	State:
City of Brownsville 1001 E. Elizabeth St. Brownsville, TX, 78520	Texas Department of Transportation

All notices shall be deemed given on the date so delivered or so deposited in the mail, unless otherwise provided herein. Either party hereto may change the above address by sending written notice of such change to the other in the manner provided herein.

Article 13. SOLE AGREEMENT
This agreement constitutes the sole and only agreement between the parties hereto and supersedes any prior understandings or written or oral agreements respecting the within subject matter.

IN TESTIMONY WHEREOF, the parties hereto have caused these presents to be executed in duplicate counterparts.

THE CITY OF _____
Executed on behalf of the City by:

By_____ Date_____
City Official

Typed or Printed Name and Title _____

_____

THE STATE OF TEXAS
Executed for the Executive Director and approved for the Texas Transportation Commission for the purpose and effect of activating and/or carrying out the orders, established policies or work programs heretofore approved and authorized by the Texas Transportation Commission.

By_____ Date_____
District Engineer

By _____ Date _____
Director of Maintenance

Exhibit A

- **LETTER (LETTERHEAD) WITH EVENT NAME, DATE(S), ETC.**

- **LETTER FROM THE LAW ENFORCEMENT OFFICE PROVIDING THE TRAFFIC CONTROL PLANS.**

- **MAP REFLECTING LOCATION(S) WHERE CLOSURE WILL TAKE PLACE.**

Engineering and Public Works Department

AGENDA #74TH ANNUAL CHRISTMAS PARADE

74th Christmas Parade

The 74th Christmas Parade in the city of Brownsville will celebrate community spirit, festive joy, and local talent. It fosters unity, supports local businesses, and brings people together in celebration.



74th Christmas Parade

This cherished tradition enhances the holiday atmosphere and creates memorable experiences for residents and visitors alike.





CHRISTMAS PARADE STREET CLOSURES

City of BROWNSVILLE
On the Border By the Sea
Texas

- Parade Route
- Start
- End
- Road Closure
- Type I Barricade
- South Detour
- North Detour
- No Parking

Street closure starts on December 5, 2026 at 5:00 PM
Event starts on December 5, 2026 at 7:00 PM

CHARRO DAYS FIESTA

P.O. Box 3247 ◇ Brownsville, Texas 78523-3247 ◇ (956) 542-4245 ◇Fax (956)542-6771

September 21, 2026

Lucio Gutierrez
Traffic Department Manager
404 E. Washington St.
Brownsville, Texas 78520

Dear Mr. Gutierrez:

The purpose of this correspondence is to respectfully request your permission and assistance regarding our upcoming event, the 74th Annual Christmas Parade to be held on Saturday, December 5, 2026 at 7:00 p.m. In case of inclement weather, the alternate date will be Saturday, December 12, 2026 at 7:00 p.m.

Charro Days Inc. is also requesting that Elizabeth Street from Central Boulevard to West Second Street be closed at 5:00 p.m. on said date to allow parking of floats and other parade participants.

As in the past, we appreciate your support and guidance in helping us continue the tradition of the Annual Christmas Parade presented by Charro Days Inc.

Sincerely,

Henry LeVrier
President
Charro Days Inc.
(956) 542-4245

BROWNSVILLE POLICE DEPARTMENT

Felix Sauceda
Chief of Police

September 21, 2026

Texas Department of Transportation
600 W. IH2
Pharr, TX 78577

I am writing to formally acknowledge the receipt of the traffic plan(s) and associated responsibilities for the 74th Annual Christmas Parade scheduled for Saturday, December 5, 2026. As is customary during this annual celebration, the Brownsville Police Department will be responsible for the comprehensive management of traffic and the implementation of detour routes.

Thank you for entrusting us with this vital task, and we look forward to ensuring the safety and smooth traffic flow during this festive event.

D. L. De Leon

Office of the Chief of Police
Brownsville Police Department
600 E. Jackson St.
Brownsville, Texas 78520
Cell: 956-592-5274

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Martin Vega, Assistant Director of Land Development Services
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **APPROVAL** on **SECOND** and **FINAL READING** on **Ordinance Number 235-2026-021-PD**, to establish a Planned Development District (PD) to establish development-specific zoning regulations that would permit reduced setbacks, detached accessory structures in the front yard, and unique design standards for the proposed residences, for 2.817 acres, being all of Common Area 1 of Butterfly Grove Subdivision, Cameron County, Texas, located at 1903 Grove Lane, Brownsville, Texas 78526, as shown in Exhibit "A". (District 3) (Planning & Redevelopment Department)

Summary:

Property owner, Palo Alto Groves Owner's Association Inc., proposes to establish a Planned Development District (PD) to establish development-specific zoning regulations that would permit reduced setbacks, detached accessory structures in the front yard, and unique design standards for the proposed residences, for 2.817 acres, being all of Common Area 1 of Butterfly Grove Subdivision, Cameron County, Texas, located at 1903 Grove Lane, Brownsville, Texas 78526. The proposed Planned Development District will establish development specific zoning regulations that will primarily allow setbacks unique to the development as well as home design/model regulations permitting detached accessory structures in the front yard for the purpose of being used as an alternative dwelling unit or garage. The base zoning of the development will continue to be Residential Single Family (R-1).
The predominant land use in the surrounding area is undeveloped land. Additional uses, such as single-family development, Brownsville Sports Park, and railroad switch yard are also present within proximity of the subject property.

The property is located within the Employment Hub. The proposed zoning/use is consistent with the Future Land Use Map.

Project Scope and Analysis:

As background to the Planned Development District tool, staff would like to point out that the base zoning districts established by the UDC are intended to facilitate a broad range of development within appropriate areas of the city. However, staff recognizes that there are a variety of development types as well as unique areas within the city. Therefore, the intent of this tool is to provide a mechanism for a specialized zoning district that facilitates the creation of developments that are unique due to various factors. The PDD is intended to establish specific development standards that ensure each Planned Development exceeds the standards of the equivalent base zoning districts.
Because the subject residential development has irregular lot configurations due to the meandering design of the subdivision, building setbacks are unique for each property. Additionally, as per UDC requirements, detached alternative dwelling units (accessory structures) are only permitted behind the primary structure (residence). This requirement is intended to keep the primary structure's façade visibly unobstructed within the typical residential development. The approval of the PDD would alleviate issues with setbacks and would allow the proposed home configuration with the detached structure in the front yard throughout the subdivision.

The following conditions are tied to the proposed Planned Development District:

- Allow the proposed front setback of 20 feet
- Allow detached accessory structures in the front yard
- Allow unique design standards for the proposed residences

Staff finds that the requested PDD would permit a cohesive design pattern within the proposed development.

Funding:

Source: Fiscal Dept. Approval Not Required

Amount: N/A

Local Contribution if Applicable: N/A

Recommendation:

There was no written or verbal opposition at the Planning and Zoning Commission meeting on September 3, 2026. The Planning and Zoning Commission approves this request to create a Planned Development District (PD) to establish development-specific zoning regulations.

This item was approved by City Commission at 1st Reading on September 22, 2026.

Commission Pillar:

Planning & Zoning

Attachments:

1. Case 235-2026-021-PD Binder

ORDINANCE NUMBER 235-2026-021-PD

AN ORDINANCE AMENDING THE "CITY ZONING ORDINANCE" BY AMENDING THE OFFICIAL ZONING ATLAS TO ESTABLISH A PLANNED DEVELOPMENT DISTRICT (PD) TO ESTABLISH DEVELOPMENT-SPECIFIC ZONING REGULATIONS THAT WOULD PERMIT REDUCED SETBACKS, DETACHED ACCESSORY STRUCTURES IN THE FRONT YARD, AND UNIQUE DESIGN STANDARDS FOR THE PROPOSED RESIDENCES, FOR 2.817 ACRES, BEING ALL OF COMMON AREA 1 OF BUTTERFLY GROVE SUBDIVISION, CAMERON COUNTY, TEXAS, LOCATED AT 1903 GROVE LANE, BROWNSVILLE, TEXAS 78526.; AND DEALING WITH RELATED MATTERS INCLUDING $2000 PENALTIES.

WHEREAS, this ordinance is in accordance with the City's comprehensive plan; is consistent with the existing zoning surrounding the area to be rezoned; and bears a substantial relationship to the public health, safety, morals or general welfare; and all procedural requirements for the passage hereof have been met;

Be It Ordained by the City of Brownsville:

Section 1. That the City Commission of the City of Brownsville, Texas, hereby amends the "City Zoning Ordinance" by amending the Official Zoning Atlas To establish a Planned Development District (PD) to establish development-specific zoning regulations that would permit reduced setbacks, detached accessory structures in the front yard, and unique design standards for the proposed residences, for 2.817 acres, being all of Common Area 1 of Butterfly Grove Subdivision, Cameron County, Texas, located at 1903 Grove Lane, Brownsville, Texas 78526.

Section 2. The property described above and within the boundaries of the Planned Development District described by the ordinance establishes the following development-specific zoning regulations:

- Allow the proposed front setback of 20 feet.
- Allow detached accessory structures in the front yard
- Allow unique design standards for the proposed residences

Section 3. That all provisions of the City of Brownsville Unified Development Code are incorporated herein by reference and declared to be a part hereof; and that this ordinance shall become effective on the earliest date allowed by law.

INTRODUCED at a public hearing on **September 22, 2026**. Passed at First Reading on **September 22, 2026**. PASSED at Second and Final Reading and ADOPTED, APPROVED, and ENACTED on **October 6, 2026**.

(SEAL)

BY: _____
John Cowen Jr.
Mayor

ATTEST: _____
Mayra Rios
City Secretary

STAFF REPORT

Planning & Redevelopment Department
Zoning Division
1034 E. Levee St. 2nd Floor
Brownsville, TX 78520
(956) 548-6150

APPLICATION DETAILS

Applicant/Representative: Wendy Rodriguez
Property Address: 1903 Grove Lane
Application Type: Planned Development District (PDD)
Current Zoning: Residential Single-Family (R-1) / W Planned Development District (PDD)
Application Date: August 3, 2026
CC Meeting Dates: 1st – September 22, 2026 / 2nd - October 6, 2026
Overlay(s): None
No. of Mail-outs: 26

Geo ID: 77-3431-0000-0010-00
Case No.: 235-2026-021-PD
Proposed Use: Single Family Homes
Proposed Zoning: Residential Single Family (R-1) / Updated Planned Development District (PDD)
P&Z Date: September 3, 2026
Electoral District: 3
Annexation Year: 1999
Opposition: No Verbal or Written Opposition

PROPERTY DETAILS

Legal Description: 2.817 acres, being all of Common Area 1 of Butterfly Grove Subdivision, Cameron County, Texas, located at 1903 Grove Lane, Brownsville, Texas 78526.
Roadway Frontage: The subject property is fronting Old Alice Road, a Collector, and Grove Lane a Local Street.
Predominant Land Use: The predominant land use within the area is a mix of undeveloped land, with single family residential, commercial uses, and public spaces.

ABUTTING LAND USES (*SEE ATTACHED AERIAL VIEW MAP)*

North: Undeveloped Land, Commercial
East: Residential Single Family
South: Residential Single Family, Undeveloped Land
West: Public Space / Sports Park, Undeveloped Land

EXISTING ZONING DESIGNATIONS (*SEE ATTACHED ZONING MAP)*

North: Residential Transition (R-1), Regional Center (RC)
East: Residential Transition (R-1)
South: Residential Single Family (R-1), Residential Transition (R-3)
West: Regional Center (RC), Residential Transition (R-3)

FUTURE LAND USE PLAN (*SEE ATTACHED FUTURE LAND USE MAP)*

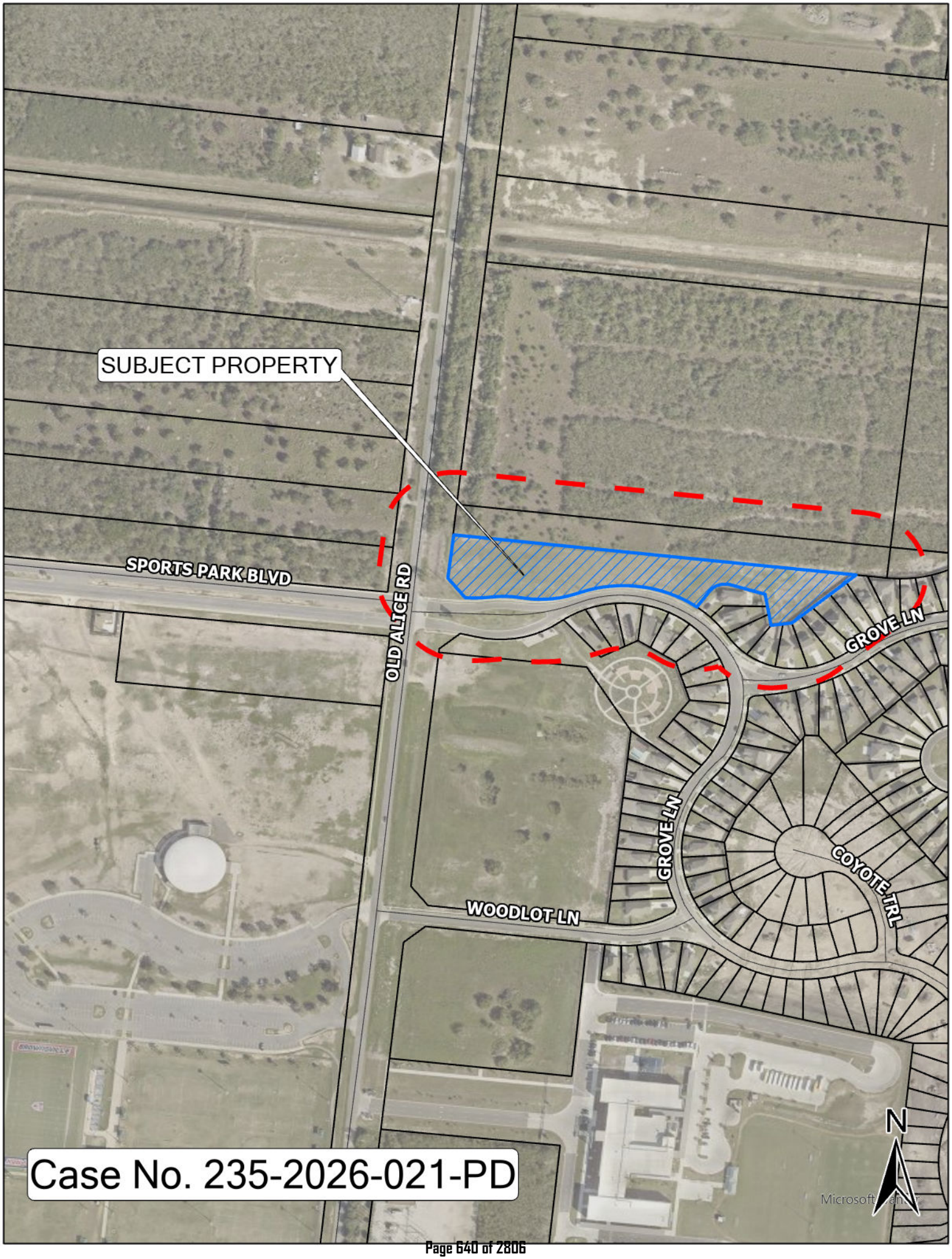
Land uses in the Employment Hub are half industrial with a healthy mixture of all other land uses. Residential land uses should be primarily single-family, duplex and triplex uses with an average density of 4 dwelling units per acre. This rezone request is consistent with the Future Land Use Plan.

REVIEW CRITERIA

After an analysis of the subject property and its surrounding context, staff has determined that the proposed zoning and associated use would be generally compatible with adjacent existing zoning districts and land uses, and would not place significant or undue strain on existing public infrastructure, including water, wastewater, and transportation systems. Staff is recommending a Planned Development District with the following conditions: reduced setbacks, detached accessory structures within the front yard, and unique design standards for the proposed residences.

STAFF RECOMMENDATION

Based upon the analysis presented in this report and observations from the Planning & Redevelopment Department, staff recommends approval of the Planned Development District (PDD) request to permit reduced setbacks, detached accessory structures in the fronts yard, and unique design standards for the proposed residences.


SUBJECT PROPERTY
SPORTS PARK BLVD
OLD ALICE RD
GROVE LN
GROVE LN
COYOTE TRL
WOODLOT LN
N
Case No. 235-2026-021-PD

City of Brownsville Zoning Map

Zoning Districts

- AG - Agricultural
- RE - Residential Estate
- R-1 - Residential Single Family
- R-2 - Residential Suburban
- R-3 - Residential Transition
- TN - Traditional Neighborhood
- TN-MU - Traditional Neighborhood Mixed Use
- TN-C - Traditional Neighborhood Corridor
- DE - Downtown Edge
- DG - Downtown General
- DC - Downtown Core
- CC - Corridor Commercial
- RC - Reginal Center
- LI - Ligtht Industrial
- HI - Heavy Industrial

EXHIBIT "A"

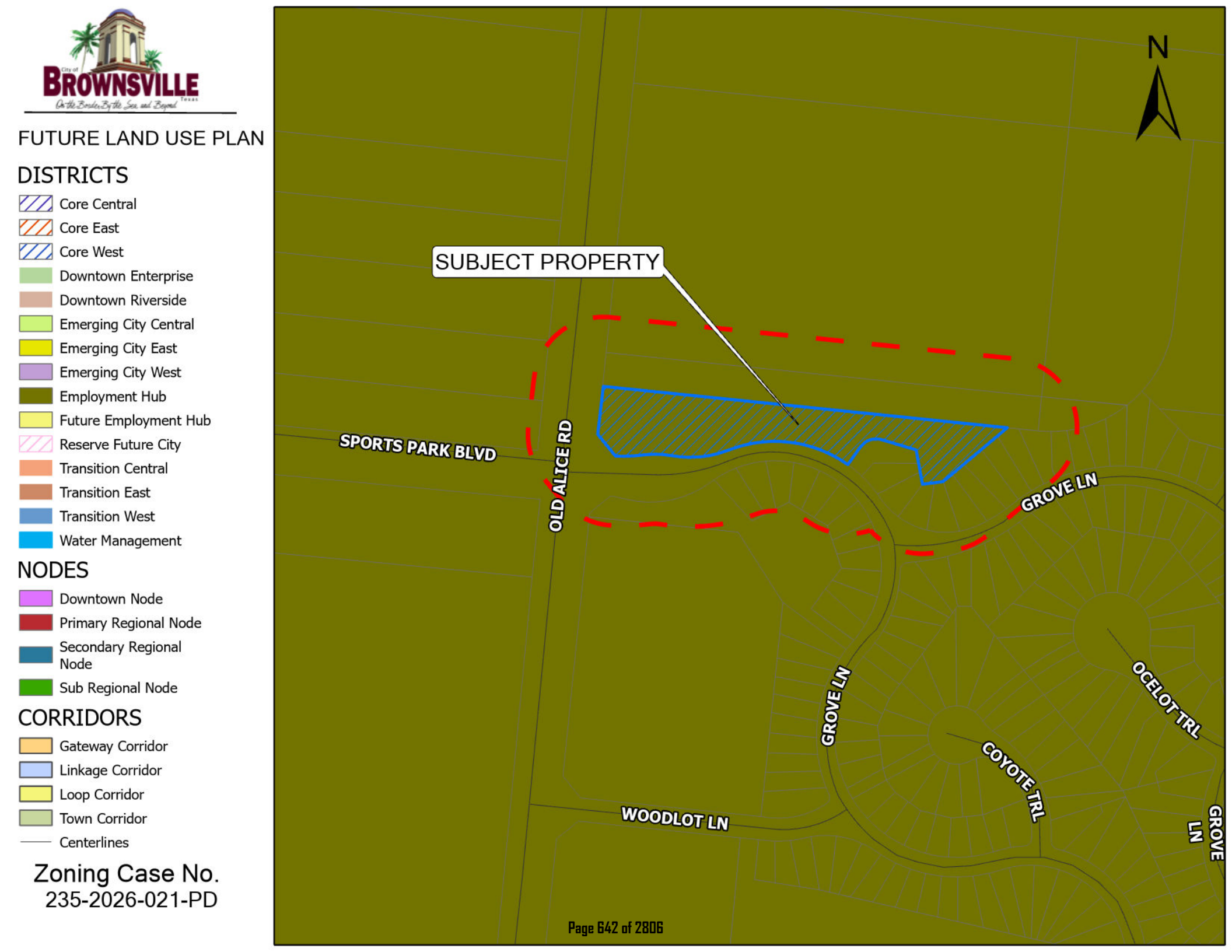
Address:
1903 Grove Ln,
Brownsville, Texas, 78526

Proposed Zoning:
Residential Single Family, R-1
w/ Updated PD

Current Zoning:
Residential Single Family, R-1 w/ PD

Brownsville Electoral District #3




FUTURE LAND USE PLAN
DISTRICTS
Core Central
Core East
Core West
Downtown Enterprise
Downtown Riverside
Emerging City Central
Emerging City East
Emerging City West
Employment Hub
Future Employment Hub
Reserve Future City
Transition Central
Transition East
Transition West
Water Management
NODES
Downtown Node
Primary Regional Node
Secondary Regional Node
Sub Regional Node
CORRIDORS
Gateway Corridor
Linkage Corridor
Loop Corridor
Town Corridor
Centerlines
Zoning Case No.
235-2026-021-PD
SUBJECT PROPERTY
N
SPORTS PARK BLVD
OLD ALICE RD
GROVE LN
GROVE LN
OCELOT TRL
COYOTE TRL
WOODLOT LN
GROVE LN

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Martin Vega, Assistant Director of Land Development Services
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **APPROVAL** on **SECOND** and **FINAL READING** on **Ordinance Number 235-2026-019**, to rezone from Residential Estate (RE) to Residential Single-Family (R-1) to allow a single-family residential development for a 1.00-acre tract of land out of Lot 4, Block 307, El Jardin Re-Subdivision, Cameron County, Texas, located at 835 South Indiana Avenue, Brownsville, Texas 78521, as shown in Exhibit "A". (District 1) (Planning & Redevelopment Department)

Summary:

Property owners, Alfredo M. Sobrevilla and Veronica Barrera, propose to change the Zoning Designation for a 1.00-acre tract of land out of Lot 4, Block 307, El Jardin Re-Subdivision, Cameron County, Texas, located at 835 South Indiana Avenue, Brownsville, Texas 78521. The applicant requests to rezone the subject property from Residential Estate (RE) to Residential Single-Family (R-1) to allow single-family development.
The predominant land use in the surrounding area is single-family dwelling. Additional uses, such as undeveloped land, multi-family development, and commercial uses, are also present within proximity of the subject property.

The property is located within the Loop Corridor. The proposed zoning/use is consistent with the Future Land Use Map.

Project Scope and Analysis:

The subject property consists of approximately 1.00 acre and is proposed to be subdivided into four single-family residential lots, each averaging approximately 0.25 acre in size.
The applicants are requesting a zoning reclassification because the property's current Residential Estate (RE) zoning district is intended for single-family residential development on larger lots and requires a minimum lot area of 20,000 square feet. The requested zoning designation would accommodate the proposed subdivision and allow the intended single-family residential uses on the resulting lots.

Because the subject property fronts an arterial roadway, access management requirements will also need to be addressed during the platting process. To minimize the number of individual access points along the arterial, the applicants will be required to provide shared driveways serving the proposed lots. This arrangement would reduce the number of driveway connections and turning points along the roadway to two, thereby improving access management and bringing the development into compliance with applicable City policy.

Staff finds that the proposed zoning designation would be appropriate for the area.

Funding:

Source: Fiscal Dept. Approval Not Required

Amount: N/A

Local Contribution if Applicable: N/A

Recommendation:

There was no written or verbal opposition at the Planning and Zoning Commission meeting on September 3, 2026. The Planning and Zoning Commission approves this rezoning from Residential Estate (RE) to Residential Single-Family (R-1).

This item was approved by City Commission at 1st Reading on September 22, 2026.

Commission Pillar:

Planning & Zoning

Attachments:

1. Case 235-2026-019 Binder

ORDINANCE NUMBER 235-2026-019

AN ORDINANCE AMENDING THE "CITY ZONING ORDINANCE" BY AMENDING THE OFFICIAL ZONING ATLAS TO REZONE FROM RESIDENTIAL ESTATE (RE) TO RESIDENTIAL SINGLE-FAMILY (R-1) TO ALLOW A SINGLE-FAMILY RESIDENTIAL DEVELOPMENT FOR A 1.00-ACRE TRACT OF LAND OUT OF LOT 4, BLOCK 307, EL JARDIN RE-SUBDIVISION, CAMERON COUNTY, TEXAS, LOCATED AT 835 SOUTH INDIANA AVENUE, BROWNSVILLE, TEXAS 78521.; AND DEALING WITH RELATED MATTERS INCLUDING $2000 PENALTIES.

WHEREAS, this ordinance is in accordance with the City's comprehensive plan; is consistent with the existing zoning surrounding the area to be rezoned; and bears a substantial relationship to the public health, safety, morals or general welfare; and all procedural requirements for the passage hereof have been met;

Be It Ordained by the City of Brownsville:

Section 1. That the City Commission of the City of Brownsville, Texas, hereby amends the "City Zoning Ordinance" by amending the Official Zoning Atlas To rezone from Residential Estate (RE) to Residential Single-Family (R-1) to allow a single-family residential development for a 1.00-acre tract of land out of Lot 4, Block 307, El Jardin Re-Subdivision, Cameron County, Texas, located at 835 South Indiana Avenue, Brownsville, Texas 78521.

Section 2. That all provisions of the City of Brownsville Unified Development Code are incorporated herein by reference and declared to be a part hereof; and that this ordinance shall become effective on the earliest date allowed by law.

INTRODUCED at a public hearing on **September 22, 2026**. Passed at First Reading on **September 22, 2026**. PASSED at Second and Final Reading and ADOPTED, APPROVED, and ENACTED on **October 6, 2026**.

(SEAL)

BY: _____
John Cowen Jr.
Mayor

ATTEST: _____
Mayra Rios
City Secretary

STAFF REPORT

Planning & Redevelopment Department
Zoning Division
1034 E. Levee St. 2nd Floor
Brownsville, TX 78520
(956) 548-6150

APPLICATION DETAILS

Applicant/Representative: Paco Aldape
Property Address: 835 S Indiana Avenue
Application Type: Rezone
Current Zoning: Residential Estate (RE)
Application Date: July 7, 2026
CC Meeting Dates: 1st – September 22, 2026 / 2nd - October 6, 2026
Overlay(s): None
No. of Mail-outs: 7

Geo ID: 74-7540-3070-0040-00
Case No.: 235-2026-019
Proposed Use: Residential Single Family
Proposed Zoning: Residential Single Family (R-1)
P&Z Date: September 3, 2026
Electoral District: 1
Annexation Year: 1995
Opposition: No Verbal or Written Opposition

PROPERTY DETAILS

Legal Description: An 1.00-acre tract of land out of Lot 4, Block 307, El Jardin Re-Subdivision, Cameron County, Texas, located at 835 South Indiana Avenue, Brownsville, Texas 78521.
Roadway Frontage: The subject property is fronting South Indiana Avenue, a Primary Arterial (R.O.W. 120')
Predominant Land Use: The predominant land use within the area is a mix of undeveloped land, scattered single and multi family residential and commercial uses.

ABUTTING LAND USES (*SEE ATTACHED AERIAL VIEW MAP)*

North: Single Family Residential
East: Extraterritorial Jurisdiction (ETJ)
South: Single Family Residential, Multi Family Residential
West: Undeveloped Land

EXISTING ZONING DESIGNATIONS (*SEE ATTACHED ZONING MAP)*

North: Residential Estate (RE), Residential Suburban (R-2)
East: Extraterritorial Jurisdiction (ETJ)
South: Residential Estate (RE), Agriculture (AG)
West: Residential Suburban (R-2), Light Industrial (LI)

FUTURE LAND USE PLAN (*SEE ATTACHED FUTURE LAND USE MAP)*

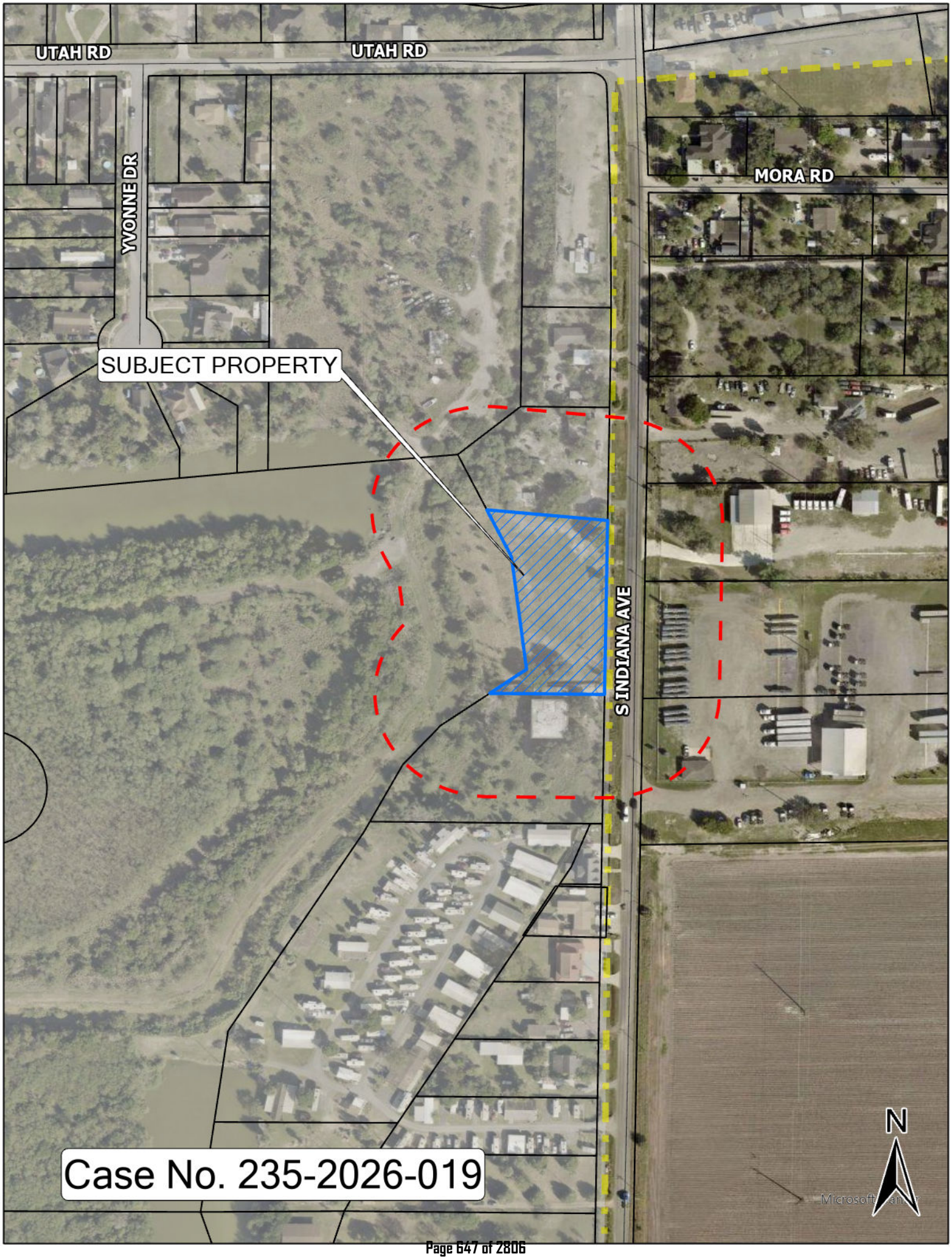
The City of Brownsville Future Land Use Plan indicates that the subject land is located within the Loop Corridor. Commercial uses are dominant but should include a healthy mixture of residential, institutional, industrial and community facility land uses. Residential land uses should be primarily single-family and attached apartment houses with an average density of 4 dwelling units per acre. It is the opinion of staff that the request is consistent with the Future Land Use Plan..

REVIEW CRITERIA

After an analysis of the subject property and its surrounding context, staff has determined that the proposed zoning and associated use would be generally compatible with adjacent existing zoning districts and land uses, and would not place significant or undue strain on existing public infrastructure, including water, wastewater, and transportation systems. Although single-family residential uses are permitted within the existing zoning district, the request is intended solely to allow for increased residential density within the proposed future single-family subdivision.

STAFF RECOMMENDATION

Based upon the analysis presented in this report and observations from the Planning & Redevelopment Department, staff recommends approval of the zoning change request from Residential Estate (RE) District to Residential Single Family (R-1) District.


UTAH RD
UTAH RD
YVONNE DR
MORA RD
SUBJECT PROPERTY
S INDIANA AVE
N
Case No. 235-2026-019

City of Brownsville Zoning Map

Zoning Districts

- AG - Agricultural
- RE - Residential Estate
- R-1 - Residential Single Family
- R-2 - Residential Suburban
- R-3 - Residential Transition
- TN - Traditional Neighborhood
- TN-MU - Traditional Neighborhood Mixed Use
- TN-C - Traditional Neighborhood Corridor
- DE - Downtown Edge
- DG - Downtown General
- DC - Downtown Core
- CC - Corridor Commercial
- RC - Reginal Center
- LI - Ligtht Industrial
- HI - Heavy Industrial

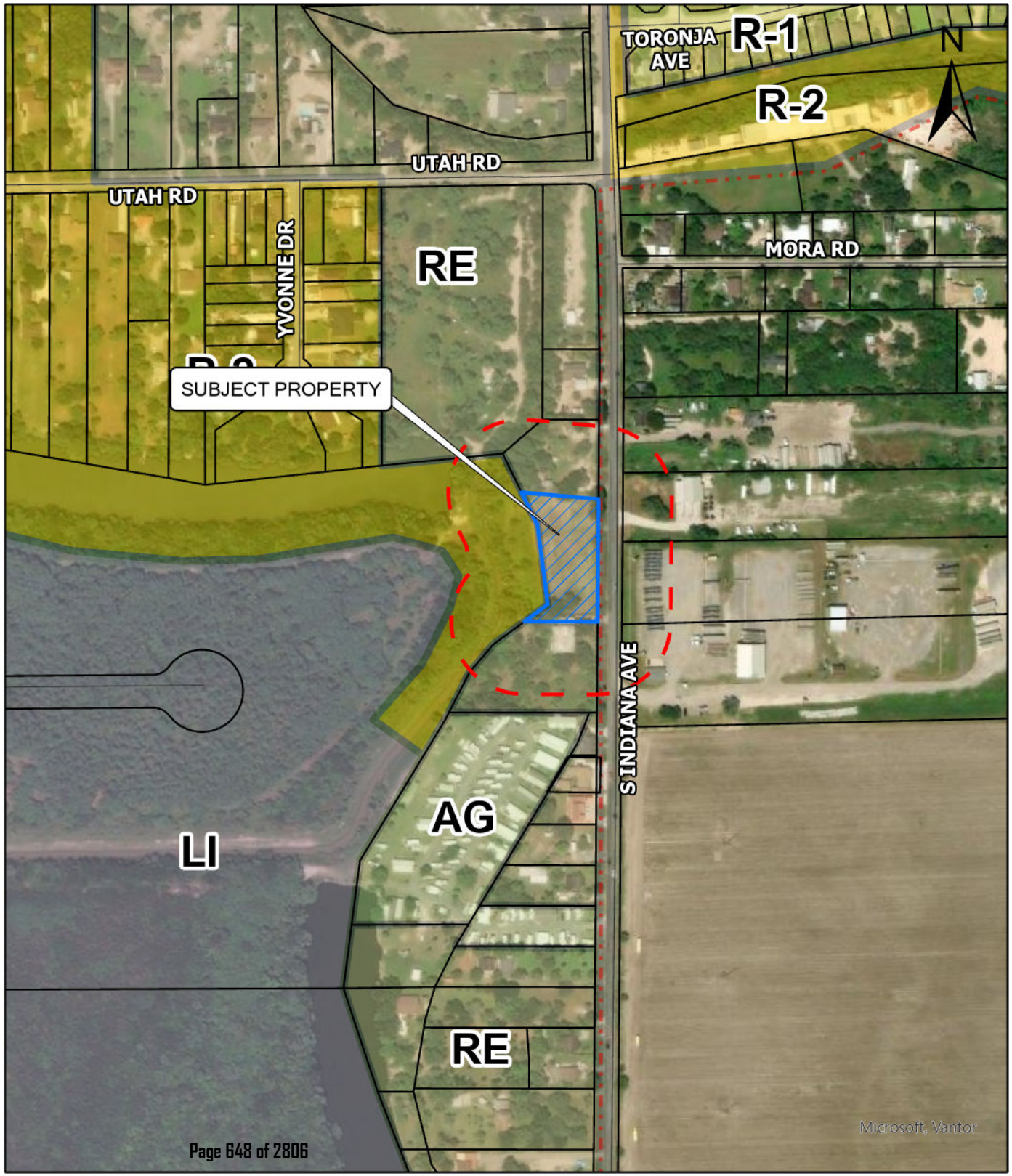
EXHIBIT "A"

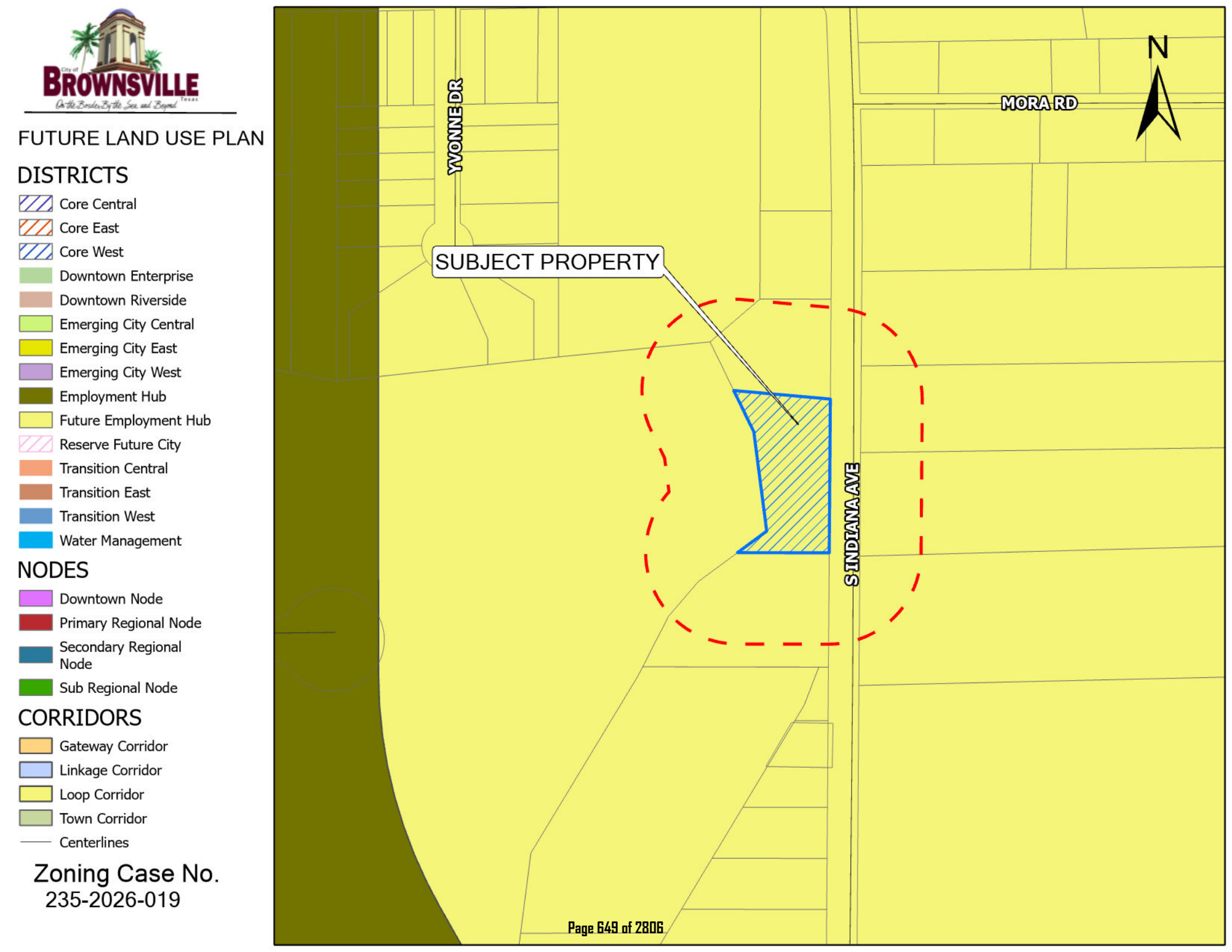
Address:
835 S Indiana Ave
Brownsville, Texas, 78521

Proposed Zoning:
Residential Single Family, R-1

Current Zoning:
Residential Estate, RE

Brownsville Electoral District #1




FUTURE LAND USE PLAN
DISTRICTS
Core Central
Core East
Core West
Downtown Enterprise
Downtown Riverside
Emerging City Central
Emerging City East
Emerging City West
Employment Hub
Future Employment Hub
Reserve Future City
Transition Central
Transition East
Transition West
Water Management
NODES
Downtown Node
Primary Regional Node
Secondary Regional Node
Sub Regional Node
CORRIDORS
Gateway Corridor
Linkage Corridor
Loop Corridor
Town Corridor
Centerlines
Zoning Case No.
235-2026-019
YVONNE DR
MORA RD
SUBJECT PROPERTY
S INDIANA AVE
N

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Martin Vega, Assistant Director of Land Development Services
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **APPROVAL** on **SECOND** and **FINAL READING** on **Ordinance Number 235-2026-022-S**, to request a Specific Use Permit in a Regional Center (RC) zoning district to allow an event center for Suite G, Lot 3, Block 1, Springmart I Subdivision Replat #2, Cameron County, Texas, located at 3231 Pablo Kisel Boulevard, Brownsville, Texas 78526, as shown in Exhibit "A". (District 3) (Planning & Redevelopment Department)

Summary:

Property owner, Leeds Group PK LLC., has requested a Specific Use Permit to allow an event center for Suite G, Lot 3, Block 1, Springmart I Subdivision Replat #2, Cameron County, Texas, located at 3231 Pablo Kisel Boulevard, Brownsville, Texas 78526.
The base zoning of the property is Regional Center (RC) and shall remain unchanged.
The predominant land use in the surrounding area is commercial development. Additional uses, such as undeveloped land, are also present within the vicinity.

The property is located within the Transition Central District. The request is consistent with the Future Land Use Map.

Project Scope and Analysis:

The subject property is currently developed as an existing commercial plaza located within the northern commercial area of the City. The subject tenant space is presently occupied by a Christian bookstore and has an approximate area of 2,800 square feet.
The applicant is proposing to expand and diversify the existing business by incorporating an event center component within the same tenant space. According to the applicant, the event center would primarily accommodate small family gatherings and celebrations while continuing to operate in conjunction with the bookstore use.

It is also important to note that the commercial plaza in which the proposed event center would be located provides approximately 150 on-site parking spaces. This existing parking supply would serve the various tenants within the plaza, including the proposed event center use.

Pursuant to the UDC, the establishment and operation of an event hall within city limits requires approval of a Specific Use Permit. A Specific Use Permit provides an additional layer of review and protection for surrounding properties by allowing the City to establish development standards intended to address potential use-related impacts, including noise.

If approved, the development shall be subject to the following conditions:

• Sound mitigation measures, including interior finish-out materials such as acoustic tiles or other approved sound-dampening insulation, shall be installed to ensure that noise levels do not exceed sixty (60) decibels when measured at the common property line shared by the noise-emitting use and adjacent residential zoning districts.

Funding:

Source: Fiscal Dept. Approval Not Required

Amount: N/A

Local Contribution if Applicable: N/A

Recommendation:

There was no written or verbal opposition at the Planning & Zoning Commission meeting on September 3, 2026. The Planning & Zoning Commission recommends approval for this Specific Use Permit to allow an event center in Regional Center (RC).

This item was approved by City Commission at 1st Reading on September 22, 2026.

Commission Pillar:

Planning & Zoning

Attachments:

1. Case 235-2026-022-S Binder

ORDINANCE NUMBER 235-2026-022-S

AN ORDINANCE AMENDING THE "CITY ZONING ORDINANCE" BY AMENDING THE OFFICIAL ZONING ATLAS TO ALLOW AN EVENT CENTER IN A REGIONAL CENTER (RC) ZONING DISTRICT FOR SUITE G, LOT 3, BLOCK 1, SPRINGMART I SUBDIVISION REPLAT #2, CAMERON COUNTY, TEXAS, LOCATED AT 3231 PABLO KISEL BOULEVARD, BROWNSVILLE, TEXAS 78526, CAMERON COUNTY, TEXAS; AND DEALING WITH RELATED MATTERS INCLUDING $2000 PENALTIES.

WHEREAS, this ordinance is in accordance with the City's comprehensive plan; is consistent with the existing zoning surrounding the area to be rezoned; and bears a substantial relationship to the public health, safety, morals or general welfare; and all procedural requirements for the passage hereof have been met;

Be It Ordained by the City of Brownsville:

Section 1. That the City Commission of the City of Brownsville, Texas, hereby amends the "City Zoning Ordinance" by amending the Official Zoning Atlas to allow an event center in a Regional Center (RC) zoning district to allow an event center for Suite G, Lot 3, Block 1, Springmart I Subdivision Replat #2, Cameron County, Texas, located at 3231 Pablo Kisel Boulevard, Brownsville, Texas 78526, as shown in Exhibit "A"; the area rezoned by this amendment being situated entirely within the corporate limits of Brownsville, Cameron County, Texas.

Section 2. That all provisions of the City of Brownsville Unified Development Code are incorporated herein by reference and declared to be a part hereof; and that this ordinance shall become effective on the earliest date allowed by law.

Section 3. The property described above and by this ordinance is subject to the following conditions:

- Sound mitigation measures and interior finish-out materials such as acoustic tiles or other approved sound-dampening insulators shall be installed to maintain a noise level less than or equal to sixty (60) decibels when measured at the common property line shared by the noise emitting use and adjacent residential zoning districts.

INTRODUCED at a public hearing on **September 22, 2026**. Passed at First Reading on **September 22, 2026**. PASSED at Second and Final Reading and ADOPTED, APPROVED, and ENACTED on **October 6**, **2026**.

(SEAL)

BY: _____
John Cowen Jr.
Mayor

ATTEST: _____
Mayra Rios
City Secretary

STAFF REPORT

Planning & Redevelopment Department
Zoning Division
1034 E. Levee St. 2nd Floor
Brownsville, TX 78520
(956) 548-6150

APPLICATION DETAILS

Applicant/Representative: Jesus Arredondo Almanza
Property Address: 3231 N Pablo Kisel, Suite G
Application Type: Specific Use Permit (SUP)
Current Zoning: Regional Center (RC)
Application Date: June 6, 2026
CC Meeting Dates: 1st – September 22, 2026 / 2nd - October 6, 2026
Overlay(s): None
No. of Mail-outs: 4

Geo ID: 07-9829-0010-0030-00
Case No.: 235-2026-0022-S
Proposed Use: Event Center
Proposed Zoning: Regional Center (RC) w/ SUP
P&Z Date: September 3, 2026
Electoral District: 3
Annexation Year: 1965-1984
Opposition: No Verbal or Written Opposition

PROPERTY DETAILS

Legal Description: Lot 3, Block 1, Springmart I Replat #2 Subdivision, Cameron County, Texas, located at 3231 Pablo Kisel Blvd, Brownsville, TX 78526.
Roadway Frontage: The subject property is fronting Pablo Kisel Blvd, a Collector.
Predominant Land Use: The predominant land use within the area is commercial.

ABUTTING LAND USES (*SEE ATTACHED AERIAL VIEW MAP)*

North: Commercial, Undeveloped Land
East: Commercial
South: Commercial
West: Commercial, Undeveloped Land

EXISTING ZONING DESIGNATIONS (*SEE ATTACHED ZONING MAP)*

North: Regional Center (RC)
East: Regional Center (RC)
South: Regional Center (RC)
West: Regional Center (RC)

FUTURE LAND USE PLAN (*SEE ATTACHED FUTURE LAND USE MAP)*

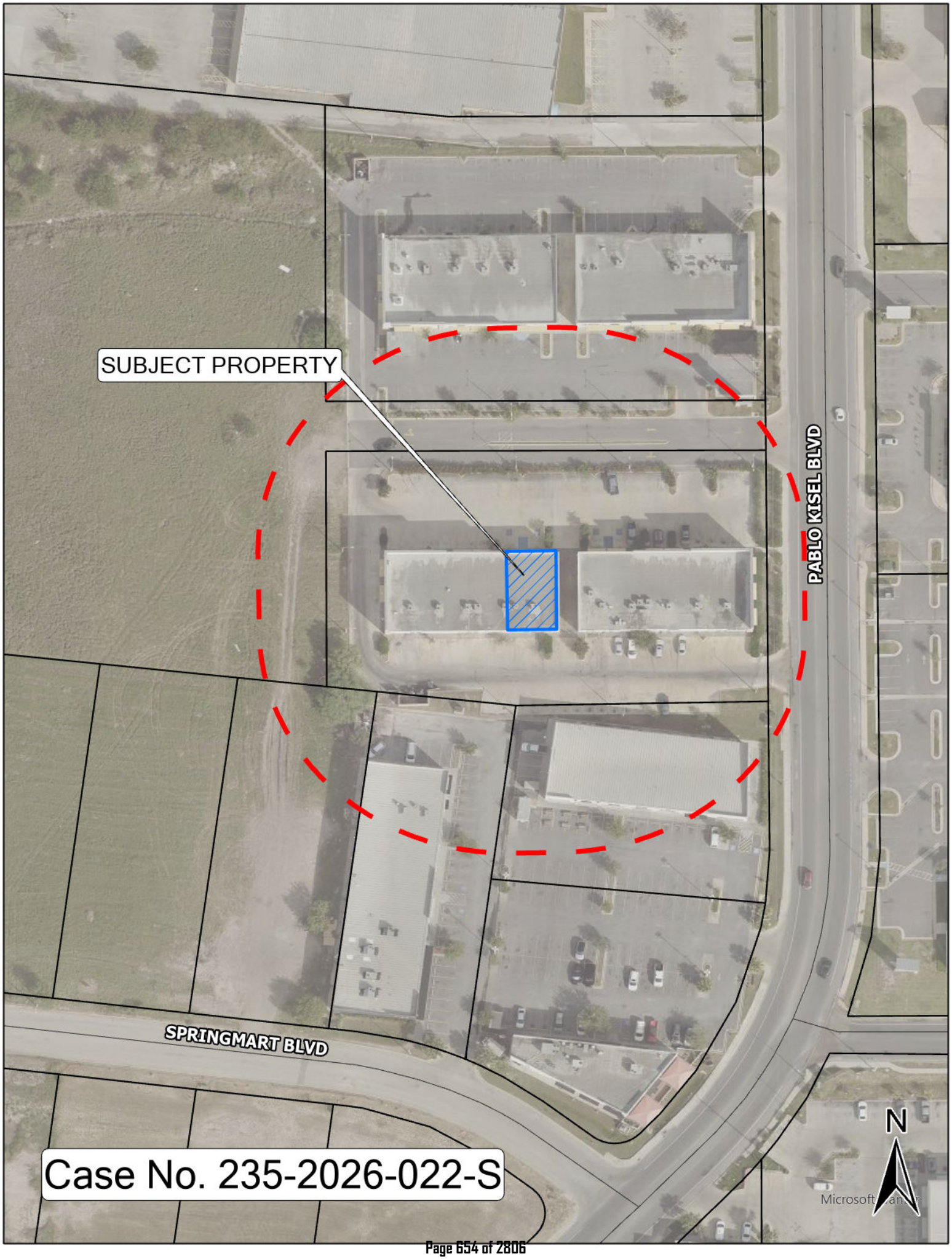
The City of Brownsville Future Land Use Plan indicates that the subject land is located within the Transition Central District. Commercial uses should be neighborhood and service oriented and could include both light and medium industry and warehousing. Residential land uses should be primarily single-family with an average density of 2 dwelling units per acre in a variety of lot sizes to create visual variation within the District and encourage the formation of distinct neighborhoods. It is the opinion of staff that the request is not consistent with the Future Land Use Plan.

REVIEW CRITERIA

After an analysis of the subject property and its surrounding context, staff has determined that the proposed Specific Use Permit and associated use would be generally compatible with adjacent existing zoning districts and land uses, and would not place significant or undue strain on existing public infrastructure, including water, wastewater, and transportation systems. Approval of an event center is conditioned on compliance to sound mitigation requirments.

STAFF RECOMMENDATION

Based upon the analysis presented in this report and observations from the Planning & Redevelopment Department, staff recommends approval of the Specific Use Permit (SUP) request for an event center within the existing Regional Center (RC) District, subject to sound mitigation requirements and site review approval during the Certificate of Occupancy process.


SUBJECT PROPERTY
PABLO KISEL BLVD
SPRINGMART BLVD
N
Case No. 235-2026-022-S

City of Brownsville Zoning Map

Zoning Districts

- AG - Agricultural
- RE - Residential Estate
- R-1 - Residential Single Family
- R-2 - Residential Suburban
- R-3 - Residential Transition
- TN - Traditional Neighborhood
- TN-MU - Traditional Neighborhood Mixed Use
- TN-C - Traditional Neighborhood Corridor
- DE - Downtown Edge
- DG - Downtown General
- DC - Downtown Core
- CC - Corridor Commercial
- RC - Reginal Center
- LI - Ligtht Industrial
- HI - Heavy Industrial

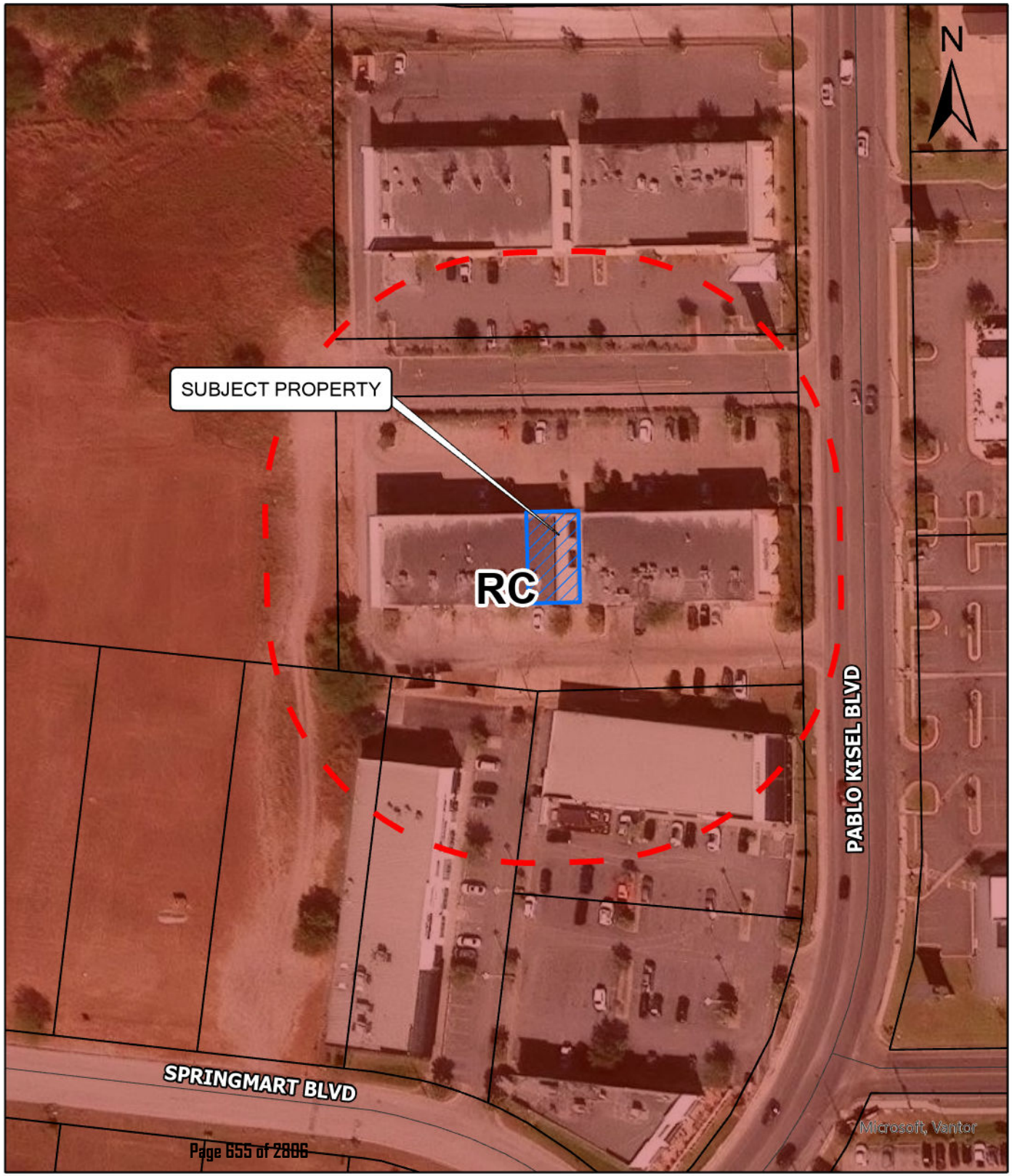
EXHIBIT "A"

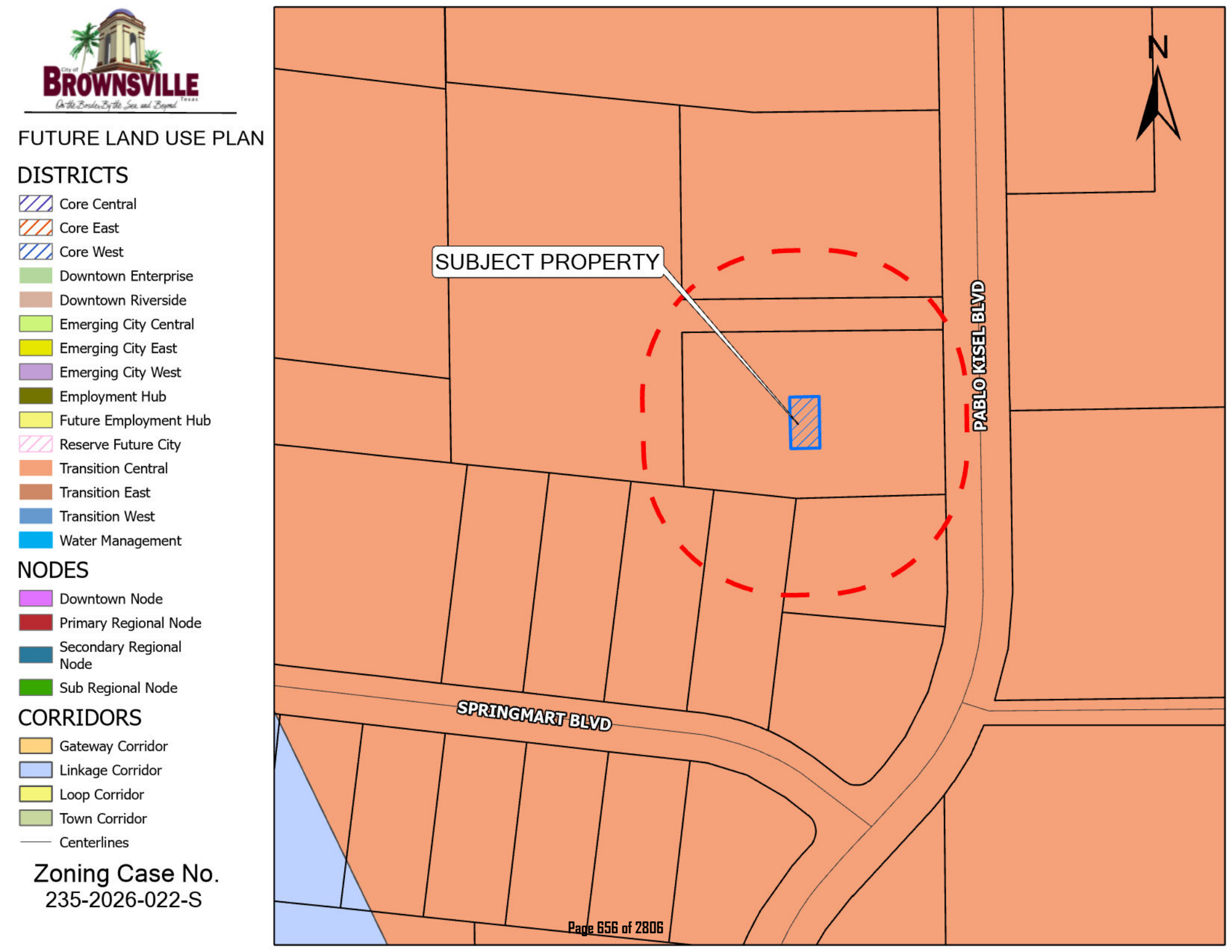
Address:
3231 Pablo Kisel Blvd, Ste. G,
Brownsville, Texas, 78526

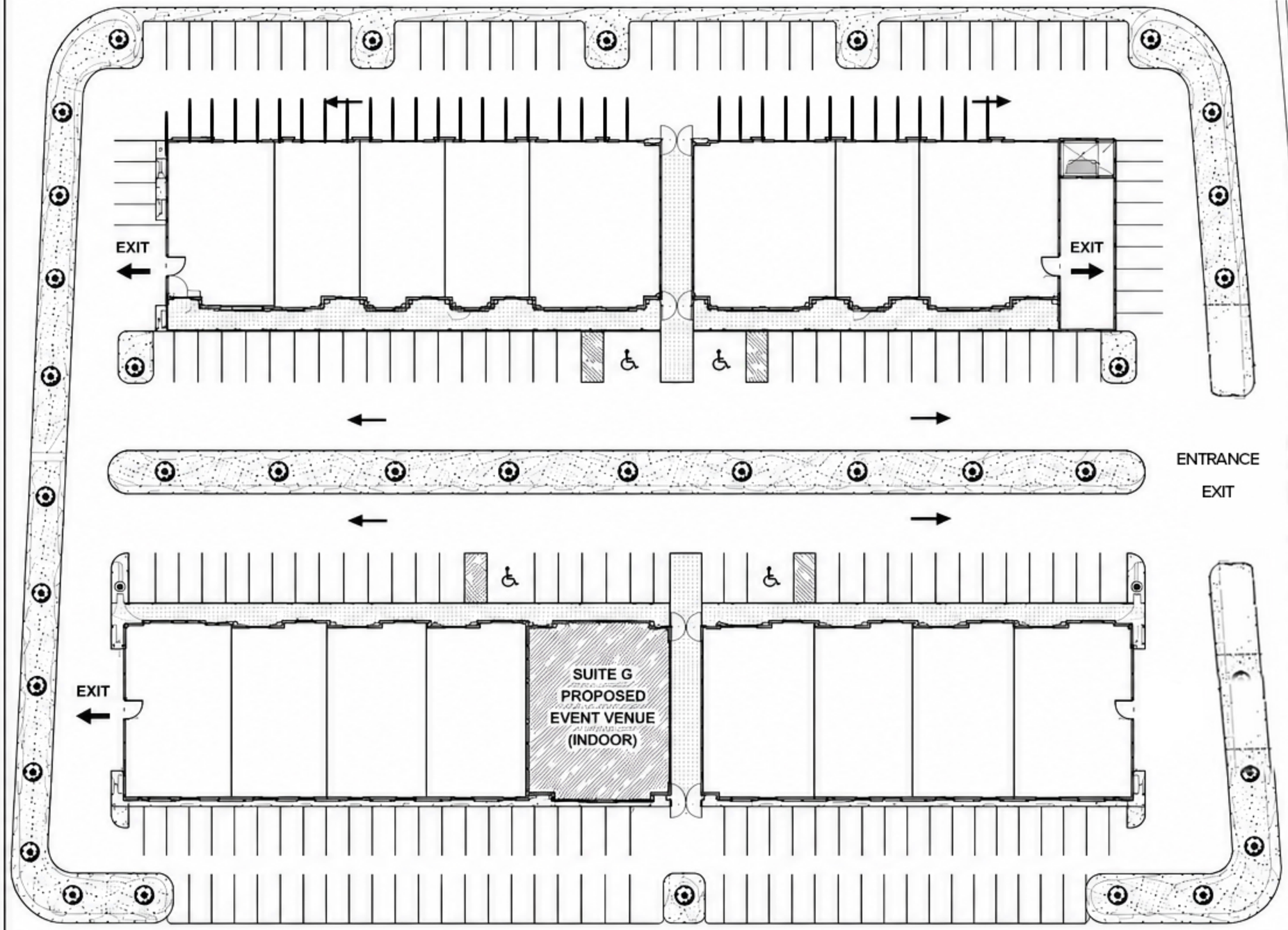
Proposed Zoning:
Regional Center, RC
w/ SUP

Current Zoning:
Regional Center, RC

Brownsville Electoral District #3

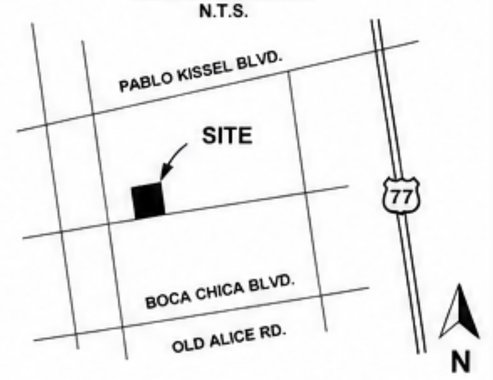



FUTURE LAND USE PLAN
DISTRICTS
Core Central
Core East
Core West
Downtown Enterprise
Downtown Riverside
Emerging City Central
Emerging City East
Emerging City West
Employment Hub
Future Employment Hub
Reserve Future City
Transition Central
Transition East
Transition West
Water Management
NODES
Downtown Node
Primary Regional Node
Secondary Regional Node
Sub Regional Node
CORRIDORS
Gateway Corridor
Linkage Corridor
Loop Corridor
Town Corridor
Centerlines
Zoning Case No.
235-2026-022-S
SUBJECT PROPERTY
PABLO KISEL BLVD
SPRINGMART BLVD
N



VICINITY MAP

N.T.S.



SITE INFORMATION

PROPERTY ADDRESS:
3231 PABLO KISSEL BLVD.
BROWNSVILLE, TEXAS 78526

PROJECT:
PROPOSED EVENT VENUE

LOCATION:
SUITE G

DEVELOPMENT TYPE:
COMMERCIAL TENANT FINISH-OUT

PLAN TYPE:
CONCEPTUAL MASTER PLAN

LEGEND

- PROPOSED EVENT VENUE (SUITE G)
- EXISTING BUILDING (RETAIL)
- LANDSCAPING / GREEN AREA
- HANDICAP PARKING
- DIRECTION OF TRAFFIC
- ENTRY / EXIT

ADDITIONAL INFORMATION

- 190 PARKING SPACES AVAILABLE THROUGHOUT THE PLAZA.
- OPERATING HOURS WILL BE DIFFERENT FROM OTHER ESTABLISHMENTS AND BUSINESSES.
- THERE IS SUFFICIENT PARKING SPACE BECAUSE THE BUSINESSES AROUND OPEN AFTER 10:00 PM.
- THE MAXIMUM OCCUPANCY CAPACITY OF THE EVENT VENUE (SUITE G) IS 80 PERSONS.

CONCEPTUAL MASTER PLAN

SUNSHINE PLAZA
3231 PABLO KISSEL BLVD.
BROWNSVILLE, TEXAS 78526

NORTH

SHEET NO.
S-1
SITE PLAN
CONCEPTUAL

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Felix Sauceda Jr., Deputy City Manager
Date:	Tuesday, October 6, 2026
Agenda #:	Public Hearing and **ACTION** to authorize the City of Brownsville Police Department to apply for the FY 2026 Edward Byrne Memorial Justice Assistance Grant (JAG) Program Local Solicitation application for the amount of $90,450. (Police Department)

Summary:
The City of Brownsville will serve as the fiscal agent for the FY 2026 Edward Byrne Memorial Justice Assistance Grant (JAG) Program Local Soliciation. Funding from this grant will be divided between the City of Brownsville for $67,817 and Cameron County $22,633. The U.S. Department of Justice, OJP, BJA, requires the application be available for review by the fiscal agent's governing body and to the public for comment. All entities propose purchasing various equipment items.

Project Scope and Analysis:
Public Hearing is a requirement for the FY 2026 Edward Byrne Memorial Justice Assistance Grant (JAG) Program Local Solicitation.

Funding:

Source: "TBD Pending Award"

Amount: $90,450.00

Local Contribution if Applicable: N/A

Recommendation:
Staff Recommends Approval

Commission Pillar:
Public Safety

Attachments:

1. JAG 2026 NOFO

OMB No. 1121-0329
Approval Expires 02/28/2027

BJA FY 2026 Edward Byrne Memorial Justice Assistance Grant (JAG) Program—Local Formula

Grants.gov Funding Opportunity Number: O-BJA-2026-172705

Application Deadlines in Eastern Time (ET):

1. Complete SF-424 and submit in Grants.gov: **October 9, 2026, by 11:59 p.m. ET**
2. Submit full application in JustGrants: **October 16, 2026, by 8:59 p.m. ET**

Bureau of Justice Assistance
U.S. Department of Justice

Contents

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2. Eligibility 4
3. Program Description 5
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5. Submission Requirements and Deadlines 13
6. Application Review Information 14
7. Award Notices 14
8. Post-Award Requirements & Administration 14
9. Questions? 14

1. BASIC INFORMATION

Purpose of the Funding

The Office of Justice Programs (OJP) is committed to advancing work that furthers the U.S. Department of Justice's (DOJ) mission to keep our country safe and secure and uphold the rule of law and protect the rights of American citizens. OJP provides federal leadership, funding, and other critical resources to directly support law enforcement, combat violent crime, protect American children, provide services to American crime victims, and address public safety challenges, including human trafficking and the opioid crisis.

This is a notice of funding opportunity (NOFO) for the **BJA FY 2026 Edward Byrne Memorial Justice Assistance Grant (JAG) Program—Local Formula**. This opportunity will provide formula funding to eligible units of local government to, in general, support hiring additional personnel and/or purchase equipment, supplies, contractual support, training, technical assistance, and information systems for criminal justice or civil proceedings, including for any one or more of the following program areas:

1. Law enforcement programs.
2. Prosecution and court programs.
3. Prevention and education programs.
4. Corrections and community corrections programs.
5. Drug treatment and enforcement programs.
6. Planning, evaluation, and technology improvement programs.
7. Crime victim and witness programs (other than compensation).
8. Mental health programs and related law enforcement and corrections programs, including behavioral programs and crisis intervention teams.
9. Implementation of state crisis intervention court proceedings and related programs or initiatives, including but not limited to mental health courts, drug courts, veterans courts, and extreme risk protection order programs.
10. Programs to purchase and operate unmanned aircraft systems (as defined in section 44801 of title 49, United States Code) to benefit public safety.
11. Programs to purchase and operate counter-UAS systems (as defined in section 44801 of title 49, United States Code) included on the list of technologies established by subsection (d)(2)(A)(iii) section 210G of the Homeland Security Act of 2002 (6 U.S.C. 124n(d)(2)(A)(iii)) to exercise the authority granted under subsection (a)(2) of such section.

Additionally, JAG funds awarded under this NOFO may be used for any purpose indicated here: Purposes for Which Funds Awarded Under the Edward Byrne Memorial Justice Assistance Grants (JAG) Program May Be Used.

See the Eligible Applicants section for eligibility details.

Funding Details

Announcement Type	Initial
Assistance Listing Number	16.738
Statutory Authority	Pub. L. No. 90-351, Title I, Part E, subpart 1 (codified at 34 U.S.C. 10151 - 10158); see also 28 U.S.C. 530C(a)
Grants.gov Opportunity Number	O-BJA-2026-172705
Expected Total Amount of Funding	Up to $96,518,469
Anticipated Number of Awards	1,190
Award Type(s)	Grants
Anticipated Award Amount	Up to $4,964,030
Expected Award Period(s)	24 months (awards less than $25,000) or 48 months (awards $25,000 or more) starting on October 1, 2025

Key Dates and Times

NOFO Release Date	August 25, 2026
SAM.gov Registration/Renewal	Begin the process by September 1, 2026, and no later than September 9, 2026
Step 1: Grants.gov Deadline	11:59 p.m. ET on October 9, 2026
Step 2: JustGrants Deadline	8:59 p.m. ET on October 16, 2026

See Questions? at the end of this NOFO for agency contact information.

2. ELIGIBILITY

Eligible Applicants

The types of entities that are eligible to apply are:

Government Entities

- County governments
- City or township governments
- Special district governments
- Native American tribal governments (federally recognized)

Other

- Other units of local government

"Other" Entities Definition:

- By law, for purposes of the JAG Program, the term "units of local government" includes a town, township, village, parish, city, county, borough, or other general-purpose political subdivision of a state, or it may be a federally recognized American Indian tribal government that performs law enforcement functions (as determined by the Secretary of the Interior). A unit of local government also may be any law enforcement district or judicial enforcement district established under applicable state law with authority to independently establish a budget and impose taxes; for example, in Louisiana, a unit of local government means a district attorney or parish sheriff.

Prior to starting an application to this NOFO, all prospective unit of local government applicants should check the JAG Allocations page and the link to their relevant state to determine if they are eligible for a direct award from BJA.

- Only one eligible unit of local government that is a member of a disparate group may apply for funding as the fiscal agent for the other members of the group.
- Applications from ineligible units of local government (*i.e.,* not listed in the allocation charts) will not be accepted for funding.

Cost Sharing (Match) Requirement: This NOFO does **not** require cost sharing (match).

3. PROGRAM DESCRIPTION

Statutory Authority

Pub. L. No. 90-351, Title I, Part E, subpart 1 (codified at 34 U.S.C. 10151-10158); see also 28 U.S.C. 530C(a)

Agency Funding Priorities

In order to advance public safety and help meet its mission, OJP's priorities include:

a. Directly supporting law enforcement operations (including immigration law enforcement operations);
b. Combatting violent crime;
c. Supporting services to American citizens;
d. Protecting American children; and
e. Supporting American victims of trafficking and sexual assault.

Areas of Emphasis

BJA recognizes that many state and local criminal justice systems currently face challenging fiscal environments and that an important, cost-effective way to relieve those pressures is to share or leverage resources through cooperation among federal,

state, local, tribal, and territorial law enforcement. BJA encourages state and local recipients of FY 2026 JAG funding to join federal law enforcement agencies in addressing the following challenges.

Combating Violent Crime: JAG funds may be used to implement, enhance, or expand projects that combat violent crime. This should include directly supporting law enforcement operations.

Specific activities could include addressing human trafficking of American citizens; dismantling criminal gangs, street crews, and drug networks, including drug manufacturing, dealing, and trafficking; and cracking down on the open use of illegal drugs. State and local agencies are encouraged to coordinate with their United States Attorneys and Project Safe Neighborhoods grantees in order to leverage JAG funding for violent crime reduction projects, including the DOJ Operation Take Back America to eliminate cartels and transnational criminal organizations, and to coordinate their law enforcement activities with those of federal law enforcement agencies such as the Federal Bureau of Investigation (FBI); the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF); the Drug Enforcement Administration; the United States Marshals Service; and the Department of Homeland Security. Further, state and local agencies may use JAG funds to protect the public, critical infrastructure, mass gathering events, and public facilities from threats posed by the careless or unlawful use of unmanned aircraft systems (UAS), as well as to interrupt drug cartels' use of UAS for smuggling and surveilling law enforcement, to include purchase of UAS (see BJA's UAS page for prior approval requirements before using JAG funds for UAS or counter-UAS) or equipment or services for the detection, tracking, or identification of drones and drone signals.

Immigration Enforcement: State and local agencies may use JAG funds to partner with federal law enforcement on immigration enforcement operations (e.g., information sharing, entering into and fully participating in a 287(g) partnership and/or a Homeland Security Task Force, honoring detainers, protecting critical infrastructures, and information/intelligence problems).

Safe Communities: State and local agencies may use JAG funds to support services to American citizens and American victims of crime to create safe communities. JAG funds can be used to collaborate with federal law enforcement and task forces to address endemic vagrancy and encampments that create safe havens for drugs, crime, and human trafficking. Additionally, state and local agencies may use JAG funds to focus on improving public order and quality of life through enforcement and prosecution of nuisance abatement and blight including, among other things, petty larceny and criminal damage to property, as well as utilization of maximally flexible civil commitment, institutional treatment, and step-down treatment standards to address untreated mental health and substance use disorders. JAG funds may also be used to support American victims of trafficking and sexual assault.

Safe Houses of Worship: State and local agencies may use JAG funds to respond to and deter threats to houses of worship and other religious institutions, including religious schools. Religious institutions have recently been targeted for acts of violence and desecration. These organizations typically lack sufficient security resources to respond to heightened threats. State and local law enforcement support to houses of worship, religious schools, and other religious institutions is an effective way to combat such threats.

Unallowable Activities: The following are certain unallowable costs and certain activities that are out of the program scope and will not be funded.

1. Out of program scope is any program or activity, at any tier that, directly or indirectly, violates (or promotes or facilitates the violation of) federal immigration law (including 8 U.S.C. § 1373) or impedes or hinders the enforcement of federal immigration law—including by failing to comply with 8 U.S.C. § 1373, give access to DHS agents, or honor DHS requests and provide requested notice to DHS agents.
2. Out of program scope is any program or activity, at any tier that violates any applicable Federal civil rights or nondiscrimination law. This includes violations that (1) indirectly violate the law, including by promoting or facilitating violations; or (2) unlawfully favor individuals in any race or protected group, including on a majority or minority, or privileged or unprivileged, basis, within a given area, population, or sector.
3. As specified in the DOJ Grants Financial Guide, in Chapter 3.13 “Unallowable Costs” (“Legal Services for Aliens”), any obligations of funds, at any tier, under this award to provide (or to support the provision of) legal services to any removable alien or any alien otherwise unlawfully present in the United States shall be unallowable costs for purposes any award made under this notice, but the foregoing shall not be understood to apply: (1) to legal services to obtain protection orders for victims of crime; or (2) to immigration-related legal services that may be expressly authorized or required by any law, or any judicial ruling, governing or applicable to the award.

Formula Allocations

The FY 2026 Local JAG Allocations are listed on the JAG Allocations website, with separate lists for each state. According to the JAG Program statute, a “disparity” may exist between the funding eligibility of a county and its associated municipalities. See 34 U.S.C. § 10156(d)(4). **Units of local government identified as disparate must select a fiscal agent that will submit an application for the total allocation that includes all disparate jurisdictions.** See the JAG FAQs for more information on the requirements for disparate groups.

The JAG statutory formula is fully described within the JAG Technical Report.

Other JAG Statutory Requirements

Certification and Assurances: The JAG statute, at 34 U.S.C. § 10153 (A)(1-5), details requirements related to governing body review and public comment of a JAG application, prohibition on supplanting, as well as other requirements for which JAG recipients must submit to BJA certification and assurances.

Prohibited Items: The JAG statute, at 34 U.S.C. § 10152, prohibits the use of JAG funds for certain items, and it prohibits the use of JAG funds for other items unless BJA grants a waiver. The JAG Prohibited Expenditures Guidance provides lists, details, definitions, and procedures for prohibited expenditures under the BJA JAG Program.

Administrative Costs: The JAG statute, at 34 U.S.C. § 10152, requires that not more than 10 percent of a JAG grant may be used for costs incurred to administer such grant.

Trust Fund: The JAG statute, at 34 U.S.C. § 10158, requires that a state or unit of local government that elects to draw down JAG funds in advance must establish a trust fund in which to deposit amounts. The trust fund must be in an interest-bearing account, unless one of the exceptions in 2 C.F.R. § 200.305(b)(11) apply.

Goals and Objectives of This Funding Opportunity

Goal: Improve the administration of the criminal justice system.

- **Objective 1:** Provide units of local government with additional personnel, equipment, supplies, contractual support, training, technical assistance, and information systems.
- **Objective 2:** Assist units of local government with their criminal justice needs.

For a description of how awards under this NOFO will contribute to achieving these goals and objectives, see the Performance Reports section below.

Expected Outcomes

OJP expects recipients to submit deliverables and performance reports, as described below. Read the Application Resource Guide for more information. OJP will measure success by reviewing a recipient's submission of performance reports and data and the extent to which project implementation reflects progress toward the goals and objectives of this NOFO.

Deliverables

Recipients do not need to submit any deliverables other than the standard items in the Post-Award Requirements and Administration section.

Performance Reports

OJP requires recipients to submit regular performance reports that communicate progress toward achieving Program Goals and Objectives. Read information on performance reporting.

Award recipients will receive further guidance on post award reporting requirements.

4. APPLICATION CONTENTS AND FORMAT

Application Contents List

The table below lists the contents for your application. Refer to the DOJ Grant Application Submission Checklist for application instructions.

Application Item	Submission Type
Step 1: Grants.gov	
Application for Federal Assistance: SF-424	Online Form
Step 2: JustGrants	
Standard Applicant Information	Online Form
Proposal Abstract	Text Box
Data Requested With Application • Financial Management and System of Internal Controls Questionnaire (including Applicant Disclosure of High-Risk Status) • JAG Survey	Online Form
Proposal Narrative	Attachment
Budget	Attachment
Other Budget/Financial Attachments • Indirect Cost Rate Agreement (if applicable) • Consultant Rate (if applicable)	Attachment
Additional Application Components • Certifications and Assurances by the Chief Executive of the Applicant Government • BWC Policy Certification (if applicable) • Body Armor Mandatory Wear Certification (if applicable) • Extreme Risk Protection Order (ERPO) Certification (if applicable) • Prohibited Expenditure Waiver Request (if applicable) • Unmanned Aircraft System (UAS) Certification (if applicable) • Counter-UAS Certification (if applicable)	Attachment

Standard Applicant Information

Review and edit as needed the information imported from the SF-424 submitted in Grants.gov. Add ZIP codes for areas affected by the project.

Proposal Abstract

In JustGrants, enter a proposal abstract (limited to 2,000 characters) summarizing the proposed project. As abstracts for funded projects are public, do not include any personally identifying information (e.g., staff names). Examples of brief Proposal Abstracts are included below.

JAG Abstract Examples

- The city of [insert] will use JAG funds for overtime for increased patrols to bolster the security of at-risk religious institutions, such as houses of worship and religious schools.
- The county of [insert] will use JAG funds to purchase police cruisers and officer personal protected equipment for increased law enforcement operations.

Disparate JAG Abstract Example

- The disparate jurisdictions of [insert] and [insert] will use JAG funds for technology improvements and law enforcement equipment. Specifically, the county of [insert] will use JAG funds to replace its records management system, and the city of [insert] will use JAG funds to purchase ruggedized laptops for officers.

Data Requested With Application

Financial Management and System of Internal Controls Questionnaire (including Applicant Disclosure of High-Risk Status)

Review information on this questionnaire.

JAG Survey

Applicants will be required to respond to JAG specific survey questions as part of the JustGrants application. Please refer to the steps below to help guide you through initiating, completing, modifying, and obtaining the status of the survey in the JustGrants system:

1. To initiate the survey, click on the survey title to open.
2. When you have completed the survey, click the “Finish” button in the lower right corner of the screen. The system will direct you to a review screen displaying your survey responses.
3. To go back to the main application screen, go to the “Actions” menu in the top right corner of the screen and select “Close” to exit the survey review screen.
4. The survey you just completed will still display an “Open” status. To confirm the completed status of your survey, go back to the “Actions” menu and select

"Refresh." The status of your completed survey will change to "Resolved—Completed."

5. To verify responses to a completed survey, click the survey title to reopen it and view your saved responses.
6. To change and/or update responses to a completed survey, click the "Reopen" option to update your saved responses.

Proposal Narrative

Format of the Proposal Narrative

Submit the narrative as an attachment in JustGrants.

Sections of the Proposal Narrative

The Proposal Narrative must include the three sections listed below.

1. Description of the Need: What critical issue or problem do you propose to address with this project? Please include:

- Identify the issues the unit(s) of local government intend(s) to address with JAG funds, to include gaps in the jurisdiction's needed resources for criminal justice purposes.

2. Project Design and Implementation: How will you implement project activities that meet the project goals and objectives? Please include the following:

- Describe how JAG funds will be coordinated with state and related justice funds.
- Provide description of the programs to be funded over the grant period, to include any subawards.

3. Capabilities and Competencies: What administrative and technical capacity and expertise do you bring to successfully complete this project? Please include:

- Describe the applicant's capacity to deliver the proposed project and meet the requirements of the award, including collecting and reporting the required performance measure data. Who will be responsible for this task, and how will the applicant collect the data? Refer to Program Description: Performance Reports for additional details on performance measures for this funding opportunity.

Project Evaluations: An applicant that proposes to use award funds to conduct project evaluations must follow the guidance on project evaluations.

Budget and Associated Documentation

Budget

Use the Budget Detail Separate Attachment (attach file in JustGrants) to submit the budget. Read information on budget preparation and JustGrants Application Submission Training.

- List each cost needed to implement the project under the appropriate cost category.

- Clearly name and describe each cost.
- Show the computation of each cost (e.g., cost per unit, number of units, and total cost).
- Enter narrative, as needed, to explain the cost calculations and connection to your project goals, objectives, and activities.
- Include only costs that are reasonable, allocable, and necessary to implement the project. They must be allowable under the funding statute and agency requirements.[1]

The following information specific to this funding opportunity will help you develop your project budget:

- In addition to the instructions above, Local JAG applicants must include in the budget worksheet the following:
- If using funds for administering the grant, provide clear designation for any cost line items that are JAG administrative costs within each budget category and project year. For example, in the line-item description or explained in the narrative section.
- For applications for disparate groups, the preference is for the applicant to include a single budget worksheet and narrative that lists each jurisdiction's proposed costs by category, labeled to distinguish the use between partner agencies. Alternatively, separate budget attachments for each partner of unit of local government are acceptable.
- Funding restrictions—JAG funds may not be used to supplant state or local funds but must be used to increase the amounts of such funds that would, in the absence of federal funds, be made available.

  Additional restrictions apply to certain costs or activities, to include but not limited to:

  - Administrative costs
  - Prohibited items per 34 U.S.C. § 10152, absent a waiver
  - UAS and C-UAS
  - Body Armor
  - Body Worn Cameras
  - ERPO activities
  - DNA Testing of Evidentiary Materials

Please refer to the JAG Frequently Asked Questions for more information.

Budget/Financial Attachments

- **Indirect Cost Rate Agreement (if applicable):** If the budget includes indirect costs calculated using a current, federally approved indirect cost rate, upload your indirect cost rate agreement. Read information about indirect costs.
- **Consultant Rate (if applicable):** Read information on limits to consultant rates and

[1] See 2 C.F.R. Part 200, Subpart E and the DOJ Grants Financial Guide. Read information on unallowable costs that apply to all funding opportunities.

whether you need to request approval to exceed those limits.

Additional Application Components

Attach these in JustGrants:

- **Certifications and Assurances by the Chief Executive of the Applicant Government:** Found at: https://bja.ojp.gov/program/jag/certifications-assurances. This certification contains assurances that the governing body notification and public comment requirements, which are required under the JAG statute (at 34 U.S.C. § 10153(a)(2).
- **Body-Worn Camera (BWC) Policy Certification (if applicable)**: Only required if the direct recipient will be using JAG funds for a BWC project.
- **Body Armor Mandatory Wear Certification (if applicable)**: Only required if the direct recipient will be using JAG funds for body armor.
- Extreme Risk Protection Order (ERPO) Certification (if applicable): Only required if JAG funds will be used for an ERPO program.
- **Prohibited Expenditure Waiver Request (if applicable)**: Only required if a JAG applicant would like to request a pre-award waiver to purchase a specific prohibited expenditure request.
- **Unmanned Aircraft System (UAS) Certification (if applicable)**: Only required if a JAG application will include costs for UAS in the budget.
- **Counter-UAS Certification (if applicable)**: Only required if a JAG application will include costs for C-UAS in the budget.

Refer to the JAG Frequently Asked Questions for more information on these attachments. If a required attachment is missing from an eligible JAG application, OJP will issue an award agreement, but funds may be withheld until it is provided.

Disclosures and Assurances

Read the disclosures and assurances and complete them in JustGrants:

- Disclosure of Lobbying Activities
- Disclosure of Duplication in Cost Items (if applicable)
- DOJ Certified Standard Assurances
- DOJ Certifications
- Applicant Disclosure and Justification—DOJ High-Risk Grantees (if applicable)

5. SUBMISSION REQUIREMENTS AND DEADLINES

The DOJ Grant Application Submission Checklist provides instructions for how to submit you application by the deadlines. Executive Order (E.O.) 12372 (Intergovernmental Review of Federal Programs) does apply to this funding opportunity: read the Application Resource Guide for details. Read OJP's policy for applicants to request late submission due to technical difficulties, severe weather, or natural or manmade disasters.

6. APPLICATION REVIEW INFORMATION

OJP will review applications to ensure the information presented is reasonable, understandable, measurable, achievable, and consistent with the goals of the funding opportunity. See the Application Resource Guide for information on the application review process for formula grants, including risk review, and the deciding official.

7. AWARD NOTICES

Read about the award notification process.

8. POST-AWARD REQUIREMENTS & ADMINISTRATION

Read the Application Resource Guide for more information about: standard award terms and conditions, administrative and national policy requirements, and post-award reporting requirements.

9. QUESTIONS?

NOFO Contact	Name: OJP Response Center Phone: 800-851-3420 or 202-353-5556 (TTY for hearing-impaired callers only) Email: OJP.ResponseCenter@usdoj.gov Hours: 9:00 a.m.–5:00 p.m. ET, Monday–Friday
SAM.gov Help Desk	Website: sam.gov/help Hours: 8 a.m.–8 p.m. ET, Monday–Friday (closed federal holidays)
Grants.gov Help Desk	Phone: 800-518-4726 Email: support@grants.gov Website: grants.gov/support Hours: 24 hours a day, 7 days a week (closed federal holidays)
JustGrants Help Desk	Phone: 833-872-5175 Email: JustGrants.Support@usdoj.gov Hours: 7:00 a.m.–9:00 p.m. ET, Monday–Friday and 9:00 a.m.–5:00 p.m. ET on Saturday, Sunday, and federal holidays.

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Will Trevino, City Attorney, Alan Guard, City Manager, Daniel Leal, Director Planning & Redevelopment Services
Date:	Tuesday, October 6, 2026
Agenda #:	Public Hearing and **ACTION** on **SECOND** of **THREE PUBLIC HEARINGS** on imposing a temporary moratorium on the acceptance, processing, and approval of applications for High-Intensity Data Processing Facilities within the City of Brownsville and its extraterritorial jurisdiction, pursuant to Texas Local Government Code §§ 212.131–212.139. (City Manager's Office/ Office of the City Attorney/ Planning and Redevelopment Department)

Summary:

Project Scope and Analysis:

Funding:

Source: Not Applicable

Amount:

Local Contribution if Applicable:

Recommendation:

Commission Pillar:

Economic Development, Planning & Zoning, Infrastructure, Public Safety, Quality of Life & Vibrancy, Governance

Attachments:

None

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Maribel Guerrero, Director Engineer and Public Works, Will Trevino, City Attorney
Date:	Tuesday, October 6, 2026
Agenda #:	Public Hearing and **ACTION** on **FIRST READING** on **Ordinance No. 2026-1824** amending the Code of Ordinances by amending Chapter 102 "Utilities," to add Article XII "Municipal Drainage Utility System," Division 1 "Creation and Administration" to establish a municipal drainage utility system; providing for drainage service, billing, exemptions, drainage charges, and an appeal process. (Engineering and Public Works Department)

Summary:

Project Scope and Analysis:

Funding:

Source: Not Applicable

Amount:

Local Contribution if Applicable:

Recommendation:
Staff recommends approval.

Commission Pillar:
Economic Development, Planning & Zoning, Infrastructure, Public Safety, Quality of Life & Vibrancy, Governance

Attachments:
1. BROWNSVILLE DRAFT SWU Ordinance WT 10.6.2026
2. DRAFT Brownsville Public Notice revised for 10.6.2026

ORDINANCE NO. 2026-1824

AN ORDINANCE OF THE CITY OF BROWNSVILLE, TEXAS, AMENDING THE CODE OF ORDINANCES BY AMENDING CHAPTER 102 "UTILITIES," TO ADD ARTICLE XII "MUNICIPAL DRAINAGE UTILITY SYSTEM," DIVISION 1 "CREATION AND ADMINISTRATION" TO ESTABLISH A MUNICIPAL DRAINAGE UTILITY SYSTEM; PROVIDING FOR DRAINAGE SERVICE, BILLING, EXEMPTIONS, DRAINAGE CHARGES, AND APPEALS; PROVIDING A REPEALING CLAUSE; PROVIDING A SEVERABILITY CLAUSE, PROVIDING A SAVINGS CLAUSE; PROVIDING FOR A CRIMINAL PENALTY OF A FINE NOT TO EXCEED THE SUM OF TWO THOUSAND DOLLARS ($2,000.00); AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City Commission (the "City Commission") of the City of Brownsville, Texas (the "City"), has investigated and determined that it would be advantageous and beneficial to the citizens of the City to promote the public health, safety, and welfare of the citizens to adopt a Municipal Drainage Utility System; and

WHEREAS, the City Commission further investigated and determined that it would be in the best interest of the citizens to adopt the Municipal Drainage Utility Systems Act as set forth in Chapter 552, Subchapter C, Texas Local Government Code, as amended ("Act"); and

WHEREAS, the City Commission hereby adopts the Act and incorporates it herein in its entirety for all purposes; and

WHEREAS, the City Commission further finds that the City will establish a schedule of drainage charges against all benefitted property in the proposed service area(s) which included the entire City subject to charges under this Ordinance; and

WHEREAS, the City Commission further finds that the City will provide drainage for all benefitted property in the proposed service area(s) on payment of drainage charges, except benefitted property exempted under the Act or pursuant to this Ordinance; and

WHEREAS, the City Commission further finds that the City will offer drainage service on nondiscriminatory, reasonable, and equitable terms; and

WHEREAS, in accordance with the Act, notices of a public hearing regarding this Ordinance were published, and a public hearing on this Ordinance was held concerning the matters set forth herein; and

WHEREAS, as set forth herein, the City Commission, in accordance with the procedures set forth in the Act, declares that the stormwater drainage infrastructure and services of the City are a public utility within the meaning of the Act.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BROWNSVILLE, TEXAS, THAT:

SECTION 1. The above and foregoing recitals and premises to this ordinance are true and correct and are incorporated herein and made a part hereof for all purposes.

SECTION 2. Chapter 102 "UTILITIES" of the Code of Ordinances of the City of Brownsville, Texas, is amended by adding Article XII, "Municipal Drainage Utility System," to read entirely as follows:

ARTICLE XII. Municipal Drainage Utility System

Sec. 102-714. Municipal Drainage Utility System Established.

The Municipal Drainage Utility Systems Act, Chapter 552, Subchapter C, Texas Local Government Code, as amended (the "Act"), is hereby adopted and shall be fully implemented as provided by the Act and by the City Commission; and the drainage of the City is hereby found to be a public utility within the meaning of the Act.

Sec. 102-715. Definitions.

Except as otherwise defined below, the definitions in the Act shall apply.

"Impervious area" means surfaces that do not provide stormwater significant opportunity for infiltration into the soil and result in increased stormwater runoff to the municipal storm sewer system.

"Equivalent Residential Unit (ERU)" means the typical amount of impervious area for a residential property in Brownsville.

Sec. 102-716. Drainage Service Provided.

The City will provide stormwater drainage for all benefitted property within its boundaries upon payment of the determined drainage charges, as defined in the Act, and excluding property exempt under the Act and certain benefitted property exempted pursuant to this Article, and that the fees, assessments, and charges will be based on nondiscriminatory, reasonable and equitable terms. The drainage charges established herein shall be for all non-exempt benefitted property as defined in the Act within the City drainage system.

Sec. 102-717. Billing for Drainage Service.

The City, directly or through its designated billing and collection agent, is hereby authorized to bill the drainage charges incurred as a result of the adoption of the Act and through the establishment of the municipal drainage utility system. The drainage charge shall be separately identified from other public utility billings. Drainage charges may only be expended for the costs of service as defined by the Act.

Sec. 102-718. Authority to Levy Drainage Charges; Findings.

The City may levy a schedule of drainage charges upon satisfaction of the procedural requirements provided in the Act and this Article. Prior to the levy of any drainage charges, the City Commission shall conduct a public hearing on the drainage charges pursuant to the Act. Prior to adoption of this Article, the City Commission found and determined:

(1) Impervious cover increases storm-water runoff and associated pollutants and is directly related to drainage;

(2) The City will establish a schedule of drainage charges against all benefitted property in the proposed area, which includes the entire City, subject to the charges under the Act;

(3) The City will provide drainage for all benefitted property in the proposed service area on payment of the drainage charges, except for benefitted property exempt under the Act; and

(4) The City will offer drainage service on nondiscriminatory, reasonable, and equitable terms.

Sec. 102-719. Exemptions

The City is authorized to exempt certain property from drainage charges in accordance with the Act and the establishment of its municipal drainage utility system. Any exemptions to the drainage charges established herein other than the exemptions required by the Act shall be set forth in the drainage charge schedule.

Sec. 102-720. Charges.

(a) The City Commission shall, following the adoption of this Article, from time to time, establish by ordinance a drainage charge schedule for charges which shall be collected through a utility bill or other billing statement issued by the City or its designated billing and collection agent pursuant to the Act and other applicable law. There shall be a drainage charge on each applicable monthly public utility statement issued by the City or its designated billing and collection agent for the City drainage system, as set forth in the drainage charge schedule. The City Manager, or designee, is authorized to administer and cause the collection of such charges in a manner consistent with the City Charter, the Act and this Article. The drainage charges shall be a separate line item on the public utility

statement, and shall be clearly identified as a separate charge. Except, as otherwise provided herein, the billing, charges and collection procedures shall be consistent with the applicable collection procedures of the City or its designated billing and collection agent for public utility services.

(b) The drainage charges established pursuant to this Article will apply to the accounts maintained by the City or its designated billing and collection agent for public utility services.

(c) All billings, credits, exemptions and other procedures relating to drainage charges established pursuant to this Article shall be subject to the provisions of the Act and other applicable law.

(d) A deposit for the drainage services as a precondition to accepting surface flow from benefitted property into the City drainage utility system shall not be required. All benefitted property of the City will be provided with drainage utility system service on timely payment of drainage charges established herein.

Sec. 102-721. Drainage Utility Fund.

(a) A separate fund is hereby created, known as the Drainage Utility Fund, for the purpose of segregating, identifying, and controlling all revenues and expenses attributable to the Drainage Utility.

(b) The Drainage Utility Fund shall be administered in accordance with Section 552.049 (Segregation of Income) of the Texas Local Government Code.

Sec. 102-722. Appeals.

(a) Billing and payment disputes for administrative issues relating to the drainage charges shall be subject to appeals procedures used by the City or its designated billing and collection agent for other public utility billing disputes. A person or entity that owns or occupies a benefitted property may appeal the drainage charges established herein pursuant to this procedure set forth in this section.

(b) Appeals shall be directed to the City Engineer for evaluation and determination. An appeal shall be in writing and submitted to the City Engineer within thirty (30) days after the public utility billing statement containing the matter to be disputed. During all periods of appeal the person or entity that owns or occupies the benefitted property and/or the account holder shall be responsible for payment of the charges in full.

(c) The City Engineer shall render a written decision on such appeals within thirty (30) days after receiving a timely written notice of appeal from the person or entity that owns or occupies the benefitted property and/or the account holder. The City Engineer shall deliver a copy of the appeal decision to the person or entity that owns or occupies the benefitted property and/or the account holder by U.S. mail to the address of the

landowner/account holder according to the most recent records in the possession of the City or its designated billing and collection agent.

(d) Any person or entity who owns or occupies the benefitted property and/or the account holder who disagrees with the decision of the City Engineer may appeal such decision to the City Manager in writing within ten (10) days after receipt of the decision of the City Engineer. The decision of the City Manager shall render a written decision within thirty (30) days after receipt of a timely appeal. The decision of the City Manager shall be final.

Sec. 102-723. Penalties; Enforcement.

(a) Failure to pay the drainage charges promptly when due shall subject such user to discontinuance of any public utility services provided by or on behalf of the City, in accordance with the procedures adopted by the applicable utility provider, including the Brownsville Public Utilities Board, for discontinuance of public utility service, including water and/or wastewater service, and other applicable laws.

(b) Any person, firm, or corporation that violates any provision of this Ordinance shall be subject to the penalties provided in the City's Code of Ordinances, and upon conviction may be fined up to $2,000 for each offense involving public health, fire safety, or zoning, and up to $500 for all other violations; each day a violation continues constitutes a separate offense.

Sec. 102-724. No waiver of immunity.

This article does not imply that a Benefitted Property will be free from flooding or erosion, and does not create additional duties on the part of the City. This chapter does not waive the City's immunity under any law.

SECTION 3. All provisions of the ordinances of the City of Brownsville in conflict with the provisions of this Ordinance be, and the same are hereby, repealed, and all other provisions of the ordinances of the City of Brownsville not in conflict with the provisions of this Ordinance shall remain in full force and effect.

SECTION 4. Should any sentence, paragraph, subdivision, clause, phrase or section of this Ordinance be adjudged or held to be unconstitutional, illegal or invalid, the same shall not affect the validity of this Ordinance as a whole, or any part or provision thereof other than the part so decided to be invalid, illegal or unconstitutional, and shall not affect the validity of the Code of Ordinances as a whole.

SECTION 5. An offense committed before the effective date of this Ordinance is governed by prior law and the provisions of the Code of Ordinance, as amended, in effect when the offense was committed and the former law is continued in effect for this purpose.

SECTION 6. Any person, firm or corporation violating any of the provisions or terms of this Ordinance shall be subject to the same penalty as provided for in the Code of Ordinances of the City of Brownsville as heretofore amended and upon conviction shall be punished by a fine not to

exceed the sum of Two Thousand Dollars ($2,000.00) for each offense involving public health, fire safety, or zoning, and up to $500 for all other violations; each day a violation continues constitutes a separate offense.

SECTION 7. This ordinance shall take effect from and after its passage and the publication of the caption of said ordinance as the law and the City Charter in such cases provides.

INTRODUCED at a public hearing on October 6, 2026. Passed at Second and Final Reading and **ADOPTED**, **APPROVED**, **ENACTED** on October 7, 2026.

ATTEST:

_____
_____, City Secretary

APPROVED:

_____
_____, Mayor

APPROVED AS TO FORM:

_____
_____, City Attorney

NOTICE OF PUBLIC HEARING
CITY OF BROWNSVILLE, TEXAS

The City Commission of the City of Brownsville, Texas, will hold a Public Hearing during a Regular Meeting on Tuesday, October 6, 2026, at 5:00 p.m. at Brownsville City Hall in the City Commission Chambers, 1001 East Elizabeth Street, Brownsville, Texas 78520, to hear public opinion regarding the adoption of an Ordinance to establish rates to be charged as a Drainage Charge. The second and final reading and approval of the Ordinance will occur on Wednesday, October 7, 2026, at 5:00 p.m. at Brownsville City Hall in the City Commission Chambers, 1001 East Elizabeth Street, Brownsville, Texas 78520.

This notice is being published in accordance with the public notice requirements set forth in Subchapter C of Chapter 552, Local Government Code, for public hearings. As required by the aforementioned statute, this public notice is being published in a newspaper of general circulation to the residents of the City of Brownsville thirty (30) days or more prior to the date of the public hearing and will be published for a total of three times before the scheduled hearing.

All written or oral objections to the proposed Drainage Charge will be considered at the public hearing. The Commission will vote on the proposed Ordinance immediately following the public hearing. State law provides that approval of the proposed Ordinance shall require an affirmative vote of a majority of the members of the City Commission.

The entire proposed Ordinance to establish a Municipal Storm Water Utility Fee in the City of Brownsville is provided herewith, in accordance with requirements set forth in Subchapter C, Chapter 552, Local Government Code. A copy of the proposed Ordinance is also available for public inspection at the office of the City Secretary, Brownsville City Plaza, 1034 E. Levee St., Brownsville, Texas 78520.

This Notice of Public Hearing is given, and the public hearing is being held pursuant to the requirements of Subchapter C of Chapter 552, Local Government Code.

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Maribel Guerrero, Director Engineer and Public Works, Will Trevino, City Attorney
Date:	Tuesday, October 6, 2026
Agenda #:	Public Hearing and **ACTION** on **FIRST READING** on **Ordinance No. 2026-1825** amending Chapter 102 "Utilities" of the Code of Ordinances by amending Article III, "Rates and Charges," by adding Division 5 "Drainage Utility Fees"; establishing a municipal drainage utility system fee; providing for exemptions and credits. (Engineering and Public Works Department)

Summary:

Project Scope and Analysis:

Funding:

Source: Not Applicable

Amount:

Local Contribution if Applicable:

Recommendation:
Staff recommends adoption.

Commission Pillar:
Economic Development, Planning & Zoning, Infrastructure, Public Safety, Quality of Life & Vibrancy, Governance

Attachments:
1. BROWNSVILLE DRAFT SWU Fee Schedule WT 10.6.2026
2. DRAFT Brownsville Public Notice revised for 10.6.2026

ORDINANCE NO. 2026-1825

AN ORDINANCE OF THE CITY OF BROWNSVILLE, TEXAS, AMENDING CHAPTER 102 "UTILITIES" OF THE CODE OF ORDINANCES OF THE CITY OF BROWNSVILLE, TEXAS, BY AMENDING ARTICLE III "RATES AND CHARGES," BY ADDING DIVISION 5 "DRAINAGE UTILITY FEES"; ESTABLISHING A MUNICIPAL DRAINAGE UTILITY SYSTEM FEE; PROVIDING FOR EXEMPTIONS AND CREDITS; PROVIDING A REPEALING CLAUSE; PROVIDING A SEVERABILITY CLAUSE, PROVIDING A SAVINGS CLAUSE; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Brownsville, Texas has previously investigated and determined that it would be advantageous and beneficial to the citizens of the City of Brownsville, Texas to promote the public health, safety and welfare of the citizens to adopt a Municipal Drainage Utility System; and

WHEREAS, the City Commission has created a Municipal Drainage Utility System as authorized by Chapter 552, Subchapter C, Texas Local Government Code, as amended, ("the Act") pursuant to Ordinance No. 2026-1824, which is to be codified as Chapter 102 "Utilities," Article XII "Municipal Drainage Utility System," Division 1 "Creation and Administration," Section 102-714 through 102-722 of the Code of Ordinances; and

WHEREAS, pursuant the Act, the City Commission has investigated and determined that a schedule of drainage fees shall be applied against all real property in the proposed service area(s); and

WHEREAS, the City Commission further finds that it would be in the best interest of its citizens to amend the Code of Ordinances to adopt the drainage utility system charges to be collected in support of operation of the City's drainage utility system:

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BROWNSVILLE, TEXAS, THAT:

SECTION 1. The above and foregoing recitals and premises to this ordinance are true and correct and are incorporated herein and made a part hereof for all purposes.

SECTION 2. Chapter 102 "Utilities," Article III "Rates and Charges," of the Code of Ordinances of the City of Brownsville, Texas, is hereby amended by adding Division 5 "Drainage Utility Fees" to read as follows:

Division 5. Drainage Utility Fees

The drainage utility fee schedule for the municipal drainage utility system shall be as set forth in Sections 102-222 through 102-224.

Sec. 102-222. Establishment of Drainage Utility Fee.

The drainage utility fee set forth in Sections 102-222 through 102-224 is adopted pursuant to Section 102-720 and shall be collected through a utility bill or other billing statement issued by the City or its designated billing and collection agent pursuant to the Act, Chapter 102, Article XII of this Code, and other applicable law.

Sec. 102-223. Impervious Area; Fee Assessed.

(a) Drainage utility fees shall be charged based on a property's contribution to the public drainage utility system. The contribution shall be based on the impervious area for the property.

(b) The drainage utility fee, payable monthly, shall be established with respect to all property according to the following schedule:

Property Type	Monthly Drainage Utility Fee
Residential Tier 1(0-1500 Square Feet of Impervious Area)	$3.00*
Residential Tier 2 (1500+ Square Feet of Impervious Area)	$6.25*
All Other Non-Exempt Property	$6.25 per whole ERU**

*Residential Property includes single-family, duplex, triplex, and quadplex property. Multifamily property containing five or more dwelling units shall be included within All Other Non-Exempt Property.

**ERU (Equivalent Residential Unit) = 3,600 square feet impervious area

(c) A minimum charge of one (1) ERU shall be applied to each non-exempt non- residential property, except for undeveloped property, regardless of classification.

Sec. 102-224. Exemptions.

(a) **State Mandated Exemptions:** The following property shall not be assessed a drainage utility fee, as required by section 552.053, subchapter C of Texas Local Government Code, and section 580.003 of Texas Local Government Code:

(1) Property held and maintained in its natural state, until such time that the property is developed and all of the public infrastructure constructed has been accepted by the City in which the property is located for maintenance;

(2) A subdivided lot, until a structure has been built on the lot and a Certificate of Occupancy has been issued by the City;

(3) Property with proper construction and maintenance of a wholly sufficient and privately owned drainage system;

(4) State property; and

(5) Public or private institutions of higher education property.

(b) **Additional Exemptions:** As permitted by Section 552.053, Subchapter C of Texas Local Government Code, and Section 580.003 of the Texas Local Government Code: the City has determined the following property shall receive an exemption:

(1) N/A

SECTION 3. All provisions of the ordinances of the City of Brownsville in conflict with the provisions of this Ordinance be, and the same are hereby, repealed, and all other provisions of the ordinances of the City of Brownsville not in conflict with the provisions of this Ordinance shall remain in full force and effect.

SECTION 4. Should any sentence, paragraph, subdivision, clause, phrase or section of this Ordinance be adjudged or held to be unconstitutional, illegal or invalid, the same shall not affect the validity of this Ordinance as a whole, or any part or provision thereof other than the part so decided to be invalid, illegal or unconstitutional, and shall not affect the validity of the Code of Ordinances as a whole.

SECTION 5. This ordinance shall become effective October 1, 2026, after its passage and the publication of the caption of said ordinance as the law and the City Charter in such cases provides.

INTRODUCED at a public hearing on October 6, 2026. Passed at Second and Final Reading and **ADOPTED**, **APPROVED**, **ENACTED** on October 7, 2026.

ATTEST: APPROVED:

_____ _____

_____, City Secretary _____, Mayor

APPROVED AS TO FORM:

_____

_____, City Attorney

NOTICE OF PUBLIC HEARING
CITY OF BROWNSVILLE, TEXAS

The City Commission of the City of Brownsville, Texas, will hold a Public Hearing during a Regular Meeting on Tuesday, October 6, 2026, at 5:00 p.m. at Brownsville City Hall in the City Commission Chambers, 1001 East Elizabeth Street, Brownsville, Texas 78520, to hear public opinion regarding the adoption of an Ordinance to establish rates to be charged as a Drainage Charge. The second and final reading and approval of the Ordinance will occur on Wednesday, October 7, 2026, at 5:00 p.m. at Brownsville City Hall in the City Commission Chambers, 1001 East Elizabeth Street, Brownsville, Texas 78520.

This notice is being published in accordance with the public notice requirements set forth in Subchapter C of Chapter 552, Local Government Code, for public hearings. As required by the aforementioned statute, this public notice is being published in a newspaper of general circulation to the residents of the City of Brownsville thirty (30) days or more prior to the date of the public hearing and will be published for a total of three times before the scheduled hearing.

All written or oral objections to the proposed Drainage Charge will be considered at the public hearing. The Commission will vote on the proposed Ordinance immediately following the public hearing. State law provides that approval of the proposed Ordinance shall require an affirmative vote of a majority of the members of the City Commission.

The entire proposed Ordinance to establish a Municipal Storm Water Utility Fee in the City of Brownsville is provided herewith, in accordance with requirements set forth in Subchapter C, Chapter 552, Local Government Code. A copy of the proposed Ordinance is also available for public inspection at the office of the City Secretary, Brownsville City Plaza, 1034 E. Levee St., Brownsville, Texas 78520.

This Notice of Public Hearing is given, and the public hearing is being held pursuant to the requirements of Subchapter C of Chapter 552, Local Government Code.

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Carlos Lastra, City Engineer
Date:	Tuesday, October 6, 2026
Agenda #:	Public Hearing and **ACTION** on **FIRST READING** on **Ordinance Number 2026-1827** to amend Chapter 98 "Traffic and Vehicles", Article IV, "Speed Restrictions" Establishing Speed Limits at FM 1419 in the City of Brownsville and Dealing with Related Matters. (Engineering and Public Works Department)

Summary:
The City of Brownsville, in coordination with the Texas Department of Transportation (TxDOT), is implementing a speed limit reduction on FM 1419. The change will lower the posted speed limit from 55 to 50 miles per hour within the designated project limits.

This adjustment is based on a speed study conducted for the first time in July 2020, and a second study performed in August 2024. It aims to improve safety for all road users. The Pharr District from the Texas Department of Transportation will be responsible for fabricating and erecting the new regulatory signage.

Project Scope and Analysis:
The current posted speed of 55 MPH was evaluated by TxDOT in 2024. Upon review, TxDOT determined that reducing the speed limit to 50 MPH is warranted based on safety concerns, roadway characteristics, and surrounding development. The reduced speed is expected to enhance driver reaction time, promote safer interactions at intersections, and provide a more appropriate speed environment for this corridor. Since FM 1419 (Southmost Road) is a state-maintained roadway, TxDOT will install the updated speed limit signs in accordance with state standards and the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

Existing Speed Limit Zones

1. 40 MPH - From Esperanza Rd./ Morningside Rd. to 311 FT North of Isbell Dr., speed will remain the same.

2. 55 MPH - From 42 FT South of SH 4 to SH 4 (Boca Chica Blvd.)

Proposed Speed Limit Zones

1. 40 MPH - From Esperanza Rd./ Morningside Rd. to 311 FT North of Isbell Dr., speed will remain the same.

2. 50 MPH - From 42 FT South of SH 4 to SH 4 (Boca Chica Blvd.).

Existing School Zone

1. 25 MPH - From 333 FT North of Palma Tejana Dr. to 21 FT North of Minnesota Ave., 40 MPH all other times, speed will remain the same.

Proposed School Zone

1.- 25 MPH - From 333 FT North of Palma Tejana Dr. to 21 FT North of Minnesota Ave., 40 MPH all other times, speed will remain the same

Funding:

Source: Funded by the Texas Department of Transportation

Amount: N/A

Local Contribution if Applicable:

Recommendation:

The City of Brownsville Engineering and Public Works Department is recommending approval to decrease the speed limit along FM 1419 from 55 miles per hour to 50 miles per hour from 42 feet south of SH 4 to SH 4 (Boca Chica Blvd.).

Commission Pillar:

Public Safety

Attachments:

1. TxDOT Speed Reduction Request Letter.
2. Section Map
3. Ordinance NO 2026-1827

Docusign Envelope ID: 9B54FD66-A880-8C58-8305-2CF68BBA4F9C

600 W Interstate 2 | Pharr, Texas 78577
956.702.6111
txdot.gov

August 28, 2026

Mr. Alan Guard
City Manager
City of Brownsville
1001 East Elizabeth Street
Brownsville, TX 78520

FM 1419 Speed Zone Survey

Dear Mr. Guard:

We conducted a speed zone survey along FM 1419 between Esperanza Rd. / Morningside Rd. and SH 4 (Boca Chica Boulevard). The current and proposed speed limit zones on FM 1419 are included on the following page. I am attaching a copy of our updated strip map with data that supports this change in speed limits. Also attached is a breakdown map showing existing and proposed speed limit zones.

We ask the City of Brownsville to pass an ordinance in support of these speed limit changes. We have attached a sample city ordinance for your use as well. Once we receive the ordinance, we will replace the existing speed limit signs with the new signs.

Please feel free to reach out with any questions you may have on this issue. I can be reached at (956) 702-6145 or via email at Gabriel.Garcia@txdot.gov.

Sincerely,

Signed by:
Gabriel Isaac Garcia
E75CB72436B0468...
Gabriel I. Garcia, P.E.
Director of Transportation Operations

cc: Andres Espinoza, P.E., San Benito Area Engineer
Gabriel Villarreal, P.E., San Benito Assistant Area Engineer
Celestino Hernandez, Brownsville Maintenance Supervisor
Primitivo Muñoz, Brownsville Assistant Maintenance Supervisor
Nayely Parra, P.E., Transportation Engineer Supervisor
Humberto Ramirez, Jr., P.E., Transportation Engineer
Gerardo Vallejo, Transportation Specialist

Docusign Envelope ID: 9B54FD66-A880-8C58-8305-2CF68BBA4F9C

Existing Speed Limit Zones

1. 40 MPH – From Esperanza Rd. / Morningside Rd. to 311 FT North of Isbell Dr., speed will remain the same
2. 55 MPH – From 42 FT South of SH 4 to SH 4 (Boca Chica Blvd.)

Proposed Speed Limit Zones

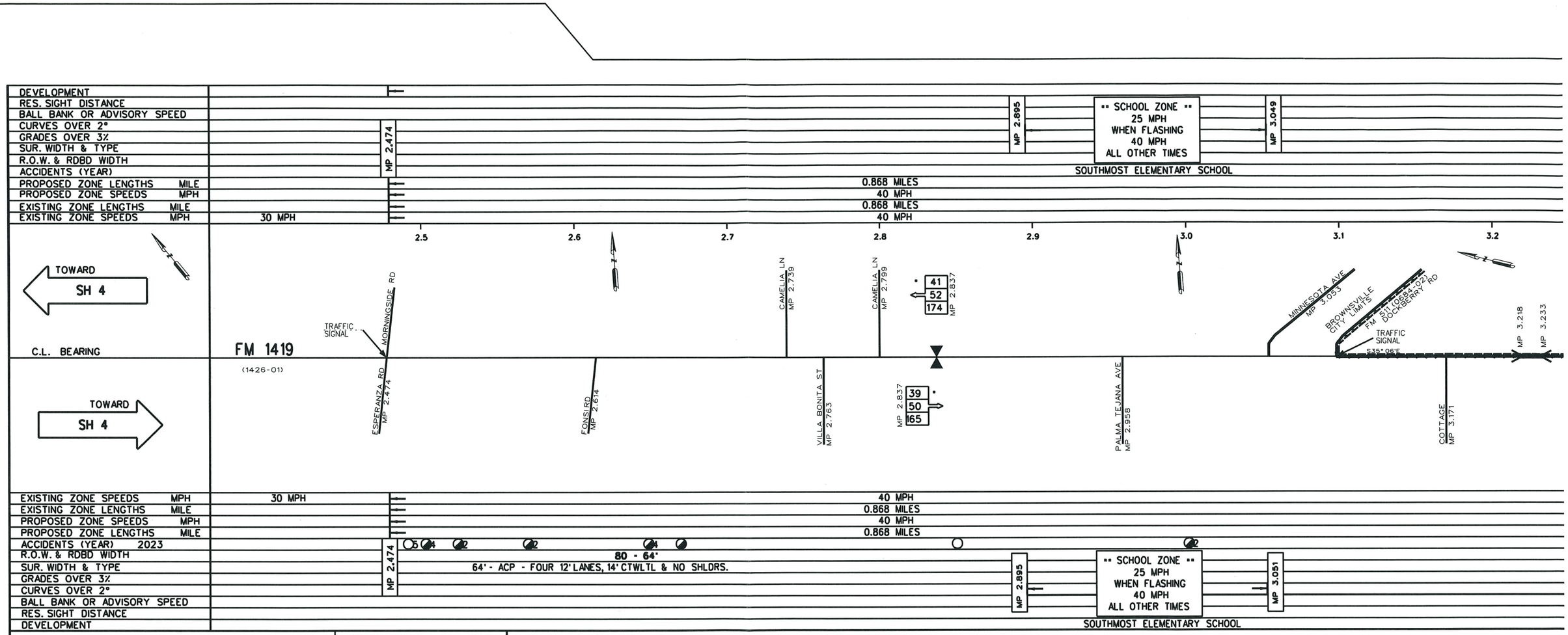
1. 40 MPH – From Esperanza Rd. / Morningside Rd. to 311 FT North of Isbell Dr., speed will remain the same
2. 50 MPH – From 42 FT South of SH 4 to SH 4 (Boca Chica Blvd.)

Existing School Zone

1. 25 MPH – From 333 FT North of Palma Tejana Dr. to 21 FT North of Minnesota Ave., 40 MPH all other times, speed will remain the same

Proposed School Zone

1. 25 MPH – From 333 FT North of Palma Tejana Dr. to 21 FT North of Minnesota Ave., 40 MPH all other times, speed will remain the same



DIST. NO. 21 COUNTY: CAMERON

HIGHWAY: FM 1419 CITY: BROWNSVILLE

DATE OF SURVEY 07/22-07/23/20 08/29/24* SCALE: 1" = 300 FT

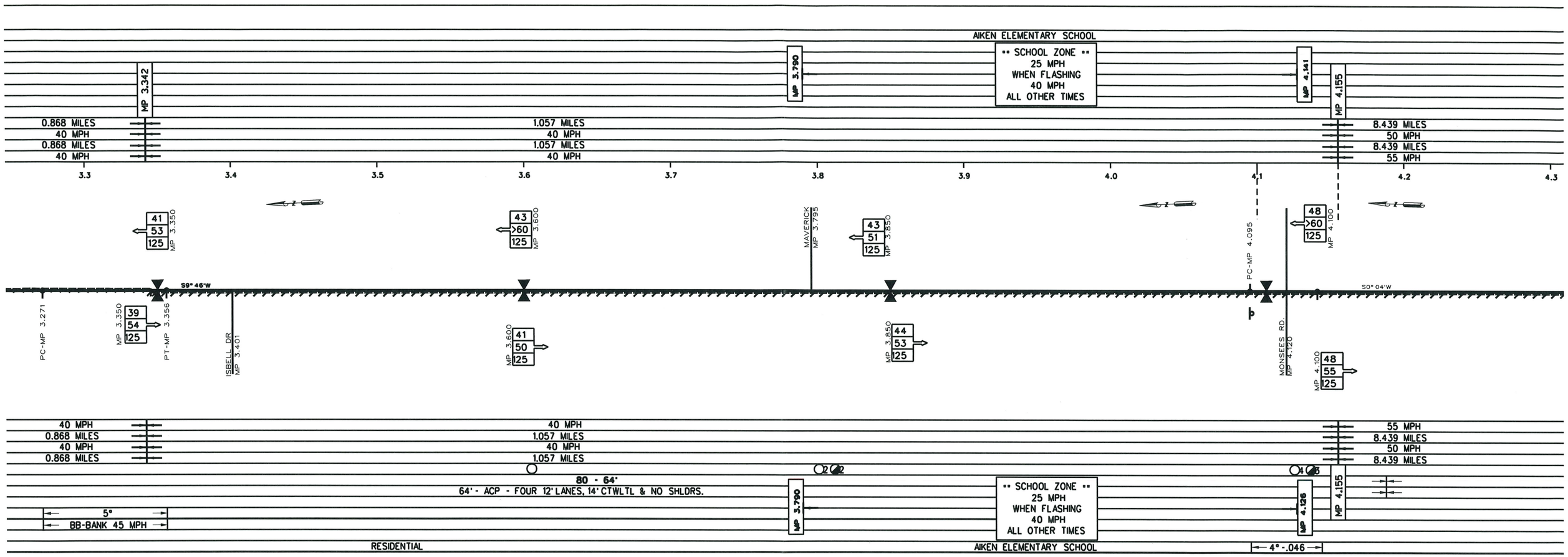
MINUTE NO. 106847	DATE 6/18/96
REPLACES	DATE
REPLACED BY	DATE
CANCELED BY	DATE

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TxDOT

LIMITS OF ZONE

SECTION ONE	LENGTH 0.619 MILES			SECTION TWO	LENGTH 1.057 MILES			SECTION THREE	LENGTH 8.475 MILES			SECTION FOUR	LENGTH 0.011 MILES		
	STA. OR M.P.	CONT. & SEC.	PROJECT		STA. OR M.P.	CONT. & SEC.	PROJECT		STA. OR M.P.	CONT. & SEC.	PROJECT		STA. OR M.P.	CONT. & SEC.	PROJECT
BEGINS	2.479	1426-01		BEGINS	3.098	1426-01		BEGINS	4.155	1426-01		BEGINS	12.591	1426-01	
	ESPERANZA RD				FM 511				0.035 S OF MONSEES RD				BROWNSVILLE CITY LIMITS		
	STA. OR M.P.	CONT. & SEC.	PROJECT		STA. OR M.P.	CONT. & SEC.	PROJECT		STA. OR M.P.	CONT. & SEC.	PROJECT		STA. OR M.P.	CONT. & SEC.	PROJECT
ENDS	3.098	1426-01		ENDS	4.155	1426-01		ENDS	12.591	1426-01		ENDS	12.602	1426-01	
	FM 511				0.035 S OF MONSEES RD				BROWNSVILLE CITY LIMITS				SH 4		



SPEED ZONE

(INC.) BROWNSVILLE
COUNTY CAMERON
2022 POP. 189,382

42 / 62 / 125 — 85 PERCENTILE SPEED, TOP SPEED MEASURED, NUMBER OF CARS CHECKED

● FATAL ACCIDENT

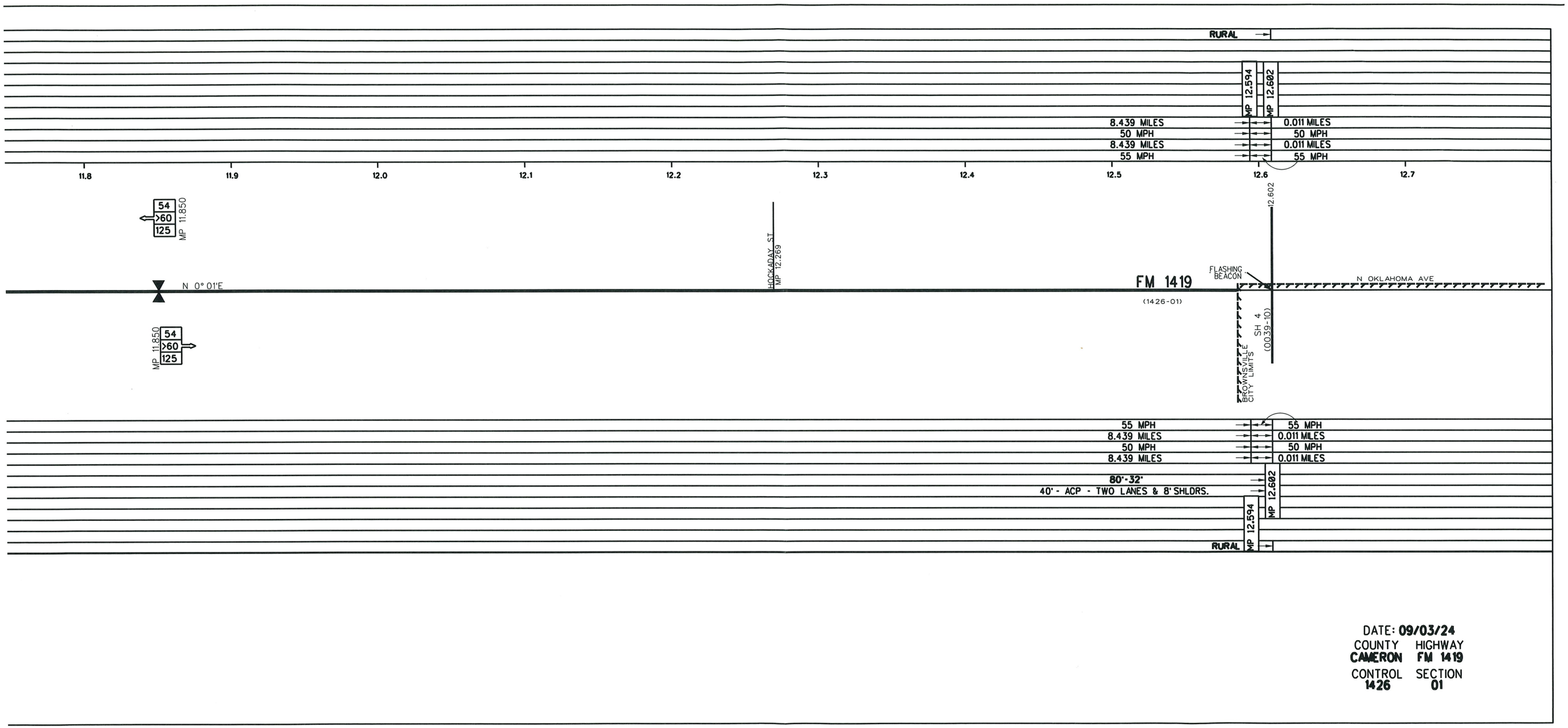
◪ PERSONAL INJURY ACCIDENT

○ PROPERTY DAMAGE ACCIDENT

▬ INDICATES SECTION ZONED BY COMMISSION MINUTE

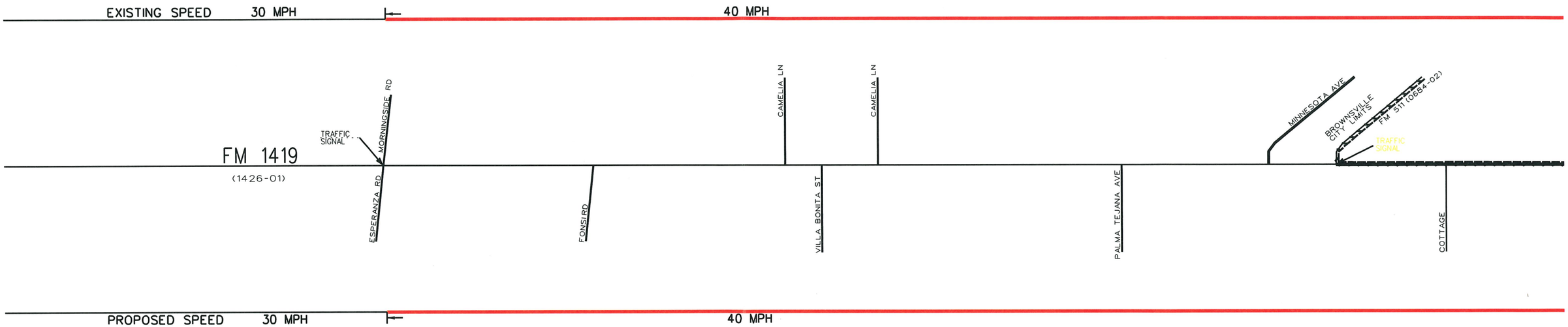
←(XX) **NOTE:

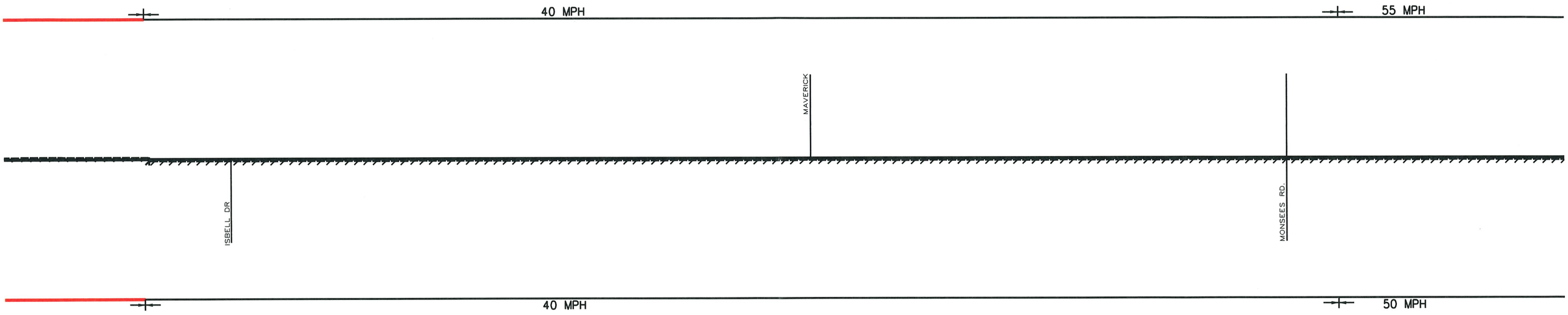
TRIAL RUNS PERFORMED BY:
ALEX DELGADO AND ANGEL TREVINO
ON AUGUST 29, 2024

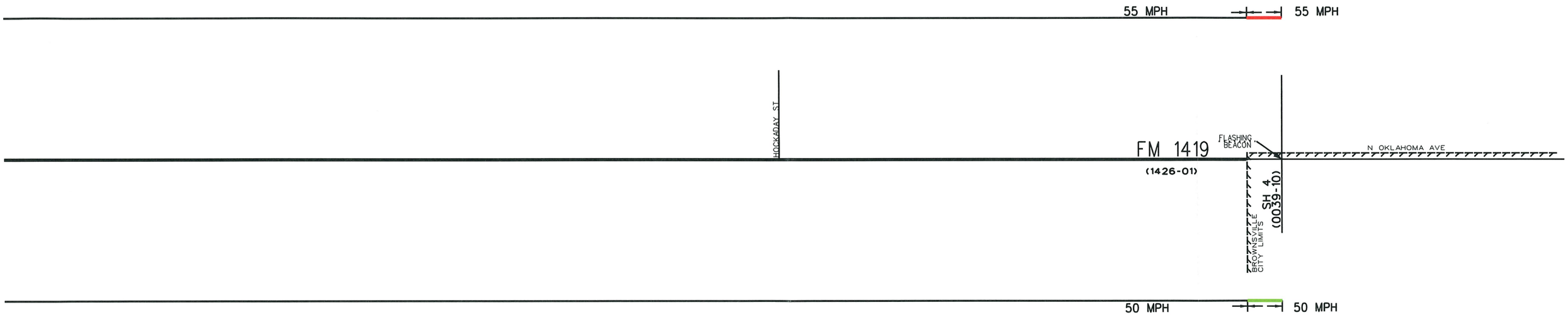


DATE: **09/03/24**

COUNTY	HIGHWAY
CAMERON	**FM 1419**
CONTROL	SECTION
1426	**01**


EXISTING SPEED 30 MPH
40 MPH
FM 1419
(1426-01)
TRAFFIC SIGNAL
MORNINGSIDE RD
ESPERANZA RD
FONSI RD
CAMELIA LN
CAMELIA LN
VILLA BONITA ST
PALMA TEJANA AVE
MINNESOTA AVE
BROWNSVILLE CITY LIMITS
FM 511 (0684-02)
TRAFFIC SIGNAL
COTTAGE
PROPOSED SPEED 30 MPH
40 MPH


40 MPH
55 MPH
MAVERICK
ISBELL DR
MONSEES RD.
40 MPH
50 MPH


55 MPH
55 MPH
HOCKADAY ST
FM 1419
(1426-01)
FLASHING BEACON
N OKLAHOMA AVE
SH 4
(0039-10)
BROWNSVILLE CITY LIMITS
50 MPH
50 MPH

ORDINANCE NO. 2026-1827

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF BROWNSVILLE, TEXAS, AMENDING CHAPTER 98 "TRAFFIC AND VEHICLES", ARTICLE IV, "SPEED RESTRICTIONS", ESTABLISHING SPEED LIMITS AT FM 1419; ESTABLISHING PRIMA FACIE MAXIMUM SPEED LIMITS IN SUCH ZONES; PROVIDING FOR PENALTIES; PROVIDING FOR AN EFFECTIVE DATE; AND FINDING AND DETERMINING THAT THE MEETING AT WHICH THIS ORDINANCE IS PASSED IS OPENED TO THE PUBLIC AS REQUIRED BY LAW.

WHEREAS, Section 545.336 of the Texas Transportation Code states that the governing body of a municipality has the authority to alter speed limits upon the basis of an engineering and traffic investigation that any prima facie speed therein set forth is greater or less than reasonable or prudent under the conditions found to exist at any part of a street or highway in the municipality; and

WHEREAS, it has been determined by investigation that there is a need to alter speed zones to provide reasonable and safe prima facie speed limits; and

WHEREAS, the City Council of the City of Brownsville, Texas, finds it necessary for speed zones on section FM 1419 and the reasonable and safe prima facie maximum speed of motor vehicles in said speed zones, should be set forth below.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY OF BROWNSVILLE, TEXAS, ACTING BY AND THROUGH ITS CITY COUNCIL

Section 1: The City Council of the City of Brownsville hereby establishes a speed zone on the sections as follows:

Existing Speed Limit Zones

1. 40 MPH - From Esperanza Rd./ Morningside Rd. to 311 FT North of Isbell Dr., speed will remain the same.
2. 55 MPH - From 42 FT South of SH 4 to SH 4 (Boca Chica Blvd.)

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Proposed School Zone

1.- 25 MPH - From 333 FT North of Palma Tejana Dr. to 21 FT North of Minnesota Ave., 40 MPH all other times, speed will remain the same

Section 2. Any person violating any provision of this ordinance shall, upon conviction, be fined in any sum not exceeding the $500.00

Section 3. All Ordinances or parts of ordinances in conflict with the provisions of this ordinance are, to the extent of such conflict, hereby repealed.

Section 4. It is hereby officially found and determined that the meeting at which this ordinance is passed open to the public as required and that the public notice of said meeting was given as required by law.

Section 5 . This ordinance shall become effective on October 6, 2026, after its passage and the publication of the caption of said ordinance as the law and the City Charter in such cases provides.

INTRODUCED at a public hearing on October 20, 2026. Pass at Second and Final Reading and **ADOPTED, APPROVED, ENACTEED** on October 21, 2026.

ATTEST: **APPROVED:**

_____ _____

Mayra A. Rios, TRMC, City Secretary John Cowen, MAYOR

APPROVED AS TO FORM:

_____,

City Attorney

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Maribel Guerrero, Director Engineer and Public Works
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to Authorize a Contract with 4X Construction Group, LLC for the construction of Landfill Cell #6 and other site improvements, for an amount not to exceed $3,733,577.47 for Contract No. 296-26-EPW-IFB, for a term of 150 consecutive calendar days, as budgeted. (Engineering and Public Works Department)

Summary:
Consideration and ACTION to award a contract for Landfill Cell #6 Construction and Associated Improvements with 4X Construction Group, LLC, for Project 296-26-EPW-IFB, in the amount of $3,733,577.47. The contract is for the construction of Disposal Cell #6 at the landfill and is for 150 consecutive calendar days, starting after the contractor receives a Notice to Proceed.

Project Scope and Analysis:
The contract with 4X Construction will provide for the preparation and development of Cell #6 for the active disposal of municipal waste materials at the landfill. The project consists of landfill infrastructure improvements, including excavation, structural fill placement, compacted cohesive soil barrier layer placement, underdrain and leachate collection system installation, protective soil layer placement, manhole, concrete headwall, and forcemain construction, and other associated site improvements at the City of Brownsville Landfill.

Funding:

Source: 66-8026-8443 - Cell #6 Construction

Amount: $3,733,577.47

Local Contribution if Applicable:

Recommendation:
Engineering and Public Works staff recommends approval to award 4X Construction Project 296-26-EPW-IFB, Landfill Cell #6 Construction and Improvements.

Commission Pillar:
Infrastructure

Attachments:
1. Procurement Analysis 296-26-EPW-IFB
2. 296-26-EPW-IFB Contract (1)-compressed (1)
3. 296-26-EPW-IFB Landfill Cell No.6 Construction Solicitation

PROCUREMENT ANALYSIS

Date: Monday, August 10, 2026
To: Mr. John Cowen Jr., City Mayor
From: Mr. Alan Guard, Interim City Manager
CC: Mr. Damian Espinoza, Procurement Director
Ms. Maribel Guerrero, Engineering and Public Works Director

Agenda Title:
Agenda Item for the City Commission meeting of Tuesday, September 1, 2026.
"Consideration and Action to Authorize a Contract with 4X Construction Group, LLC in the amount of $3,733,577.47 for Contract No. 296-26-EPW-IFB, for a term of 150 consecutive calendar days. [EPW Department]."

Executive Summary:

- Department: Engineering and Public Works Department
- Procurement Method: IFB
- Submittals Received: 4
- Contract Number: 296-26-EPW-IFB
- Vendor: 4X Construction Group, LLC.
- Contract Amount: 3,733,577.47
- Term: 150 Consecutive Calendar Days

Background: The Engineering and Public Works Department requested competitive bids for the City of Brownsville Landfill Cell 6 and Associated Site Improvements Construction. The project consists of landfill infrastructure improvements, including excavation, structural fill placement, compacted cohesive soil barrier layer placement, underdrain and leachate collection system installation, protective soil layer placement, manhole, concrete headwall and forcemain construction, and other associated site improvements at the City of Brownsville Landfill.

Procurement Process:
The Procurement Department issued an IFB in compliance with the Texas Local Government Code. The solicitation was advertised in the local newspaper and posted on the City's electronic bidding platform. 4 bids were received.

This procurement is governed by the following statute:

- **IFB (Competitive Sealed Bidding): Texas Local Government Code Chapter 252, Subchapter C – Competitive Sealed Bidding (§252.041).**

Results: A total of 4 bids were received. After review, 4X Construction Group, LLC submitted the lowest responsive and responsible bid at $3,733,577.47 The bid tabulation is provided as Exhibit A.

Vendor Information:
Vendor Name: 4X Construction Group, LLC
Vendor Address: 99 Regency Parkway, Suite 303 Mansfield, TX 76063
Point of Contact: Jeff Parrish, Managing Member
Phone/Email: 817-779-3290 / jeff.parrish@4xconstruction.com

Exhibits & Supporting Documents:

- Exhibit A – Official Bid Tab (lowest responsive/responsible bidder).
- Exhibit B- Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Recommendation:
The Procurement Department recommends that the City Commission authorize a contract with 4X Construction Group, LLC under IFB, in a total amount not to exceed $ 3,733,577.47, for 150 consecutive calendar days.

Approval of this agenda item will authorize the full contract value, including the renewal option. The City Manager will be authorized to execute renewal(s) if exercised.

Exhibit "A"

BID TAB
BASE BID
CITY OF BROWNSVILLE MUNICIPAL LANDFILL
CELL 6 CONSTRUCTION
AUGUST 5, 2026

				4X CONSTRUCTIO GROUP, LLC			A&I CUSTOM MANUFACTURING, LLC			BLUE WORLD CONSTRUCTION, INC			LONGHORN EXCAVATORS, INC.		
ITEM	DESCRIPTION	UNIT	QUANTITY	QUANTITY	BID UNIT PRICE	BID AMOUNT	QUANTITY	BID UNIT PRICE	BID AMOUNT	QUANTITY	BID UNIT PRICE	BID AMOUNT	QUANTITY	BID UNIT PRICE	BID AMOUNT
101	Mobilization/Demobilization	LS	1	1	$186,428.87	$186,428.87	1	$185,000.00	$185,000.00	1	$206,757.00	$206,757.00	1	$69,900.00	$69,900.00
102	Payment of Bonds	LS	1	1	$37,700.00	$37,700.00	1	$90,000.00	$90,000.00	1	$87,522.00	$87,522.00	1	$42,797.30	$42,797.30
103	Construction Surveying	LS	1	1	$25,000.00	$25,000.00	1	$30,000.00	$30,000.00	1	$87,150.00	$87,150.00	1	$18,900.00	$18,900.00
104	Construction Dewatering	LS	1	1	$50,000.00	$50,000.00	1	$72,000.00	$72,000.00	1	$144,070.00	$144,070.00	1	$12,900.00	$12,900.00
105	Clearing and Grubbing	Acre	19.5	19.5	$1,500.00	$29,250.00	19.5	$2,500.00	$48,750.00	19.5	$2,800.00	$54,600.00	19.5	$1,800.00	$35,100.00
106	General Excavation	CY	199,290	199,290	$3.35	$667,621.50	199,290	$4.00	$797,160.00	199,290	$4.21	$839,010.90	199,290	$3.33	$663,635.70
107	12" Compacted Cohesive Soil Barrier Layer	SY	45,050	45,050	$3.25	$146,412.50	45,050	$3.00	$135,150.00	45,050	$4.23	$190,561.50	45,050	$2.19	$98,659.50
108	Embankment Fill	CY	14,820	14,820	$2.75	$40,755.00	14,820	$3.50	$51,870.00	14,820	$3.68	$54,537.60	14,820	$1.20	$17,784.00
109	Protective Cover	SY	32,300	32,300	$3.95	$127,585.00	32,300	$3.25	$104,975.00	32,300	$6.12	$197,676.00	32,300	$3.69	$119,187.00
110	Chimney Drain	LF	2,315	2,315	$56.00	$129,640.00	2,315	$70.00	$162,050.00	2,315	$52.12	$120,657.80	2,315	$111.90	$259,048.50
111	Underdrain Trench	LF	3,330	3,330	$31.00	$103,230.00	3,330	$42.00	$139,860.00	3,330	$24.35	$81,085.50	3,330	$65.28	$217,382.40
112	Underdrain Collection Sump	LS	1	1	$4,000.00	$4,000.00	1	$12,000.00	$12,000.00	1	$6,580.00	$6,580.00	1	$13,806.00	$13,806.00
113	Leachate Collection Trench	LF	850	850	$85.00	$72,250.00	850	$115.00	$97,750.00	850	$80.00	$68,000.00	850	$158.70	$134,895.00
114	Leachate Collection Sump	LS	1	1	$19,000.00	$19,000.00	1	$32,500.00	$32,500.00	1	$26,750.00	$26,750.00	1	$28,122.00	$28,122.00
115	14" Underdrain Riser	LF	120	120	$150.00	$18,000.00	120	$185.00	$22,200.00	120	$122.00	$14,640.00	120	$118.20	$14,184.00
116	18" Leachate Sump Riser	LF	120	120	$185.00	$22,200.00	120	$210.00	$25,200.00	120	$147.50	$17,700.00	120	$147.06	$17,647.20
117	6" Leachate Collection Pipe	LF	980	980	$19.00	$18,620.00	980	$32.00	$31,360.00	980	$23.25	$22,785.00	980	$27.06	$26,518.80
118	4"x8" Dual Contained Force Main	LF	400	400	$56.00	$22,400.00	400	$85.00	$34,000.00	400	$76.00	$30,400.00	400	$86.61	$34,644.00
119	Leachate Manhole	LS	1	1	$66,000.00	$66,000.00	1	$105,000.00	$105,000.00	1	$80,450.00	$80,450.00	1	$76,554.00	$76,554.00
120	Underdrain Dewatering Discharge System	LS	1	1	$66,000.00	$66,000.00	1	$90,000.00	$90,000.00	1	$93,060.00	$93,060.00	1	$64,050.00	$64,050.00
121	Leachate Pump and Control Panel	LS	1	1	$58,000.00	$58,000.00	1	$92,000.00	$92,000.00	1	$37,500.00	$37,500.00	1	$59,622.00	$59,622.00
122	Cell 5 Liner Tie-in	LF	1,010	1,010	$24.00	$24,240.00	1,010	$6.00	$6,060.00	1,010	$32.30	$32,623.00	1,010	$22.23	$22,452.30
123	Cell Marker Post	EA	4	4	$400.00	$1,600.00	4	$350.00	$1,400.00	4	$1,150.00	$4,600.00	4	$486.00	$1,944.00
124	Perimeter Access Road	SY	9,560	9,560	$26.00	$248,560.00	9,560	$24.00	$229,440.00	9,560	$22.15	$211,754.00	9,560	$31.62	$302,287.20
125	Removing Existing Culvert Crossing	LS	1	1	$4,500.00	$4,500.00	1	$5,500.00	$5,500.00	1	$9,390.00	$9,390.00	1	$2,100.00	$2,100.00
126	Perimeter Access Road Culvert Crossing	LS	1	1	$55,000.00	$55,000.00	1	$14,000.00	$14,000.00	1	$36,820.00	$36,820.00	1	$59,643.00	$59,643.00
127	North Perimeter Ditch Re-grading	LF	1,330	1,330	$12.00	$15,960.00	1,330	$18.00	$23,940.00	1,330	$24.85	$33,050.50	1,330	$21.00	$27,930.00
128	Diversion Dike - 24"	LF	840	840	$21.00	$17,640.00	840	$33.00	$27,720.00	840	$30.25	$25,410.00	840	$20.58	$17,287.20
129	Temporary Diverson Ditch and Berm	LF	950	950	$4.00	$3,800.00	950	$18.00	$17,100.00	950	$24.40	$23,180.00	950	$6.00	$5,700.00
130	24" Culvert	LF	30	30	$125.00	$3,750.00	30	$210.00	$6,300.00	30	$680.50	$20,415.00	30	$45.00	$1,350.00
131	Clean and Muck Channel, including Windblown Waste	AC	5.2	5.2	$12,000.00	$62,400.00	5.2	$2,500.00	$13,000.00	5.2	$11,190.00	$58,188.00	5.2	$16,500.00	$85,800.00
132	Regrade North Channel	AC	3.2	3.2	$20,000.00	$64,000.00	3.2	$5,000.00	$16,000.00	3.2	$10,850.00	$34,720.00	3.2	$10,200.00	$32,640.00
133	Regrade South Channel	AC	2.0	2.0	$20,000.00	$40,000.00	2.0	$5,000.00	$10,000.00	2.0	$11,300.00	$22,600.00	2.0	$10,200.00	$20,400.00
134	Remove and Replace Existing Gabion Lining	LS	1	1	$7,000.00	$7,000.00	1	$22,000.00	$22,000.00	1	$28,350.00	$28,350.00	1	$11,436.00	$11,436.00
201	Geosynthetic Clay Liner	SF	410,060	410,060	$0.78	$319,846.80	410,060	$0.85	$348,551.00	410,060	$1.03	$422,361.80	410,060	$0.834	$341,990.04
202	60 mil Smooth HDPE Geomembrane Liner	SF	373,360	373,360	$0.63	$235,216.80	373,360	$0.94	$350,958.40	373,360	$0.92	$343,491.20	373,360	$0.615	$229,616.40
203	60 mil Double-Sided Textured HDPE Geomembrane Liner	SF	36,700	36,700	$1.40	$51,380.00	36,700	$0.97	$35,599.00	36,700	$1.32	$48,444.00	36,700	$0.987	$36,222.90
204	200 mil Geonet	SF	373,360	373,360	$0.39	$145,610.40	373,360	$0.42	$156,811.20	373,360	$0.29	$108,274.40	373,360	$0.432	$161,291.52
205	Cell Geotextile	SF	373,360	373,360	$0.27	$100,807.20	373,360	$0.35	$130,676.00	373,360	$0.37	$138,143.20	373,360	$0.306	$114,248.16
206	Leachate Collection Double-Sided Geocomposite	SF	36,700	36,700	$1.15	$42,205.00	36,700	$0.99	$36,333.00	36,700	$1.01	$37,067.00	36,700	$0.978	$35,892.60
207	Underdrain Double-Sided Geocomposite	SF	391,720	391,720	$0.97	$379,968.40	391,720	$0.99	$387,802.80	391,720	$0.93	$364,299.60	391,720	$1.024	$401,121.28
				TOTAL		$3,733,577.47	TOTAL		$4,198,016.40	TOTAL		$4,464,675.00	TOTAL		$3,936,690.00

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1499789

Date Filed:
08/07/2026

Date Acknowledged:
08/10/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
4X Construction Group, LLC
Mansfield, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
296-26-EPW-IFB
Landfill Cell #6 Construction & Associated Improvements

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Ruf, Keith	Mansfield, TX United States	X	
Parrish, Jeff	Mansfield, TX United States	X	
Julian, Ronald	Mansfield, TX United States	X	
Julian, Donna	Mansfield, TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

Contract Summary Form
Contract Number 296-26-EPW-IFB

Procurement Info	
Procurement Method:	**IFB, RFP, RFQ**
New Contract:	**Yes ☒ No ☐**
Advertisement Dates, if any:	**July 4, 2026 and July 11, 2026**
Award Date:	**Tuesday, September 15, 2026**
Contractor	
Vendor Name:	4X Construction Group, LLC
Address:	99 Regency Parkway, Suite 303 Mansfield, TX 76063
Point of Contact / Project Manager*:	Jeff Parrish, Managing Member
Email Address:	817-779-3290 / jeff.parrish@4xconstruction.com
City Contact Information	
Department:	**Engineering & Public Works Department**
Point of Contact / Project Manager:	Maribel Guerrero
Email Address:	maribel.guerrero@brownsvilletx.gov
Contract Term	
Contract Amount:	3,733,577.47
Contract Base/Primary Term:	150 Consecutive Calendar Days
Renewal Periods (if any):	N/A
Total Term of Contract:	150 Consecutive Calendar Days
Important Contract Clauses	
Payment and Performance Bonds	**Due upon City Commission Approval**
Liquidated Damages	**($1,000.00) per each consecutive calendar day**
Budget Information	
State or Federal Funds:	**Yes ☐ No ☒**

CONTRACT FOR:
Landfill Cell #6 Construction & Associated Improvements
296-26-EPW-IFB

A. **AGREEMENT**

This Agreement is made by and between:

the Owner ("Owner" or "City"):	The City of Brownsville 1001 E. Elizabeth St., P.O. Box 911 Brownsville, Texas 78520
and the Contractor ("Contractor"):	4X Construction Group, LLC 99 Regency Parkway, Suite 303 Mansfield, TX 76063
for the following Project ("Project"):	IFB #: 296-26-EPW-IFB City of Brownsville Landfill 9000 Ruben M Torres Brownsville, TX 78521

Each individually referred to as a "Party" and collectively referred to as the "Parties". Owner and Contractor, in consideration of the covenants contained herein, and for the mutual benefits to be obtained hereby, the parties hereto agree as follows:

B. **CONTRACT DOCUMENTS**

The Contractor shall complete the Work described in the Contract Documents for the project. The Contract Documents consist of the following Exhibits:

A. This Agreement;
B. Notice of Award;
C. Proof of Invitation for Bid (IFB) 296-26-EPW-IFB
D. Addenda, as indicated in the IFB;
E. Original Bid submittal;
F. Bid Tabulation;
G. Plans and Specifications;
H. General Conditions;
I. Special Conditions;
J. Certificates of Insurance;
K. Payment Bond; (Added After City Commission Approval)
L. Performance Bond; (Added After City Commission Approval)
M. Written Change Orders issued after execution of this Agreement,

which are attached hereto and incorporated herein, and made a part of this Agreement for all purposes. The Contract Documents represent the entire and integrated agreement

between the Owner and the Contractor and supersede all prior negotiations, representations, or agreements, either oral or written. This Agreement may be amended only by written instrument signed by both the Owner and the Contractor. In the event of an inconsistency or conflict in any of the provisions of the Contract Documents, then the inconsistency or conflict shall be resolved by giving precedence first to this Agreement then to the Contract Documents in the order in which they are listed above.

C. **WORK**

Contractor shall complete all Work as specified or indicated in the Contract Documents for the Project identified herein.

D. **PROJECT**

The Project is the total construction for which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors, and is generally defined as IFB #: 296-26-EPW-IFB.

E. **CONTRACT PRICE; PAYMENT TERMS**

Owner agrees to pay Contractor for performance of the Work in accordance with the Contract Documents the guaranteed maximum price of **Three Million Seven Hundred Thirty-Three Thousand Five Hundred Seventy-Seven Dollars and Forty-Seven Cents ($3,733,577.47)** (hereinafter "Guaranteed Maximum Price" or "GMP"). Guaranteed Maximum Price includes all costs incurred by Contractor, including but not limited to Costs of Work (including among others, labor, equipment, materials, fees, inspections, and permits), construction contingency amount, and Contractor's overhead, all bond financing, profit, price escalation and market price variations. Nothing contained in this Agreement shall require the Owner to pay Contractor an aggregate amount that exceeds the Guaranteed Maximum Price or to make any payment if, in the Owner's belief, the cost to complete the Work would exceed the Guaranteed Maximum Price. Change orders may be approved in writing by Owner for increased costs needed for refinement, development and completion of the Project. However, the maximum allowable amount of change orders payable to the Project shall not exceed twenty-five percent (25%) of the Guaranteed Maximum Price for the Project.

The Owner shall pay within ***thirty (30) days*** for completed work in monthly draws, less 10% retainage, upon receipt of an acceptable invoice. Invoices shall be in standard form, Application and Certificate for Payment, and shall be accompanied by signed Conditional Release of Liens forms from each applicable subcontractor and supplier.

Retainage shall be paid within in thirty (30) days of receipt of an acceptable Final Invoice. The final Application for Payment shall be accompanied by signed Final Release and Waiver of Liens forms from all subcontractors and suppliers.

F. **CONTRACT TIME**

The Contract Time will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 14 days after the Effective Date of the Agreement, and shall substantially complete the Work within 150 consecutive calendar days as identified in the Bid package.

G. **LIQUIDATED DAMAGES**

Contractor recognizes that time is of the essence for completion of the Work, and to achieve Final Acceptance of the Work, and City will suffer financial loss if the Work is not completed within the time(s) specified herein. The Contractor also recognizes the delays, expense and difficulties involved in proving in a legal proceeding, the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, Contractor agrees that as liquidated damages for delay (but not as a penalty), Contractor shall pay City **One Thousand Dollars ($1000.00)** for each day that expires after the time specified in Paragraph F above, for Final Acceptance until the City issues the Final Letter of Acceptance.

H. **INSPECTION AND FINAL ACCEPTANCE**

The City's inspection and acceptance of contractual compliance will be accomplished by an engineering Inspector of the engineering Department. The City reserves the right to reject unsatisfactory work within a 24-hour period. Contractors have 48 hours to correct unacceptable work. (To be corrected during regular working days, holidays or weekends.)

Prior to beginning work, the Contractor shall provide to the City a Schedule of Values related to the Work, which shall be used for purposes of periodic payments.

The Contract Sum shall include all materials, supplies, tools, equipment, permits, perimeter fencing, portable restrooms, construction debris container(s), supervision and labor necessary for the proper prosecution and completion of the Work.

The Contractor warrants that the completed Project shall be adequate for the purposes intended.

I. **INDEMNIFICATION**

(a) CONTRACTOR COVENANTS AND AGREES TO FULLY INDEMNIFY, DEFEND AND HOLD HARMLESS, THE CITY AND THE ELECTED OFFICIALS, EMPLOYEES, OFFICERS, DIRECTORS, VOLUNTEERS AND REPRESENTATIVES OF THE CITY, INDIVIDUALLY AND COLLECTIVELY, FROM AND AGAINST ANY AND ALL COSTS, CLAIMS, LIENS, DAMAGES, LOSSES, EXPENSES, FEES, FINES, PENALTIES, PROCEEDINGS, ACTIONS, DEMANDS, CAUSES OF ACTION, LIABILITY AND SUITS OF ANY KIND AND NATURE, INCLUDING BUT NOT LIMITED TO, PERSONAL OR BODILY INJURY, DEATH AND PROPERTY DAMAGE, MADE UPON THE CITY DIRECTLY OR INDIRECTLY ARISING OUT OF, RESULTING FROM OR RELATED TO CONTRACTOR'S ACTIVITIES UNDER THIS AGREEMENT,

INCLUDING ANY ACTS OR OMISSIONS OF CONTRACTOR, ANY AGENT, OFFICER, DIRECTOR, REPRESENTATIVE, EMPLOYEE, CONSULTANT OR SUBCONTRACTOR OF CONTRACTOR, AND THEIR RESPECTIVE OFFICERS, AGENTS EMPLOYEES, DIRECTORS AND REPRESENTATIVES WHILE IN THE EXERCISE OF THE RIGHTS OR PERFORMANCE OF THE DUTIES UNDER THIS AGREEMENT. THIS INDEMNIFICATION PROVISION IS SPECIFICALLY INTENDED TO OPERATE AND BE EFFECTIVE EVEN IF IT IS ALLEGED OR PROVEN THAT ALL OR SOME OF THE DAMAGES BEING SOUGHT WERE CAUSED, IN WHOLE OR IN PART, BY ANY ACT, OMISSION OR NEGLIGENCE OF THE CITY. THIS INDEMNITY PROVISION IS INTENDED TO INCLUDE, WITHOUT LIMITATION, INDEMNITY FOR COSTS, EXPENSES AND LEGAL FEES INCURRED BY THE CITY IN DEFENDING AGAINST SUCH CLAIMS AND CAUSES OF ACTIONS. IN THE EVENT CONTRACTOR AND CITY ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY SHALL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS FOR THE STATE OF TEXAS, WITHOUT, HOWEVER, WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE CITY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.

(b) THE PROVISIONS OF THIS INDEMNITY ARE SOLELY FOR THE BENEFIT OF THE PARTIES HERETO AND NOT INTENDED TO CREATE OR GRANT ANY RIGHTS, CONTRACTUAL OR OTHERWISE, TO ANY OTHER PERSON OR ENTITY. CONTRACTOR SHALL ADVISE THE CITY IN WRITING WITHIN 24 HOURS OF ANY CLAIM OR DEMAND AGAINST THE CITY OR CONTRACTOR KNOWN TO CONTRACTOR RELATED TO OR ARISING OUT OF CONTRACTOR'S ACTIVITIES UNDER THIS AGREEMENT, AND SHALL SEE TO THE INVESTIGATION AND DEFENSE OF SUCH CLAIM OR DEMAND AT CONTRACTOR'S COST. THE CITY SHALL HAVE THE RIGHT, AT ITS OPTION AND AT ITS OWN EXPENSE, TO PARTICIPATE IN SUCH DEFENSE WITHOUT RELIEVING CONTRACTOR OF ANY OF ITS OBLIGATIONS UNDER THIS PARAGRAPH.

(c) This Indemnification provision shall survive termination or expiration of the Agreement.

J. **INDEPENDENT CONTRACTOR; PERSONNEL**

(a) Contractor enters into this Agreement as, and shall continue to be, an independent contractor. All Services shall be performed only by Contractor and Contractor's employees. Specifically, Contractor must perform within its own organization, work equivalent to at least thirty-five (35) percent of the Contract Price, unless otherwise approved by the City. Subject to and in accordance with the conditions and provisions of this Agreement, Contractor shall have the exclusive right to control the details of its operations and activities and be solely responsible for the acts and omissions of its officers, agents, servants, employees, consultants and subcontractors. Under no circumstances shall

Contractor, or any of Contractor's employees, look to City as his/her employer, or as a partner, agent or principal. Neither Contractor, nor any of Contractor's employees, shall be entitled to any benefits accorded to City's employees, including without limitation worker's compensation, disability insurance, vacation or sick pay. Contractor shall be responsible for providing, at Contractor's expense, and in Contractor's name, unemployment, disability, worker's compensation and other insurance, as well as any and all licenses and permits usual or necessary for conducting the Services. Contractor shall be responsible for paying all applicable local, state and federal taxes.

(b) Contractor represents and warrants to City that its employees performing Work hereunder will have sufficient expertise, training, licensure (if applicable) and experience to accomplish the Work for the Project.

(c) Contractor shall not subcontract any portion of the work required by this Agreement, except as provided in the Contract Documents. City may terminate this Agreement, effective immediately, if there is any assignment, or attempted assignment, transfer, or encumbrance, by Contractor of this Agreement or any right or interest herein without City's written consent. In the event Contractor engages any subcontractor in the performance of this Agreement, Contractor shall ensure that all of Contractor's subcontractors perform in accordance with the terms and conditions of this Agreement. Contractor shall be fully responsible for all of Contractor's subcontractors' performance, and liable for any of Contractor's subcontractors' non-performance and all of Contractor's subcontractors' acts and omissions.

K. **INSURANCE**

(a) The Contractor shall furnish proof of insurance requirements as indicated below. The coverage is to remain in force at all times during the contract period. The following minimum insurance coverage is required. The commercial general liability insurance policy shall name the City of Brownsville, Texas, as an "additional insured." This MUST be written in the description section of the insurance certificate, even if there is a check-off box on the insurance certificate. Any costs for adding the City as "additional insured" shall be at the Contractor's expense.

(b) The City of Brownsville shall be given notice ten (10) days prior to cancellation or modification of any required insurance. The insurance provided shall be endorsed or amended to comply with this notice requirement. In the event that the insurer is unable to accommodate, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested and addressed to the Purchasing & Contract Services Department located at City Hall, 1001 E. Elizabeth St. 1st Floor Suite 101.

(c) The Contractor's insurance must be provided by an A.M. Best's "A-"rated or better insurance company authorized to issue insurance policies in the State of Texas, subject to approval by the City of Brownsville Department of Safety and Risk Management. Any exclusions or provisions in the insurance maintained by the Contractor that excludes coverage for work contemplated in this solicitation shall be deemed unacceptable, and shall be considered breach of contract.

i. Workers' Compensation and Employers' Liability Insurance

Contractor shall purchase and maintain such insurance coverage with limits consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Texas Labor Code, Ch. 406, as amended), and minimum limits for Employers' Liability as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of I Contractor' s employees. Any firm performing work for or on behalf of the City of Brownsville must provide Workers' Compensation insurance.

ii. General Liability Insurance

Covering premises-operations, products-completed operations, independent contractors and contractual liability.

Limits: Combined single limit bodily injury/property damage $1,000,000.

This coverage must include, but not limited to:

1. Coverage for the liability assumed by the Contractor under the indemnity provision of the contract.
2. Coverage for Premises/Operations
3. Products/Completed Operations
4. Broad Form Contractual Liability
5. Independent Contractors

iii. Commercial Automobile Liability Insurance

Covering all owned, hired and non-owned automobile equipment.

Limits:	Bodily injury	$250,000 each person, $500,000 each occurrence
	Property damage	$100,000 each occurrence

This insurance shall be kept in force until the work under this Agreement has been completed and accepted by the City. The City shall be listed as Additional Insured under the policy.

L. **TERMINATION**

(a) *Termination for Cause.* The aggrieved party may terminate this Agreement for cause if the party in breach has not corrected the breach within ten (10) days after written notice from the aggrieved party identifying the breach. The City Manager may also terminate this Agreement upon such notice as the City Manager deems appropriate under the

circumstances in the event the City Manager determines that termination is necessary to protect the public health or safety. The parties agree that if the City erroneously, improperly or unjustifiably terminates for cause, such termination shall be deemed a termination for convenience, which shall be effective thirty (30) days after such notice of termination for cause is provided.

This Agreement may be terminated for cause for reasons including, but not limited to, Contractor's repeated (whether negligent or intentional) submission for payment of false or incorrect bills or invoices, failure to perform the Work to the City's satisfaction; or failure to continuously perform the work in a manner calculated to meet or accomplish the objectives as set forth in this Agreement.

(b) *Termination for Convenience.* The City reserves the right, in its best interest as determined by the City, to cancel this Agreement for convenience by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. In the event this Agreement is terminated for convenience, Contractor shall be paid for any services performed to the City's satisfaction pursuant to the Agreement through the termination date specified in the written notice of termination. Contractor acknowledges and agrees that he/she/it has received good, valuable and sufficient consideration from City, the receipt and adequacy of which are hereby acknowledged by Contractor, for City's right to terminate this Agreement for convenience.

(c) *Cancellation for Non-appropriated Funds.* The City reserves the right, in its best interest as determined by the City, to cancel this Agreement for non-appropriated funds or unavailability of funds by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise provided by law.

(d) *Force Majeure.* The City and Contractor will be excused from the performance of their respective obligations under this Agreement when and to the extent that their performance is delayed or prevented by any circumstances beyond their control including, fire, flood, explosion, strikes or other labor disputes, act of God or public emergency, war, riot, civil commotion, malicious damage, act or omission of any governmental authority, delay or failure or shortage of any type of transportation, equipment, or service from a public utility needed for their performance, provided that:

i. The non performing party gives the other party prompt written notice describing the particulars of the Force Majeure including, but not limited to, the nature of the occurrence and its expected duration, and continues to furnish timely reports with respect thereto during the period of the Force Majeure;

ii. The excuse of performance is of no greater scope and of no longer duration than is reasonably necessary when considered in light of the Force Majeure;

iii. No obligations of either party that arose before the Force Majeure causing the excuse of performance are excused as a result of the Force Majeure; and

iv. The non-performing party uses its best efforts to remedy its inability to perform.

v. Notwithstanding the above, performance shall not be excused under this Section for a period in excess of sixty (60) days, provided that in extenuating circumstances, the City may excuse performance for a longer term. Economic hardship of the Contractor will not constitute Force Majeure. The term of the agreement shall be extended by a period equal to that during which either party's performance is suspended under this Section.

M. **WARRANTIES**

The Contractor warrants to the Owner that materials and equipment furnished under the Agreement will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

N. **MISCELLANEOUS PROVISIONS**

(a) *Successors and Assigns.* All of the provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto, and their partners, assigns, successors, subcontractors, executors, heirs, officers, agents, employees, representatives, and administrators.

(b) *Choice of Law.* The laws of the state of Texas shall govern the validity of this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties hereto.

(c) *No Waiver of Governmental Immunity.* NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED TO WAIVE CITY'S GOVERNMENTAL IMMUNITY FROM LAWSUIT, WHICH IMMUNITY IS EXPRESSLY RETAINED TO THE EXTENT IT IS NOT CLEARLY AND UNAMBIGUOUSLY WAIVED BY STATE LAW.

(d) *Assignment.* Contractor shall not assign any of Contractor's rights under this Agreement, or delegate the performance of any of Contractor's duties hereunder, without the prior written consent of the City.

(e) *Modification or Amendment.* No amendment, change or modification of this Agreement shall be valid unless in writing signed by the parties hereto.

(f) *Venue.* This Agreement and any and all matters arising directly or indirectly herefrom shall be governed by and construed and enforced in accordance with the Laws of the State of Texas, with the Federal and State Courts of **Cameron County**, Texas having jurisdiction.

If at any time there is a dispute between or among the Parties with respect to any matter arising directly or indirectly from this Agreement (an "Agreement Matter"), the Parties agree that, prior to seeking judicial remedy, they will engage in face-to-face negotiations in an attempt to resolve such dispute and shall, upon failing to negotiate a mutually-satisfactory resolution, choose a mutually agreeable neutral third party to mediate such dispute. Mediation shall be non-binding and shall be confidential.

(g) *Execution and Consideration.* This Agreement is executed by the parties hereto without coercion or duress for any substantial consideration, the sufficiency of which is forever confessed

(h) *Notices.* Any and all notices, demands, or other communications required or desired to be given hereunder by any party shall be in writing and shall be validly given or made to another party if personally served, or if deposited in the United States mail, certified or registered, postage prepaid, return receipt requested. If such notice or demand is served personally, notice shall be deemed constructively made at the time of such personal service. If such notice, demand or other communication is given by mail, such notice shall be conclusively deemed given five days after deposit thereof in the United States mail addressed to the party to whom such notice, demand or other communication is to be given as follows:

If to Contractor:	4X Construction Group, LLC 99 Regency Parkway, Suite 303 Mansfield, TX 76063
If to City:	City of Brownsville Attn: City Manager 1001 E Elizabeth St. Brownsville, TX 78520
With Copy to:	City of Brownsville Attn: City Attorney 1001 E Elizabeth St. Brownsville, TX 78520

Any party hereto may change its address for purposes of this paragraph by written notice given in the manner provided above.

(i) *Cumulative Remedies.* All rights and remedies of the Parties under this Agreement shall be cumulative, and none shall exclude any other right or remedy provided by law, or by any other provisions of the Agreement. All such rights and remedies may be exercised and enforced concurrently and whenever, and as often, as occasion for their exercise arises.

(j) *Waiver of Breach.* A waiver by either Party of a breach of the Agreement by the other Party does not constitute a continuing waiver or a waiver of any subsequent breach of the

Agreement.

(k) *No Third Party Beneficiaries*. Nothing in this Agreement shall be construed to create any right in any third party not a signatory to this Agreement, and the Parties do not intend to create any third party beneficiaries by entering into this Agreement.

(l) *Entire Understanding.* This document and any exhibit attached hereto, constitute the entire understanding and agreement of the parties, and any and all prior agreements, understandings, and representations are hereby terminated and canceled in their entirety and are of no further force and effect.

(m) *Counterparts*. This Agreement may be executed in a number of identical counterparts, each of which shall be deemed an original for all purposes. A facsimile signature will also be deemed to constitute an original if properly executed.

(n) *Miscellaneous Drafting Provisions*. This Agreement shall be deemed drafted equally by the Parties hereto. The language of all parts of this Agreement shall be construed as a whole according to its fair meaning, and any presumption or principle that the language herein is to be construed against any Party shall not apply. Headings in this Agreement are for the convenience of the Parties and are not intended to be used in construing this document.

(o) *Authority to Execute*. The individuals executing this Agreement on behalf of the respective Parties below represent to each other and to others that all appropriate and necessary action has been taken to authorize the individual who is executing this Agreement to do so for and on behalf of the Party for which his or her signature appears, that there are no other parties or entities required to execute this Agreement in order for the same to be an authorized and binding agreement on the Party for whom the individual is signing this Agreement and that each individual affixing his or her signature hereto is authorized to do so, and such authorization is valid and effective on the date hereof.

(p) *Savings/Severability*. In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision hereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

(q) *Prohibition On Contracts With Companies Boycotting Israel*. Contractor acknowledges that in accordance with Chapter 2270 of the Texas Government Code, the City is prohibited from entering into a contract with a company for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract.

The terms " boycott Israel" and" company" shall have the meanings ascribed to those terms in Section 808.001 of the Texas Government Code. ***By signing this* Agreement, *Contractor certifies that Contractor' s signature provides written verification to the City that Contractor: (1) does not boycott Israel, and (2) will not boycott Israel during the***

term of the Agreement.

(r) Immigration Nationality Act. As required by law, Contractor shall verify the identify and employment eligibility of its employees who perform work under this Agreement, including completing the Employment Eligibility Verification Form (I-9). Upon request by the City, Contractor shall provide City with copies of all I-9 forms and supporting eligibility documentation for each employee who performs work under this Agreement. Contractor shall adhere to all Federal and State laws as well as establish appropriate procedures and controls so that no services will be performed by any Contractor employee who is not legally eligible to perform such services. **CONTRACTOR SHALL INDEMNIFY CITY AND HOLD CITY HARMLESS FROM ANY PENALTIES, LIABILITIES, OR LOSSES DUE TO VIOLATIONS OF THIS PARAGRAPH BY CONTRACTOR, CONTRACTOR'S EMPLOYEES, SUBCONTRACTORS, AGENTS, OR LICENSEES.** City, upon written notice to Contractor, shall have the right to immediately terminate this Agreement for violation of this provision by Contractor.

(s) *Representations*. Each signatory represents this Agreement has been read by the Party for which this Agreement is executed and that such Party has had an opportunity to confer with its legal counsel.

IN WITNESS WHEREOF the undersigned have executed this Agreement as of the day and year first written above.

NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESSED OR IMPLIED, TO AMEND THIS AGREEMENT, EXCEPT SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE CITY COMMISION OF THE CITY OF BROWNSVILLE.

EXECUTED THIS _____ DAY OF _____, 2026.

OWNER:

_____
(Signature)

_____
Print Name:
City of Brownsville

CONTRACTOR:

_____
(Signature)

Jeff Parrish
Print Name:

Approved as to Form:

Alyssa J. Castillon
Asst. City Attorney FOR:
Will Trevino
City Attorney

Exhibit "B"

NOTIFICATION OF INTENT TO AWARD

To:	4X Construction Group, LLC. 99 Regency Parkway STE 303 Mansfield, Texas 76063
Date:	08/07/2026
Attn:	Jeff Parrish, Managing Member
Project Title	Landfill Cell #6 Construction & Associated Improvements
Project Location	City of Brownsville Landfill 9000 Ruben M Torres Brownsville, TX 78521
Project Number	296-26-EPW-IFB

Dear Jeff Parrish,

On behalf of the City of Brownsville, I am pleased to announce that your company, 4X Construction Group, LLC., will be submitted for approval to City Commission for the above referenced project on September 15, 2026.

This Notice of Intent to Award is subject to execution of a written contract and, as a result, this Notice does NOT constitute the formation of a contract between the City of Brownsville and 4X Construction Group, LLC. 4X Construction Group, LLC. shall not acquire any legal or equitable rights relative to the contract services until a contract containing terms and conditions acceptable to the City of Brownsville is executed.

The City of Brownsville further reserves the right to cancel this Notice of Intent to Award at any time, with or without cause, prior to the execution of a written contract.

Congratulations and we look forward to working with your company on this project.

Thank you,

Alexandra Guajardo

Alexandra Guajardo
Contract Administrator
Procurement Department
City of Brownsville, Texas

City of Brownsville Procurement Department

INVITATION

** B/P/Q (Bid/Proposal/Qualifications)*

Description	Number	Pre-Bid/Proposal Meeting	Opening Meeting
Invitation For Bids For: Excavation, Loading, and Hauling Services	*B 288-26-EPW-IFB	Tuesday, July 7, 2026 @ 11:00 A.M CT TEAMS VIRTUAL MEETING	Tuesday, August 4, 2026 @ 3:00 P.M CT TEAMS VIRTUAL MEETING
Invitation For Bids For: Traffic Signal Improvements – Cameron County	*B 271-26-EPW-IFB	Thursday, July 9, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Tuesday, July 28, 2026 @ 2:00 P.M CT TEAMS VIRTUAL MEETING
Request for Qualifications For: Brownsville Comprehensive Plan	*Q 270-26-PLN-RFQ	Tuesday, July 14, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Wednesday, August 12, 2026 @ 3:00 P.M CT TEAMS VIRTUAL MEETING
Invitation For Bids For: Landfill Cell #6 Construction & Associated Improvements	*B 296-26-EPW-IFB	Tuesday, July 14, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Tuesday, August 4, 2026 @ 2:00 P.M CT TEAMS VIRTUAL MEETING

Interested Bidders/Proposer are invited to attend the Bid/Proposal opening via Video conference on the dates specified. Presence is not mandatory. Specifications may also be viewed and downloaded at: http://www.brownsvilletx.gov or https://brownsvilletx.bonfirehub.com/ (956) 548-6087 office, e-mail: purchasing@brownsvilletx.gov.

07/04/2026

☐ PROOF O.K. BY: _____ ☐ O.K. WITH CORRECTIONS BY: _____

PLEASE READ CAREFULLY • SUBMIT CORRECTIONS ONLINE

TX-30282624 (100%)

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City of Brownsville Procurement Department

INVITATION

** B/P/Q (Bid/Proposal/Qualifications)*

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Request for Qualifications For: Brownsville Comprehensive Plan	*Q 270-26-PLN-RFQ	Tuesday, July 14, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Wednesday, August 12, 2026 @3:00 P.M CT TEAMS VIRTUAL MEETING
Invitation For Bids For: Landfill Cell #6 Construction & Associated Improvements	*B 296-26-EPW-IFB	Tuesday, July 14, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Wednesday, August 4, 2026 @ 3:00 P.M CT TEAMS VIRTUAL MEETING
Request for Qualifications for: Turnkey Engineering, Procurement, And Construction (EPC) Of Middle-Mile Fiber Extension (Rings 7–9)	*Q 295-26-IT-RFQ	Tuesday, July 21, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Tuesday, August 18, 2026 @ 2:00 P.M CT TEAMS VIRTUAL MEETING

Interested Bidders/Proposer are invited to attend the Bid/Proposal opening via Video conference on the dates specified. Presence is not mandatory. Specifications may also be viewed and downloaded at: http://www.brownsvilletx.gov or https://brownsvilletx.bonfirehub.com/ (956) 548-6087 office, e-mail: purchasing@brownsvilletx.gov.

07/11/2026

☐ **PROOF O.K. BY:** _____ ☐ **O.K. WITH CORRECTIONS BY:** _____

PLEASE READ CAREFULLY • SUBMIT CORRECTIONS ONLINE

TX-30283200 (100%)

ADVERTISER: CITY OF BRO. PURCHASING
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NEXT RUN DATE: 07/11/26
PROOF DUE: 07/10/26 11:59:55

Form 1 – Proposal Acknowledgment & Authorized Contact

Purpose

This form officially acknowledges the Respondent's intention to submit a response to this solicitation. It also identifies the authorized contact who is empowered to act on behalf of the Respondent and will serve as the primary point of contact throughout the project. By submitting this form, the Respondent acknowledges and accepts all terms, conditions, and requirements stated in the solicitation.

Solicitation No. 296-26-EPW-IFB

Respondent Information

Legal Entity Name: 4X Construction Group, LLC

Primary Contact Name: Jeff Parrish

Title: Managing Member

Telephone: 817-779-3290 Email: Jeff.Parrish@4xconstruction.com

Acknowledgment of Solicitation Requirements

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has examined the solicitation documents, including all addenda issued, and is familiar with all conditions affecting the response.
2. The Respondent understands that submission of this acknowledgment constitutes a binding offer subject to the terms, conditions, and validity period stated in the solicitation package issued by the City of Brownsville.
3. The Respondent certifies that they possess full authority to bind the entity and to enter into an agreement with the City of Brownsville if selected.
4. The Respondent acknowledges that failure to submit this completed form or to sign below may result in rejection of the response as nonresponsive.
5. The Respondent acknowledges receipt of all addenda issued and confirms that all changes, clarifications, and revisions have been incorporated into this submission.

☐ No Addenda Issued Out

■ Addendum No. 1 Date: 07/23/2026

☐ Addendum No. ____ Date: _____

☐ Addendum No. ____ Date: _____

☐ Addendum No. ____ Date: _____

☐ Addendum No. ____ Date: _____

☐ Addendum No. ____ Date: _____

(Attach additional sheet if necessary)

Note: This acknowledgment applies to all addenda issued, regardless of whether each addendum is individually listed above.

Certification

By signing below, the undersigned Respondent certifies that all statements made herein are true and correct and that they are duly authorized to sign this form and bind the Respondent to its contents.

Signature: _____

Printed Name: Jeff Parrish

Title: Managing Member

Date: 08/04/2026

Company Name: 4X Construction Group, LLC

Phone: 817-779-3290

Email: Jeff.Parrish@4xconstruction.com

ADDENDUM #1

Invitation For Bids For: Landfill Cell #6 Construction & Associated Improvements

IFB#: 296-26-EPW-IFB

ADDENDUM NOTICE
This Addendum modifies the original solicitation documents. Respondents are responsible for reviewing all changes, clarifications, and revisions contained herein.

ACTION REQUIRED:
Addendum acknowledgment shall be completed in Form 1 – Proposal Acknowledgment & Authorized Contact.

Separate signatures, email confirmations, or individual acknowledgments for each addendum are not required unless explicitly stated in this Addendum.

CONTACT INFORMATION:

Jaydy Valdez
City of Brownsville – Procurement Department
City Hall 1001 E. Elizabeth St. 1ST FLOOR Suite No. 101 Brownsville, Texas 78520
Phone: (956) 548-6087
Email: purchasing@brownsvilletx.gov

Clarifications/Additional Information/Changes to the Original Solicitation Package:
The following documents are included with this Addendum:

- Attachment A: Answers to Questions
- Attachment B: Mandatory Site Visit Sign In Sheet
- Attachment C: Pre-Bid Meeting Attendance List
- Attachment D: Revised Form 10- Bid Price Form
- Attachment E: Revisions to Cell 6 Construction Plans
- Attachment F: Revisions to Cell 6 Construction Specifications
- Attachment G: Geotechnical Soil Testing Results

***Vendors must submit the REVISED Form 10: Bid Price Form with their submissions.**

Attachment A: Answers to Questions

Vendor, Jul 14, 2026 3:27 PM CDT

Would you please send or upload the attendees list for Job Site visit today?

Response: Please see below Attachment B: Mandatory Site Visit Sign In Sheet.

Vendor, Jul 17, 2026 7:25 AM CDT

Spec 02222 Section 1.2.1 designates a soil source area within a 1-mile off-road haul for select/structural fill and the compacted cohesive soil barrier. Please confirm (a) the designated source area has sufficient volume for the full barrier demand (~15,000 CY compacted) plus embankment and protective cover needs, (b) geotechnical test data (PI, gradation, moisture) for the source area will be furnished to bidders, and (c) processing of oversize material (>3/4-inch for barrier layer) from this source is considered incidental or will be paid separately.

Response: (a) The designated source area has sufficient volume for the 12" Compacted Cohesive Soil Barrier Layer, Embankment Fill and Protective Cover; (b) Please see attached below Attachment G: Geotechnical Soil Testing Results; (c) Any processing of oversized material is considered incidental.

Vendor, Jul 17, 2026 7:25 AM CDT

Please confirm all 199,000 CY of Item 106 General Excavation remains on site, and identify the designated stockpile/berm placement areas and maximum haul distances. Is stockpile grading for drainage per Section 02110 3.3 the only required finish treatment?

Response: The area of Cell 6 has been partially excavated by the City. The final pay quantities for General Excavation will be based on the pre-construction topographic survey to be conducted by the City and SCS Engineers. The proposed soil stockpile location is shown on Drawing No. 2 of the Construction Plans. Stockpile grading for drainage shall be maintained throughout the project and the finished condition.

Vendor, Jul 17, 2026 7:26 AM CDT

No groundwater or piezometer data is included in the bid package. Please provide available groundwater information for the Cell 6 footprint, and confirm whether Item 104 Construction Dewatering is a fixed LS regardless of encountered conditions or whether differing site conditions provisions apply.

Response: A Historical High Groundwater Map and Current Groundwater Map; as of February 24, 25 and 26 of 2026; have been provided as an Appendix to the Technical Specifications. Bid Item No. 104, Construction Dewatering is a fixed Lump Sum condition regardless of encountered conditions or differing site conditions. Additionally, Section 6.0, Liners Constructed Below the Seasonal High Water Table of the Soil and Liner Quality Control Plan of the Technical Specifications discusses the groundwater conditions at the site.

Vendor, Jul 17, 2026 7:26 AM CDT

The Engineer provides CQA services. To support the 150-calendar-day schedule, please confirm expected CQA response/testing turnaround times for (a) cohesive barrier lift approvals and (b) geosynthetics conformance testing and seam approvals, and confirm the Contractor bears cost only for RE-testing of failed work.

Response: The Construction Quality Assurance (CQA) Technician will be on-site during construction of the cohesive soil layer and will be testing the material as it is placed. Geosynthetic conformance testing and seam approval times vary depending on the materials tested but will typically be within industry standards. The contactor only bears the cost for re-testing failed tests.

Vendor, Jul 17, 2026 7:27 AM CDT

Are there pre-approved or minimum-qualification requirements for the geosynthetics installer (e.g., manufacturer-certified, IAGI, minimum square footage installed)? Please confirm acceptable geomembrane manufacturers or approved equals.

Response: There are no pre-approved or minimum qualification requirements for the geosynthetics installer. The Contractor is to install all geosynthetics in accordance with the Soil and Liner Quality Control Plan, Manufacture's Recommendations and the Contractor must have been in business providing work similar in scope for the past five (5) years and provide references for 3 project similar in scope and cost within the past five (5) years. No requests for approved equals have been received.

Vendor, Jul 17, 2026 7:27 AM CDT

Please provide the basis-of-design manufacturer/model for the leachate pump and control panel, and clarify who provides electrical power to the control panel location (utility coordination, service conductors, and energization).

Response: The leachate pump has been designed for the forcemain system operation. The City will coordinate and provide electrical service to a pole near the control panel. The Contractor will connect the control panel to the electrical service.

Vendor, Jul 17, 2026 7:27 AM CDT

Section 5 references funding-agency guidelines (e.g., Davis-Bacon). Please confirm whether federal Davis-Bacon or Texas Chapter 2258 prevailing wage rates apply to this contract, and if so, provide the applicable wage determination.

Response: No, Davis-Bacon or Texas Chapter 2258 prevailing wage rates apply to this contract.

Vendor, Jul 17, 2026 7:28 AM CDT

The IFB states retainage of ten percent (10%). Please confirm this complies with Texas Government Code 2252.032, which limits retainage to no more than 5% on public works contracts of this size, or advise if retainage will be revised by addendum.

Response: Please refer to section 5.18.4. Retainage withholding will conform to Texas Government Code § 2252.032 as follows:
• For public works contracts with a total value less than $5,000,000, the City may withhold up to ten percent (10%) of the contract price as retainage.
• For public works contracts with a total value of $5,000,000 or more, the City may withhold up to five percent (5%) of the contract price.

Vendor, Jul 17, 2026 12:50 PM CDT

Can you please supply a copy of the Prebid sign in sheet for all subcontractors to review?

Response: Please see below Attachment C: Pre-Bid Meeting Attendance List.

Vendor, Jul 17, 2026 7:28 AM CDT

Will as-built drawings/panel layouts of the existing Cell 5 liner system be furnished? Please confirm responsibility for repair of pre-existing (latent) defects in the Cell 5 liner discovered during exposure, versus damage caused by the Contractor.

Response: As-built drawings and panel layouts of the existing Cell 5 liner system may be provided to the awarded contractor upon request. The Contractor will be responsible for repair of pre-existing defects in the Cell 5 liner in accordance with Bid Item No. 122, Cell 5 Liner Tie-in.

Vendor, Jul 17, 2026 7:28 AM CDT

Please identify the available construction water source for moisture conditioning (hydrant, on-site well, or leachate/stormwater reuse) and any fees or restrictions on its use.

Response: A hydrant is available on the west side of the facility for water. The Contractor shall attach a meter on the hydrant and report water quantities used to the City weekly. There are no fees for the water.

Vendor, Jul 17, 2026 7:29 AM CDT

Please confirm the definition of substantial completion for assessment of liquidated damages (cell acceptance by TCEQ/Engineer vs. final completion), and the mechanism for weather-day time extensions given the moisture-sensitive barrier and liner work.

Response: Substantial completion shall reflect the entire project. Weather days will be tracked on a daily basis by both the City and the Contractor. Weather days will be discussed at each construction meeting, and a running tally will be kept.

Vendor, Jul 17, 2026 7:29 AM CDT

For the Bonfire electronic submission, please confirm whether the 5% bid bond may be submitted as a scanned copy with the electronic bid, with the original available on request, or whether a hard-copy original must be delivered prior to bid opening.

Response: A scan of the bid bond with the initial electronical submittal is acceptable.

Vendor, Jul 17, 2026 2:19 PM CDT

Could you please provide the existing elevations of the job site? Have a great day!

Response: Existing elevations of the jobsite are shown on Drawing No. 2, Site Layout Plan of the Construction Plans.

Vendor, Jul 20, 2026 12:41 PM CDT

Where will the approx. 199,000 cy of dirt be disposed to?

Response: Soil excavated from Cell 6 shall be stockpiled at the Soil Stockpile area shown on Drawing No. 2, Site Layout Plan of the Construction Plans.

Vendor, Jul 20, 2026 12:56 PM CDT

Who if responsible for hiriing the surveyor for certifcation surveys for SG, Top of clay seperation layer and top of protective cover?

Response: The City's CQA firm, SCS Engineers, will provide the surveying certification services for the pre-construction, excavation, top of cohesive soil, geomembrane and top of protective cover certifications surveys.

Vendor, Jul 20, 2026 12:57 PM CDT

Will the owner hire a QA consultent for field & lab testing and any third party liner testing

Response: The City has hired SCS Engineers as the CQA consultant.

296-26-EPW-IFB: Landfill Cell #6 Construction & Associated Improvements

Mandatory Site Visit Sign-in Sheet

Tuesday, July 14, 2026 2:00PM

Name	Company	Date	Email	Signature
Jaycky Valdez	COB	7/14/26	Jaycky.valdez@brownsvilletx.gov	
Hans Meyer	COB	7/14/26	Hans.Meyer@brownsvilletx.gov	
Sam Franco	SCS Engineers	7-14-26	sfranco@scsengineers.com	
Jimmy Rivera	EISG	7/14/26	drivera1.plc@gmail.com	
John Cantos	LEX	7-14-26	jcantos@lexinc.com	
Ismael Herrera	A+I	7-14-26	ismael.ai@hotmail.com	
Jorge Ibarra	A+I	7-14-26	Jorge.Ai@stamail.com	
Shawn Cooper	Blue World	7-14-26	s.cooper@blueworld.com	
Hunter Watson	4XCG	7-14-26	hunter.watson@4xconstruction.com	
Cristi Trevino	Clear Construction	7-14-26	cristitrevino99@gmail.com	
Justin Zuniga	FCS Construction	7-14-26	cdavee@fcscs.com	
Ernesto Vega	COB	7-14-26	ernesto.vega@brownsvilletx.gov	
Eduardo Duran	COB	7/14/26	eduardo.duran@brownsvilletx.gov	
Jesus Aragon	COB	7/14/26	Jose.Aragon2@Brownsville TX.gov	
DAVID VERA	COB	7/14/26	david.vera@brownsvilletx.gov	
Luis Flores	ZIVA	7/14/26	luis@zivacorp.com	
Mario delcon	ZIVA	7/14/26	mario.delcon@zivacorp.com	
Maribel Cruz	COB EPW	7/14/26		

Attachment C: Pre-Bid Meeting Attendance List

1. Summary

	Pre Bid Meeting 296-26-EPW-IFB: Landfill Cell #6
Meeting title	Construction & Associated Improvements
Attended participants	17
Start time	7/14/26, 9:50:31 AM
End time	7/14/26, 10:12:20 AM
Meeting duration	21m 48s
Average attendance time	13m 25s

2. Participants

Name	First Join	Last Leave	In-Meeting Duration	Email
Jaydy Valdez	7/14/26, 9:51:19 AM	7/14/26, 10:12:20 AM	21m	Jaydy.Valdez@brownsvilletx.gov
Murray, JRoy	7/14/26, 9:51:30 AM	7/14/26, 10:12:18 AM	20m 47s	JMurray@scsengineers.com
Hans Meyer	7/14/26, 9:52:05 AM	7/14/26, 10:11:33 AM	19m 27s	Hans.Meyer@brownsvilletx.gov
Espinoza Matute, Ricardo	7/14/26, 9:52:21 AM	7/14/26, 10:11:38 AM	19m 16s	REspinozaMatute@scsengineers.com
Hunter Watson (Unverified)	7/14/26, 9:56:26 AM	7/14/26, 10:11:38 AM	15m 12s	
Maribel Guerrero	7/14/26, 9:57:28 AM	7/14/26, 10:11:38 AM	14m 9s	maribel.guerrero@brownsvilletx.gov
David Vera	7/14/26, 9:57:58 AM	7/14/26, 10:11:36 AM	13m 38s	David.Vera@brownsvilletx.gov
Eduardo Duran	7/14/26, 9:57:59 AM	7/14/26, 10:11:37 AM	13m 38s	Eduardo.Duran@brownsvilletx.gov
Luis Flores Fernandez (External)	7/14/26, 9:58:02 AM	7/14/26, 10:11:35 AM	13m 32s	luis@ziwacorp.com
Lisa Hagood (External)	7/14/26, 9:58:06 AM	7/14/26, 10:11:35 AM	13m 29s	lisah@lexinc.com
Curtis Davee (External)	7/14/26, 9:59:26 AM	7/14/26, 10:11:40 AM	12m 14s	cdavee@friscocs.com
Ismael Herrera (A&I Custom MFG) (Unverified)	7/14/26, 10:00:28 AM	7/14/26, 10:12:18 AM	11m 49s	
Jeff Parrish (Unverified)	7/14/26, 10:00:57 AM	7/14/26, 10:02:09 AM	1m 11s	
Jim Rose (External)	7/14/26, 10:01:08 AM	7/14/26, 10:11:36 AM	10m 27s	J.Rose@bluwrld.com
Jeff Parrish (Unverified)	7/14/26, 10:02:02 AM	7/14/26, 10:11:52 AM	9m 50s	
Jimmy Rivera (Unverified)	7/14/26, 10:02:17 AM	7/14/26, 10:11:39 AM	9m 22s	
A & I Custom Manufacturing, LLC - Office (Unverified)	7/14/26, 10:03:04 AM	7/14/26, 10:12:16 AM	9m 11s	

Attachment D: Revised Form 10- Bid Price Form

IFB#: 296-26-EPW-IFB

CITY OF BROWNSVILLE MUNICIPAL LANDFILL
CELL 6 CONSTRUCTION PROJECT, IFB#: 296-26-EPW-IFB
BID SCHEDULE
JUNE 29, 2026 (REVISED JULY 20, 2026)

The undersigned bidder, having carefully examined the Contract documents, and the Site of the proposed Work and being familiar with all conditions of same, hereby proposes to furnish all labor, materials, equipment, and incidentals necessary to construct this project in strict accordance with said documents for the following prices:

Item No.	Item Description	Units	Estimated Quantity	Unit Cost	Total Cost
101	Mobilization/Demobilization	LS	1		
102	Payment of Bonds	LS	1		
103	Construction Surveying	LS	1		
104	Construction Dewatering	LS	1		
105	Clearing and Grubbing	Acre	19.5		
106	General Excavation	CY	199,290		
107	12" Compacted Cohesive Soil Barrier Layer	SY	45,050		
108	Embankment Fill	CY	14,820		
109	Protective Cover	CY	32,300		
110	Chimney Drain	LF	2,315		
111	Underdrain Trench	LF	3,330		
112	Underdrain Collection Sump	LS	1		
113	Leachate Collection Trench	LF	850		
114	Leachate Collection Sump	LS	1		
115	14" Underdrain Riser	LF	120		
116	18" Leachate Sump Riser	LF	120		

Bidder's Initials_____

117	6" Leachate Collection Pipe	LF	980		
118	4"x8" Dual Contained Force Main	LF	400		
119	Leachate Manhole	LS	1		
120	Underdrain Dewatering Discharge System	LS	1		
121	Leachate Pump and Control Panel	LS	1		
122	Cell 5 Liner Tie-in	LF	1,010		
123	Cell Marker Post	EA	4		
124	Perimeter Access Road	SY	9,560		
125	Removing Existing Culvert Crossing	LS	1		
126	Perimeter Access Road Culvert Crossing	LS	1		
127	North Perimeter Ditch Re-grading	LF	1,330		
128	Diversion Dike – 24"	LF	840		
129	Temporary Diversion Ditch and Berm	LF	950		
130	24" Culvert	LF	30		
131	Clean and Muck Channel, including Windblown Waste	AC	5.2		
132	Regrade North Channel	AC	3.2		
133	Regrade South Channel	AC	2.0		
134	Remove and Replace Existing Gabion Lining	LS	1		
201	Geosynthetic Clay Liner	SF	410,060		
202	60 mil Smooth HDPE Geomembrane Liner	SF	373,360		
203	60 mil Double-Sided Textured HDPE Geomembrane Liner	SF	36,700		
204	200 mil Geonet	SF	373,360		

205	Cell Geotextile	SF	373,360		
206	Leachate Collection Double-Sided Geocomposite	SF	36,700		
207	Underdrain Double-Sided Geocomposite	SF	391,720		
				Total:	

FOR A TOTAL BASE BID AMOUNT
FOR THE CONSTRUCTION OF
CELL 6, IFW#: 296-26-EPW-IFB OF:

$_____

Total Bid Amount (print words carefully in black ink)

_____

_____ dollars.

_____
Signature of Bidder

_____
Printed Name and Title

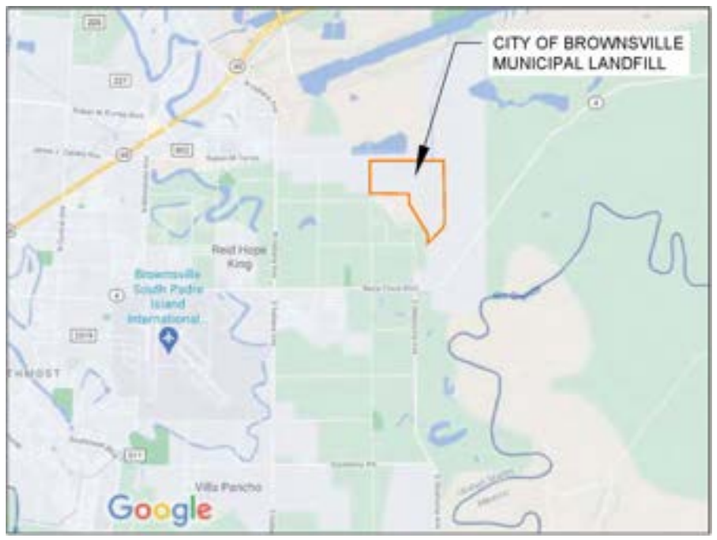
_____
Company

_____
Date

The City reserves the right to reject any and all bids and rebid the project at a later time.

CELL 6 CONSTRUCTION PLANS

CITY OF BROWNSVILLE MUNICIPAL LANDFILL
CAMERON COUNTY
9000 F.M. 802, BROWNSVILLE, TEXAS 78521
JUNE 2026 (REVISED JULY 20, 2026)



1/2 MILE

LOCATION MAP

SHEET		TITLE
1	-	COVER SHEET AND INDEX
2	-	SITE LAYOUT PLAN
3	-	CELL 6 EXCAVATION PLAN
4	-	CELL 6 EXCAVATION POINTS
5	-	CELL 6 TOP OF COMPACTED COHESIVE SOIL BARRIER LAYER PLAN
6	-	CELL 6 TOP OF COMPACTED COHESIVE SOIL BARRIER LAYER POINTS
7	-	CELL 6 TOP OF PROTECTIVE COVER PLAN
8	-	CELL 6 TOP OF PROTECTIVE COVER POINTS
9	-	LANDFILL LINER, LEACHATE COLLECTION SYSTEM, AND UNDERDRAIN DETAILS I
10	-	LANDFILL LINER, LEACHATE COLLECTION SYSTEM, AND UNDERDRAIN DETAILS II
11	-	LANDFILL LINER, LEACHATE COLLECTION SYSTEM, AND UNDERDRAIN DETAILS III
12	-	FORCE MAIN PLAN
13	-	LEACHATE AND FORCEMAIN SYSTEM DETAILS
14	-	MANHOLE AND FORCE MAIN DETAILS I
15	-	MANHOLE AND FORCE MAIN DETAILS II
16	-	MISCELLANEOUS DETAILS
17	-	NORTH CHANNEL PLAN
18	-	SOUTH CHANNEL PLAN
19	-	CHANNEL CROSS-SECTIONS

NOTES:

1. THE CURRENT LANDFILL PERMIT SHALL GOVERN OVER ANY DISCREPANCY BETWEEN THESE PLANS AND THE PERMIT.
2. THESE PLANS ARE ISSUED FOR INTERIM REVIEW PURPOSES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TIMELY UNLOADING OF LINER MATERIALS. UNLOADING OF MATERIAL SHALL BE CONDUCTED ONLY UNDER THE SUPERVISION OF THE OWNERS REPRESENTATIVE. A LAY DOWN AREA WILL NEED TO BE GRADED/CONSTRUCTED TO ALLOW FOR PROPER STORAGE OF LINER MATERIALS. THIS AREA SHALL HAVE MINIMUM DIMESNIONS OF 100'x100' AND SHALL BE ELVATED, COMPACTED AND GRADED TO PREVENT PONDING OF WATER IN THE LINER STORAGE AREA. THE GCL AND GEOMEMBRANE SHALL NOT BE STACKED OVER 3 ROLLS HIGH. STOCKPILES SHALL BE NEAT AND ORDERLY. PUSHING OR PULLING ROLLS OFF THE TRUCK SHALL NOT BE ACCEPTABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE MATERIAL DURING UNLOADING AND STORAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE LAYDOWN AREA UNTIL GEOSYNTHETICS WORK IS COMPLETE.

Prepared By:

SCS ENGINEERS
TEXAS BOARD OF PROFESSIONAL ENGINEERS
REGISTRATION NO. F-3407
12651 BRIAR FOREST, SUITE 205
HOUSTON, TX 77077
TEL: (281) 293-8494
FAX: (281) 293-7878

Prepared For:

CITY OF BROWNSVILLE
DEPARTMENT OF ENGINEERING & PUBLIC WORKS
9000 FM 802
P.O. BOX 911
BROWNSVILLE, TEXAS 78521
TEL: (956) 831-3641



PROJECT # - 16220069.26

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

LIMITS OF CELL 6 CONSTRUCTION

SOIL STOCKPILE

CLEARING AND GRUBBING

PROPOSED DIVERSION DIKE (5/16)

BORROW AREA

LEGEND:

- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- BUFFER ZONE
- LIMIT OF LANDFILL
- CONSTRUCTED LIMITS OF WASTE
- 75 EXISTING INDEX CONTOUR
- AREA TO BE CLEARED AND GRUBBED (19.5 ac.) ⚠
- STOCKPILE LIMIT (3.7 ac.)

NOTES:

1. GRID SYSTEM IS BASED ON STATE PLANE COORDINATES PROVIDED BY AMBIOTEC CIVIL ENGINEERING GROUP, SEPTEMBER 2001.
2. TOPOGRAPHY PROVIDED BY I.F. ROOKS & ASSOCIATES, DATED NOVEMBER 13, 2025.
3. ELEVATIONS SHOWN FOR CELL 5 AT THE TIME OF FLYOVER REPRESENT TOP OF PROTECTIVE COVER. INTERIM WASTE GRADES NOT SHOWN FOR CLARITY. SITE OPERATIONS HAS FILLED THE CELL 5 AREA A CONSIDERABLE AMOUNT SINCE FLYOVER AND A DIVERSION DIKE WOULD BE REQUIRED TO CONTROL STORMWATER FROM ENTERING THE CELL 6 AREA DURING CONSTRUCTION.

SCALE
0 400 800 FEET

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED PROFESSIONAL ENGINEER
04/22/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

NO.	DATE	DESCRIPTION	BY
1	7/14/26	REVISED CLEARING AND GRUBBING AREA	SCS

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3037

DRAWING TITLE: **SITE LAYOUT PLAN**

PROJECT TITLE: **CELL 6 CONSTRUCTION PLANS**

CLIENT: **CITY OF BROWNSVILLE MUNICIPAL LANDFILL**
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

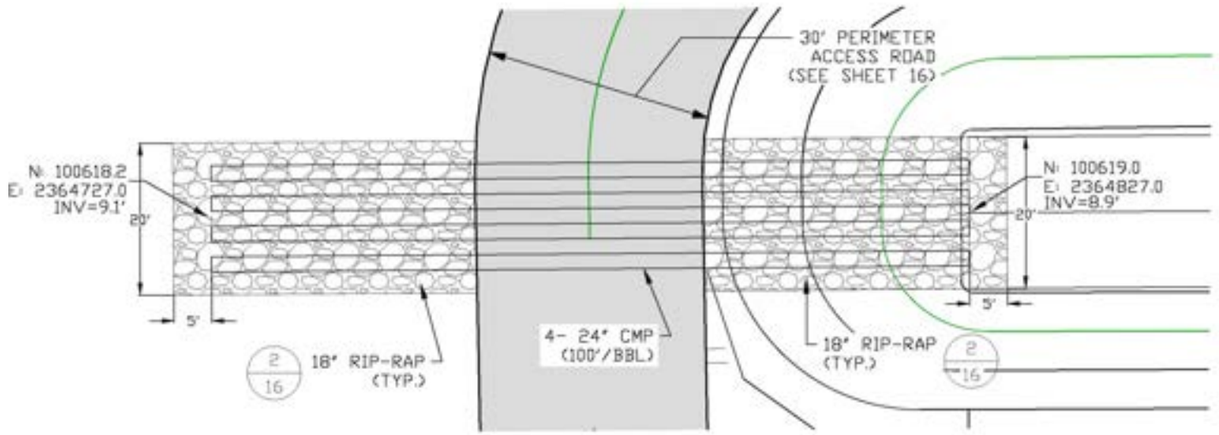
SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
1380 BRIAR FOREST, SUITE 208, HOUSTON, TX 77077
PH (281) 293-8404 FAX NO. (281) 293-7878

CADD FILE:

DATE: 06/2026

SCALE: AS SHOWN

DRAWING NO. 2



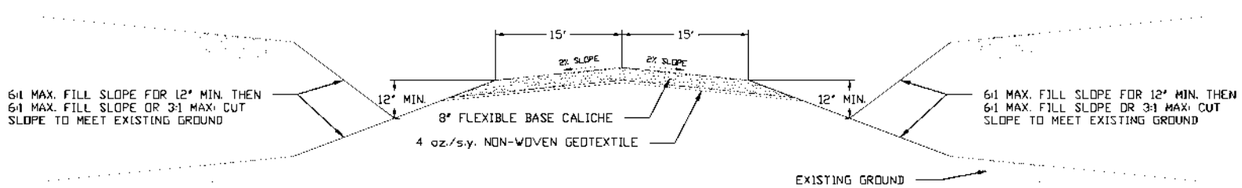
1/16 PERIMETER ACCESS ROAD CULVERT PLAN

SCALE

0 20 40

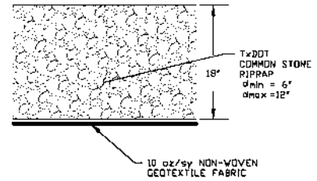
3/16 TEMPORARY DIVERSION DITCH AND BERM

NOT TO SCALE



1 4/16 PERIMETER ACCESS ROAD PAVING DETAIL

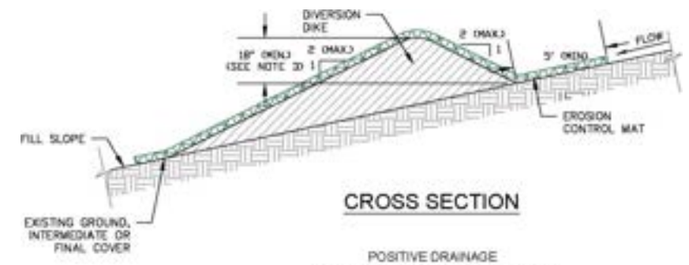
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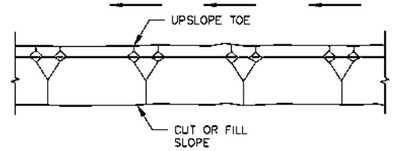
2/16 18" STONE RIP-RAP DETAIL

SCALE

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CROSS SECTION



PLAN VIEW

GENERAL NOTES:

1 ALL DIKES SHALL BE MACHINE COMPACTED
2 ALL DIVERSION DIKES SHALL HAVE POSITIVE DRAINAGE (2 TO 4 PERCENT) TO AN OUTLET
3 CELL 6 TEMPORARY STORMWATER DIVERSION DIKE SHALL HAVE A 24" MIN. DEPTH

5/16 DIVERSION DIKE

NOT TO SCALE

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED
PROFESSIONAL ENGINEER
04/22/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

NO.	DESCRIPTION
1	7/14/26, REVISED DETAILS 3 AND 4 THIS SHEET.

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407

MISCELLANEOUS DETAILS

CELL 6 CONSTRUCTION PLANS

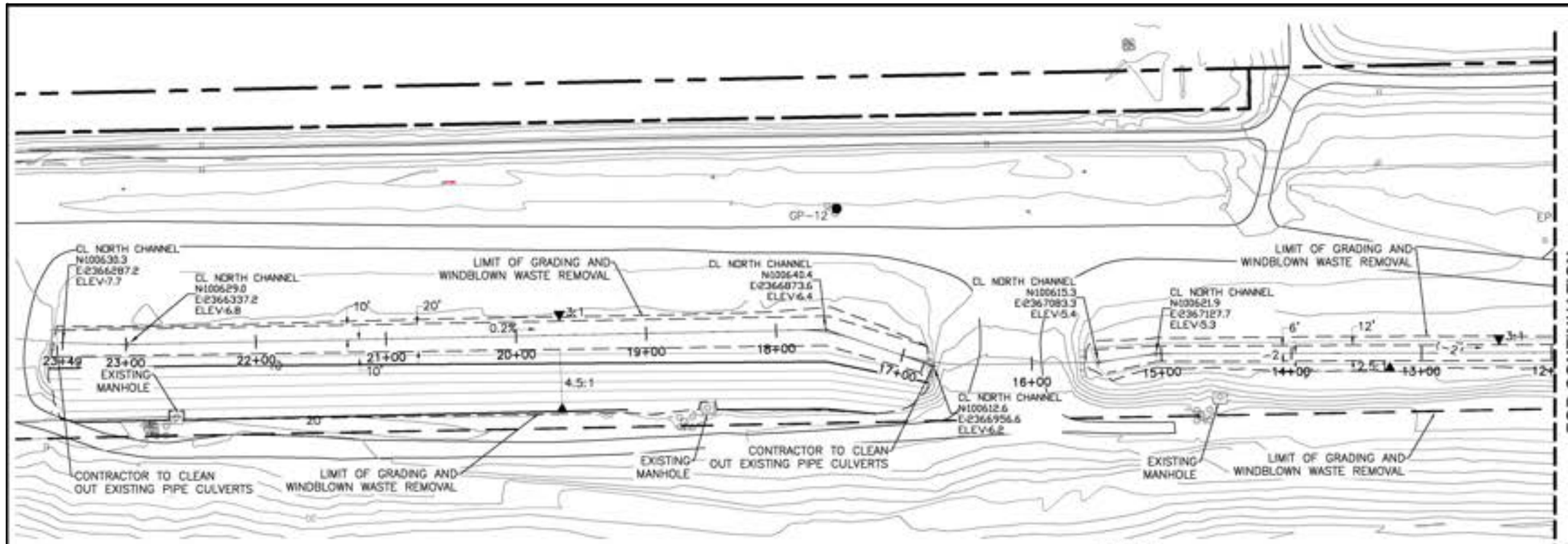
CITY OF BROWNSVILLE
MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
10851 BRIAR FOREST, SUITE 206, HOUSTON, TX 77077
PH (281) 293-8494 FAX NO. (281) 293-7976

DATE: 05/2026

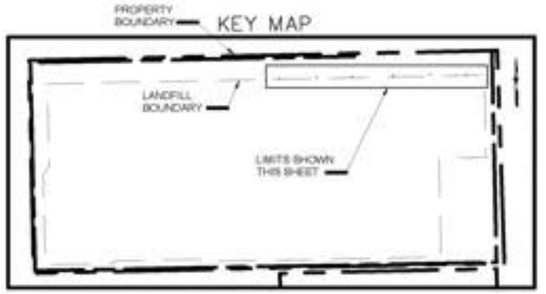
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DRAWING NO.: 16



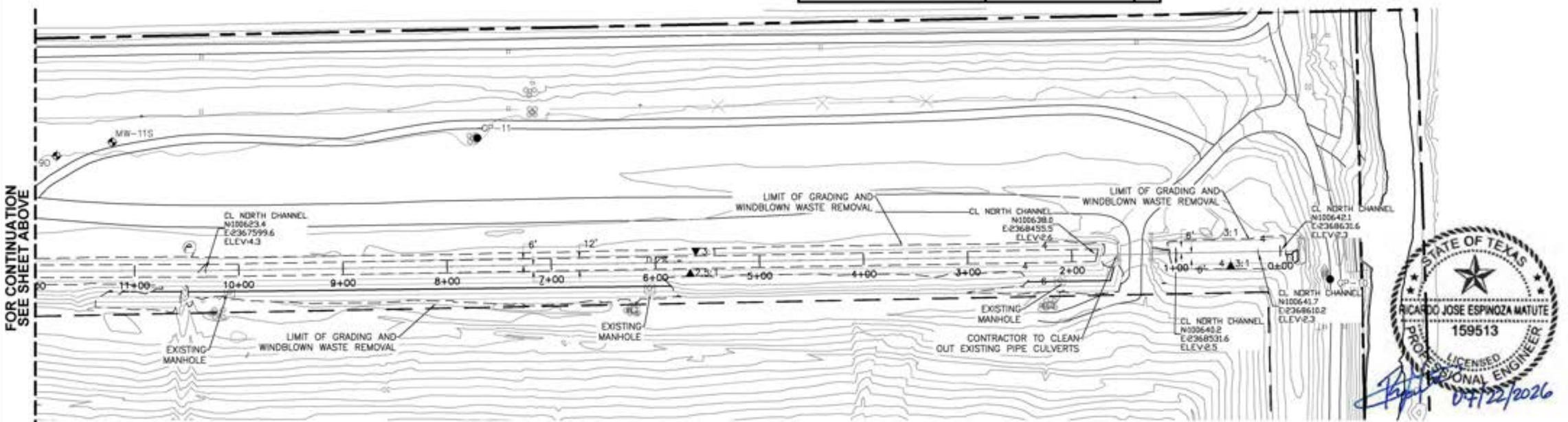
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LEGEND
- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- LIMIT OF LANDFILL
- CHANNEL CENTERLINE
- 10 DESIGN CONTOUR
- 20 EXISTING CONTOUR
- GRADE BREAK
- EXISTING WELLS



NOTES:

1. GRID SYSTEM IS BASED ON STATE PLANE COORDINATES PROVIDED BY AMBIOTEC CIVIL ENGINEERING GROUP, SEPTEMBER 2001.
2. TOPOGRAPHY PROVIDED BY I.F. ROOKS & ASSOCIATES, DATED NOVEMBER 13, 2025.
3. THE GRADES ON THIS SHEET REFLECT THE CHANNEL GRADES.
4. CONTRACTOR TO PRESERVE AND PROTECT ALL EXISTING MANHOLES, LEACHATE FORCE MAIN COMPONENTS, GAS PROBES, AND GROUNDWATER MONITORING WELLS.



STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED PROFESSIONAL ENGINEER
04/22/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

BY	DESCRIPTION	REV	DATE

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3497

DRAWING TITLE: NORTH CHANNEL PLAN

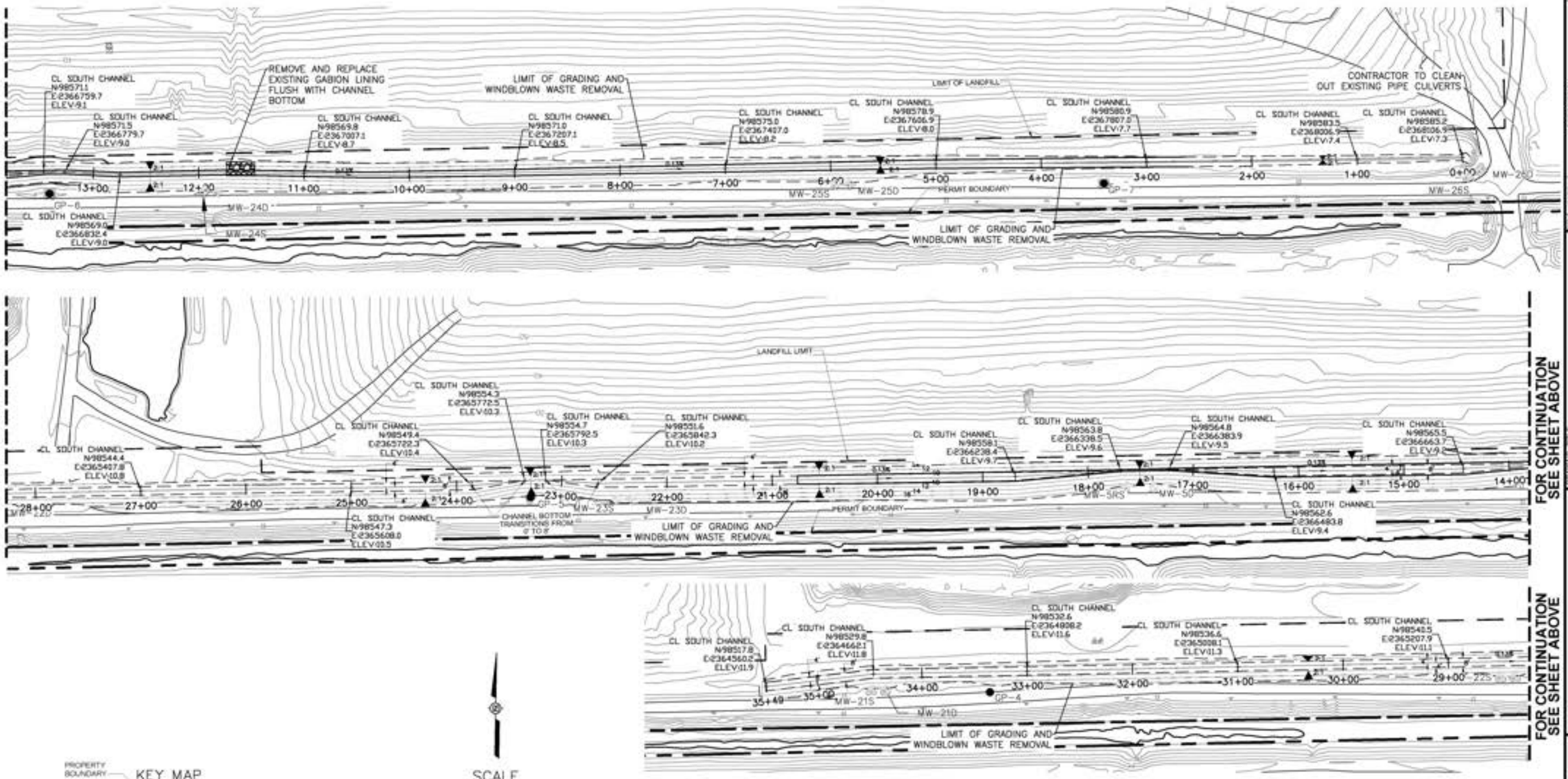
PROJECT TITLE: CELL 6 CONSTRUCTION PLANS

CLIENT: CITY OF BROWNSVILLE MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

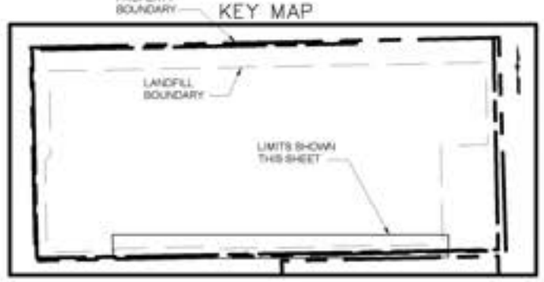
SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
3900 ESSEX LANE, SUITE 390, HOUSTON, TX 77027
PH: (281) 292-9494 FAX NO: (281) 293-7979

PROJ NO: 02210069.26
DWG BY: JG
CHK BY: RJE
QA/A RW BY: SF
APP BY: JRM

CADD FILE: DWG 17 - NORTH CHANNEL
DATE: 06/2026
SCALE: AS SHOWN
DRAWING NO: 17



PROPERTY BOUNDARY — KEY MAP



SCALE

0 100 200 FEET

LEGEND

- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- LIMIT OF LANDFILL
- CHANNEL CENTERLINE
- 10 DESIGN CONTOUR
- 20 EXISTING CONTOUR
- GRADE BREAK
- EXISTING WELLS

NOTES:

1. GRID SYSTEM IS BASED ON STATE PLANE COORDINATES PROVIDED BY AMBIOTEC CIVIL ENGINEERING GROUP, SEPTEMBER 2001.
2. TOPOGRAPHY PROVIDED BY I.F. ROOKS & ASSOCIATES, DATED NOVEMBER 13, 2025.
3. THE GRADES ON THIS SHEET REFLECT THE CHANNEL GRADES.
4. CONTRACTOR TO PRESERVE AND PROTECT ALL EXISTING GAS PROBES AND GROUNDWATER MONITORING WELLS.

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED PROFESSIONAL ENGINEER
04/22/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

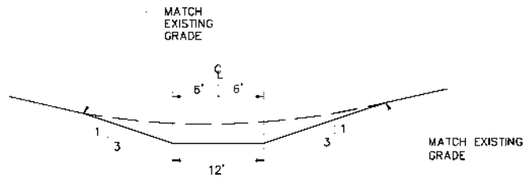
BY | DESCRIPTION | DATE | REV
TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3497

DRAWING TITLE: SOUTH CHANNEL PLAN
PROJECT TITLE: CELL 6 CONSTRUCTION PLANS

CLIENT: CITY OF BROWNSVILLE
MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
10850 RICHMOND AVENUE, HOUSTON, TX 77007
PH (281) 293-8484 FAX NO. (281) 293-7979

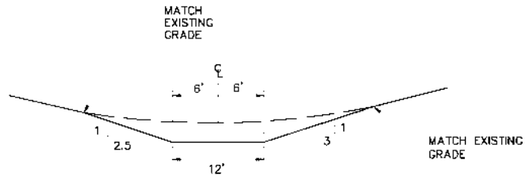
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DATE: 06/2026
SCALE: AS SHOWN
DRAWING NO. 18



NORTH CHANNEL TYPICAL CROSS SECTION DESIGN AT STA. 0+00 TO STA. 1+00

1/19

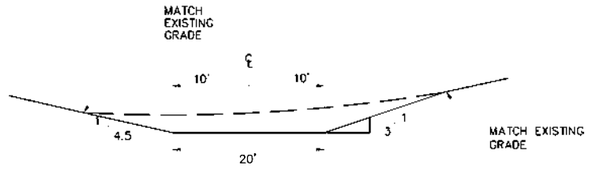
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NORTH CHANNEL TYPICAL CROSS SECTION DESIGN AT STA. 1+76 TO STA. 15+49

2/19

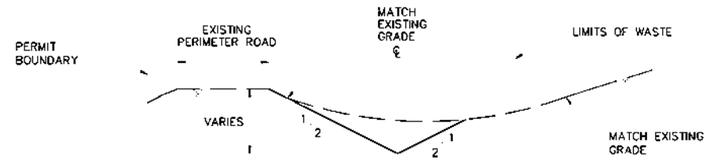
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NORTH CHANNEL TYPICAL CROSS SECTION DESIGN AT STA. 16+75 TO STA. 23+49

3/19

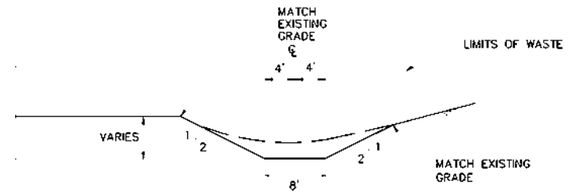
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SOUTH CHANNEL TYPICAL CROSS SECTION DESIGN AT STA. 0+00 TO STA. 13+48, STA. 17+23 TO STA. 17+69, STA. 23+15 TO STA. 23+36

4/19

SCALE: NTS



SOUTH CHANNEL TYPICAL CROSS SECTION DESIGN

5/19

SCALE: NTS



INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407

CHANNEL CROSS-SECTIONS

CELL 6 CONSTRUCTION PLANS

CLIENT

CITY OF BROWNSVILLE
MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
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1265 BRIAR FOREST, SUITE 806, HOUSTON, TX 77077
PH (281) 293-8404 FAX NO. (281) 293-7878

CADD FILE:
DWG 19 – CHANNEL CROSS SECTIONS AND DETAILS

DATE:
06/2026

SCALE:
AS SHOWN

DRAWING NO.
19

7/20/2026 11:48 AM J:\SUB\Projects\1623066.jkb\Task 24_Construction Plans & Bid Package for Cell 6\CAD\Dwg 19 – Channel Cross Sections and Details

SECTION 01150
MEASUREMENT AND PAYMENT BASIS

1.0 GENERAL

1.1 SUMMARY

1.1.1 Under the price specified to be paid for each item, the Contractor shall furnish all labor, materials, equipment and all operations necessary to complete all work specified or shown. All supervision, overhead and profit items, protection and precautions and all other costs incidental to the construction work, and as specified, are included.

1.1.2 A complete working job shall be produced whether or not any particular wording or direction is omitted or not clearly stated.

1.1.3 Measurement and Payment shall be by the ENGINEER and/or OWNER, except where noted elsewhere in the specifications. Measurement for payment for lump sum items shall be on the basis of percentage of work complete.

1.1.4 Each price stated in the Bid shall constitute full compensation for each item of work completed.

1.1.5 The price for those items which involve excavation shall include compensation for disposal of surplus excavated material.

1.1.6 All final payments shall be based upon either construction drawing **plan view** quantities or by **in-place survey** measured procedures. All plan view quantities (square foot, square yard, linear foot, etc.) are measured in plan (planar) quantities. Limits of pay for excavation are shown on plans.

1.1.7 The CONTRACTOR shall submit the monthly invoice to both the OWNER and ENGINEER for review. The ENGINEER shall make his/her recommendation to the OWNER in a timely fashion. Only one invoice per month shall be permitted by the CONTRACTOR.

1.2 ITEM DESCRIPTIONS

1.2.1 Item No. 101, Mobilization/Demobilization:

1. Under the **lump sum** price, the CONTRACTOR shall perform all work necessary to mobilize and demobilize all equipment, materials and labor to and from the site, including office trailer and utilities. **Cost not to exceed 5 percent of the total bid price.**

2. Measurement and payment for this item shall be sixty (60) percent after mobilization and forty (40) percent after demobilization. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.2 Item No.102, Payment of Bonds:

1. Under this lump sum price, the CONTRACTOR will acquire a performance and a payment bond for the total amount of the project.

2. Payment for this item shall be the total **lump sum** amount based on an invoice from the Bond Company **for the cost of the bond without mark up**.

1.2.3 Item No. 103, Construction Surveying:

1. Under the bid for this item, the CONTRACTOR shall furnish all construction surveying required to complete the project. The CONTRACTOR shall be responsible to construct project to the lines and grades provided for on the construction drawings.

2. Measurement and payment for this item shall be **lump sum** and shall be paid monthly based on percentage of work completed as approved by ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.4 Item No. 104, Construction Dewatering:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to perform project dewatering on a seven-day per week, 24-hour per day basis throughout the duration of the project. ~~This includes the west temporary diversion ditch, berm and culvert, as well as the Cell 6 temporary stormwater diversion dike.~~ This shall include rain and runoff water from adjacent areas and groundwater, including water collected from the dewatering system. For water collected in the dewatering system, the CONTRACTOR may use the pump specified for the dewatering system or a temporary pump. The CONTRACTOR shall be required to have all standing water removed from the affected work areas within 6 hours of the completion of the rain event. Pump water discharge locations shall be approved in advance by the owner.

2. Measurement and payment for this item shall be **lump sum** and shall be paid monthly based on percentage of work completed as approved by ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.5 Item No. 105, Clearing and Grubbing:

1. Under the bid for this item, the CONTRACTOR shall be responsible for clearing and grubbing the areas designated on the construction plans. The contractor shall be responsible for clearing trees, bushes, and undergrowth within the "Area to be Cleared and Grubbed" as indicated on the construction drawings. Trees and bushes shall be stockpiled at a location designated by the OWNER.

2. Measurement and payment for this item shall be **per acre** basis. Payment for this item shall be made based on the percentage of the total acreage cleared and grubbed. Final payment will be based on survey quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.6 Item No. 106, General Excavation:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to perform excavation for the construction of Cell 6 to the lines and grades shown on the construction drawings between 0 and plus one-tenth foot of subgrade elevations and limits and stockpiling material as shown in the construction drawings. This item also includes any excavation for the construction of the perimeter ~~drainage channel~~ access road. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be per **cubic yard**. Monthly payments shall be based on percentage of work completed and approved by the ENGINEER. Final payment shall be based on surveyed quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.7 Item No. 107, 12" Compacted Cohesive Soil Barrier Layer:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and material required to construct a minimum 1.0-foot thick and maximum 1.1-foot thickness (as measured vertically) on sideslopes of the disposal cell of onsite soil layer of compacted cohesive soil barrier to provide a stable base for the installation of the geosynthetics in the disposal cell. The cohesive soil barrier shall be placed, processed and compacted in two 6-inch lifts to 95% MDD at moisture content of -1 to +3 of optimum moisture content. The subgrade surface shall be proof-rolled to identify any soft or wet areas prior to geosynthetic installation. The subgrade surface shall be smooth drum rolled to produce a smooth, even surface for the geomembrane. This work includes, but is not limited to, transportation of the soil material from on-site stockpiles to the area of

placement, placement, moisture condition, compaction, and preparation of the subgrade for liner of the soil material.

2. Measurement and payment for this item shall be per **square yard** of placed material. Monthly payments shall be based on percentage of work completed and approved by the ENGINEER. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.8 Item No. 108, Embankment Fill:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to perform filling, compacting, grading and contouring along the berm and slope construction as shown on the construction drawings, all to between 0 and plus one-tenth foot of the subgrade elevations and limits. This item also includes any embankment fill for the construction of the perimeter access road. The CONTRACTOR is responsible for compacting materials in accordance with the site's approved permit.

2. Measurement and payment for this item shall be per **cubic yard** of placed material. Monthly payments shall be based on percentage of work completed and approved by the ENGINEER. Final payment shall be based on surveyed quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.9 Item No. 109, Protective Cover:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to place a minimum 2.0-foot thick and maximum 2.2-foot thick (as measured vertically) protective soil cover layer on floors and sideslopes of disposal cell from onsite over the geosynthetic liner, except south of intercell berm, where area shall be filled to prevent stormwater from ponding, to the lines and grades shown on the construction drawings. This work includes, but is not limited to, transportation of the soil material from on-site stockpiles to the area of placement, and placement of the soil material.

2. Measurement and payment for this item shall be per **cubic yard** of placed material. Monthly payments shall be based on percentage of work completed and approved by the ENGINEER. Final payment shall be based on surveyed quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.10 Item No. 110, Chimney Drain:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the stone, geotextiles, sacrificial plastic sheet and any other materials necessary to install the chimney drains at the locations shown on the drawings. The CONTRACTOR is responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be per **linear foot** of placed material. Monthly payments shall be based on percentage of work completed and approved by the ENGINEER. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.11 Item No. 112, Underdrain Trench:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 6" underdrain pipe, stone, geotextiles, and any other materials necessary to install the underdrain trenches and pipe. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of underdrain trench. Monthly payment shall be based on percent completed and approved by the ENGINEER. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.12 Item No. 112, Underdrain Collection Sump:

1. Under the unit bid for this item, the CONTRACTOR shall furnish and install the underdrain collection sump components, including pipes and fittings, stone, bedding materials and geotextiles and any other materials to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum basis** and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.13 Item No. 113, Leachate Collection Trench:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the stone, geotextiles, sacrificial plastic sheet and any other materials necessary to construct the leachate collection trench with chimney drains. This does not include the 6" leachate collection and 18" riser pipes. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of leachate collection trench. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.14 Item No. 114, Leachate Collection Sump:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor equipment and materials to install the leachate collection sump components, including pipes and fittings, stone, bedding materials and geotextiles and any other materials to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum basis** and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.15 Item No. 115, 14" Underdrain Riser:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 14" underdrain riser pipe (perforated and non-perforated), all fittings, compacted soil, and any other materials necessary to install the underdrain riser pipe in the underdrain sump of Cell 6. The riser pipe will have a blind flange at the top end. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of underdrain riser pipe. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.16 Item No. 116, 18" Leachate Sump Riser:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 18" diameter leachate riser pipe (perforated and non-perforated), flatstock, all fittings, bedding material, and any other materials necessary to install the leachate riser pipe in the leachate collection sump of Cell 6. This does not include the 6" leachate collection pipe. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of leachate riser pipe. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.17 Item No. 117, 6" Leachate Collection Pipe:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the leachate collection pipes (perforated and non-perforated), including all fittings, and any other materials necessary to install 6" the leachate collection pipe. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of leachate collection and riser pipe. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.18 Item No. 118, 4"x8" Dual Contained Force Main:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the dual walled force main pipe (4" diameter carrier pipe within an 8" diameter containment pipe) including trench excavation, filling, granular bedding material, compacting soil, warning marker tape, for construction of the force main trench to the lines and grades shown on the construction drawings. The force main shall be installed as shown on the drawings and as specified. The Contractor shall provide all materials necessary to install the force main. The force main piping shall be HDPE SDR 11 for the 4" carrier pipe and SDR 17 for the 8" containment pipe. Both the carrier and containment pipe shall be tested for leaks prior to final acceptance. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of installed leachate dual wall force main. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.19 Item No. 119, Leachate Manhole:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to perform excavation, backfilling with select soil and compacting soil for the installation of one (1) HDPE SIDR ~~32.5~~ 41.17 ~~72~~ 84" manhole. Included in this bid item is excavation to the depth specified on the drawings for the manhole; provide and installation of sand bedding material; backfilling and compacting select material; concrete pads and wing walls; and other materials and appurtenances necessary to install the force main manhole. Also include all interior manhole piping which is to include ball valves, check valves, air release valves, and in-line IFM magnetic flow meter, as shown on the construction drawings. The manhole requires complete interior piping, including the connection piping between the leachate collection riser to the manhole as indicated on the construction drawings. Flow meter shall have cable routed to a digitizer to be installed within the control panels and be visible from the outside of the panel box. All material, including pipe supports, shall be suited for leachate liquid. All manholes shall be watertight. Shop drawings shall be submitted to the ENGINEER for approval. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall be paid monthly based on percentage of work completed as approved by ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.20 Item No. 120, Underdrain Dewatering Discharge System:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor equipment and materials to install the underdrain dewatering discharge system, including the 3" discharge piping, fittings, ball valves, check valves, pump, panel box, electrical hook up, concrete anchor block, bollards, concrete discharge pad, rip-rap, and all other materials and services to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.21 Item No. 121, Leachate Pump and Control Panel:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the leachate pump controls and all components, including 2" discharge piping, panel box, pipes, fittings, electrical hook up and any other materials and services to complete this item. The CONTRACTOR shall furnish and install the leachate pump and all components, including pipes, fittings, and any other materials and services to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.22 Item No. 122, Cell 5 Liner Tie-in:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to locate, excavate and prepare the tie-in to the existing Cell 5 liner system to allow the liner installation CONTRACTOR for placement of liner material. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of liner tie-in. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.23 Item No. 123, Cell Marker Post:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 8' cell marker post and all components, including 6' of above ground steel post, painted red, 2' of below ground steel post, encased in concrete, and any other materials and services to complete this item. The CONTRACTOR shall be responsible

to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be on a per **each** basis. Final payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.24 Item No. 124, Perimeter Access Road:

1. Under the bid for this item, the CONTRACTOR shall be responsible for the supply of materials and the construction of an all-weather perimeter road. The road shall be constructed as indicated in the construction drawings. The subgrade material shall be compacted and proof rolled. A 4 oz./s.y. non-woven geotextile, shall be placed on the subgrade. An 8-inch flexible base caliche (TxDOT Specification No. 247 A and/or D, Grade 1) shall be constructed over the compacted subgrade and non-woven geotextile material. The road shall be constructed as indicated in the construction drawings.

2. Measurement and payment for this item shall be on a square yard basis. Final payment will be based on survey, plan (planar) quantities. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.25 Item No. 125, Removing Existing Culvert Crossing:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to remove and dispose in the active landfill face the existing culvert crossing, rip-rap pads and any other materials and services to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.26 Item No. 126, Perimeter Access Road Culvert Crossing:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 4-24” corrugated metal pipe culvert crossing, rip-rap pads and any other materials and services to complete this item. The pipe shall be corrugated (2-2/3” x 1/2"), 12 gage, galvanized metal. The rip-rap pads for the perimeter access road culvert

crossing shall be composed of 18" thick common, dry, stone rip-rap with diameter of 6" to 12" and ~~underdrain~~ underlain with a 10 oz./sy. non-woven geotextile fabric. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.27 Item No. 127, North Perimeter Ditch Re-grading:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to re-grade (excavate and fill as necessary) the north perimeter ditch. Limits of regrading extend from the perimeter access road culvert crossing to the cell 4 culvert crossing. The CONTRACTOR to re-grade to allow for drainage. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of ditch re-grading. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.28 Item No. 128, Diversion Dike – 24":

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to perform fill, compacting, grading, contouring along with diversion dike construction. The diversion dike location shall be determined during construction and will be based on the waste fill conditions in the adjacent Cell 5. The OWNER and ENGINEER will determine when and where the diversion dike will be installed. Diversion dike soil shall be clay rich soil, either CH, SC, or CL material. Diversion dike soil will be available from the future Cell 6 excavated soil stockpile or soil borrow area located southeast of the work area. The soil borrow source shall be graded smooth to drain and approved by the OWNER prior to completion of the project. Diversion dike soil shall be placed in maximum 8 inch loose lifts, moisture conditioned and compacted. The Contractor shall be responsible for compacting materials, including anchor trenches, to 90% standard proctor. **The diversion dike should be lined with North American Green EroNet™ SC150 or equivalent Erosion Control Blanket with minimum permissible velocity of 8 feet per second (fps).** The turf

reinforcement mat shall be installed in accordance with manufacturer's recommendations. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of diversion dike installed. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.29 Item No. 129, Temporary Diversion Ditch and Berm:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to perform excavation, fill, compacting, grading, and contouring to construct a temporary diversion ditch and berm. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of temporary diversion ditch and berm constructed. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.30 Item No. 130, 24" Culvert:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 24" corrugated metal pipe culvert crossing and any other materials and services to complete this item. The pipe shall be corrugated (2-2/3" x 1/2"), 12 gage, galvanized metal. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of culvert. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.31 Item No. 131, Clean and Muck Channel, including Windblown Waste:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to clean and muck channel, including windblown waste and any other materials and services to complete this item. The CONTRACTOR shall be responsible to provide materials and

workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be per **acre** basis. Payment for this item shall be made based on the percentage of the total acreage cleaned and mucked. Final payment will be based on survey quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.32 Item No. 132, Regrade North Channel:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to re-grade (excavate approximately 3,400 CY and fill approximately 3,600 CY as necessary) the existing north channel as per drawing 17. The CONTRACTOR to re-grade to allow for drainage as well as clean up existing culverts. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be on a **per acre** basis of ditch re-grading. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.33 Item No. 133, Regrade South Channel:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to re-grade (excavate approximately 6,800 CY and fill approximately 10 CY as necessary) the existing south channel as per drawing 18. The CONTRACTOR to re-grade to allow for drainage as well as clean up existing culverts. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be on a **per acre** basis of ditch re-grading. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.34 Item No. 134, Remove and Replace Existing Gabion Lining:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to remove and replace existing gabion lining at south channel near existing downchute as shown on drawing 18 and any other materials and services to complete this item. The CONTRACTOR shall be responsible to provide materials and

workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.37 Item No. 201, Geosynthetic Clay Liner:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install a geosynthetic clay liner **($k \leq 1 \times 10^{-9}$)** within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The CONTRACTOR shall be responsible to completely protect the stored material from rain (using heavy plastic sheet or tarps) until it is installed. CONTRACTOR shall pay particular attention to the material specifications for this item found in the SLQCP. The GCL may not be standard run material by all manufacturers. **The specifications provided in the SLQCP must be met.** The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install GCL over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan (planar) area** with geosynthetic clay liner installed and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in the unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.38 Item No. 202, 60-mil Smooth HDPE Geomembrane Liner:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install smooth 60-mil High Density Polyethylene Geomembrane within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install smooth HDPE geomembrane over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan (planar) area** with 60-mil smooth HDPE liner installed does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area.

A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.39 Item No. 203, 60-mil Double-sided Textured HDPE Geomembrane Liner:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install 60-mil High Density Polyethylene Geomembrane – Double-Sided Textured within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install textured HDPE geomembrane over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan (planar) area** with 60-mil High Density Polyethylene Geomembrane – Double-Sided Textured liner installed and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.40 Item No. 204, 200-mil Geonet:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install 200-mil High Density Polyethylene geonet within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install geonet over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan (planar) area** with 200-mil Geonet installed and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.41 Item No. 205, Cell Geotextile:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install non-woven geotextile fabric (10 oz./sy.) within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The item shall include any overages, scraps or additional materials that the

CONTRACTOR will need to install geotextile over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan (planar) area** with non-woven geotextile fabric installed in the cell and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.42 Item No. 206, Leachate Collection Double-Sided Geocomposite:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install leachate collection geocomposite drainage layer, consisting of a **200-mil high density polyethylene geonet drainage layer with 10 oz./sy. non-woven geotextile fabric** heat bonded to both sides installed within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The leachate collection geocomposite shall be **GSE FabriNet, or Agru 200-mil Geocomposite with 10 oz./sy. nonwoven geotextile or equivalent**. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install geocomposite over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan (planar) area** with Leachate Collection Double-Sided Geocomposite installed as the leachate collection layer and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.43 Item No. 207, Underdrain Double-Sided Geocomposite:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install geocomposite drainage layer, consisting of a **300-mil bi-planar high density polyethylene geonet drainage layer with 10 oz./sy. nonwoven geotextile fabric** heat bonded to both sides installed within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The underdrain geocomposite shall be **GSE FabriNet, or Agru 300-mil Geocomposite with 10 oz./sy. nonwoven geotextile or equivalent**. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install geocomposite over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan (planar) area** with Underdrain Double-Sided Geocomposite liner installed and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

- END OF SECTION -

SECTION 02531
HIGH DENSITY POLYETHYLENE MANHOLES

1.0 GENERAL

This specification shall govern the materials and fabrication of high density polyethylene manholes.

2.0 DESCRIPTION OF WORK

This contract covers the purchase and fabrication of high density polyethylene manholes.

3.0 MATERIALS

The pipe for the manholes shall be made from high density polyethylene (HDPE) resins meeting the following requirements.

3.1 HDPE MATERIAL SPECIFICATIONS

3.1.1 HDPE material supplied under this specification shall be manufactured from a PE 4710 resin listed with the Plastic Institute (PPI) as TR-4. The resin material shall meet ASTM D 3350 with a minimum cell classification of 445474C. The polyethylene compound shall be suitably protected against degradation by ultraviolet light by means of carbon black of not less than 2 percent.

3.1.2 Physical Properties of HDPE Compound

1. The density shall be no less than 0.955 gms/ccm as referenced in ASTM D 1505.

2. The melt index shall be no greater than 0.15 gms/10 minutes when tested in accordance to ASTM D 1238 – Condition E. Melt flow shall be no greater than 4.0 gms/10 min when tested in accordance with ASTM D1238 – Condition F.

~~3. The flexural modulus shall be 110,000 to less than 160,000 psi as referenced in ASTM D790.~~

~~4. The tensile strength at yield shall be 3,200 to less than 3,500 psi in~~

~~accordance with ASTM D 638.~~

~~5. Slow Crack Growth Resistance shall be per ASTM F 1473 (PENT test). The results shall be greater than 100 hours.~~

~~6. Hydrostatic Design Basis shall be 1,600 psi at 23 degrees C when tested in accordance with ASTM D 2837.~~

4.0 SUBMITTALS AND QUALITY ASSURANCE

4.1 QA/QC CERTIFICATION

4.1.1 The manhole supplier shall submit certification that the HDPE material meets the specifications.

4.1.2 The fabricator of the manholes shall submit drawings showing the position of the inlets, outlets and overall dimensions along with any other special features such as manways, ladders, etc.

4.1.3 The fabricator shall submit data indicating the manholes meet the requirements of ASTM F 1759, "Design of High Density Polyethylene (HDPE) Manholes for Subsurface Applications". The manholes should be proven to have acceptable design for the following areas.

1. Ring compressive strain
2. Combined ring compressive and ring bending strain
3. Ring buckling
4. Axial strain
5. Axial buckling
6. Thickness of the bottom based on depth and groundwater. Thickness should be based on acceptable stress and deflection amounts.

4.1.4 Calculations supporting these requirements will be part of the submittal package.

4.1.5 The fabrication technician shall perform the work in accordance to butt fusion of HDPE per ASTM D 2657 and for extrusion and hot air welding ASTM C 1147. The fabricator shall submit the written quality assurance program used during fabrication of the manholes. The fabricator may be required to submit their overall QA/QC program for fabricating

thermoplastic structures, the welding certification program for the fabrication technician per ASTM C 1147 and the facility safety program.

4.1.6 The manholes and pipe shall be tested with water and air. The structure shall be determined to be leak free prior to shipping. A written certification shall be sent to the ENGINEER certifying the manholes are leak free. The test results shall become part of the submittals. An identification plate indicating the job number, testing data, date built and by whom shall be attached to the manhole.

4.2 APPROVAL OR REJECTION

4.2.1 Written approval or rejection of substitution given by the ENGINEER.

4.2.2 ENGINNER reserves the right to require proposed product to comply with the requirements of specified product.

4.2.3 In the event substitution results in a change of Contract Price or time, provisions in the Agreement will be applied for adjustment.

4.2.4 Substitutions will be rejected if:

1. Submittal is not through the CONTRACTOR with his stamp or approval.
2. Requests are not made in accordance with this section.
3. In the ENGINEERS opinion, acceptance will require substantial revision of the original design.
4. In the ENGINEERS opinion, substitution is not equal to original product specified or will not perform adequately the function for which it is intended.

4.3 THIRD PARTY TESTING

The OWNER or ENGINEER may request certified lab data to verify the physical properties of materials not meeting the requirements of this specification.

4.4 DEVIATIONS - Procedure for requesting substitute

4.4.1 Consider after award of Contract

4.4.2 A letter defining the deviation and justification must be sent to the

ENGINEER. The letter must identify:

1. The product
2. Manufacturer's name
3. Representative contact name and telephone number
4. Specification section or drawing reference of originally specified product
5. Discrete name or tag number assigned to original product in Contract document

4.4.3 Manufacturer's literature must be clearly marked to show compliance of proposed product with contract document.

4.4.4 Itemize comparison of original and proposed product addressing product characteristics including but not limited to:

1. Size
2. Composition or material of construction
3. Weight
4. Electrical or mechanical requirements
5. Product experience
   - A. Location of past projects utilizing the product.
   - B. Name and telephone numbers of persons associated with referenced projects knowledgeable concerning proposed product.
   - C. Available field data and reports associated with proposed product.
6. Data relating to changes in construction schedule.
7. Data relating to changes in cost.
8. Samples: At request of the ENGINEER, a full size sample may be required. This sample may be held by the ENGINEER until completion of the project.

4.5 REJECTION

The high density polyethylene manhole may be rejected for failure to meet any of the requirements of this specification.

5.0 HDPE MANHOLE CONSTRUCTION

5.1 The HDPE manholes shall be constructed of HDPE pipe with a nominal ID of 84" and an SIDR of 41.17.

5.2 The bottom thickness of the manholes will be determined in accordance with ASTM F 1759. Calculations must be provided to justify the thickness of the bottom.

5.3 The inlets and outlets shall be extrusion welded on the inside and outside of the structure using good welding practice. Gussets shall be attached at 90 degrees, 180 degrees, 270 degrees and 360 degrees around the inlets and outlets unless impractical.

5.4 All manhole connections larger than 4" nominal OD pipe shall be butt fusion welded, electrofusion welded or flanged connections. For 4" OD pipe and smaller threaded transition fittings can also be used as well as the acceptable connections listed.

5.5 Manholes shall be factory tested with water. The hydrostatic test shall be conducted by filling the structure with water and checking for leaks. Minimum test duration will be one hour. Data showing the structure to be leak-free will be supplied. The OWNER or his representative may request to observe the test.

5.6 The ladders in the manholes shall conform to OSHA standards.

5.7 Top of manholes shall be built to requirements on the drawings.

5.8 When large changes in temperature are expected restraints shall be designed as an integral part of the manhole by the fabricator/manufacturer to prevent strain at the inlets and outlets. These restraints shall be cast into a concrete collar around the pipe. Anti-flotation and/or anti-settling anchor collars, if required, shall be designed as an integral part of the manhole by the fabrication/manufacturer of the manholes. Shop drawings, approved by the ENGINEER shall be required for restraints, anchors, collars, etc... that are designed by the manhole fabricator/manufacturer prior to acceptance of the HDPE structures.

6.0 CONSTRUCTION PRACTICES

6.1 Handling of Manholes. HDPE manholes shall be stored on clean, level and dry ground to prevent undue scratching or gouging of the material. The handling of HDPE manholes shall be done in such a manner that there is no damage. Nylon slings shall be used.

6.2 Flanged connections. Flange adapters (where shown on the drawings) shall be

attached to the HDPE manhole inlets and outlets stubs during fabrication by butt fusion welding per ASTM D 2657. A ductile iron back up ring will be used with each flanged connection. The rings will use a standard ANSI 150# bolt pattern. Check the drawings for materials required for corrosive conditions.

6.2.1 Bolts shall be tightened in a "star pattern" to recommended torque values.

6.2.2 Bolts must be tightened a second time after 24 hours to ensure a positive seal.

6.2.3 Gaskets are not required on HDPE to HDPE connections.

6.3 Pipe joining. HDPE pipe shall be joined by using butt fusion. All butt fusion welds should be made as described in ASTM D 2657. Electrofusion welding can be used for making pipe welds. Hot air and extrusion welding are not permitted for pipe joining. All pipes and fittings welds should be made using equipment that has been serviced by an authorized service and repair center with at least one certified master mechanic on staff within 3 months from the first fusion on the project. An authorized fusion data recorder shall be used to record al fusion welds n hydraulically operated fusion machines. A record of the temperature, pressure and graph of the fusion cycle shall be maintained by the CONTRACTOR.

6.4 Handling of Fused Pipe. Fused segments of pipe shall be handled so as to avoid damage to the pipe. Limit bending of the pipe welded to fittings or manholes. Nylon slings shall be used.

7.0 DIRECT BURIAL INSTALLATION

7.1 Manhole Excavation. The manhole excavation shall be constructed in accordance with construction drawings. All required safety precautions for manhole installation are responsibility of the CONTRACTOR.

7.2 Backfilling shall extend at least 3.5 feet beyond the edge of the manhole for the full height of the manhole and extend laterally to undisturbed soils. Compaction shall meet the requirements on the construction drawings and the approved SLQCP.

- END OF SECTION -

SECTION 11210
LEACHATE EXTRACTION PUMPING SYSTEM

1.0 GENERAL

1.1 SCOPE OF WORK

1.1.1 The (or each) leachate extraction pumping system as outlined in this section shall minimally consist of pump-end and motor with power cable (complete pump assembly); system controller and level sensor(s), deployment and retrieval system to include pump carriage/sled and shroud, if necessary and associated discharge hose/pipe and appropriate fittings to exit the sump or riser, tested, complete and per the operating conditions as shown on drawings and specifications.

1.1.2 System shall be designed for leachate extraction and or dewatering service. Multiple systems shall ideally be identical and interchangeable and if not identical, will share as many identical and interchangeable components as practicable.

1.2 EXPERIENCE ASSURANCE

1.2.1 All equipment within the leachate extraction pumping system listed in this section shall be provided by a single manufacturer who shall have complete responsibility for the system. The manufacturer shall be a duly incorporated, licensed and insured entity with experience in providing complete leachate extraction pumping systems for landfills and other wastewater applications.

1.2.2 The supplier of the leachate removal system shall provide all warranty and warranty services without regard for or dependence on pass through warranties, which may or may not be provided by the original equipment manufacturer (OEM) of varies components of the system for a period of 18 months from date of start-up.

1.2.3 Any system manufacturer or supplier not specifically named as an approved manufacturer must provide a complete submittal package to the engineer prior to the bid date for pre-approval as an equal system provider. Submittals must include manufacturer's UL ID number and a copy of manufacturer's SCCR (Short Circuit Current Rating) label. It is the design engineer's purpose to insure that the equipment provided on the project be of satisfactory performance and quality to give the end-user the maximum long lived benefit as possible. To simplify comparison, the manufacturer seeking approval will address each paragraph as either "no exception taken" meaning acceptance of both the fact and spirit of the specification or "exception taken" with relevant information and data arguing equality to the specification requirement.

1.3 SUBMITTALS

1.3.1 The submittal package shall include a complete list of components to be provided, pump curves, motor data, layout drawing, control panel drawings consisting of wiring schematic, bill of materials and component layout drawing, and warranty statement.

2.0 PRODUCTS

2.1 PUMPS

2.1.1 The contractor shall furnish and install one complete leachate extraction pumping system.

2.1.2 Pump shall be of centrifugal multi-stage turbine submersible design suitable for primary landfill leachate. The pump shall be coupled to an industrial rated submersible motor that is non-overloading throughout the operating curve of the pump.

2.1.3 Leachate extraction pump shall be rated for a minimum duty performance of 60 gallons per minute (GPM) at 65' Total Dynamic Head (TDH). Alternate curves will require Engineer approval.

2.1.4 Motor horsepower shall be a minimum of 1.5 horsepower for the leachate extraction pump, and shall operate on 230 volt, single phase, 60 hertz supply power.

2.1.5 Pump design shall include the following features:

2.1.5.1 All series 300 stainless steel construction shall include impellers, bowls, guide vanes, and inlet screen.

2.2 MOTOR DESIGN

2.2.1 The motor shall conform to NEMA standards for submersible applications.

2.2.2 All materials coming in contact with leachate shall be 300 series stainless steel and E-Glide.

2.2.3 The motor shall not require the use of oil or grease for lubrication.

2.2.4 A properly sized one-piece jacketed power cable, from pump motor to motor lead breakout box, suitable for leachate service shall be provided.

2.3 CARRIAGE

2.3.1 The leachate extraction pump shall be supplied as a sealed unit and mounted on a stainless steel wheeled carriage/sled shroud for use in a 18" HDPE riser pipe with a constant inside diameter set at a 3 to 1 slope. No plastic or HDPE housings will be accepted.

2.3.2 The wheeled carriage shall provide a low center of gravity and all wheels shall remain in contact with the inner contour of the riser pipe. The wheels shall be constructed of E-TEC non-corrosive material with self-lubricating qualities and must be able to travel over welding beads typically found in riser pipe fabrications. A stainless steel inlet suction screen shall be provided to prevent debris from entering the inlet of the pump.

2.3.3 The level sensor shall be mounted at the center bottom of the wheeled carriage and be removable or replaceable without disassembly of the pump assembly or removal of the pump from the wheeled carriage. A continuous length of sensor cable shall be field trimmed to proper length at time of installation by the installing contractor.

2.3.4 A safety/retrieval cable assembly with properly sized cable clips, snap hooks, and anchor eye bolt constructed of 300 series stainless steel shall be provided.

2.4 DISCHARGE PIPE

2.4.1 Discharge pipe, between the pump and top of the riser, shall be 2" HDPE pipe. HDPE to be field welded.

2.5 DISCHARGE PIPE FITTINGS

2.5.1 All pipe fittings shall be 300 series stainless steel. Fittings shall consist of two (2) 2" stainless steel HDPE transitions, and one (1) 2" stainless steel camlock/adapter assembly for each pumping system.

2.6 DISCHARGE EXIT FITTINGS

2.6.1 A right angle slip fit taper lock discharge adapter with Viton o-ring seal shall be provided, that will allow quick connection/disconnection of the pump discharge hose from the riser exit, and allow the pump to be removed without interference of the stationary fittings. The exit arrangement shall thread through the riser pipe as to provide gas tight connection.

2.6.2 All fittings shall be 300 series stainless steel construction.

2.6.3 The exit connections will penetrate the riser wall approximately 6" from the top of the riser pipe by means of 300 series stainless steel, male threaded exit nipple.

3.0 CONTROLS

3.1 CONTROL PANEL

3.1.1 The system controller shall be manufactured by the same manufacturer as the pumps and built and listed under UL508 and UL698a for use in Class I, II, and III, Division 1, Hazardous Locations. The system controller shall have an attached detailed UL label and an attached detailed SCCR label in compliance with Article 409 of the 2005 National electric Code (NFPA 70). The system controller will comply with all necessary requirements dictated by the installed panel's location and service.

3.1.2 The control panel shall provide level indication, pump operation, and motor protection.

3.1.3 Control panel shall consist of a NEMA 4X, 14 gauge, 304 stainless steel enclosure with lockable outer cover. The door shall open a minimum of 180 degrees and be provided with a view window. Mount control panel with the bottom of the control panel 3 feet to 0 inches above concrete pad or finished grade.

3.1.4 The inner door shall be polished aluminum dead front mounted on a continuous aircraft type hinge. The dead front door shall contain cutouts for the mounted equipment and operator accessible equipment and provide protection of personnel from live internal wiring.

3.1.5 Operator accessible components mounted on the dead front door shall include following:

a. H-O-A Switch

b. Pump Run Indicating Light (Green)

c. Motor Overload Indicating Light (Red)

d. Digital Level Indicator

e. Elapsed Time Meter

3.1.6 The back plate shall consist of 12-gauge sheet steel and finished with a primer coat and two coats of baked on enamel. All hardware mounted to the sub-panel shall be accomplished with machine thread tapped holes. Sheet metal screws are not acceptable. All devices shall be permanently identified with phenolic engraved nameplates.

3.1.7 The panel power distribution shall include all necessary components and shall be completely wired with standard copper conductors. Control wiring shall be properly sized and installed in Panduit type wiring trays.

3.1.8 Individual fuses be provided from main power, each pump, and control circuit.

3.1.9 The motor contactor shall be sized to the pump horsepower. A capacitor shall be used to start the motor and a relay shall be used to remove the start winding from the circuit when the motor reaches operating speed.

3.1.10 A fused type control transformer shall be used to provide the 120 VAC control circuit.

3.1.11 Individual surge arrestors shall be provided in the control panel for incoming supply power, control circuit and the 4 to 20 mA instrument circuit.

3.1.12 A thermostat-controlled heater shall be provided to control the inside temperature and alleviate the buildup of condensation in the control panel.

3.1.13 A corrosion inhibitor shall be provided within the enclosure.

3.1.14 A top mounted, 40 watt, weatherproof/shatterproof red visual high-level alarm beacon shall be provided.

3.2 BREAK OUT JUNCTION BOXES

3.2.1 Separate and individual breakout boxes, for power leads and level sensor leads shall be provided for installation near the top of the riser pipe.

3.2.2 Breakout boxes to be NEMA 4X fiberglass and include proper sized cord restraint and ½" conduit gastight seal fitting.

3.3 LEVEL CONTROL

3.3.1 A panel mounted digital readout display controller with a non-fading digital display shall be provided to indicate level in the sump. The pump "ON",

"OFF"' and "HIGH LEVEL" selections shall be user friendly and capable of being set/adjusted using buttons on the front of the meter.

The controller shall be capable of accepting a 4 to 20 mA signal from a submersible transducer, and provide a level indication range of 0 to 138.6 inches of liquid. When a high level condition occurs, the display will flash until the condition is corrected.

3.3.2 A submersible transducer with adequate sized cable shall be provided. The transducer shall be constructed of 300 series stainless steel and shall be mounted to the front center axis of the wheeled pump carriage. Transducer shall provide a 4 to 20 mA output signal and come equipped with built-in surge protection. Static accuracy shall be no less than 1.0%.

3.3.3 A permanent aneroid bellows type breather device shall be mounted in the level breakout box to prevent moisture in the vent tube.

3.3.4 A panel mounted intrinsically safe barrier shall be provided for the transducer signal.

3.4 REMOTE TANK LOCKOUT (If Required)

3.4.1 A storage tank high level lockout/tank float shall be provided to temporarily prevent the leachate extraction pump from pumping from the landfill if a high level condition exists in the storage or equalization tank. The lockout will automatically reset once the tank liquid level drops and adequate storage capacity is available. Signal from the pump system controller to the tank shall be intrinsically safe.

3.4.2 A NEMA 4X fiberglass breakout box, with proper sized cord restraint and ½" conduit gastight seal fitting, for tank float lead shall be provided for installation at the tank.

4.0 FLOW MONITORING

4.1 FLOW METER SYSTEM

4.1.1 An IFM Magnetic Flow Meter System shall be provided to register liquid flow rate and to record total flow and shall operate from a 115V, 60H, single-phases power supply.

4.1.2 Sensor shall be linear with a repeatability factor of +/-0.5% and will incorporate the following features:

a. Electromagnetic sensor with no moving parts, sized for specified flow rate range to maximized system accuracy.

b. Digital transmitter.

c. Line size shall be 2".

d. Flow velocity shall be between 1.5 and 27 fps.

4.1.3 Meter shall be a bi-directional, eight digit flow rate display and eight digit flow totalizer display.

4.1.4 Meter shall be front panel programmable for ease of calibration to line size and change in units.

4.1.5 Meter shall include a non-volatile memory to retain programmed settings and totalized flow when power is disconnected.

4.1.6 Meter shall include a two line, eight digit, 1/3 inch high display showing flow rate and totalized flow.

4.1.7 Meter programming shall be menu driven to simplify setup.

4.1.8 Meter shall maintain full function in temperatures between 0 degrees and 55 degrees C, with ability to extend low temperature range with optional meter heater.

4.1.8 Flow meter shall be scalable in a variety of engineering units.

5.0 MISCELLANEOUS ITEMS

5.1 CABLE FITTINGS

5.1.1 Non-metallic, compression type threaded cable exit fittings, properly sized for the pump power cable and level sensor cable shall be provided for installation in the riser.

6.0 EXECUTION

6.1 START-UP

6.1.1 The manufacturer of the system shall provide field installation assistance, start-up and training of the system. The scheduling of this service shall be coordinated with the Contractor to insure the riser is in place and the control

panel is connected to power, prior to the arrival of the manufacturers certified technician.

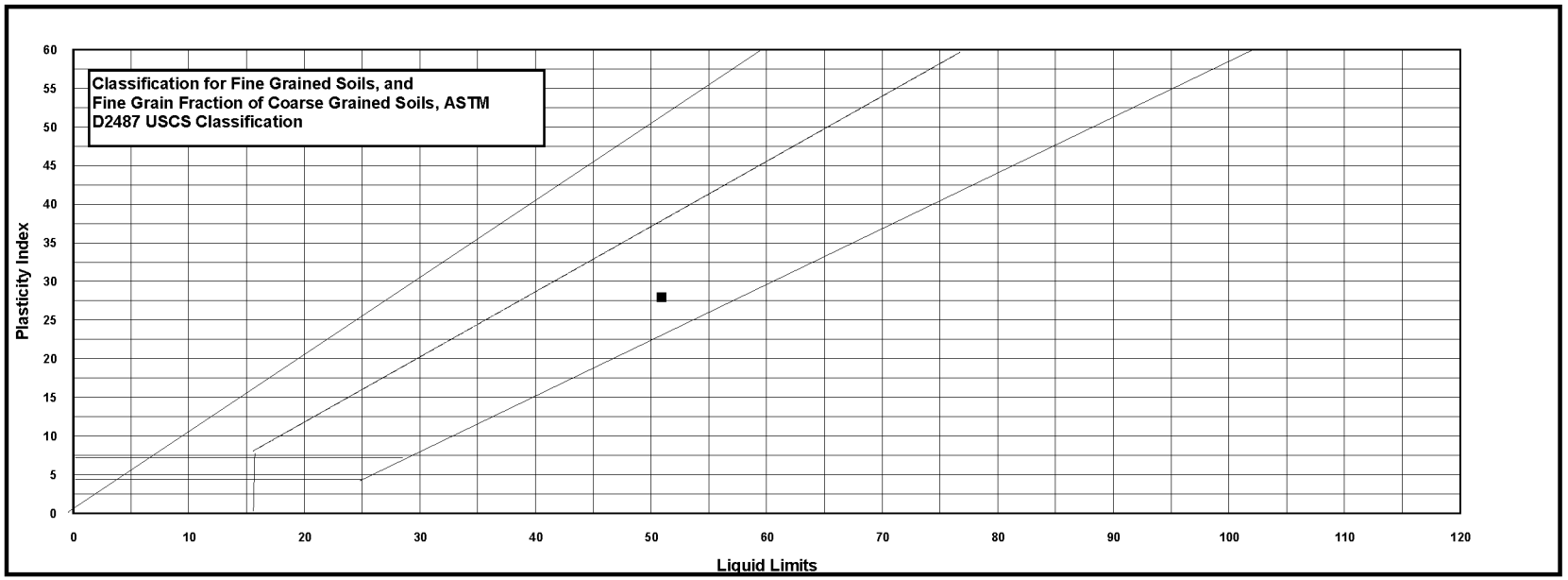
6.1.2 A start-up report shall be provided to include all component settings and motor operating characteristics. The report shall certify the system has been properly installed, or note any found deficiencies that need to be corrected.

6.1.3 At the time of start-up, the contractor shall coordinate with the manufacturer and the owner to provide operator training and troubleshooting.

6.1.4 A complete operations and maintenance manual with index for the system shall be provided. Information shall include manufacturers contact list, equipment list, equipment cut sheets, parts breakdowns, control panel information and a troubleshooting guide.

- END OF SECTION -

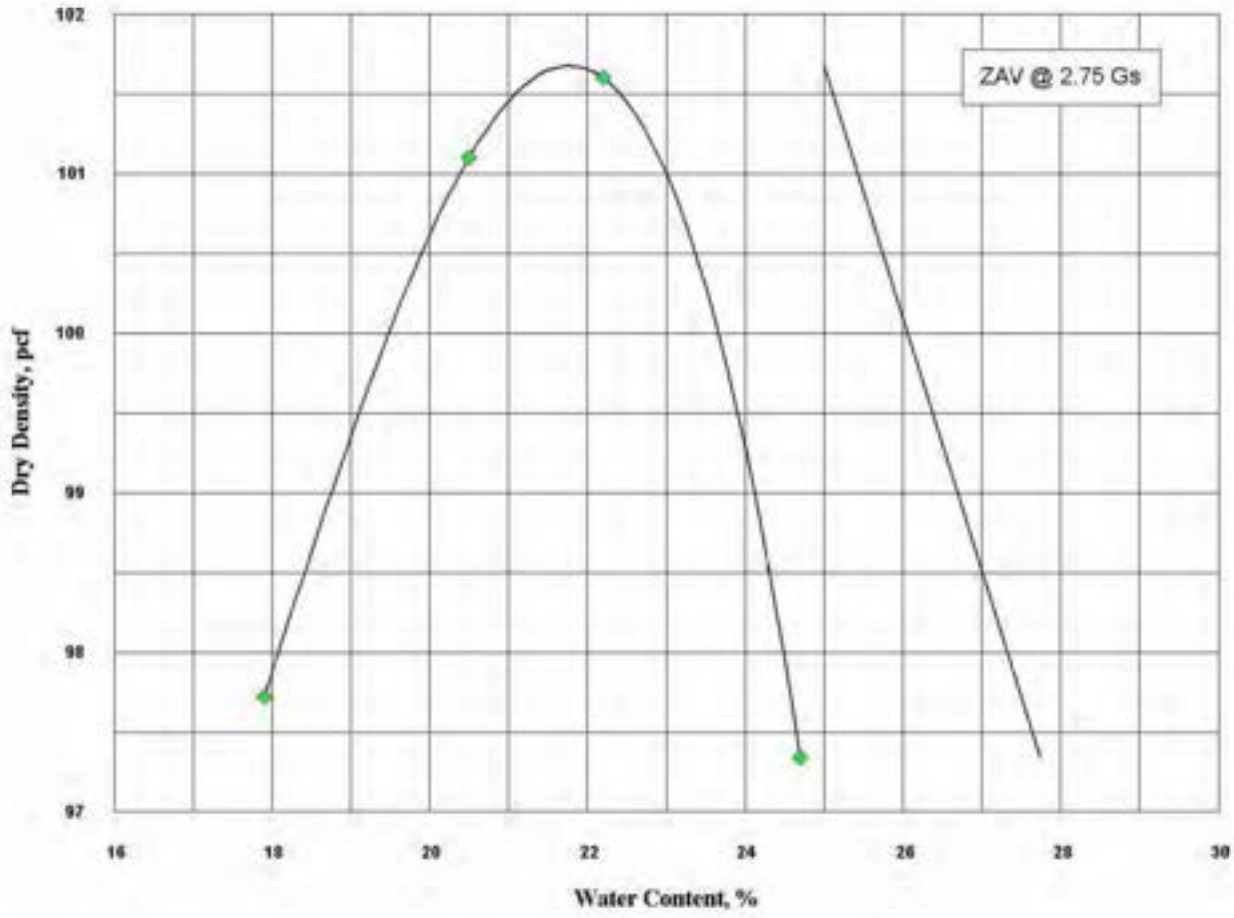
CQA Testing Laboratory



Project Name:	City of Brownsville	Client's Project No.	N/A	ASTM D2217, Method B, Wet Sample Preparation
Project Number:	1809.000	Project Location:	Texas	ASTM D4318, Method A - or - Method B, Liquid and Plastic Limits
Client:	SCS Engineers			ASTM D422/D1140 - or - C136/C117, Grain Size Analysis

Project Test Count, This Page	Sample Number and Locations	Liquid Limits	Plasticity Index	Percent Gravel > 1 in.	Percent Fines (Minus #200)	Natural Moisture, %	Sample Description/Classification	
1	Stockpile	51	28	0.0	93.8	11.5	Brown	CH, fat clay,
2								
3								
4								
5								
6								
7								
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25								

Laboratory Compaction Test
ASTM D698, Standard Compaction Test
Method B



Date:	06.04.18	Ran by:	BMG
Max. Dry Density, pcf:	101.7	OMC, %:	21.8
Corrected for Oversize:	N/A	Corrected:	N/A

Project:	City of Brownsville	Client:	SCS Engineers
Project Number:	1809	Sample Location:	Stockpile Sample
Sample Description:	Brown CH, fat clay,		

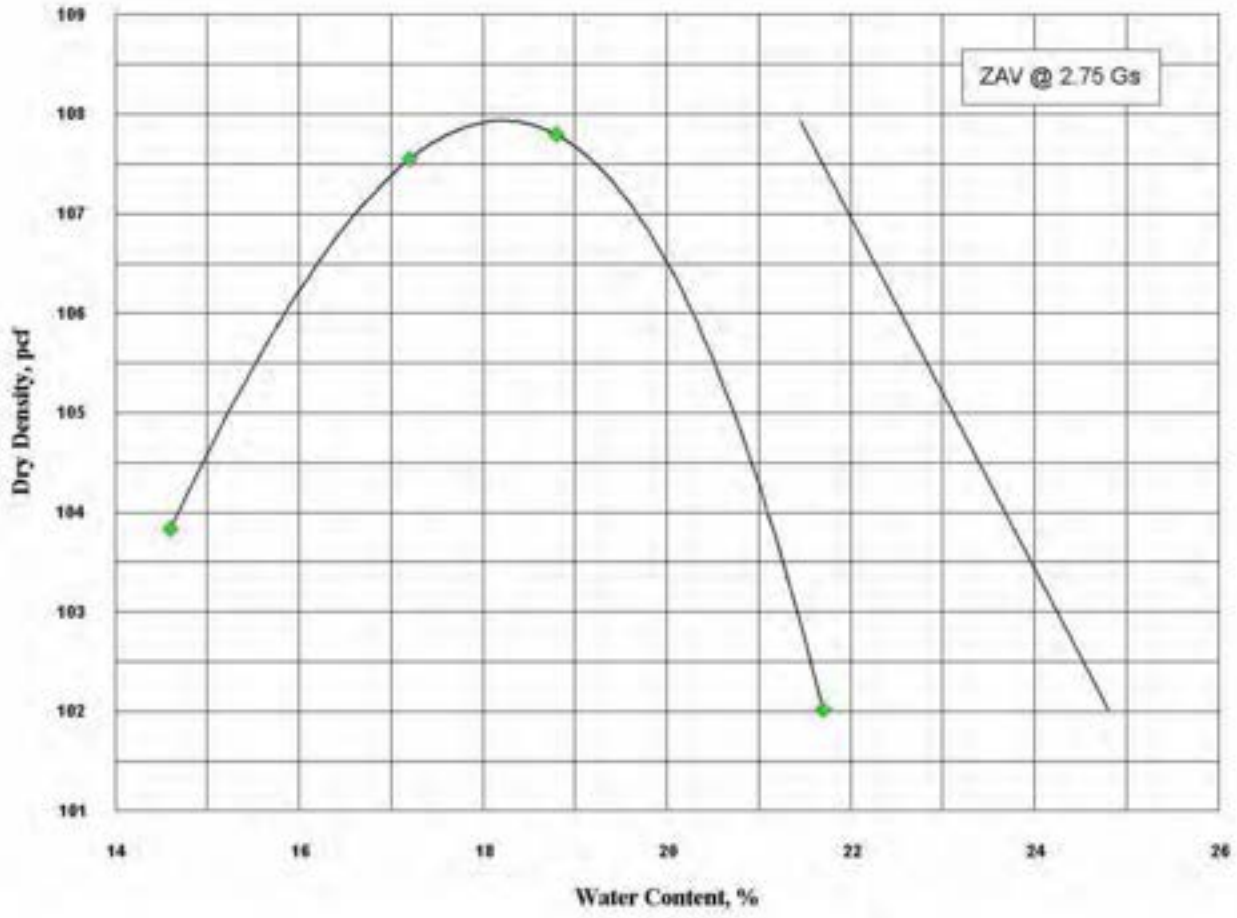
LL	PL	PI	NMC
51	23	28	11.5

Gravel, %	Sand, %	Clay, %	P-200
N/A	N/A	N/A	N/A

Remarks: **Moist Sample Preparation**

CQA Testing Laboratory

Laboratory Compaction Test
ASTM D698, Standard Compaction Test
Method B



Date:	07.15.18	Ran by:	BMG
Max. Dry Density, pcf:	107.9	OMC, %:	18.2
Corrected for Oversize:	N/A	Corrected:	N/A

Project:	City of Brownsville	Client:	SCS Engineers
Project Number:	1809	Sample Location:	City Landfill -125 Acres Hole-1
Sample Description:	Brown CL, lean clay, with sand		

LL	PL	PI	NMC
32	18	14	11.8

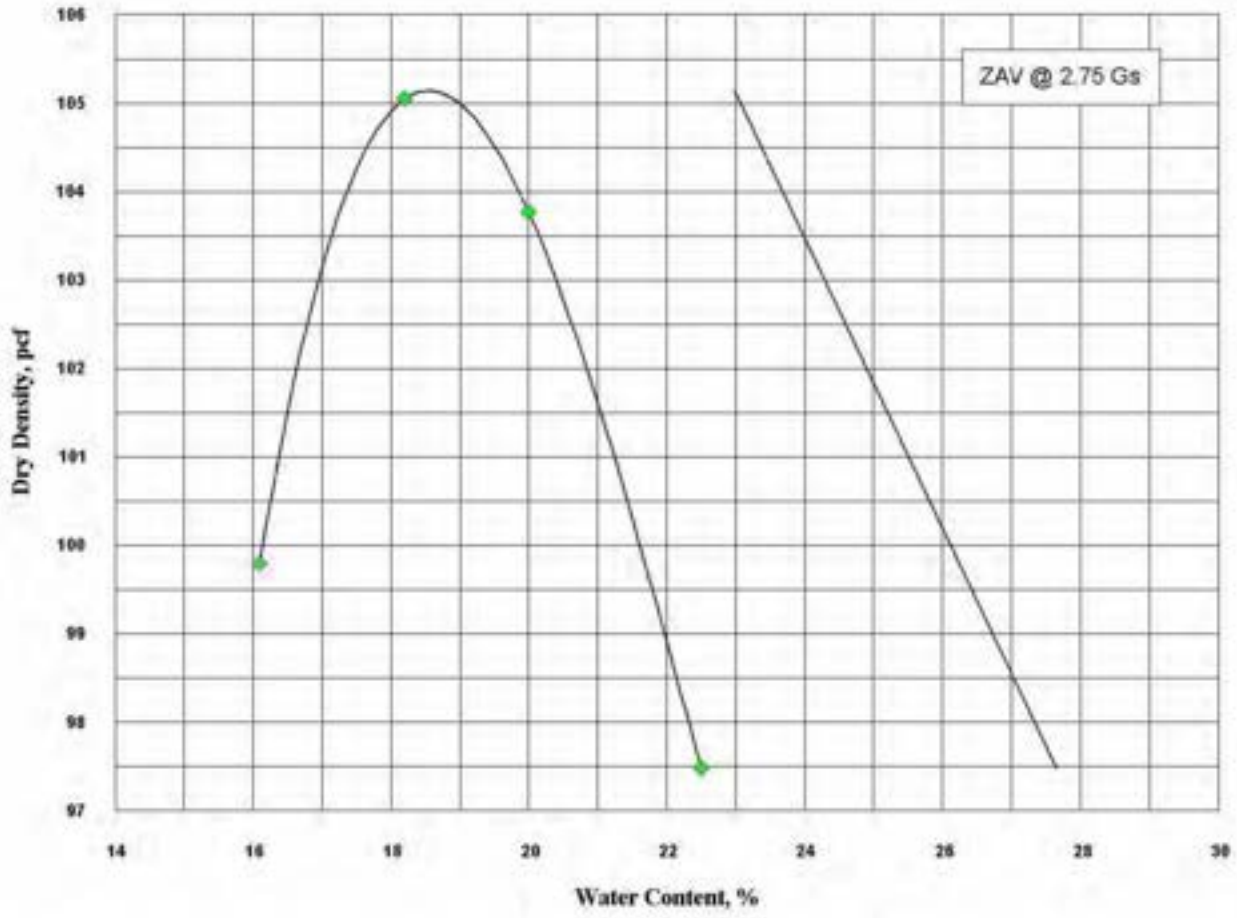
Gravel, %	Sand, %	Clay, %	P-200
N/A	N/A	N/A	75.7

Remarks: **Moist Sample Preparation**

CQA Testing Laboratory

14194 Florida BLVD. Livingston, LA. 70754

Laboratory Compaction Test
ASTM D698, Standard Compaction Test
Method B



Date:	07.15.18	**Ran by:**	BMG
Max. Dry Density, pcf:	105.1	**OMC, %:**	18.5
Corrected for Oversize:	N/A	**Corrected:**	N/A

Project:	City of Brownsville	**Client:**	SCS Engineers
Project Number:	1809	**Sample Location:**	Loop Farm Hole-1
Sample Description:	Brown CL, lean clay, with sand		

LL	PL	PI	NMC
32	18	14	6.4

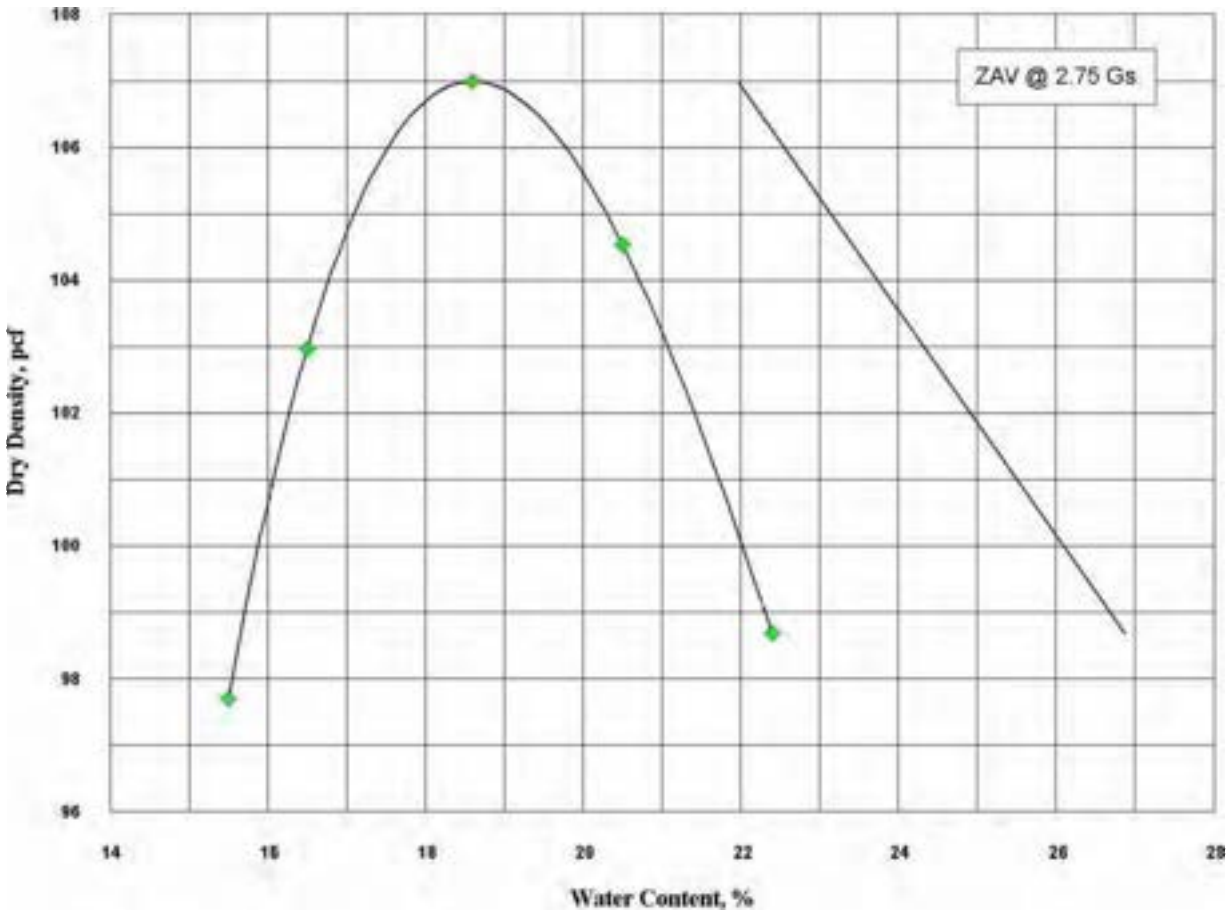
Gravel, %	Sand, %	Clay, %	P-200
N/A	N/A	N/A	76.5

Remarks: **Moist Sample Preparation**

CQA Testing Laboratory

14194 Florida BLVD. Livingston, LA. 70754

Laboratory Compaction Test
ASTM D698, Standard Compaction Test
Method B



Date:	07.15.18	Ran by:	BMG
Max. Dry Density, pcf:	107.0	OMC, %:	18.6
Corrected for Oversize:	N/A	Corrected:	N/A

Project:	City of Brownsville	Client:	SCS Engineers
Project Number:	1809	Sample Location:	Loop Farm Hole-2
Sample Description:	Brown CL, lean clay,		

LL	PL	PI	NMC
31	18	13	6.8

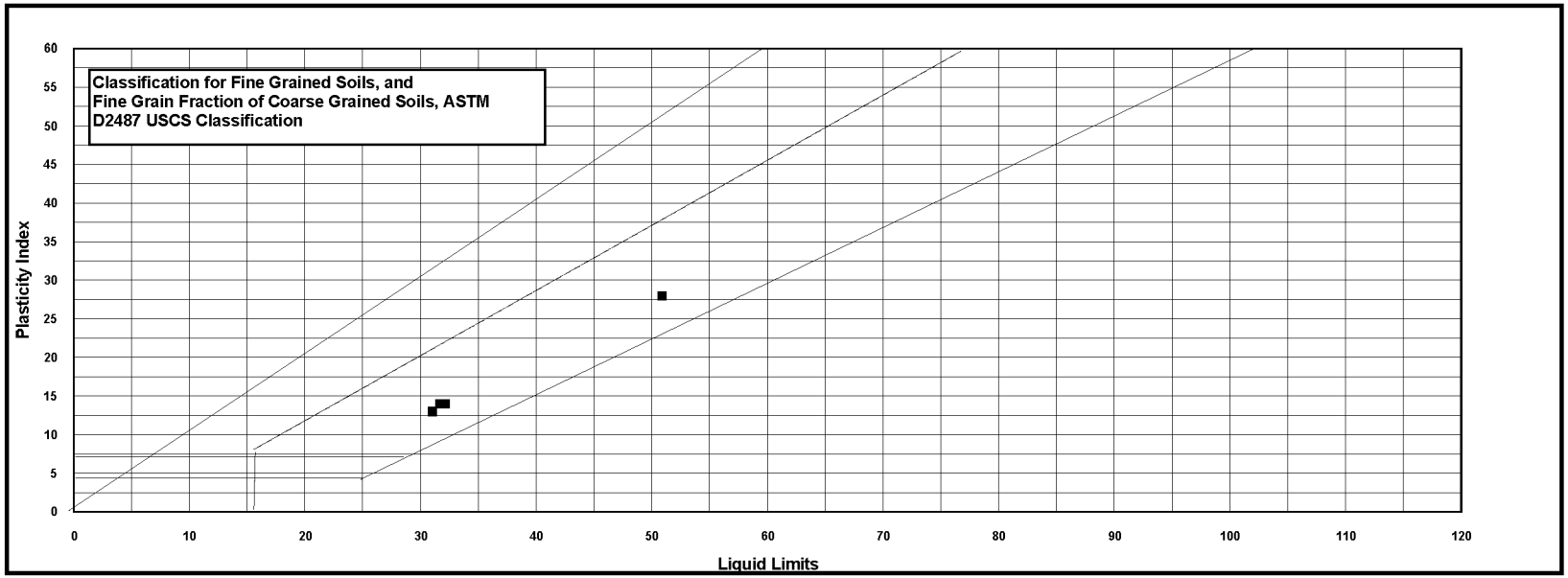
Gravel, %	Sand, %	Clay, %	P-200
N/A	N/A	N/A	85.1

Remarks: **Moist Sample Preparation**

CQA Testing Laboratory

14194 Florida BLVD. Livingston, LA. 70754

CQA Testing Laboratory
14194 Florida BLVD, Livingston, L.A., 70754



Project Name:	City of Brownsville	Client's Project No.	N/A	ASTM D2217, Method B, Wet Sample Preparation
Project Number:	1809.000	Project Location:	Texas	ASTM D4318, Method A - or - Method B, Liquid and Plastic Limits
Client:	SCS Engineers			ASTM D422/D1140 - or - C136/C117, Grain Size Analysis

Project Test Count, This Page	Sample Number and Locations	Liquid Limits	Plasticity Index	Percent Gravel > 1 in.	Percent Fines (Minus #200)	Natural Moisture, %	Sample Description/Classification		
1	Stockpile	51	28	0.0	93.8	11.5	Brown	CH, fat clay,	
2	CLF-1	32	14	0.0	75.7	11.8	Brown	CL, lean clay,	with sand
3	Loop-1	32	14	0.0	76.5	6.4	Brown	CL, lean clay,	with sand
4	Loop-2	31	13	0.0	85.1	6.8	Brown	CL, lean clay,	
5									
6									
7									
8									
9									
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25									

CQA Testing Laboratory

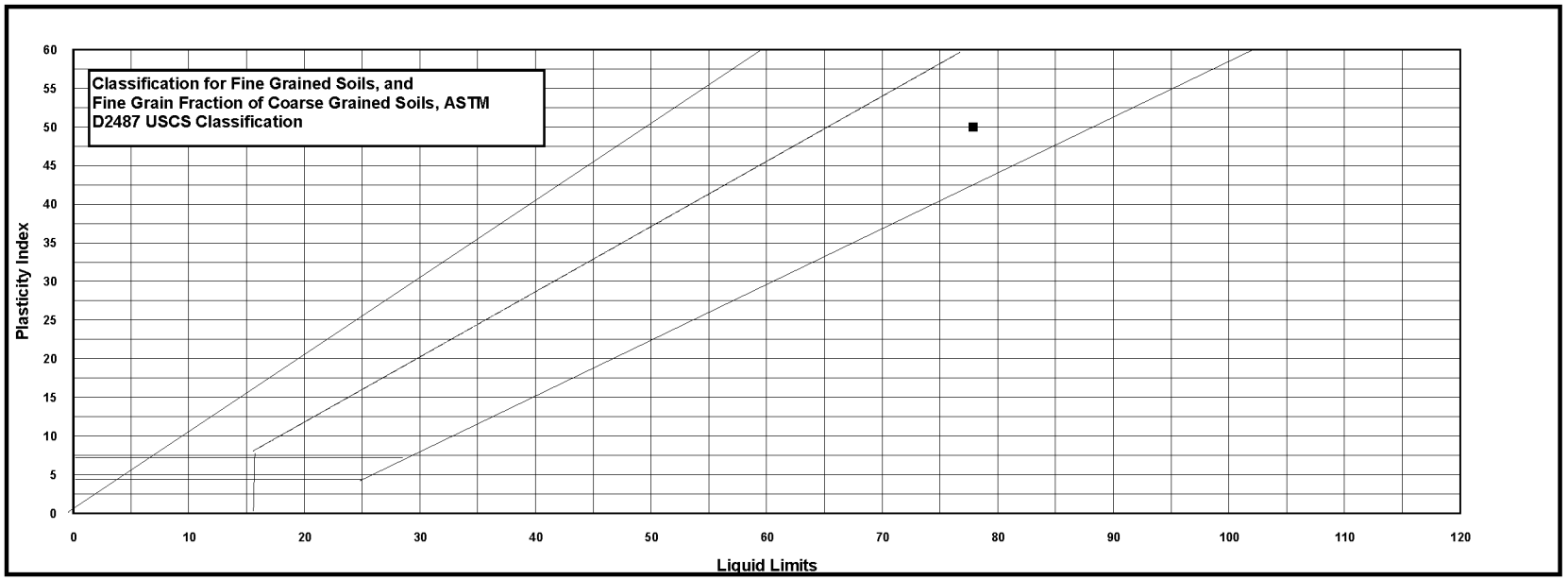
Laboratory Test Result Summary Sheet

Bulk Samples

Client: SCS Engineers
Project: City of Brownsville, Texas

Project No.: 1809
Location: Texas

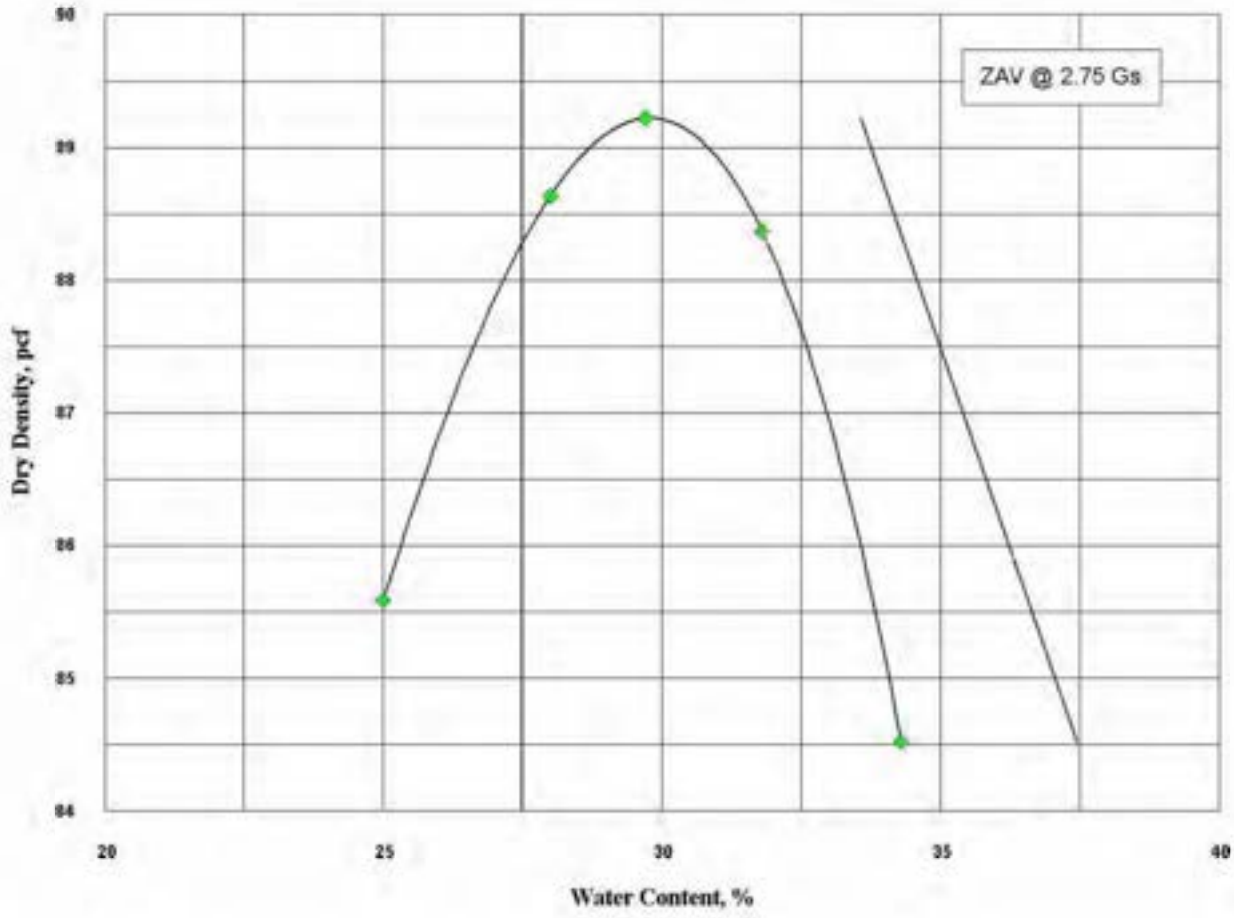
Sample Number and Location				ASTM D2216	ASTM D4318			ASTM D422				ASTM D1140	ASTM D2487	ASTM D698, Method B		ASTM D5084	Recompacted Specimen Data				
				Moisture	Atterberg Limits			Grain-size Analysis						Laboratory Compaction							
Sample Number	Coordinates North East	Elev. (ft)	Foot No.	Content (%)	LL (%)	PL (%)	PI (%)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	P-200 (%)	USCS Group Symbol	MDD (pcf)	OMC (%)	Hydraulic Conductivity cm/sec	Wet Dens (pcf)	Dry Dens (pcf)	% MC	% MDD	% Sat. Initial
Stockpile				11.5	51	23	28					93.8	CH, fat clay,	101.7	21.8						
CLF-1				11.8	32	18	14					75.7	CL, lean clay,	107.9	18.2						
Loop-1				6.4	32	18	14					76.5	CL, lean clay,	105.1	18.5						
Loop-2				6.8	31	18	13					85.1	CL, lean clay,	107.0	18.6						
Remarks:		Minimum:		6.4	31	18	13					75.7									
		Maximum		11.8	51	23	28					93.8									
		Average		9.1	36	19	17					82.8									



Project Name:	City of Brownsville, Cell 4	Client's Project No.	N/A	ASTM D2217, Method B, Wet Sample Preparation
Project Number:	1816.000	Project Location:	Brownsville, TX	ASTM D4318, Method A - or - Method B, Liquid and Plastic Limits
Client:	SCS Engineers			ASTM D422/D1140 - or - C136/C117, Grain Size Analysis

Project Test Count, This Page	Sample Number and Locations	Liquid Limits	Plasticity Index	Percent Gravel	Percent Fines (Minus #200)	Natural Moisture, %	Sample Description/Classification	
1	Cell 4	78	50	0.0	96.1	25.0	Brown	CH, fat clay,
2								
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25								

Laboratory Compaction Test
ASTM D698, Standard Compaction Test
Method B



Date:	11.12.18	Ran by:	BMG
Max. Dry Density, pcf:	89.2	OMC, %:	29.8
Corrected for Oversize:	N/A	Corrected:	N/A

Project:	City of Brownsville, Cell 4	Client:	SCS Engineers
Project Number:	1816	Sample Location:	Cell 4
Sample Description:	Brown CH, fat clay,		

LL	PL	PI	NMC
78	28	50	25.0

Gravel, %	Sand, %	Clay, %	P-200
N/A	3.9	N/A	96.1

Remarks: **Moist Sample Preparation**

CQA Testing Laboratory

CQA Testing Laboratory

Laboratory Test Result Summary Sheet

Bulk Samples

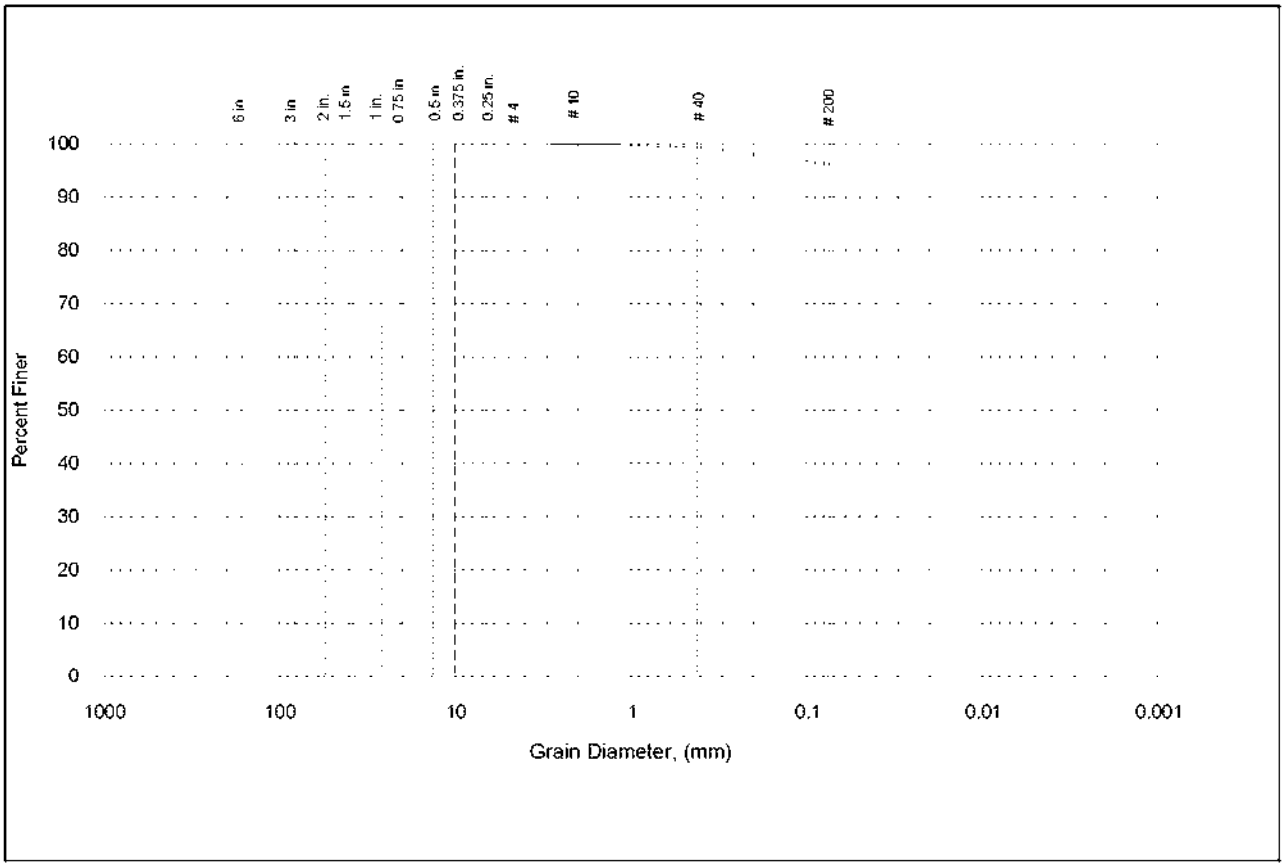
Client: SCS Engineers
Project: City of Brownsville, Cell 4

Project No.: 1816
Location: Brownsville, TX

Sample Number and Location				ASTM D2216	ASTM D4318			ASTM D422				ASTM D1140	ASTM D2487	ASTM D698, Method B		ASTM D5084	Recompacted Specimen Data				
				Moisture	Atterberg Limits			Grain-size Analysis						Laboratory Compaction		Hydraulic	Wet	Dry	%	%	%
Sample Number	Coordinates North	East	Elev. (ft)	Foot No.	Content (%)	LL (%)	PL (%)	PI (%)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	P-200 (%)	USCS Group Symbol	MDD (pcf)	OMC (%)	Conductivity cm/sec	Dens (pcf)	Dens (pcf)	MC	MDD	Sat. Initial
Cell 4				25.0	78	28	50	0.0	3.9			96.1	CH, fat clay,	89.2	29.8						

CQA Testing Laboratory

Particle Size Distribution Test Report



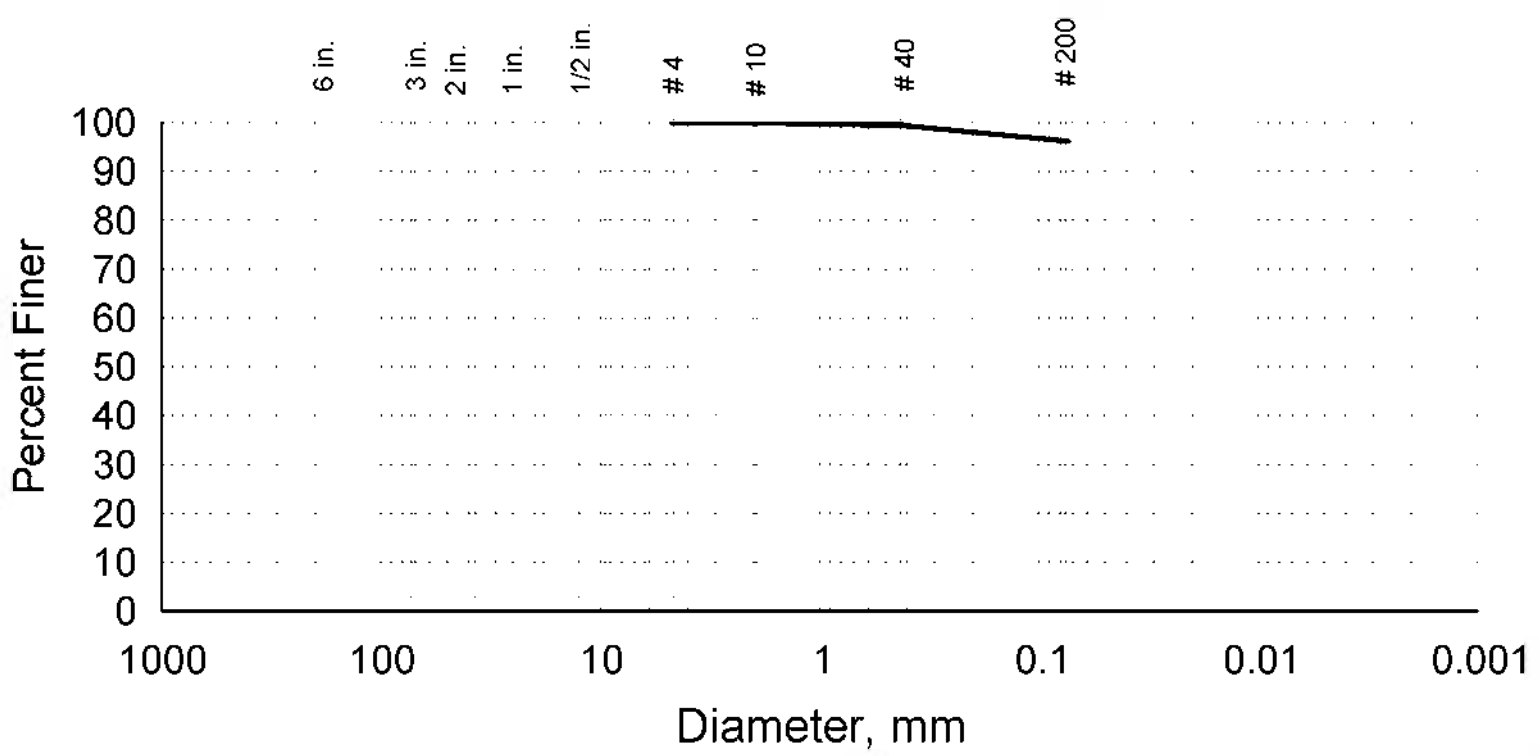
Project Name: City of Brownsville, Cell 4
Client: SCS Engineers

ASTM D2217, Method B, Wet Sample Prep
ASTM D422 Grain Size Analysis with Hydrometer

Sample Number	NMC	LL	PL	PI	Gravel	Sand	Silt	Clay	Sieve Size or Number, Percent Finer	Sample Classification and Description

CQA Testing Laboratory

Particle Distribution Test Result



Proj. Name:	City of Brownsville, Cell 4	**Gravel, %**	**Sand, %**	**Silt, %**	**Clay, %**	**LL**	**PI**
Project No.:	1816	0.0	3.9	0.0	0.0	78	50
Date of Report:	11.14.18	**Description and Classification**					
Project Loc.	Brownsville, TX	Brown	CH, fat clay,				
		Standard Sieve Sizes - Percent Passing					
Sample Identification - Location - Type		6 "		2.5 "		3/8 "	
Cell 4	Bulk Sample	5 "		2 "		1/4 "	
Remarks:	**NMC, % 25.0**	4.5 "		1- 1/2 "		# 4	100.0
Wet sample prep., ASTM D2217, D422		4 "		1 "		# 10	99.9
Sample split on # 40 sieve		3.5 "		3/4 "		# 40	99.4
Clay content reported at 0.005mm		3 "		1/2 "		# 200	96.1

IFB#: 296-26-EPW-IFB

CITY OF BROWNSVILLE MUNICIPAL LANDFILL
CELL 6 CONSTRUCTION PROJECT, IFB#: 296-26-EPW-IFB
BID SOLICITATION
JUNE 29, 2026 (REVISED JULY 20, 2026)

The undersigned bidder, having carefully examined the Contract documents, and the Site of the proposed Work and being familiar with all conditions of same, hereby proposes to furnish all labor, materials, equipment, and incidentals necessary to construct this project in strict accordance with said documents for the following prices:

Item No.	Item Description	Units	Estimated Quantity	Unit Cost	Total Cost
101	Mobilization/Demobilization	LS	1	186,428.87	186,428.87
102	Payment of Bonds	LS	1	37,700.00	37,700.00
103	Construction Surveying	LS	1	25,000.00	25,000.00
104	Construction Dewatering	LS	1	50,000.00	50,000.00
105	Clearing and Grubbing	Acre	19.5	1,500.00	29,250.00
106	General Excavation	CY	199,290	3.35	667,621.50
107	12" Compacted Cohesive Soil Barrier Layer	SY	45,050	3.25	146,412.50
108	Embankment Fill	CY	14,820	2.75	40,755.00
109	Protective Cover	CY	32,300	3.95	127,585.00
110	Chimney Drain	LF	2,315	56.00	129,640.00
111	Underdrain Trench	LF	3,330	31.00	103,230.00
112	Underdrain Collection Sump	LS	1	4,000.00	4,000.00
113	Leachate Collection Trench	LF	850	85.00	72,250.00
114	Leachate Collection Sump	LS	1	19,000.00	19,000.00
115	14" Underdrain Riser	LF	120	150.00	18,000.00
116	18" Leachate Sump Riser	LF	120	185.00	22,200.00

Bidder's Initials JP

117	6" Leachate Collection Pipe	LF	980	19.00	18,620.00
118	4"x8" Dual Contained Force Main	LF	400	56.00	22,400.00
119	Leachate Manhole	LS	1	66,000.00	66,000.00
120	Underdrain Dewatering Discharge System	LS	1	66,000.00	66,000.00
121	Leachate Pump and Control Panel	LS	1	58,000.00	58,000.00
122	Cell 5 Liner Tie-in	LF	1,010	24.00	24,240.00
123	Cell Marker Post	EA	4	400.00	1,600.00
124	Perimeter Access Road	SY	9,560	26.00	248,560.00
125	Removing Existing Culvert Crossing	LS	1	4,500.00	4,500.00
126	Perimeter Access Road Culvert Crossing	LS	1	55,000.00	55,000.00
127	North Perimeter Ditch Re-grading	LF	1,330	12.00	15,960.00
128	Diversion Dike – 24"	LF	840	21.00	17,640.00
129	Temporary Diversion Ditch and Berm	LF	950	4.00	3,800.00
130	24" Culvert	LF	30	125.00	3,750.00
131	Clean and Muck Channel, including Windblown Waste	AC	5.2	12,000.00	62,400.00
132	Regrade North Channel	AC	3.2	20,000.00	64,000.00
133	Regrade South Channel	AC	2.0	20,000.00	40,000.00
134	Remove and Replace Existing Gabion Lining	LS	1	7,000.00	7,000.00
201	Geosynthetic Clay Liner	SF	410,060	0.78	319,846.80
202	60 mil Smooth HDPE Geomembrane Liner	SF	373,360	0.63	235,216.80
203	60 mil Double-Sided Textured HDPE Geomembrane Liner	SF	36,700	1.40	51,380.00
204	200 mil Geonet	SF	373,360	0.39	145,610.40

205	Cell Geotextile	SF	373,360	0.27	100,807.20
206	Leachate Collection Double-Sided Geocomposite	SF	36,700	1.15	42,205.00
207	Underdrain Double-Sided Geocomposite	SF	391,720	0.97	379,968.40
				Total:	3,733,577.47

FOR A TOTAL BASE BID AMOUNT
FOR THE CONSTRUCTION OF
CELL 6, IFW#: 296-26-EPW-IFB OF:

$ 3,733,577.47

Total Bid Amount (print words carefully in black ink)
Three Million, Seven Hundred and Thirty Three Thousand, Five Hunred and Seventy Seven Dollars and Forty Seven Cents

_____ dollars.

Signature of Bidder

Jeff Parrish - Managing Member
Printed Name and Title

4X Construction Group, LLC
Company

August 4, 2026
Date

The City reserves the right to reject any and all bids and rebid the project at a later time.

Bidder's Initials JP

SCS ENGINEERS

12651 Briar Forest Drive
Suite 205
Houston, Texas 77077
281-293-8494
File No. 16220069.26

August 6, 2026

Jaydy Valdez, CTCD
Buyer
Procurement Department
City of Brownsville
1001 E. Elizabeth Street
Brownsville, Texas 78520

Subject: Award Recommendation for the City of Brownsville Landfill Cell 6 Construction
Bid Number: 296-26-EPW-IFB

Dear Mrs. Valdez,

SCS Engineers (SCS) is pleased to provide our evaluation of the four construction bids received and opened on August 4, 2026, for the above-referenced project.

The City of Brownsville (the City) received bids from 4X Construction Group LLC, A&I Custom Manufacturing LLC, Blue World Construction, Inc., and Longhorn Excavators, Inc.

SCS reviewed the submitted bid schedules for completeness, mathematical accuracy, and general conformance with the bidding requirements. The bid amounts received were as follows:

4X Construction Group, LLC bid $3,733,577.47
A&I Custom Manufacturing, LLC bid $4,198,016.40
Blue World Construction bid $4,464,675.00
Longhorn Excavators, Inc. bid $3,936,690.00

Our review identified no mathematical discrepancies, irregularities, or concerns within any of the submitted bid schedules. Furthermore, an evaluation of the individual bid items and unit prices did not reveal any unusual pricing trends or items that would warrant further clarification.

Based on our review, 4X Construction Group, LLC submitted the lowest responsive bid for the project in the amount of $3,733,577.47. Accordingly, SCS recommends that the City award the contract for the above-referenced project to 4X Construction Group, LLC.

Please feel free to contact us should you have any questions or require additional information regarding our review and recommendation.

Sincerely,

J. Roy Murray, P.E.
Vice President
SCS Engineers
817-358-6156
jmurray@scsengineers.com

Ricardo Espinoza, P.E.
Project Professional
SCS Engineers
817-358-6158
respinozamatute@scsengineers.com

Enclosure(s): Bid Tab

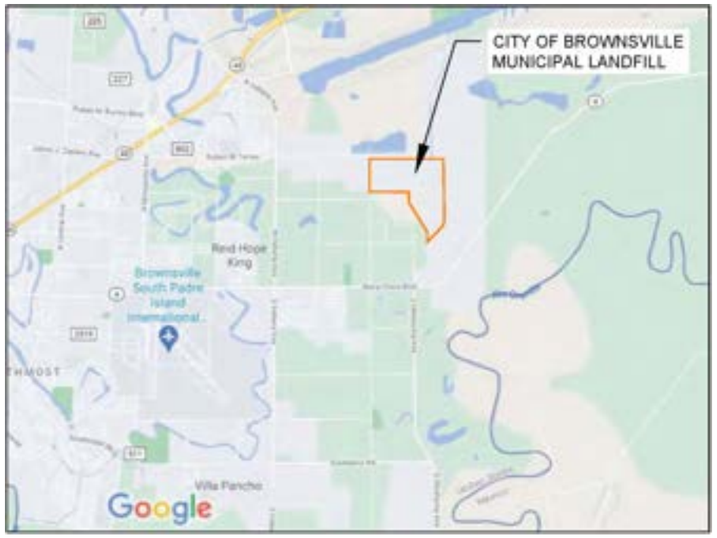
CC: Maribel Guerrero, City of Brownsville
Jose Maldonado, City of Brownsville
Hans Meyer, City of Brownsville
Damian Espinoza, City of Brownsville

BID TAB
BASE BID
CITY OF BROWNSVILLE MUNICIPAL LANDFILL
CELL 6 CONSTRUCTION
AUGUST 5, 2026

				4X CONSTRUCTIO GROUP, LLC			A&I CUSTOM MANUFACTURING, LLC			BLUE WORLD CONSTRUCTION, INC			LONGHORN EXCAVATORS, INC.		
ITEM	DESCRIPTION	UNIT	QUANTITY	QUANTITY	BID UNIT PRICE	BID AMOUNT	QUANTITY	BID UNIT PRICE	BID AMOUNT	QUANTITY	BID UNIT PRICE	BID AMOUNT	QUANTITY	BID UNIT PRICE	BID AMOUNT
101	Mobilization/Demobilization	LS	1	1	$186,428.87	$186,428.87	1	$185,000.00	$185,000.00	1	$206,757.00	$206,757.00	1	$69,900.00	$69,900.00
102	Payment of Bonds	LS	1	1	$37,700.00	$37,700.00	1	$90,000.00	$90,000.00	1	$87,522.00	$87,522.00	1	$42,797.30	$42,797.30
103	Construction Surveying	LS	1	1	$25,000.00	$25,000.00	1	$30,000.00	$30,000.00	1	$87,150.00	$87,150.00	1	$18,900.00	$18,900.00
104	Construction Dewatering	LS	1	1	$50,000.00	$50,000.00	1	$72,000.00	$72,000.00	1	$144,070.00	$144,070.00	1	$12,900.00	$12,900.00
105	Clearing and Grubbing	Acre	19.5	19.5	$1,500.00	$29,250.00	19.5	$2,500.00	$48,750.00	19.5	$2,800.00	$54,600.00	19.5	$1,800.00	$35,100.00
106	General Excavation	CY	199,290	199,290	$3.35	$667,621.50	199,290	$4.00	$797,160.00	199,290	$4.21	$839,010.90	199,290	$3.33	$663,635.70
107	12" Compacted Cohesive Soil Barrier Layer	SY	45,050	45,050	$3.25	$146,412.50	45,050	$3.00	$135,150.00	45,050	$4.23	$190,561.50	45,050	$2.19	$98,659.50
108	Embankment Fill	CY	14,820	14,820	$2.75	$40,755.00	14,820	$3.50	$51,870.00	14,820	$3.68	$54,537.60	14,820	$1.20	$17,784.00
109	Protective Cover	SY	32,300	32,300	$3.95	$127,585.00	32,300	$3.25	$104,975.00	32,300	$6.12	$197,676.00	32,300	$3.69	$119,187.00
110	Chimney Drain	LF	2,315	2,315	$56.00	$129,640.00	2,315	$70.00	$162,050.00	2,315	$52.12	$120,657.80	2,315	$111.90	$259,048.50
111	Underdrain Trench	LF	3,330	3,330	$31.00	$103,230.00	3,330	$42.00	$139,860.00	3,330	$24.35	$81,085.50	3,330	$65.28	$217,382.40
112	Underdrain Collection Sump	LS	1	1	$4,000.00	$4,000.00	1	$12,000.00	$12,000.00	1	$6,580.00	$6,580.00	1	$13,806.00	$13,806.00
113	Leachate Collection Trench	LF	850	850	$85.00	$72,250.00	850	$115.00	$97,750.00	850	$80.00	$68,000.00	850	$158.70	$134,895.00
114	Leachate Collection Sump	LS	1	1	$19,000.00	$19,000.00	1	$32,500.00	$32,500.00	1	$26,750.00	$26,750.00	1	$28,122.00	$28,122.00
115	14" Underdrain Riser	LF	120	120	$150.00	$18,000.00	120	$185.00	$22,200.00	120	$122.00	$14,640.00	120	$118.20	$14,184.00
116	18" Leachate Sump Riser	LF	120	120	$185.00	$22,200.00	120	$210.00	$25,200.00	120	$147.50	$17,700.00	120	$147.06	$17,647.20
117	6" Leachate Collection Pipe	LF	980	980	$19.00	$18,620.00	980	$32.00	$31,360.00	980	$23.25	$22,785.00	980	$27.06	$26,518.80
118	4"x8" Dual Contained Force Main	LF	400	400	$56.00	$22,400.00	400	$85.00	$34,000.00	400	$76.00	$30,400.00	400	$86.61	$34,644.00
119	Leachate Manhole	LS	1	1	$66,000.00	$66,000.00	1	$105,000.00	$105,000.00	1	$80,450.00	$80,450.00	1	$76,554.00	$76,554.00
120	Underdrain Dewatering Discharge System	LS	1	1	$66,000.00	$66,000.00	1	$90,000.00	$90,000.00	1	$93,060.00	$93,060.00	1	$64,050.00	$64,050.00
121	Leachate Pump and Control Panel	LS	1	1	$58,000.00	$58,000.00	1	$92,000.00	$92,000.00	1	$37,500.00	$37,500.00	1	$59,622.00	$59,622.00
122	Cell 5 Liner Tie-In	LF	1,010	1,010	$24.00	$24,240.00	1,010	$6.00	$6,060.00	1,010	$32.30	$32,623.00	1,010	$22.23	$22,452.30
123	Cell Marker Post	EA	4	4	$400.00	$1,600.00	4	$350.00	$1,400.00	4	$1,150.00	$4,600.00	4	$486.00	$1,944.00
124	Perimeter Access Road	SY	9,560	9,560	$26.00	$248,560.00	9,560	$24.00	$229,440.00	9,560	$22.15	$211,754.00	9,560	$31.62	$302,287.20
125	Removing Existing Culvert Crossing	LS	1	1	$4,500.00	$4,500.00	1	$5,500.00	$5,500.00	1	$9,390.00	$9,390.00	1	$2,100.00	$2,100.00
126	Perimeter Access Road Culvert Crossing	LS	1	1	$55,000.00	$55,000.00	1	$14,000.00	$14,000.00	1	$36,820.00	$36,820.00	1	$59,643.00	$59,643.00
127	North Perimeter Ditch Re-grading	LF	1,330	1,330	$12.00	$15,960.00	1,330	$18.00	$23,940.00	1,330	$24.85	$33,050.50	1,330	$21.00	$27,930.00
128	Diversion Dike - 24"	LF	840	840	$21.00	$17,640.00	840	$33.00	$27,720.00	840	$30.25	$25,410.00	840	$20.58	$17,287.20
129	Temporary Diverson Ditch and Berm	LF	950	950	$4.00	$3,800.00	950	$18.00	$17,100.00	950	$24.40	$23,180.00	950	$6.00	$5,700.00
130	24" Culvert	LF	30	30	$125.00	$3,750.00	30	$210.00	$6,300.00	30	$680.50	$20,415.00	30	$45.00	$1,350.00
131	Clean and Muck Channel, Including Windblown Waste	AC	5.2	5.2	$12,000.00	$62,400.00	5.2	$2,500.00	$13,000.00	5.2	$11,190.00	$58,188.00	5.2	$16,500.00	$85,800.00
132	Regrade North Channel	AC	3.2	3.2	$20,000.00	$64,000.00	3.2	$5,000.00	$16,000.00	3.2	$10,850.00	$34,720.00	3.2	$10,200.00	$32,640.00
133	Regrade South Channel	AC	2.0	2.0	$20,000.00	$40,000.00	2.0	$5,000.00	$10,000.00	2.0	$11,300.00	$22,600.00	2.0	$10,200.00	$20,400.00
134	Remove and Replace Existing Gabion Lining	LS	1	1	$7,000.00	$7,000.00	1	$22,000.00	$22,000.00	1	$28,350.00	$28,350.00	1	$11,436.00	$11,436.00
201	Geosynthetic Clay Liner	SF	410,060	410,060	$0.78	$319,846.80	410,060	$0.85	$348,551.00	410,060	$1.03	$422,361.80	410,060	$0.834	$341,990.04
202	60 mil Smooth HDPE Geomembrane Liner	SF	373,360	373,360	$0.63	$235,216.80	373,360	$0.94	$350,958.40	373,360	$0.92	$343,491.20	373,360	$0.615	$229,616.40
203	60 mil Double-Sided Textured HDPE Geomembrane Liner	SF	36,700	36,700	$1.40	$51,380.00	36,700	$0.97	$35,599.00	36,700	$1.32	$48,444.00	36,700	$0.987	$36,222.90
204	200 mil Geonet	SF	373,360	373,360	$0.39	$145,610.40	373,360	$0.42	$156,811.20	373,360	$0.29	$108,274.40	373,360	$0.432	$161,291.52
205	Cell Geotextile	SF	373,360	373,360	$0.27	$100,807.20	373,360	$0.35	$130,676.00	373,360	$0.37	$138,143.20	373,360	$0.306	$114,248.16
206	Leachate Collection Double-Sided Geocomposite	SF	36,700	36,700	$1.15	$42,205.00	36,700	$0.99	$36,333.00	36,700	$1.01	$37,067.00	36,700	$0.978	$35,892.60
207	Underdrain Double-Sided Geocomposite	SF	391,720	391,720	$0.97	$379,968.40	391,720	$0.99	$387,802.80	391,720	$0.93	$364,299.60	391,720	$1.024	$401,121.28
				TOTAL		$3,733,577.47	TOTAL		$4,198,016.40	TOTAL		$4,464,675.00	TOTAL		$3,936,690.00

CELL 6 CONSTRUCTION PLANS

CITY OF BROWNSVILLE MUNICIPAL LANDFILL
CAMERON COUNTY
9000 F.M. 802, BROWNSVILLE, TEXAS 78521
JUNE 2026



1/2 MILE

LOCATION MAP

SHEET		TITLE
1	-	COVER SHEET AND INDEX
2	-	SITE LAYOUT PLAN
3	-	CELL 6 EXCAVATION PLAN
4	-	CELL 6 EXCAVATION POINTS
5	-	CELL 6 TOP OF COMPACTED COHESIVE SOIL BARRIER LAYER PLAN
6	-	CELL 6 TOP OF COMPACTED COHESIVE SOIL BARRIER LAYER POINTS
7	-	CELL 6 TOP OF PROTECTIVE COVER PLAN
8	-	CELL 6 TOP OF PROTECTIVE COVER POINTS
9	-	LANDFILL LINER, LEACHATE COLLECTION SYSTEM, AND UNDERDRAIN DETAILS I
10	-	LANDFILL LINER, LEACHATE COLLECTION SYSTEM, AND UNDERDRAIN DETAILS II
11	-	LANDFILL LINER, LEACHATE COLLECTION SYSTEM, AND UNDERDRAIN DETAILS III
12	-	FORCE MAIN PLAN
13	-	LEACHATE AND FORCEMAIN SYSTEM DETAILS
14	-	MANHOLE AND FORCE MAIN DETAILS I
15	-	MANHOLE AND FORCE MAIN DETAILS II
16	-	MISCELLANEOUS DETAILS

NOTES:

1. THE CURRENT LANDFILL PERMIT SHALL GOVERN OVER ANY DISCREPANCY BETWEEN THESE PLANS AND THE PERMIT.
2. THESE PLANS ARE ISSUED FOR INTERIM REVIEW PURPOSES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TIMELY UNLOADING OF LINER MATERIALS. UNLOADING OF MATERIAL SHALL BE CONDUCTED ONLY UNDER THE SUPERVISION OF THE OWNERS REPRESENTATIVE. A LAY DOWN AREA WILL NEED TO BE GRADED/CONSTRUCTED TO ALLOW FOR PROPER STORAGE OF LINER MATERIALS. THIS AREA SHALL HAVE MINIMUM DIMESNIONS OF 100'x100' AND SHALL BE ELVATED, COMPACTED AND GRADED TO PREVENT PONDING OF WATER IN THE LINER STORAGE AREA. THE GCL AND GEOMEMBRANE SHALL NOT BE STACKED OVER 3 ROLLS HIGH. STOCKPILES SHALL BE NEAT AND ORDERLY. PUSHING OR PULLING ROLLS OFF THE TRUCK SHALL NOT BE ACCEPTABLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE MATERIAL DURING UNLOADING AND STORAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE LAYDOWN AREA UNTIL GEOSYNTHETICS WORK IS COMPLETE.

Prepared By:

SCS ENGINEERS
TEXAS BOARD OF PROFESSIONAL ENGINEERS
REGISTRATION NO. F-3407
12651 BRIAR FOREST, SUITE 205
HOUSTON, TX 77077
TEL: (281) 293-8494
FAX: (281) 293-7878

Prepared For:

CITY OF BROWNSVILLE
DEPARTMENT OF ENGINEERING & PUBLIC WORKS
9000 FM 802
P.O. BOX 911
BROWNSVILLE, TEXAS 78521
TEL: (956) 831-3641



PROJECT # - 16220069.26

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

LIMITS OF CELL 6 CONSTRUCTION

SOIL STOCKPILE

CLEARING AND GRUBBING

PROPOSED DIVERSION DIKE 5/16

BORROW AREA

LEGEND:

- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- BUFFER ZONE
- LIMIT OF LANDFILL
- CONSTRUCTED LIMITS OF WASTE
- 70 EXISTING INDEX CONTOUR
- AREA TO BE CLEARED AND GRUBBED (13.2 ac.)
- STOCKPILE LIMIT (3.7 ac.)

NOTES:

1. GRID SYSTEM IS BASED ON STATE PLANE COORDINATES PROVIDED BY AMBIOTEC CIVIL ENGINEERING GROUP, SEPTEMBER 2001.
2. TOPOGRAPHY PROVIDED BY I.F. ROOKS & ASSOCIATES, DATED NOVEMBER 13, 2025.
3. ELEVATIONS SHOWN FOR CELL 5 AT THE TIME OF FLYOVER REPRESENT TOP OF PROTECTIVE COVER. INTERIM WASTE GRADES NOT SHOWN FOR CLARITY. SITE OPERATIONS HAS FILLED THE CELL 5 AREA A CONSIDERABLE AMOUNT SINCE FLYOVER AND A DIVERSION DIKE WOULD BE REQUIRED TO CONTROL STORMWATER FROM ENTERING THE CELL 6 AREA DURING CONSTRUCTION.

SCALE
0 400 800 FEET

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED PROFESSIONAL ENGINEER
06/29/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

NO.	DATE	DESCRIPTION

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3937

SITE LAYOUT PLAN

CELL 6 CONSTRUCTION PLANS

CLIENT
CITY OF BROWNSVILLE
MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
1360 GREAR FOREST, SUITE 206, HOUSTON, TX 77077
PH (281) 293-8494 FAX NO. (281) 293-7878

CADD FILE:
DWG 5 – SITE LAYOUT PLAN

DATE:
06/2026

SCALE:
AS SHOWN

DRAWING NO.
2

MATCH EXISTING PAVEMENT

R=65'

R=70'

30' WIDE PERIMETER ACCESS ROAD

TEMPORARY DIVERSION DITCH AND BERM

0.2%

30'-24" CULVERT

CULVERT

OUTER EDGE OF ANCHOR TRENCH (LIMIT OF GEOSYNTHETIC LINER PAY)

OUTER EDGE OF GEOCOMPOSITE UNDERDRAIN ELEVATION: 10'

Slope Varies

7'

30' WIDE PERIMETER ACCESS ROAD

UNDERDRAIN DEWATERING SYSTEM SEE SHEET 13

OUTER EDGE OF ANCHOR TRENCH (LIMIT OF GEOSYNTHETIC LINER PAY)

MATCH EXISTING PAVEMENT

PROPOSED CELL 6

EXISTING CELL 5 OUTER EDGE OF ANCHOR TRENCH (LIMIT OF GEOSYNTHETIC LINER PAY)

EXISTING CELL 5

NORTH DITCH REGRADING CONTINUES TO CELL 4 CULVERT (POINTS 508 THROUGH 516 NOT SHOWN FOR CLARITY, SEE SHEET 4 FOR CONSTRUCTION POINTS)

2:1 TYP.

1X

2%

LEGEND:

- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED 1' CONTOUR
- OUTER EDGE OF ANCHOR TRENCH (LIMIT OF GEOSYNTHETIC LINER PAY)
- PROPOSED PERIMETER ROAD
- EXCAVATION POINT
- UDT — UNDERDRAIN TRENCH, DETAIL 3/9
- UR — UNDERDRAIN RISER TRENCH, DETAIL 4/10
- UD — UNDERDRAIN DISCHARGE PIPE, DETAIL 1/13
- UNDERDRAIN DISCHARGE STRUCTURE, DETAIL 3/13
- PROPOSED DRAINAGE DITCH
- EXISTING LINER TIE-IN

NOTES:

1. GRID SYSTEM IS BASED ON STATE PLANE COORDINATES PROVIDED BY AMBOTEC CIVIL ENGINEERING GROUP, SEPTEMBER 2001.
2. TOPOGRAPHY PROVIDED BY I.F. ROOKS & ASSOCIATES, DATED NOVEMBER 13, 2025.
3. SEE SHEET 4 FOR CELL 6 EXCAVATION POINTS.
4. THE GRADES ON THIS SHEET REFLECT THE BOTTOM OF THE EXCAVATION AND OF THE 12" COMPACTED COHESIVE SOIL BARRIER LAYER.
5. THE GRADES FOR THE INVERT OF THE LEACHATE COLLECTION TRENCH ARE NOT SHOWN. FOR LEACHATE COLLECTION TRENCH, LOWER ELEVATION BY 1.0 FEET.

SCALE

0 100 200 FEET

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED
PROFESSIONAL ENGINEER
06/29/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

BY | DESCRIPTION | DATE | REV

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3907

DRAWING TITLE: CELL 6 EXCAVATION PLAN

PROJECT TITLE: CELL 6 CONSTRUCTION PLANS

CLIENT: CITY OF BROWNSVILLE MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
13101 BRAE FOREST, SUITE 200, HOUSTON, TX 77077
PH (281) 292-8494 FAX NO. (281) 293-1978

CADD FILE:

DATE: 06/2026

SCALE: AS SHOWN

DRAWING NO. 3

EXCAVATION POINT TABLE			
POINT #	NORTHING	EASTING	ELEV.
1	100535.6	2365383.0	19.0
2	100508.6	2365383.6	10.0
3	100483.3	2365384.5	-5.1
4	100448.4	2365384.8	-5.0
5	100398.4	2365385.6	-4.5
6	100348.4	2365388.9	-4.0
7	100298.4	2365387.9	-3.5
8	100248.4	2365388.9	-3.0
9	100198.5	2365389.9	-2.5
10	100148.5	2365371.0	-2.0
11	100098.5	2365372.0	-1.5
12	100048.5	2365373.0	-1.0
13	99998.5	2365374.0	-0.5
14	99948.5	2365375.1	0.0
15	99898.5	2365376.1	0.6
16	99848.5	2365377.1	1.0
17	99798.5	2365378.1	1.5
18	99746.5	2365379.2	2.0
19	99698.6	2365380.2	2.5
20	99648.6	2365381.2	3.0
21	99598.6	2365382.2	3.6
22	99564.8	2365382.9	6.8
23	99560.8	2365383.0	6.3
24	99536.9	2365383.5	3.6
25	99536.3	2365356.0	3.2
26	99551.2	2365357.7	3.4
27	99560.2	2365357.5	6.4
28	99564.2	2365357.5	6.4
29	99573.2	2365357.3	3.4
30	99598.1	2365356.8	3.1
31	99648.0	2365355.7	2.6
32	99698.0	2365354.7	2.1
33	99748.0	2365353.7	1.6
34	99798.0	2365352.7	1.1
35	99848.0	2365351.6	0.6
36	99898.0	2365350.6	0.1
37	99948.0	2365349.6	-0.4
38	99998.0	2365348.5	-0.9
39	100048.0	2365347.5	-1.4
40	100098.0	2365346.5	-1.9
41	100147.9	2365345.5	-2.4
42	100197.9	2365344.4	-2.9
43	100247.9	2365343.4	-3.4
44	100297.9	2365342.4	-3.9
45	100347.9	2365341.4	-4.4
46	100397.9	2365340.3	-4.9
47	100447.9	2365339.3	-5.4
48	100461.5	2365339.0	-5.5
49	100508.1	2365338.1	10.0
50	100535.1	2365337.5	19.0
51	100534.2	2365287.5	19.0
52	100507.2	2365286.1	10.0
53	100458.1	2365289.1	-6.4
54	100396.9	2365290.4	-5.8
55	100346.9	2365291.4	-5.3
56	100296.9	2365292.4	-4.8
57	100246.9	2365293.4	-4.3
58	100196.9	2365294.5	-3.8
59	100146.9	2365295.5	-3.3
60	100096.9	2365296.5	-2.8

EXCAVATION POINT TABLE			
POINT #	NORTHING	EASTING	ELEV.
61	100046.9	2365297.5	-2.3
62	99997.0	2365298.6	-1.8
63	99947.0	2365299.6	-1.3
64	99897.0	2365300.6	-0.8
65	99847.0	2365301.6	-0.3
66	99797.0	2365302.7	0.2
67	99747.0	2365303.7	0.7
68	99697.0	2365304.7	1.2
69	99647.0	2365305.7	1.7
70	99597.0	2365306.8	2.2
71	99572.1	2365307.3	2.5
72	99563.1	2365307.5	5.5
73	99558.1	2365307.5	5.5
74	99550.1	2365307.7	2.5
75	99535.3	2365308.0	2.3
76	99534.3	2365258.0	1.5
77	99548.9	2365257.7	1.6
78	99556.0	2365257.6	4.6
79	99562.0	2365257.5	4.6
80	99571.0	2365257.3	1.6
81	99596.0	2365256.8	1.4
82	99646.0	2365255.8	0.9
83	99696.0	2365254.7	0.4
84	99746.0	2365253.7	-0.1
85	99796.0	2365252.7	-0.6
86	99846.0	2365251.6	-1.1
87	99895.9	2365250.6	-1.6
88	99945.9	2365249.6	-2.1
89	99995.9	2365248.6	-2.6
90	100045.9	2365247.5	-3.1
91	100095.9	2365246.5	-3.6
92	100145.9	2365245.5	-4.1
93	100195.9	2365244.5	-4.6
94	100245.9	2365243.4	-5.1
95	100295.9	2365242.4	-5.6
96	100345.9	2365241.4	-6.1
97	100395.8	2365240.4	-6.6
98	100454.6	2365239.2	-7.2
99	100508.3	2365238.1	10.0
100	100533.2	2365237.5	19.0
101	100532.3	2365187.7	19.0
102	100505.3	2365188.2	10.0
103	100451.7	2365172.0	-7.8
104	100452.3	2365206.4	-7.8
105	100416.9	2365208.3	-7.4
106	100416.2	2365171.6	-7.4
107	100442.2	2365181.9	-11.0
108	100442.5	2365196.9	-11.0
109	100427.5	2365197.2	-11.0
110	100427.2	2365182.2	-11.0
111	100394.8	2365190.4	-7.5
112	100344.8	2365191.4	-7.0
113	100294.8	2365192.4	-6.5
114	100244.8	2365193.4	-6.0
115	100194.9	2365194.5	-5.5
116	100144.9	2365195.5	-5.0
117	100094.9	2365196.5	-4.5
118	100044.9	2365197.5	-4.0
119	99994.9	2365198.6	-3.5
120	99944.9	2365199.6	-3.0

EXCAVATION POINT TABLE			
POINT #	NORTHING	EASTING	ELEV.
121	99894.9	2365200.6	-2.5
122	99844.9	2365201.7	-2.0
123	99794.9	2365202.7	-1.5
124	99745.0	2365203.7	-1.0
125	99695.0	2365204.7	-0.5
126	99645.0	2365205.8	0.0
127	99595.0	2365206.8	0.5
128	99569.8	2365207.3	0.8
129	99560.8	2365207.5	3.8
130	99556.8	2365207.8	3.8
131	99547.8	2365208.9	0.8
132	99533.3	2365209.3	0.7
133	99532.2	2365158.1	1.5
134	99546.8	2365157.8	1.7
135	99555.7	2365157.6	4.8
136	99559.7	2365157.5	4.8
137	99568.7	2365157.3	1.8
138	99594.0	2365156.8	1.4
139	99644.0	2365155.8	0.9
140	99693.9	2365154.7	0.4
141	99743.9	2365153.7	-0.1
142	99793.9	2365152.7	-0.6
143	99843.9	2365151.7	-1.1
144	99893.9	2365150.6	-1.6
145	99943.9	2365149.6	-2.1
146	99993.9	2365148.6	-2.6
147	100043.9	2365147.6	-3.1
148	100093.9	2365146.5	-3.6
149	100143.8	2365145.5	-4.1
150	100193.8	2365144.5	-4.6
151	100243.8	2365144.3	-5.1
152	100293.8	2365142.4	-5.6
153	100343.8	2365141.4	-6.1
154	100393.8	2365140.4	-6.6
155	100443.8	2365139.4	-7.1
156	100504.4	2365138.1	10.0
157	100531.5	2365137.5	19.0
158	100530.4	2365087.6	19.0
159	100500.5	2365088.2	9.0
160	100454.3	2365089.1	-6.4
161	100392.8	2365090.4	-5.8
162	100342.8	2365091.4	-5.3
163	100292.8	2365092.4	-4.8
164	100242.8	2365093.5	-4.3
165	100192.8	2365094.5	-3.8
166	100142.8	2365095.5	-3.3
167	100092.8	2365096.5	-2.8
168	100042.8	2365097.6	-2.3
169	99992.9	2365098.6	-1.8
170	99942.9	2365099.6	-1.3
171	99892.9	2365100.6	-0.8
172	99842.9	2365101.7	-0.3
173	99792.9	2365102.7	0.2
174	99742.9	2365103.7	0.7
175	99692.9	2365104.8	1.2
176	99642.9	2365105.8	1.7
177	99592.9	2365106.8	2.2
178	99567.5	2365107.3	2.5
179	99558.5	2365107.5	5.5
180	99554.5	2365107.6	5.5

EXCAVATION POINT TABLE			
POINT #	NORTHING	EASTING	ELEV.
181	99545.5	2365107.8	2.5
182	99531.2	2365108.1	2.4
183	99530.2	2365058.1	3.3
184	99544.3	2365057.8	3.4
185	99553.4	2365057.6	6.4
186	99557.4	2365057.5	6.4
187	99566.4	2365057.3	3.4
188	99591.9	2365056.8	3.1
189	99641.9	2365055.8	2.6
190	99691.9	2365054.8	2.1
191	99741.9	2365053.7	1.6
192	99791.9	2365052.7	1.1
193	99841.9	2365051.7	0.6
194	99891.9	2365050.7	0.1
195	99941.8	2365049.8	-0.4
196	99991.8	2365048.8	-0.9
197	100041.8	2365047.8	-1.4
198	100091.8	2365046.8	-1.9
199	100141.8	2365045.5	-2.4
200	100191.8	2365044.5	-2.9
201	100241.8	2365043.5	-3.4
202	100291.8	2365042.5	-3.9
203	100341.8	2365041.4	-4.4
204	100391.7	2365040.4	-4.9
205	100455.9	2365039.1	-5.5
206	100502.5	2365038.1	10.0
207	100529.5	2365037.6	19.0
208	100528.8	2364987.6	19.0
209	100440.9	2364988.8	-4.7
210	100390.9	2364989.8	-4.2
211	100340.9	2365000.9	-3.7
212	100290.9	2365001.9	-3.2
213	100240.9	2365003.0	-2.7
214	100191.0	2365004.1	-2.2
215	100141.0	2365005.1	-1.7
216	100091.0	2365006.2	-1.2
217	100041.0	2365007.2	-0.7
218	99991.0	2365008.3	-0.2
219	99941.0	2365009.4	0.3
220	99891.0	2365010.4	0.8
221	99841.0	2365011.5	1.3
222	99791.1	2365012.6	1.8
223	99741.1	2365013.6	2.3
224	99691.1	2365014.7	2.8
225	99641.1	2365015.7	3.3
226	99591.1	2365016.8	3.8
227	99565.5	2365017.5	4.1
228	99543.5	2365018.2	4.1
229	99529.4	2365018.8	3.9
230	99529.2	2365009.6	6.9
231	99552.3	2365008.9	7.2
232	99556.3	2365008.8	7.1
233	99590.9	2365007.8	6.8
234	99640.9	2365006.7	6.3
235	99690.9	2365005.7	5.8
236	99740.9	2365004.8	5.3
237	99790.9	2365003.8	4.8
238	99840.9	2365002.8	4.3
239	99890.8	2365001.4	3.8
240	99940.8	2365000.5	3.3

EXCAVATION POINT TABLE			
POINT #	NORTHING	EASTING	ELEV.
241	99990.8	2364999.3	2.8
242	100040.8	2364998.2	2.3
243	100090.8	2364997.1	1.8
244	100140.8	2364996.1	1.3
245	100190.8	2364995.0	0.8
246	100240.8	2364994.0	0.3
247	100290.8	2364992.9	-0.2
248	100340.7	2364991.8	-0.7
249	100390.7	2364990.8	-1.2
250	100440.7	2364989.7	-1.7
251	100457.2	2364988.4	-4.8
252	100465.8	2364988.1	-1.9
253	100501.6	2364988.1	10.0
254	100465.7	2364985.2	-1.9
255	100440.6	2364985.7	-1.7
256	100390.6	2364986.8	-1.2
257	100340.7	2364987.8	-0.7
258	100290.7	2364988.9	-0.2
259	100240.7	2364989.9	0.3
260	100190.7	2364990.8	0.8
261	100140.7	2364991.9	1.3
262	100090.7	2364993.1	1.8
263	100040.7	2364994.2	2.3
264	99990.7	2364995.3	2.8
265	99940.7	2364996.3	3.3
266	99890.8	2364997.4	3.8
267	99840.8	2364998.4	4.3
268	99790.8	2364999.5	4.8
269	99740.8	2365000.6	5.3
270	99690.8	2365001.6	5.8
271	99640.8	2365002.7	6.3
272	99590.8	2365003.7	6.8
273	99556.2	2365004.8	7.1
274	99552.2	2365004.9	7.2
275	99529.1	2365005.6	6.9
276	99528.9	2364996.6	3.9
277	99542.9	2364996.2	4.1
278	99565.0	2364995.6	4.1
279	99580.6	2364994.8	4.0
280	99640.6	2364993.6	3.9
281	99690.6	2364992.6	2.8
282	99740.6	2364991.6	2.3
283	99790.6	2364990.5	1.8
284	99840.6	2364989.5	1.3
285	99890.6	2364988.4	0.8
286	99940.6	2364987.3	0.3
287	99990.6	2364986.3	-0.2
288	100040.5	2364985.2	-0.7
289	100090.5	2364984.1	-1.2
290	100140.5	2364983.1	-1.7
291	100190.5	2364982.0	-2.2
292	100240.5	2364981.0	-2.7
293	100290.5	2364979.9	-3.2
294	100340.5	2364978.8	-3.7
295	100390.5	2364977.8	-4.2
296	100440.5	2364976.7	-4.7
297	100456.8	2364976.4	-4.9
298	100528.1	2364959.8	19.0
299	100501.1	2364960.4	10.0
300	100455.8	2364961.4	-5.1

EXCAVATION POINT TABLE			
POINT #	NORTHING	EASTING	ELEV.
301	100440.2	2364961.7	-4.9
302	100390.2	2364962.7	-4.4
303	100340.2	2364963.8	-3.9
304	100290.2	2364964.9	-3.4
305	100240.2	2364966.0	-2.9
306	100190.2	2364967.0	-2.4
307	100140.2	2364968.1	-1.9
308	100090.2	2364969.1	-1.4
309	100040.2	2364970.2	-0.9
310	99990.3	2364971.3	-0.4
311	99940.3	2364972.3	0.1
312	99890.3	2364973.4	0.6
313	99840.3	2364974.5	1.0
314	99790.3	2364975.5	1.6
315	99740.3	2364976.6	2.1
316	99690.3	2364977.6	2.6
317	99640.3	2364978.7	3.2
318	99590.3	2364979.8	3.6
319	99564.8	2364980.3	3.6
320	99542.6	2364980.8	3.6
321	99528.6	2364981.1	3.7
322	99551.8	2364980.6	6.8
323	99555.6	2364980.5	6.8
324	99564.4	2364979.8	3.7
325	99542.3	2364971.2	3.6
326	100533.8	2365269.9	19.0
327	100566.8	2365362.4	19.0
328	100565.2	2365269.7	19.0
329	100557.4	2364648.2	19.0
330	100526.0	2364648.4	19.0
331	100469.1	2364656.2	0.0
332	100469.3	2364656.2	0.0
333	100459.3	2364656.7	0.0
334	100458.8	2364656.7	0.0
335	100316.8	2364821.9	14.0
336	100307.2	2364829.5	15.0
337	100450.6	2364686.3	-6.4
338	100368.6	2364687.6	-5.7
339	100288.8	2364689.7	-4.7
340	100188.7	2364691.8	-3.7
341	100068.7	2364693.9	-2.7
342	99668.7	2364696.1	-1.7
343	99668.7	2364698.2	-0.7
344	99788.8	2364900.3	0.3
345	99688.8	2364902.4	1.3
346	99588.8	2364904.5	2.3
347	99527.1	2364905.8	3.0

ACCESS ROAD POINT TABLE			
POINT #	NORTHING	EASTING	ELEV.
401	100683.7	2365306.6	12.5
402	100681.8	2365206.6	12.5
403	100678.1	2365006.6	12.5
404	100676.3	2364906.6	12.5
405	100674.6	2364825.9	12.5
406	100623.7	2364778.8	12.5
407	100583.2	2364777.7	12.6
408	100483.2	2364779.7	12.9
409	100383.2	2364781.8	13.1
410	100283.2	2364783.8	13.4
411	100183.2	2364785.9	13.6
412	100083.3	2364787.9	13.9
413	99983.3	2364790.0	14.1
414	99883.3	2364792.0	14.4
415	99783.3	2364794.1	14.6
416	99683.3	2364796.1	14.9
417	99639.1	2364797.0	15.0
418	99583.4	2364798.2	15.3
419	99482.3	2364889.9	15.0
420	99483.2	2364938.0	15.1
421	99485.0	2365038.0	15.4
422	99486.8	2365138.0	15.6
423	99488.6	2365238.0	15.9
424	99490.3	2365338.0	16.2
425	99491.2	2365383.3	16.3
426	99500.4	2365470.6	16.5
427	99497.1	2364822.2	15.3
428	99512.3	2364790.6	15.5
429	99538.3	2364692.0	14.2
430	99539.6	2364679.2	14.0

NORTH DITCH REGRADING POINT TABLE			
POINT #	NORTHING	EASTING	ELEV.
501	100618.2	2364727.0	9.1
502	100699.0	2364827.1	8.9
503	100619.0	2364827.0	8.9
504	100629.0	2364826.9	8.9
505	100611.0	2365090.2	8.7
506	100621.0	2365090.2	8.7
507	100631.0	2365090.1	8.7
508	100614.1	2365490.2	8.4
509	100624.1	2365490.2	8.4
510	100634.1	2365490.1	8.4
511	100617.2	2365890.2	8.2
512	100627.2	2365890.1	8.2
513	100637.2	2365890.1	8.2
514	100619.3	2366153.4	8.0
515	100629.3	2366153.3	8.0
516	100639.3	2366153.2	8.0

TEMPORARY DIVERSION DITCH AND BERM POINT TABLE			
POINT #	NORTHING	EASTING	ELEV.
551	99580.1	2364720.7	10.0
552	99780.1	2364716.6	9.6
553	99980.0	2364712.5	9.2
554	100180.0	2364708.4	8.8
555	100380.0	2364704.3	8.4
556	100528.5	2364701.3	8.1
557	100561.4	2364700.6	8.0

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED
PROFESSIONAL ENGINEER
06/29/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3497

NO.	DATE	DESCRIPTION	BY
1			
2			
3			
4			
5			
6			

DRAWING TITLE: CELL 6 EXCAVATION POINTS

PROJECT TITLE: CELL 6 CONSTRUCTION PLANS

CLIENT: CITY OF BROWNSVILLE MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
10811 GRAM FOREST, SUITE 200, HOUSTON, TX. 77077
PH (281) 293-8400 FAX NO. (281) 293-1928

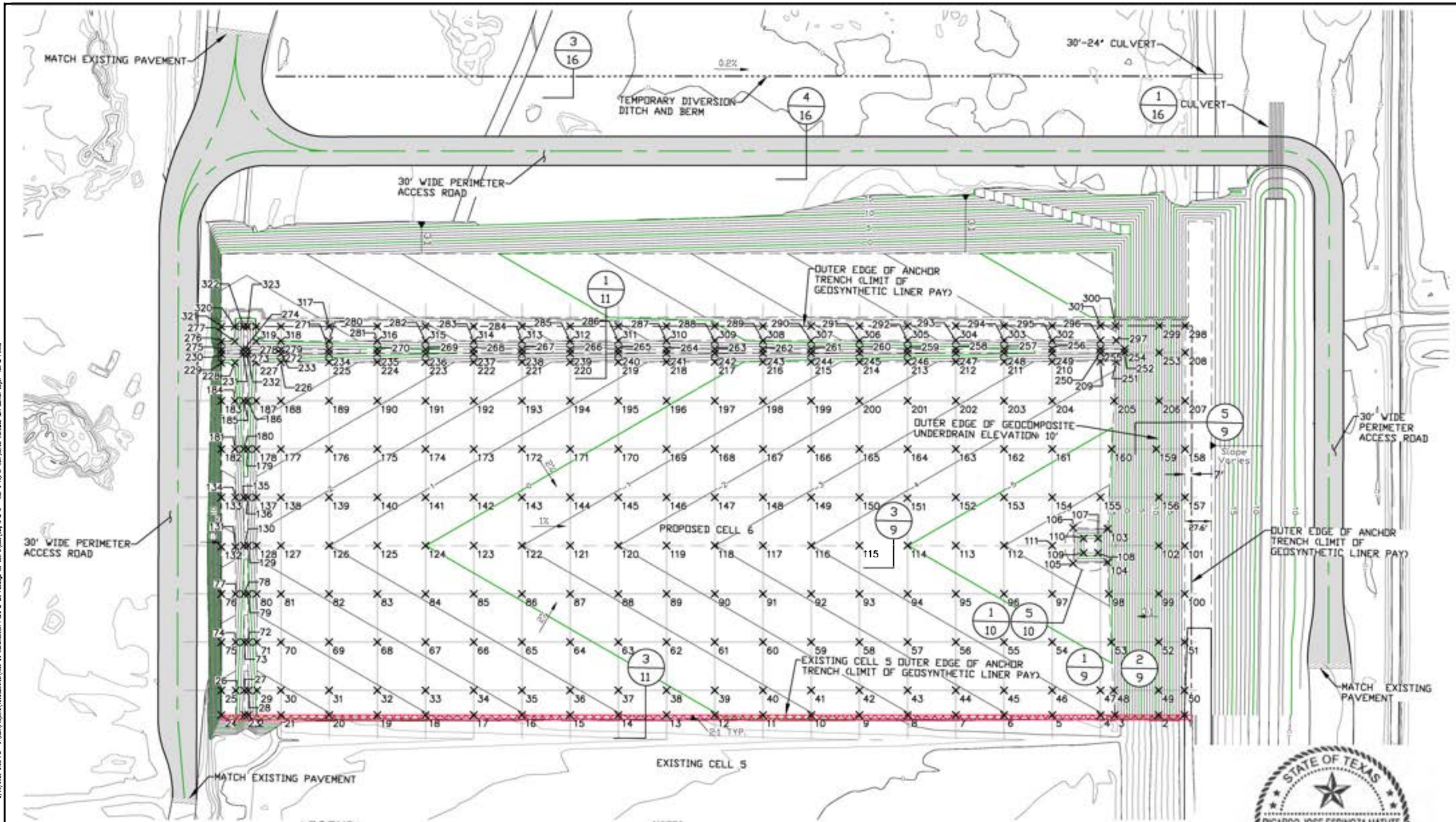
PROJECT NO. 02216220.24
DESIGNED: RJM
DRAWN: RJM
CHECKED: RJM
QA/QC: RJM

CADD FILE:

DATE: 06/2026

SCALE: AS SHOWN

DRAWING NO. 4



LEGEND:

- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED 1' CONTOUR
- OUTER EDGE OF ANCHOR TRENCH (LIMIT OF GEOSYNTHETIC LINER PAY)
- PROPOSED PERIMETER ROAD
- X109 COHESIVE SOIL BARRIER LAYER POINT
- PROPOSED DRAINAGE DITCH
- EXISTING LINER TIE-IN

NOTES:

1. GRID SYSTEM IS BASED ON STATE PLANE COORDINATES PROVIDED BY AMBIOTEC CIVIL ENGINEERING GROUP, SEPTEMBER 2001.
2. TOPOGRAPHY PROVIDED BY I.F. ROOKS & ASSOCIATES, DATED NOVEMBER 13, 2025.
3. SEE SHEET 6 FOR CELL 6 TOP OF COMPACTED COHESIVE SOIL BARRIER LAYER POINTS.
4. THE GRADES ON THIS SHEET REFLECT THE BOTTOM OF THE 12" COMPACTED COHESIVE SOIL BARRIER LAYER.
5. THE GRADES FOR THE INVERT OF THE LEACHATE COLLECTION TRENCH ARE NOT SHOWN. FOR LEACHATE COLLECTION TRENCH, LOWER ELEVATION BY 2.0 FEET.

SCALE
0 100 200 FEET

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED
PROFESSIONAL ENGINEER
06/29/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

REV	DATE	DESCRIPTION	BY

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3497

DRAWING TITLE: CELL 6 TOP OF COMPACTED COHESIVE SOIL BARRIER LAYER PLAN
PROJECT TITLE: CELL 6 CONSTRUCTION PLANS

CLIENT: CITY OF BROWNSVILLE MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS
9401 BUFFALO SPEEDWAY, SUITE 200, HOUSTON, TX 77057
PH: (281) 292-9340 FAX NO. (281) 292-7878

PROJ. NO. 27206969.216
DSN. BY: RJE
DRN. BY: JG
CHK. BY: RJE
QA/QC BY: SF
APP. BY: JRM

CADD FILE:
DATE: 06/2026
SCALE: AS SHOWN
DRAWING NO. 5

COMPACTED SOIL BARRIER LAYER POINTS			
POINT #	NORTHING	EASTING	ELEV.
1	100535.6	2365363.0	19.0
2	100508.6	2365363.6	11.0
3	100463.3	2365364.5	-4.1
4	100448.4	2365364.8	-4.0
5	100398.4	2365365.8	-3.5
6	100348.4	2365366.9	-3.0
7	100298.4	2365367.9	-2.5
8	100248.4	2365368.9	-2.0
9	100198.5	2365369.9	-1.5
10	100148.5	2365371.0	-1.0
11	100098.5	2365372.0	-0.5
12	100048.5	2365373.0	0.0
13	99998.5	2365374.0	0.5
14	99948.5	2365375.1	1.0
15	99898.5	2365376.1	1.5
16	99848.5	2365377.1	2.0
17	99798.5	2365378.1	2.5
18	99748.5	2365379.2	3.0
19	99698.8	2365380.2	3.5
20	99648.6	2365381.2	4.0
21	99598.8	2365382.2	4.5
22	99564.8	2365382.9	7.8
23	99560.8	2365383.0	7.3
24	99536.9	2365383.5	4.6
25	99536.3	2365358.0	4.2
26	99551.2	2365357.7	4.4
27	99560.2	2365357.5	7.4
28	99564.2	2365357.5	7.4
29	99573.2	2365357.3	4.4
30	99598.1	2365356.8	4.1
31	99648.0	2365355.7	3.6
32	99698.0	2365354.7	3.1
33	99748.0	2365353.7	2.6
34	99798.0	2365352.7	2.1
35	99848.0	2365351.8	1.6
36	99898.0	2365350.8	1.1
37	99948.0	2365349.8	0.6
38	99998.0	2365348.5	0.1
39	100048.0	2365347.5	-0.4
40	100098.0	2365346.5	-0.9
41	100147.9	2365345.5	-1.4
42	100197.9	2365344.4	-1.9
43	100247.9	2365343.4	-2.4
44	100297.9	2365342.4	-2.9
45	100347.9	2365341.4	-3.4
46	100397.9	2365340.3	-3.9
47	100447.9	2365339.3	-4.4
48	100481.5	2365339.0	-4.5
49	100508.1	2365338.1	11.0
50	100535.1	2365337.5	20.0
51	100534.2	2365287.5	20.0
52	100507.2	2365288.1	11.0
53	100458.1	2365289.1	-5.4
54	100398.9	2365290.4	-4.8
55	100348.9	2365291.4	-4.3
56	100298.9	2365292.4	-3.8
57	100248.9	2365293.4	-3.3
58	100198.9	2365294.5	-2.8
59	100148.9	2365295.5	-2.3
60	100098.9	2365296.5	-1.8

COMPACTED SOIL BARRIER LAYER POINTS			
POINT #	NORTHING	EASTING	ELEV.
61	100048.9	2365297.5	-1.3
62	99997.0	2365298.6	-0.8
63	99947.0	2365299.6	-0.3
64	99897.0	2365300.6	0.2
65	99847.0	2365301.6	0.7
66	99797.0	2365302.7	1.2
67	99747.0	2365303.7	1.7
68	99697.0	2365304.7	2.2
69	99647.0	2365305.7	2.7
70	99597.0	2365306.8	3.2
71	99572.1	2365307.3	3.5
72	99563.1	2365307.5	6.5
73	99559.1	2365307.5	6.5
74	99550.1	2365307.7	3.5
75	99535.3	2365308.0	3.3
76	99534.3	2365258.0	2.5
77	99548.9	2365257.7	2.6
78	99558.0	2365257.6	5.6
79	99562.0	2365257.5	5.6
80	99571.0	2365257.3	2.6
81	99596.0	2365256.8	2.4
82	99646.0	2365255.8	1.9
83	99696.0	2365254.7	1.4
84	99746.0	2365253.7	0.9
85	99796.0	2365252.7	0.4
86	99846.0	2365251.6	-0.1
87	99895.9	2365250.6	-0.6
88	99945.9	2365249.6	-1.1
89	99995.9	2365248.6	-1.6
90	100045.9	2365247.5	-2.1
91	100095.9	2365246.5	-2.6
92	100145.9	2365245.5	-3.1
93	100195.9	2365244.5	-3.6
94	100245.9	2365243.4	-4.1
95	100295.9	2365242.4	-4.6
96	100345.9	2365241.4	-5.1
97	100395.8	2365240.4	-5.6
98	100454.6	2365239.2	-6.2
99	100506.3	2365238.1	11.0
100	100533.2	2365237.5	20.0
101	100532.3	2365187.7	20.0
102	100505.3	2365188.2	11.0
103	100451.7	2365172.0	-6.8
104	100452.3	2365206.4	-6.8
105	100416.9	2365208.3	-6.4
106	100416.2	2365171.6	-6.4
107	100442.2	2365161.9	-10.0
108	100442.5	2365196.9	-10.0
109	100427.5	2365197.2	-10.0
110	100427.2	2365182.2	-10.0
111	100394.8	2365190.4	-6.5
112	100344.8	2365191.4	-6.0
113	100294.8	2365192.4	-5.5
114	100244.8	2365193.4	-5.0
115	100194.9	2365194.5	-4.5
116	100144.9	2365195.5	-4.0
117	100094.9	2365196.5	-3.5
118	100044.9	2365197.5	-3.0
119	99994.9	2365198.6	-2.5
120	99944.9	2365199.6	-2.0

COMPACTED SOIL BARRIER LAYER POINTS			
POINT #	NORTHING	EASTING	ELEV.
121	99894.9	2365200.6	-1.5
122	99844.9	2365201.7	-1.0
123	99794.9	2365202.7	-0.5
124	99745.0	2365203.7	0.0
125	99695.0	2365204.7	0.5
126	99645.0	2365205.8	1.0
127	99595.0	2365206.8	1.5
128	99569.8	2365207.3	1.8
129	99560.8	2365207.5	4.8
130	99556.8	2365207.6	4.8
131	99547.8	2365208.9	1.8
132	99533.3	2365209.3	1.7
133	99532.2	2365158.1	2.5
134	99546.8	2365157.8	2.7
135	99555.7	2365157.6	5.6
136	99559.7	2365157.5	5.6
137	99569.7	2365157.3	2.6
138	99594.0	2365156.8	2.4
139	99644.0	2365155.8	1.9
140	99693.9	2365154.7	1.4
141	99743.9	2365153.7	0.9
142	99793.9	2365152.7	0.4
143	99843.9	2365151.7	-0.1
144	99893.9	2365150.6	-0.6
145	99943.9	2365149.6	-1.1
146	99993.9	2365148.6	-1.6
147	100043.9	2365147.6	-2.1
148	100093.9	2365146.5	-2.6
149	100143.8	2365145.5	-3.1
150	100193.8	2365144.5	-3.6
151	100243.8	2365144.3	-4.1
152	100293.8	2365142.4	-4.6
153	100343.8	2365141.4	-5.1
154	100393.8	2365140.4	-5.6
155	100443.8	2365139.4	-6.1
156	100504.4	2365138.1	11.0
157	100531.4	2365137.6	20.0
158	100530.4	2365087.6	20.0
159	100500.5	2365088.2	10.0
160	100454.3	2365089.1	-5.4
161	100392.6	2365090.4	-4.8
162	100342.6	2365091.4	-4.3
163	100292.6	2365092.4	-3.8
164	100242.6	2365093.5	-3.3
165	100192.6	2365094.5	-2.8
166	100142.6	2365095.5	-2.3
167	100092.6	2365096.5	-1.8
168	100042.6	2365097.6	-1.3
169	99992.9	2365098.6	-0.8
170	99942.9	2365099.6	-0.3
171	99892.9	2365100.6	0.2
172	99842.9	2365101.7	0.7
173	99792.9	2365102.7	1.2
174	99742.9	2365103.7	1.7
175	99692.9	2365104.8	2.2
176	99642.8	2365105.8	2.7
177	99592.9	2365106.8	3.2
178	99567.5	2365107.3	3.5
179	99558.5	2365107.5	6.5
180	99554.5	2365107.6	6.5

COMPACTED SOIL BARRIER LAYER POINTS			
POINT #	NORTHING	EASTING	ELEV.
181	99545.5	2365107.8	3.5
182	99531.2	2365108.1	3.4
183	99530.2	2365058.1	4.3
184	99544.3	2365057.8	4.4
185	99553.4	2365057.6	7.4
186	99557.4	2365057.5	7.4
187	99566.4	2365057.3	4.4
188	99591.9	2365056.8	4.1
189	99641.9	2365055.8	3.6
190	99691.9	2365054.8	3.1
191	99741.9	2365053.7	2.6
192	99791.9	2365052.7	2.1
193	99841.9	2365051.7	1.6
194	99891.9	2365050.7	1.1
195	99941.8	2365049.8	0.6
196	99991.8	2365048.8	0.1
197	100041.8	2365047.8	-0.4
198	100091.8	2365046.8	-0.9
199	100141.8	2365045.5	-1.4
200	100191.8	2365044.5	-1.9
201	100241.8	2365043.5	-2.4
202	100291.8	2365042.5	-2.9
203	100341.8	2365041.4	-3.4
204	100391.7	2365040.4	-3.9
205	100455.9	2365039.1	-4.5
206	100502.5	2365038.1	11.0
207	100529.5	2365037.6	20.0
208	100528.6	2364987.6	20.0
209	100440.9	2364998.8	-3.7
210	100390.9	2364998.8	-3.2
211	100340.9	2365000.9	-2.7
212	100290.9	2365001.9	-2.2
213	100240.9	2365003.0	-1.7
214	100191.0	2365004.1	-1.2
215	100141.0	2365005.1	-0.7
216	100091.0	2365006.2	-0.2
217	100041.0	2365007.2	0.3
218	99991.0	2365008.3	0.8
219	99941.0	2365009.4	1.3
220	99891.0	2365010.4	1.8
221	99841.0	2365011.5	2.3
222	99791.1	2365012.6	2.8
223	99741.1	2365013.6	3.3
224	99691.1	2365014.7	3.8
225	99641.1	2365015.7	4.3
226	99591.1	2365016.8	4.8
227	99565.5	2365017.5	5.1
228	99543.5	2365018.2	5.1
229	99529.4	2365018.6	4.9
230	99528.2	2365009.6	7.9
231	99552.3	2365008.9	8.2
232	99556.3	2365008.8	8.2
233	99590.9	2365007.8	7.8
234	99640.9	2365006.7	7.3
235	99690.9	2365005.7	6.8
236	99740.9	2365004.8	6.3
237	99790.9	2365003.8	5.8
238	99840.9	2365002.8	5.3
239	99890.8	2365001.4	4.8
240	99940.8	2365000.3	4.3

COMPACTED SOIL BARRIER LAYER POINTS			
POINT #	NORTHING	EASTING	ELEV.
241	99990.8	2364999.3	3.8
242	100040.8	2364998.2	3.3
243	100090.8	2364997.1	2.8
244	100140.8	2364996.1	2.3
245	100190.8	2364995.0	1.8
246	100240.8	2364994.0	1.3
247	100290.8	2364992.9	0.8
248	100340.7	2364991.8	0.3
249	100390.7	2364990.8	-0.2
250	100440.7	2364989.7	-0.7
251	100457.2	2364989.4	-3.8
252	100485.8	2364988.1	-0.9
253	100501.6	2364988.1	11.0
254	100485.7	2364965.2	-0.9
255	100440.6	2364965.7	-0.7
256	100390.6	2364966.8	-0.2
257	100340.7	2364967.8	0.3
258	100290.7	2364968.9	0.8
259	100240.7	2364969.9	1.3
260	100190.7	2364970.8	1.8
261	100140.7	2364971.9	2.3
262	100090.7	2364973.1	2.8
263	100040.7	2364974.2	3.3
264	99990.7	2364975.3	3.8
265	99940.7	2364976.3	4.3
266	99890.8	2364977.4	4.8
267	99840.8	2364978.4	5.3
268	99790.8	2364979.5	5.8
269	99740.8	2365000.6	6.3
270	99690.8	2365001.6	6.8
271	99640.8	2365002.7	7.3
272	99590.8	2365003.7	7.8
273	99556.2	2365004.8	8.2
274	99552.2	2365004.9	8.2
275	99529.1	2365005.8	7.9
276	99528.9	2364966.6	4.9
277	99542.9	2364966.2	5.1
278	99565.0	2364965.6	5.1
279	99590.6	2364964.8	4.8
280	99640.6	2364963.8	4.3
281	99690.6	2364962.8	3.8
282	99740.6	2364961.8	3.3
283	99790.6	2364960.5	2.8
284	99840.6	2364959.5	2.3
285	99890.6	2364958.4	1.8
286	99940.6	2364957.3	1.3
287	99990.6	2364956.3	0.8
288	100040.5	2364955.2	0.3
289	100090.5	2364954.1	-0.2
290	100140.5	2364953.1	-0.7
291	100190.5	2364952.0	-1.2
292	100240.5	2364951.0	-1.7
293	100290.5	2364979.9	-2.2
294	100340.5	2364978.8	-2.7
295	100390.5	2364977.8	-3.2
296	100440.5	2364976.7	-3.7
297	100456.6	2364976.4	-3.9
298	100528.1	2364959.8	20.0
299	100501.1	2364960.4	11.0
300	100455.8	2364961.4	-4.1

COMPACTED SOIL BARRIER LAYER POINTS			
POINT #	NORTHING	EASTING	ELEV.
301	100440.2	2364961.7	-3.9
302	100390.2	2364962.8	-3.4
303	100340.2	2364963.8	-2.9
304	100290.2	2364964.9	-2.4
305	100240.2	2364966.0	-1.9
306	100190.2	2364967.0	-1.4
307	100140.2	2364968.1	-0.9
308	100090.2	2364969.1	-0.4
309	100040.2	2364970.2	0.1
310	99990.3	2364971.3	0.6
311	99940.3	2364972.3	1.1
312	99890.3	2364973.4	1.6
313	99840.3	2364974.5	2.0
314	99790.3	2364975.5	2.6
315	99740.3	2364976.6	3.1
316	99690.3	2364977.6	3.6
317	99640.3	2364978.7	4.0
318	99590.3	2364979.8	4.6
319	99564.6	2364980.3	4.8
320	99542.6	2364980.8	5.0
321	99528.6	2364981.1	5.0
322	99551.6	2364980.6	7.8
323	99555.6	2364980.5	7.8



INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

NO.	DESCRIPTION	DATE	BY
1			
2			
3			
4			
5			

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3937

DRAWING TITLE: CELL 6 TOP OF COMPACTED COHESIVE SOIL BARRIER LAYER POINTS

PROJECT TITLE: CELL 6 CONSTRUCTION PLANS

CLIENT: CITY OF BROWNSVILLE MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

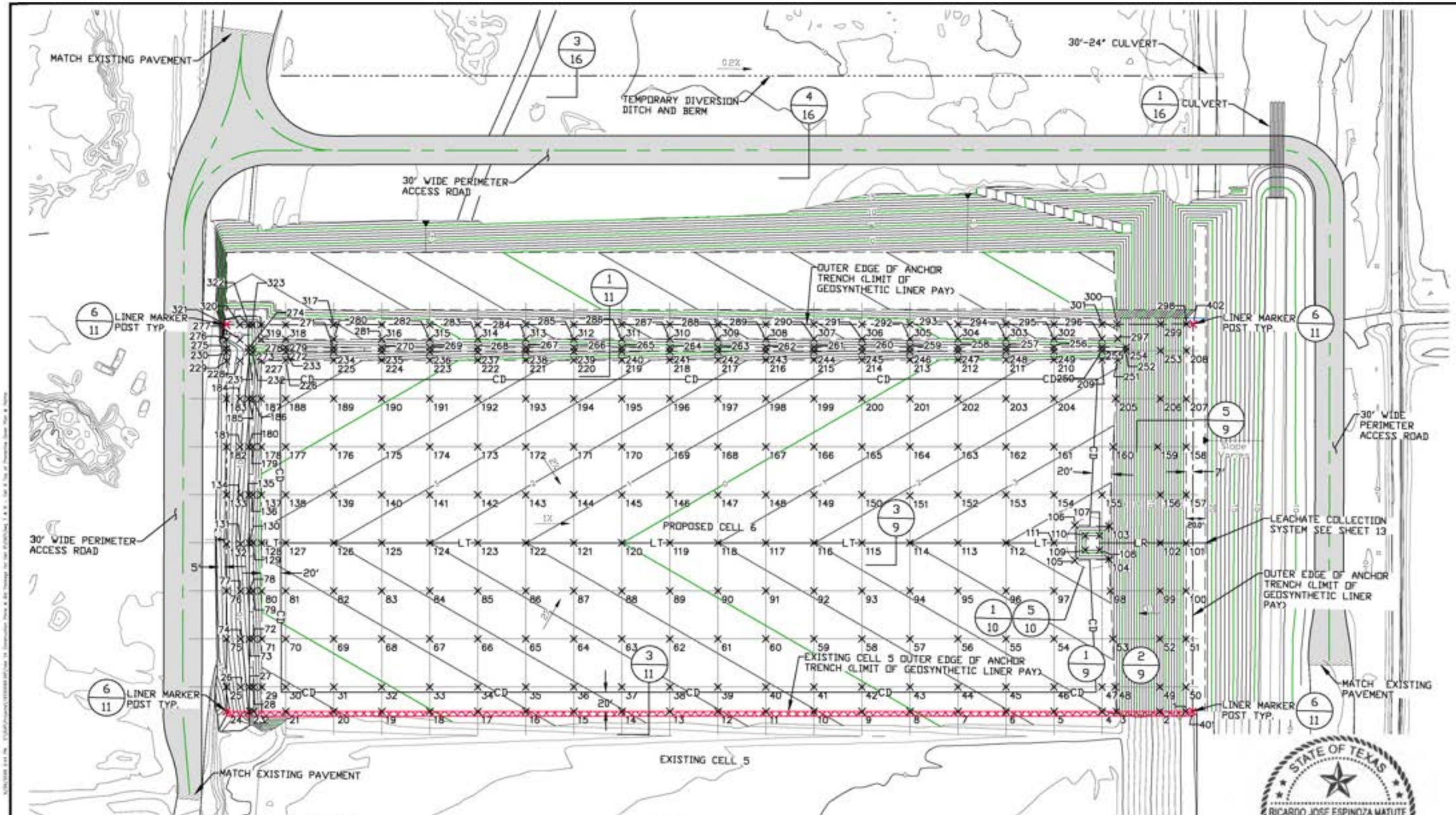
SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
10801 BRAE FOREST, SUITE 200, HOUSTON, TX 77077
PH (281) 293-8400 FAX NO. (281) 293-7976

CADD FILE:

DATE: 06/2026

SCALE: AS SHOWN

DRAWING NO: 6



LEGEND:

- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPOSED 5' CONTOUR
- PROPOSED 1' CONTOUR
- OUTER EDGE OF ANCHOR TRENCH (LIMIT OF GEOSYNTHETIC LINER PAY)
- PROPOSED PERIMETER ROAD
- X109 TOP OF PROTECTIVE COVER POINT
- LT LEACHATE TRENCH, DETAIL 3/9
- LR LEACHATE RISER, DETAIL 4/10
- CD CHIMNEY DRAIN, DETAIL 4/9
- LINER MARKER POST, DETAIL 4/11
- PROPOSED DRAINAGE DITCH
- EXISTING LINER TIE-IN

NOTES:

1. GRID SYSTEM IS BASED ON STATE PLANE COORDINATES PROVIDED BY AMBIOTEC CIVIL ENGINEERING GROUP, SEPTEMBER 2001.
2. TOPOGRAPHY PROVIDED BY I.F. ROOKS & ASSOCIATES, DATED NOVEMBER 13, 2025.
3. SEE SHEET 8 FOR CELL 6 TOP OF PROTECTIVE COVER POINTS.
4. THE GRADES ON THIS SHEET REFLECT THE TOP OF THE 24" PROTECTIVE COVER LAYER.
5. THE GRADES FOR THE COVER OF THE LEACHATE COLLECTION TRENCH ARE NOT SHOWN. FOR LEACHATE COLLECTION TRENCH COVER, RAISE ELEVATION BY 1.5 FEET.

SCALE
0 100 200 FEET

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED PROFESSIONAL ENGINEER
06/29/2026

DRAWING: CELL 6 TOP OF PROTECTIVE COVER PLAN
PROJECT TITLE: **CELL 6 CONSTRUCTION PLANS**

CLIENT: **CITY OF BROWNSVILLE MUNICIPAL LANDFILL**
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
3900 ESSEX LANE, SUITE 390, HOUSTON, TX 77027
PH: (281) 453-8484 FAX NO. (281) 293-1918

CADD FILE:
DATE: 06/2026
SCALE: AS SHOWN
DRAWING NO. 7

REV | DATE | DESCRIPTION | BY

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-2937

TOP OF PROTECTIVE COVER POINTS			
POINT #	NORTHING	EASTING	ELEV.
1	100535.6	2365383.0	22.0
2	100508.6	2365383.6	13.0
3	100483.3	2365384.5	-2.1
4	100448.4	2365384.8	-2.0
5	100398.4	2365385.8	-1.5
6	100348.4	2365386.9	-1.0
7	100298.4	2365387.9	-0.5
8	100248.4	2365388.9	0.0
9	100198.5	2365389.9	0.5
10	100148.5	2365371.0	1.0
11	100098.5	2365372.0	1.5
12	100048.5	2365373.0	2.0
13	99998.5	2365374.0	2.5
14	99948.5	2365375.1	3.0
15	99898.5	2365376.1	3.5
16	99848.5	2365377.1	4.0
17	99798.5	2365378.1	4.5
18	99748.5	2365379.2	5.0
19	99698.8	2365380.2	5.5
20	99648.8	2365381.2	6.0
21	99598.8	2365382.2	6.5
22	99564.8	2365382.9	9.8
23	99560.8	2365382.9	9.8
24	99536.9	2365383.5	15.4
25	99536.3	2365358.0	14.8
26	99551.2	2365357.7	11.2
27	99560.2	2365357.5	9.4
28	99564.2	2365357.5	9.4
29	99573.2	2365357.3	6.4
30	99598.1	2365356.8	6.1
31	99648.0	2365355.7	5.6
32	99698.0	2365354.7	5.1
33	99748.0	2365353.7	4.6
34	99798.0	2365352.7	4.1
35	99848.0	2365351.6	3.6
36	99898.0	2365350.6	3.1
37	99948.0	2365349.6	2.6
38	99998.0	2365348.5	2.1
39	100048.0	2365347.5	1.6
40	100098.0	2365346.5	1.1
41	100147.9	2365345.5	0.6
42	100197.9	2365344.4	0.1
43	100247.9	2365343.4	-0.4
44	100297.9	2365342.4	-0.9
45	100347.9	2365341.4	-1.4
46	100397.9	2365340.3	-1.9
47	100447.9	2365339.3	-2.4
48	100481.5	2365339.0	-2.5
49	100508.1	2365338.1	13.0
50	100535.1	2365337.5	22.0
51	100534.2	2365287.5	22.0
52	100507.2	2365288.1	13.0
53	100458.1	2365289.1	-3.4
54	100398.9	2365290.4	-2.8
55	100348.9	2365291.4	-2.3
56	100298.9	2365292.4	-1.8
57	100248.9	2365293.4	-1.3
58	100198.9	2365294.5	-0.8
59	100148.9	2365295.5	-0.3
60	100098.9	2365296.5	0.2

TOP OF PROTECTIVE COVER POINTS			
POINT #	NORTHING	EASTING	ELEV.
61	100046.9	2365297.5	0.7
62	99997.0	2365296.6	1.2
63	99947.0	2365299.6	1.7
64	99897.0	2365300.6	2.2
65	99847.0	2365301.6	2.7
66	99797.0	2365302.7	3.2
67	99747.0	2365303.7	3.7
68	99697.0	2365304.7	4.2
69	99647.0	2365305.7	4.7
70	99597.0	2365306.8	5.2
71	99572.1	2365307.3	5.5
72	99563.1	2365307.5	8.5
73	99559.1	2365307.5	8.5
74	99550.1	2365307.7	10.3
75	99535.3	2365308.0	13.3
76	99534.3	2365258.0	13.0
77	99548.9	2365257.7	9.7
78	99556.0	2365257.6	7.6
79	99562.0	2365257.5	7.6
80	99571.0	2365257.3	4.6
81	99596.0	2365256.8	4.4
82	99646.0	2365255.8	3.9
83	99696.0	2365254.7	3.4
84	99746.0	2365253.7	2.9
85	99796.0	2365252.7	2.4
86	99846.0	2365251.8	1.9
87	99895.9	2365250.8	1.4
88	99945.9	2365249.8	0.9
89	99995.9	2365248.8	0.4
90	100045.9	2365247.8	-0.1
91	100095.9	2365246.8	-0.6
92	100145.9	2365245.8	-1.1
93	100195.9	2365244.8	-1.6
94	100245.9	2365243.4	-2.1
95	100295.9	2365242.4	-2.6
96	100345.9	2365241.4	-3.1
97	100395.8	2365240.4	-3.6
98	100454.8	2365239.2	-4.2
99	100506.3	2365238.1	13.0
100	100533.2	2365237.5	22.0
101	100532.3	2365187.7	22.0
102	100505.3	2365188.2	13.0
103	100451.7	2365172.0	-4.8
104	100452.3	2365206.4	-4.8
105	100416.9	2365206.3	-4.4
106	100416.2	2365171.6	-4.4
107	100442.2	2365181.9	-8.0
108	100442.5	2365196.9	-8.0
109	100427.5	2365197.2	-8.0
110	100427.2	2365182.2	-8.0
111	100394.8	2365190.4	-4.5
112	100344.8	2365191.4	-4.0
113	100294.8	2365192.4	-3.5
114	100244.8	2365193.4	-3.0
115	100194.9	2365194.5	-2.5
116	100144.9	2365195.5	-2.0
117	100094.9	2365196.5	-1.5
118	100044.9	2365197.5	-1.0
119	99994.9	2365198.6	-0.5
120	99944.9	2365199.6	0.0

TOP OF PROTECTIVE COVER POINTS			
POINT #	NORTHING	EASTING	ELEV.
121	99894.9	2365200.6	0.5
122	99844.9	2365201.7	1.0
123	99794.9	2365202.7	1.5
124	99745.0	2365203.7	2.0
125	99695.0	2365204.7	2.5
126	99645.0	2365205.8	3.0
127	99595.0	2365206.8	3.5
128	99569.8	2365207.3	3.8
129	99560.8	2365207.5	6.8
130	99556.8	2365207.6	6.8
131	99547.8	2365208.9	9.0
132	99533.3	2365209.3	12.5
133	99532.2	2365156.1	12.7
134	99548.8	2365157.8	9.6
135	99555.7	2365157.8	7.6
136	99559.7	2365157.5	7.6
137	99568.7	2365157.3	4.6
138	99594.0	2365156.8	4.4
139	99644.0	2365155.8	3.9
140	99693.9	2365154.7	3.4
141	99743.9	2365153.7	2.9
142	99793.9	2365152.7	2.4
143	99843.9	2365151.7	1.9
144	99893.9	2365150.6	1.4
145	99943.9	2365149.6	0.9
146	99993.9	2365148.6	0.4
147	100043.9	2365147.6	-0.1
148	100093.9	2365146.5	-0.6
149	100143.8	2365145.5	-1.1
150	100193.8	2365144.5	-1.6
151	100243.8	2365144.3	-2.1
152	100293.8	2365142.4	-2.6
153	100343.8	2365141.4	-3.1
154	100393.8	2365140.4	-3.6
155	100443.8	2365139.4	-4.1
156	100504.4	2365138.1	13.0
157	100531.4	2365137.6	22.0
158	100530.4	2365087.6	22.0
159	100500.5	2365088.2	12.0
160	100454.3	2365089.1	-3.4
161	100392.6	2365090.4	-2.8
162	100342.6	2365091.4	-2.3
163	100292.6	2365092.4	-1.8
164	100242.6	2365093.5	-1.3
165	100192.6	2365094.5	-0.8
166	100142.6	2365095.5	-0.3
167	100092.6	2365096.5	0.2
168	100042.6	2365097.6	0.7
169	99992.9	2365098.6	1.2
170	99942.9	2365099.6	1.7
171	99892.9	2365100.6	2.2
172	99842.9	2365101.7	2.7
173	99792.9	2365102.7	3.2
174	99742.9	2365103.7	3.7
175	99692.9	2365104.8	4.2
176	99642.9	2365105.8	4.7
177	99592.9	2365106.8	5.2
178	99567.5	2365107.3	5.5
179	99558.5	2365107.5	8.5
180	99554.5	2365107.6	8.5

TOP OF PROTECTIVE COVER POINTS			
POINT #	NORTHING	EASTING	ELEV.
181	99545.5	2365107.8	10.2
182	99531.2	2365108.1	12.9
183	99530.2	2365058.1	13.1
184	99544.3	2365057.8	10.8
185	99553.4	2365057.6	9.4
186	99557.4	2365057.5	9.4
187	99566.4	2365057.3	6.4
188	99591.9	2365056.8	6.1
189	99641.9	2365055.8	5.6
190	99691.9	2365054.8	5.1
191	99741.9	2365053.7	4.6
192	99791.9	2365052.7	4.1
193	99841.9	2365051.7	3.6
194	99891.9	2365050.7	3.1
195	99941.8	2365049.6	2.6
196	99991.8	2365048.6	2.1
197	100041.8	2365047.6	1.6
198	100091.8	2365046.6	1.1
199	100141.8	2365045.5	0.6
200	100191.8	2365044.5	0.1
201	100241.8	2365043.5	-0.4
202	100291.8	2365042.5	-0.9
203	100341.8	2365041.4	-1.4
204	100391.7	2365040.4	-1.9
205	100455.9	2365039.1	-2.5
206	100502.5	2365038.1	13.0
207	100529.5	2365037.6	22.0
208	100528.6	2364987.6	22.0
209	100440.9	2364998.8	-1.7
210	100390.9	2364999.8	-1.2
211	100340.9	2365000.9	-0.7
212	100290.9	2365001.9	-0.2
213	100240.9	2365003.0	0.3
214	100191.0	2365004.1	0.8
215	100141.0	2365005.1	1.3
216	100091.0	2365006.2	1.8
217	100041.0	2365007.2	2.3
218	99991.0	2365008.3	2.8
219	99941.0	2365009.4	3.3
220	99891.0	2365010.4	3.8
221	99841.0	2365011.5	4.3
222	99791.1	2365012.6	4.8
223	99741.1	2365013.6	5.3
224	99691.1	2365014.7	5.8
225	99641.1	2365015.7	6.3
226	99591.1	2365016.8	6.8
227	99565.5	2365017.5	7.1
228	99543.5	2365018.2	11.4
229	99529.4	2365016.6	13.4
230	99529.2	2365009.6	13.8
231	99552.3	2365008.9	10.2
232	99556.3	2365008.8	10.2
233	99590.9	2365007.6	9.6
234	99640.9	2365006.7	9.3
235	99690.9	2365005.7	8.8
236	99740.9	2365004.8	8.3
237	99790.9	2365003.8	7.8
238	99840.9	2365002.6	7.3
239	99890.8	2365001.4	6.8
240	99940.8	2365000.3	6.3

TOP OF PROTECTIVE COVER POINTS			
POINT #	NORTHING	EASTING	ELEV.
241	99990.8	2364999.3	5.8
242	100040.8	2364998.2	5.3
243	100090.8	2364997.1	4.8
244	100140.8	2364996.1	4.3
245	100190.8	2364995.0	3.8
246	100240.8	2364994.0	3.3
247	100290.8	2364992.9	2.8
248	100340.7	2364991.8	2.3
249	100390.7	2364990.8	1.8
250	100440.7	2364989.7	1.3
251	100457.2	2364988.4	-1.9
252	100465.8	2364989.1	1.1
253	100501.8	2364988.1	13.0
254	100465.7	2364985.2	1.1
255	100440.6	2364985.7	1.3
256	100390.6	2364986.8	1.8
257	100340.7	2364987.8	2.3
258	100290.7	2364988.9	2.8
259	100240.7	2364989.9	3.3
260	100190.7	2364990.8	3.8
261	100140.7	2364991.9	4.3
262	100090.7	2364993.1	4.8
263	100040.7	2364994.2	5.3
264	99990.7	2364995.3	5.8
265	99940.7	2364996.3	6.3
266	99890.8	2364997.4	6.8
267	99840.8	2364998.4	7.3
268	99790.8	2364999.5	7.8
269	99740.8	2365000.6	8.3
270	99690.8	2365001.6	8.8
271	99640.8	2365002.7	9.3
272	99590.8	2365003.7	9.8
273	99556.2	2365004.8	10.2
274	99552.2	2365004.9	10.2
275	99529.1	2365005.6	13.6
276	99528.9	2364996.6	11.7
277	99542.9	2364996.2	10.4
278	99565.0	2364995.6	7.1
279	99590.8	2364994.6	6.8
280	99640.8	2364993.6	6.3
281	99690.8	2364992.6	5.8
282	99740.8	2364991.6	5.3
283	99790.8	2364990.5	4.8
284	99840.8	2364989.5	4.3
285	99890.8	2364988.4	3.8
286	99940.8	2364987.3	3.3
287	99990.8	2364986.3	2.8
288	100040.5	2364985.2	2.3
289	100090.5	2364984.1	1.8
290	100140.5	2364983.1	1.3
291	100190.5	2364982.0	0.8
292	100240.5	2364981.0	0.3
293	100290.5	2364979.9	-0.2
294	100340.5	2364978.8	-0.7
295	100390.5	2364977.8	-1.2
296	100440.5	2364976.7	-1.7
297	100456.8	2364976.4	-1.9
298	100528.1	2364958.8	22.0
299	100501.1	2364980.4	13.0
300	100455.8	2364981.4	-2.1

TOP OF PROTECTIVE COVER POINTS			
POINT #	NORTHING	EASTING	ELEV.
301	100440.2	2364981.7	-1.9
302	100390.2	2364982.8	-1.4
303	100340.2	2364983.8	-0.9
304	100290.2	2364984.9	-0.4
305	100240.2	2364986.0	0.1
306	100190.2	2364987.0	0.6
307	100140.2	2364988.1	1.1
308	100090.2	2364989.1	1.6
309	100040.2	2364970.2	2.1
310	99990.3	2364971.3	2.6
311	99940.3	2364972.3	3.1
312	99890.3	2364973.4	3.6
313	99840.3	2364974.5	4.0
314	99790.3	2364975.5	4.6
315	99740.3	2364976.6	5.1
316	99690.3	2364977.6	5.6
317	99640.3	2364978.7	6.0
318	99590.3	2364979.8	6.6
319	99564.6	2364980.3	6.8
320	99542.6	2364980.8	9.2
321	99528.6	2364981.1	9.2
322	99551.6	2364980.6	9.8
323	99555.6	2364980.5	9.8

CELL MARKER POST POINT TABLE			
POINT #	NORTHING	EASTING	ELEV.
24	99536.6	2365383.5	15.4
321	99528.6	2364981.1	9.2
401	100542.6	2365382.9	22.0
402	100535.1	2364959.7	22.0

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED PROFESSIONAL ENGINEER
06/29/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

NO.	BY	DESCRIPTION	DATE

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3937

DRAWING TITLE: CELL 6 TOP OF PROTECTIVE COVER PLAN

PROJECT TITLE: CELL 6 CONSTRUCTION PLANS

CLIENT: CITY OF BROWNSVILLE MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

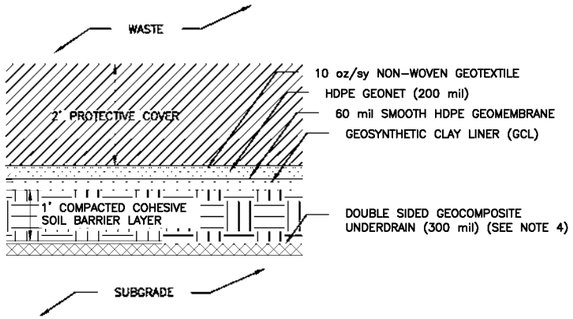
SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
3900 DUE FOREST, SUITE 200, HOUSTON, TX 77037
PH (281) 293-8484 FAX NO. (281) 293-1616

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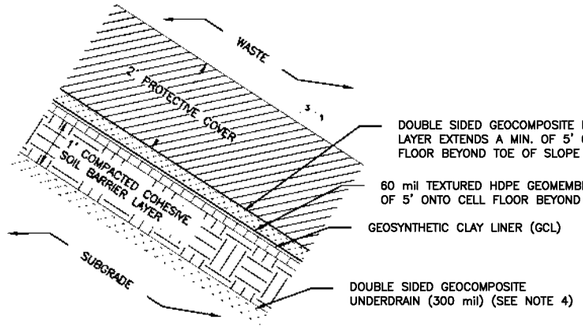
DATE: 06/2026

SCALE: AS SHOWN

DRAWING NO. 8



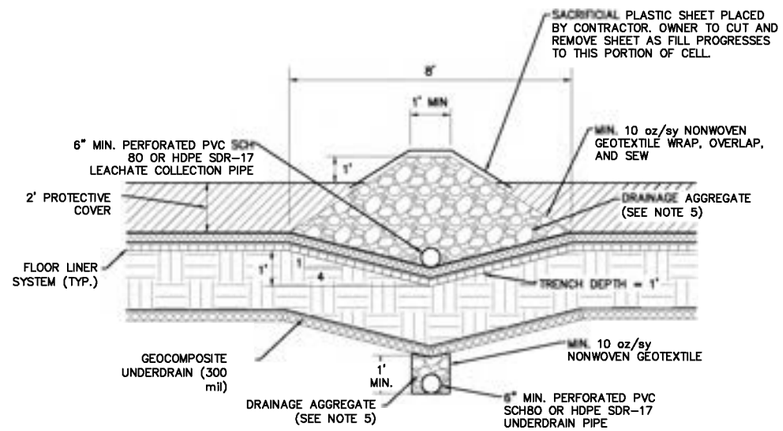
FLOOR LINER SYSTEM
NOT TO SCALE



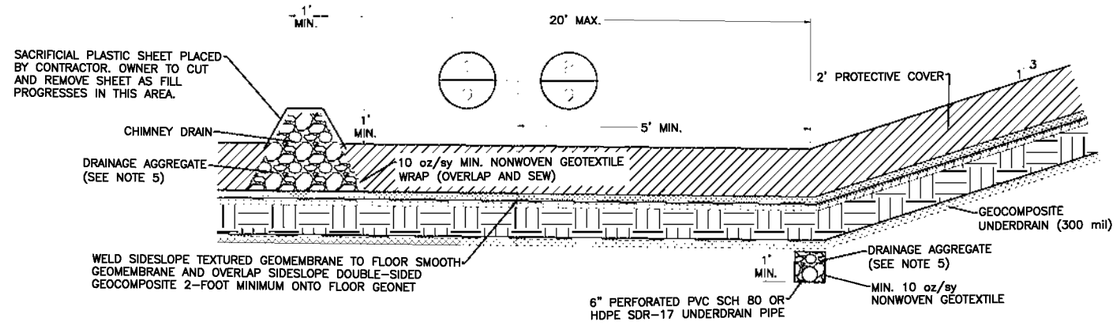
SIDEWALL LINER SYSTEM
NOT TO SCALE

NOTES:

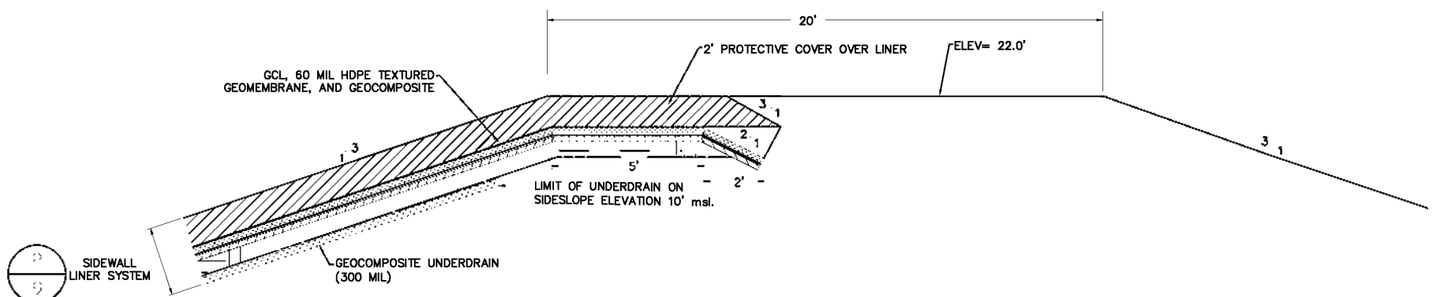
1. THE 1 FOOT COMPACTED COHESIVE SOIL BARRIER LAYER SHALL BE COMPACTED TO AT LEAST 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY, AND MOISTURE CONDITIONED TO WITHIN -1 TO +3 PERCENT OF OPTIMUM MOISTURE CONTENT.
2. CONTRACTOR SHALL PROVIDE ADEQUATE ANCHORAGE OF GEOSYNTHETIC DURING CONSTRUCTION TO WITHSTAND UPLIFT FROM WIND AND OPERATIONAL FUNCTIONS.
3. ~~A 1.5 FOOT THICK LAYER OF TIRE CHIPS (DURING PLACEMENT) MAY REPLACE THE TOP FOOT OF SOIL PROTECTIVE COVER ON FLOOR AREAS ONLY (NOT ON SLOPES).~~
4. A (10 oz/sy NONWOVEN, 300 mil) GEOCOMPOSITE UNDERDRAIN UP TO ELEVATION 10 FT. MSL.
5. DRAINAGE AGGREGATE SHALL CONSIST OF NATURAL STONE OR GRAVEL, SUBROUND TO SUBANGULAR, FREE OF SHALE, CLAY, ORGANICS, FOREIGN OBJECTS FRIABLE MATERIAL AND DEBRIS AND NOT DERIVED FROM LIMESTONE OR DOLOMITE ORIGIN. DRAINAGE AGGREGATE SHALL HAVE A CALCIUM CARBONATE CONTENT OF LESS THAN 15 PERCENT (J&S TEST S-105-89 MODIFIED USING PH-4 ACID, OR EQUIVALENT). THE DRAINAGE AGGREGATE SHALL HAVE LESS THAN 5 PERCENT PASSING THE 3/8 INCH SIEVE AND MAXIMUM PARTICLE SIZE OF 3 INCHES.



LEACHATE COLLECTION TRENCH WITH CHIMNEY DRAIN
NOT TO SCALE



SIDESLOPE LEACHATE COLLECTION CHIMNEY DRAIN
NOT TO SCALE



TYPICAL LANDFILL PERIMETER DETAIL
NOT TO SCALE

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED PROFESSIONAL ENGINEER
06/29/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407

LANDFILL LINER, LEACHATE COLLECTION SYSTEM, AND UNDERDRAIN DETAILS

CELL 6 CONSTRUCTION PLANS

CLIENT
CITY OF BROWNSVILLE
MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
ENGINEERING, CONSULTING AND SCIENCE
CONSULTING ENGINEERS
10101 REUNION PLACE, SUITE 875, HOUSTON, TX 77027
PH (281) 293-8900 FAX NO. (281) 293-1978

NO.	DATE	BY
1	06/2026	JRM

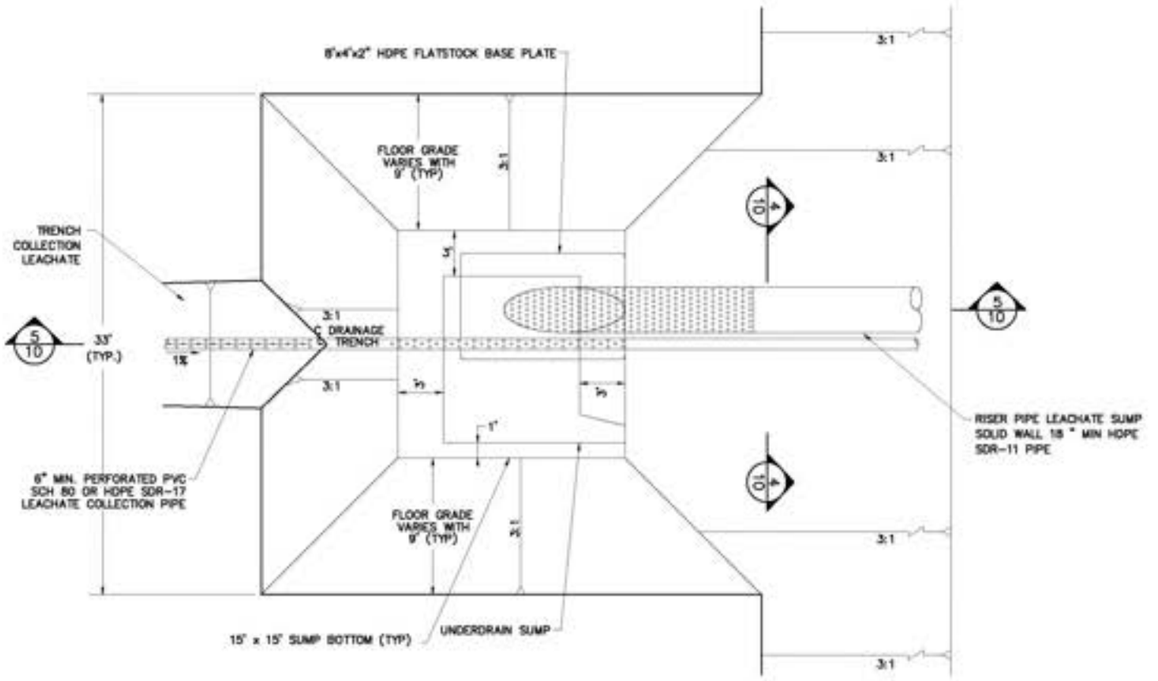
CADD FILE:
DWG 9 - LANDFILL LINER, LEACHATE COLLECTION SYSTEM, & UNDERDRAIN DETAILS

DATE: 06/2026

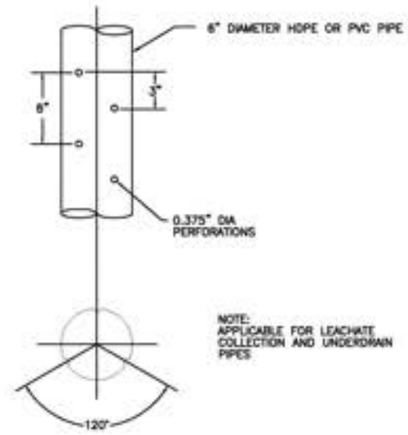
SCALE: AS SHOWN

DRAWING NO.
9

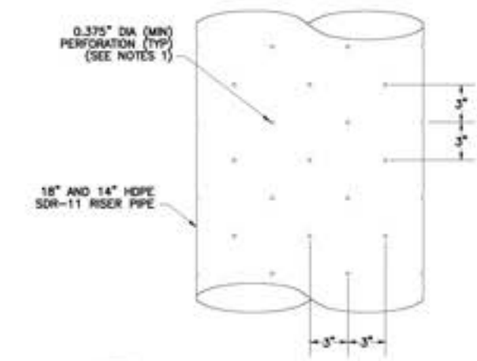
6/29/2026 3:45 PM Z:\SUR\Projects\18320069.26\Task 24 Construction Plans & Bid Package for Cell 6\CAD\Dwg 9 - Landfill Liner, Leachate Collection System, & Underdrain Details.t



1/10 LEACHATE COLLECTION SUMP PLAN
NOT TO SCALE

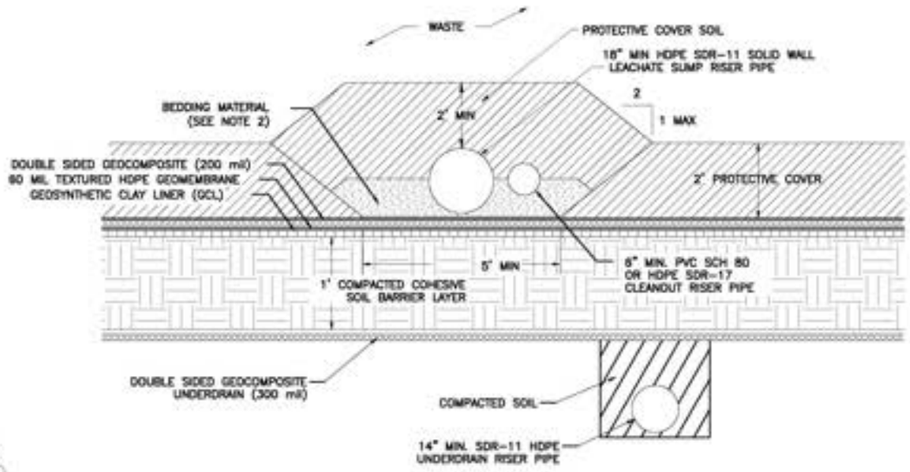


2/10 6" LEACHATE COLLECTION PIPE PERFORATION DETAIL
NOT TO SCALE



3/10 18" AND 14" PIPE PERFORATION DETAIL
NOT TO SCALE

5/10 LEACHATE COLLECTION SUMP SECTION
NOT TO SCALE



4/10 SIDEWALL RISER
NOT TO SCALE

NOTES:

1. DRAINAGE AGGREGATE SHALL CONSIST OF NATURAL STONE OR GRAVEL, SUBROUND TO SUBANGULAR, FREE OF SHALE, CLAY, ORGANICS, FOREIGN OBJECTS, FRIABLE MATERIAL AND DEBRIS AND NOT DERIVED FROM LIMESTONE OR DOLOMITE ORIGIN. DRAINAGE AGGREGATE SHALL HAVE A CALCIUM CARBONATE CONTENT OF LESS THAN 15 PERCENT (J&S TEST S-105-89 MODIFIED USING PH-4 ACID, OR EQUIVALENT). THE DRAINAGE AGGREGATE SHALL HAVE LESS THAN 5 PERCENT PASSING THE 3/8 INCH SIEVE AND MAXIMUM PARTICLE SIZE OF 3 INCHES.
2. BEDDING MATERIAL SHALL HAVE MINIMUM SOIL MODULES OF 3,000 PSI AS REQUIRED TO ACHIEVE ACCEPTABLE PIPE STABILITY UNDER FULL DESIGN LOAD.

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED PROFESSIONAL ENGINEER
06/29/2026

INTENDED FOR BIDDING AND CONSTRUCTION PURPOSES ONLY

NO.	DATE	DESCRIPTION	BY

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3937

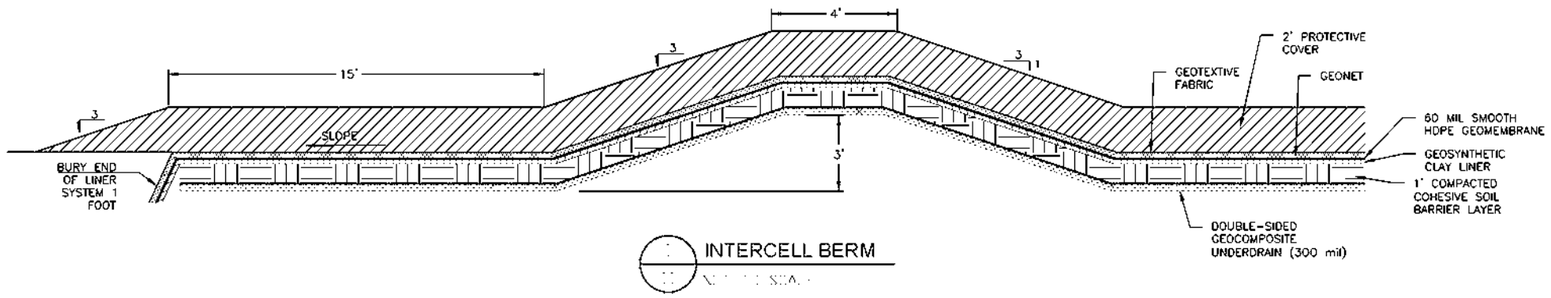
DESIGN: LANDFILL LINER, LEACHATE COLLECTION SYSTEM, AND UNDERDRAIN DETAILS

PROJECT TITLE: **CELL 6 CONSTRUCTION PLANS**

CLIENT: CITY OF BROWNSVILLE MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
3900 DACOMA FOREST, SUITE 200, HOUSTON, TX 77027
PH (281) 293-8400 FAX NO. (281) 293-1976

CADD FILE:
DATE: 06/2026
SCALE: AS SHOWN
DRAWING NO: 10

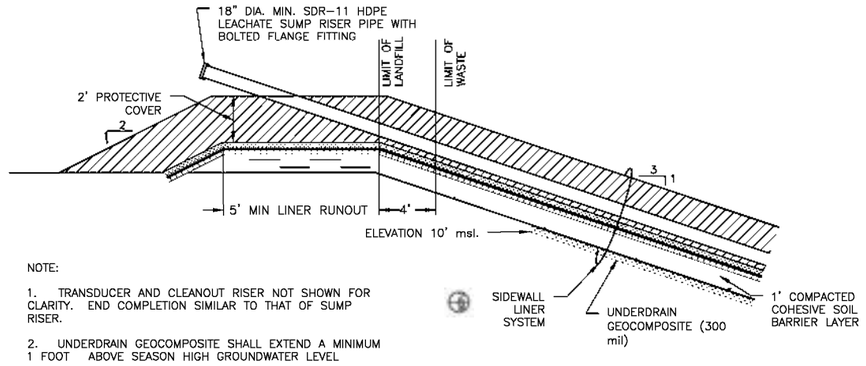


INTERCELL BERM

NOT TO SCALE

NOTES:

1. THE 1 FOOT COMPACTED COHESIVE SOIL BARRIER LAYER SHALL BE COMPACTED TO AT LEAST 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY, AND MOISTURE CONDITIONED TO WITHIN -1 TO +3 PERCENT OF OPTIMUM MOISTURE CONTENT.
2. CONTRACTOR SHALL PROVIDE ADEQUATE ANCHORAGE OF GEOSYNTHETIC DURING CONSTRUCTION TO WITHSTAND UPLIFT FROM WIND AND OPERATIONAL FUNCTIONS.
3. A (10 oz/sy NONWOVEN, 300 mil) GEOCOMPOSITE UNDERDRAIN TO ELEVATION 10 FT. MSL.
4. TIE-IN:
   - 4.1. GEOCOMPOSITE UNDERDRAIN TO OVERLAP EXISTING GEOCOMPOSITE UNDERDRAIN 2 FT. MIN.
   - 4.2. 1 FT. COMPACTED COHESIVE SOIL BARRIER LAYER TO OVERLAP EXISTING 1 FT. COMPACTED COHESIVE SOIL BARRIER LAYER 5 FT. MIN. AT A 5 HORIZONTAL TO 1 VERTICAL SLOPE.
   - 4.3. GCL TO OVERLAP EXISTING GCL 3 FT. MIN.
   - 4.4. CONTRACTOR TO EXTRUSION WELD 60 mil SMOOTH HDPE GEOMEMBRANE TO EXISTING 60 mil SMOOTH HDPE GEOMEMBRANE.
   - 4.5. 10 oz/sy NON-WOVEN GEOTEXTILE AND HDPE GEONET (200 mil) TO OVERLAP EXISTING 10 oz/SY NON-WOVEN GEOTEXTILE AND HDPE GEONET (200 mil) 2 FT. MIN.
   - 4.6. ALL GEOCOMPOSITE SEAMS SHALL HAVE A MINIMUM 4 INCH OVERLAP OF THE GEONETS AND BE FASTENED WITH PLASTIC FASTENERS. THE FASTENERS SHALL BE INSTALLED EVERY 12 INCHES 5 FEET ALONG THE ROLL LENGTH, EVERY 12 INCHES ALONG THE ROLL WIDTH, EVERY 12 INCHES IN THE ANCHOR TRENCH, AND 12 INCHES ALONG THE TIE-IN.
   - 4.7. ALL DAMAGED GEOSYNTHETIC MATERIAL MUST BE REPAIRED AND OR PATCHED IN ACCORDANCE WITH THE SLQCP SO THAT NO GAPS ARE LEFT IN THE LINER SYSTEM.

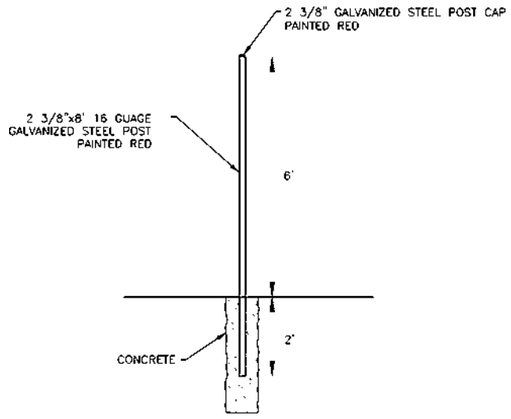


NOTE:

1. TRANSDUCER AND CLEANOUT RISER NOT SHOWN FOR CLARITY. END COMPLETION SIMILAR TO THAT OF SUMP RISER.
2. UNDERDRAIN GEOCOMPOSITE SHALL EXTEND A MINIMUM 1 FOOT ABOVE SEASON HIGH GROUNDWATER LEVEL

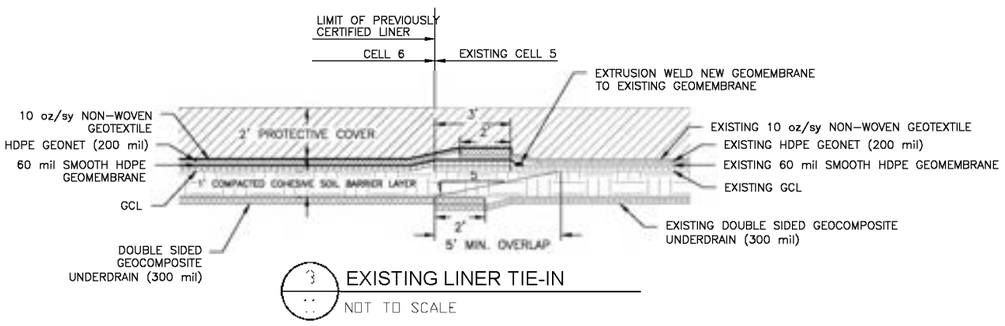
2 LEACHATE COLLECTION SUMP RISER

NOT TO SCALE



4 LINER MARKER POST DETAIL

11 NOT TO SCALE



3 EXISTING LINER TIE-IN

NOT TO SCALE



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TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407

LANDFILL LINER, LEACHATE COLLECTION SYSTEM, AND UNDERDRAIN DETAILS

PROJECT TITLE

CELL 6 CONSTRUCTION PLANS

CLIENT

CITY OF BROWNSVILLE
MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
1265 ENCLAVE FOREST, SUITE 205, HOUSTON, TX 77077
PH (281) 293-8494 FAX NO. (281) 293-7878

PROJ. NO. 25172006S.26
DSN. BY: RJE
DWN. BY: JG
CHK. BY: RJE
QA/A RVW BY:
APP. BY: JRM

CADD FILE:
DWG 11 – LANDFILL LINER, LEACHATE COLLECTION SYSTEM & UNDERDRAIN DETAILS II

DATE: 06/2026

SCALE: AS SHOWN

DRAWING NO. 11

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LEGEND:

- EXISTING 10' CONTOUR
- PROPOSED 5' CONTOUR (SEE NOTE 3)
- OUTER EDGE OF ANCHOR TRENCH (LIMIT OF PAY)
- GRADE BREAK
- PROPOSED FORCE MAIN
- EXISTING FORCE MAIN
- AIR RELEASE VALVE
- T.O.M. ELEV = 23.4' / F.M.I. ELEV = 18.4' / B.O.M. ELEV = 16.4' — TOP OF MANHOLE ELEVATION / FORCE MAIN ELEVATION / BOTTOM OF MANHOLE ELEVATION

NOTES:

1. GRID SYSTEM IS BASED ON STATE PLANE COORDINATES PROVIDED BY AMBIOTEC CIVIL ENGINEERING GROUP, SEPTEMBER 2001.
2. TOPOGRAPHY PROVIDED BY I.F. ROOKS & ASSOCIATES, DATED NOVEMBER 13, 2025.
3. THE GRADES ON THIS SHEET REFLECT THE TOP OF THE 24" PROTECTIVE COVER LAYER.

SCALE
0 40 80 FEET

STATE OF TEXAS
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159513
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06/29/2026

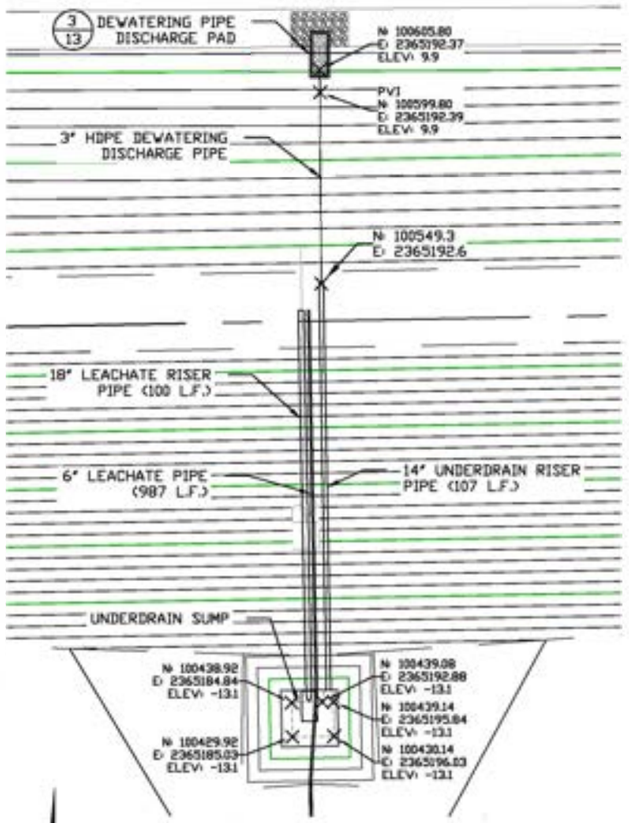
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PROJECT TITLE: CELL 6 CONSTRUCTION PLANS

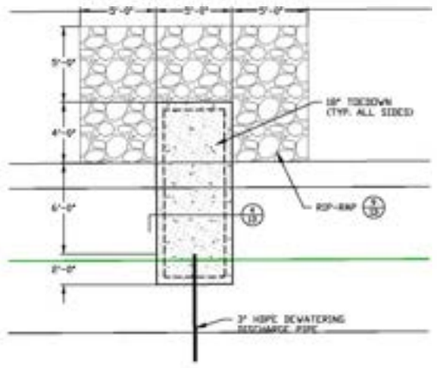
CLIENT: CITY OF BROWNSVILLE MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

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CONSULTING ENGINEERS
10801 SIX PINES FOREST, SUITE 250, HOUSTON, TX 77077
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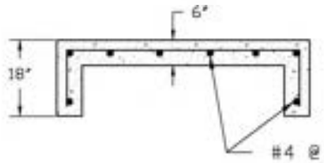
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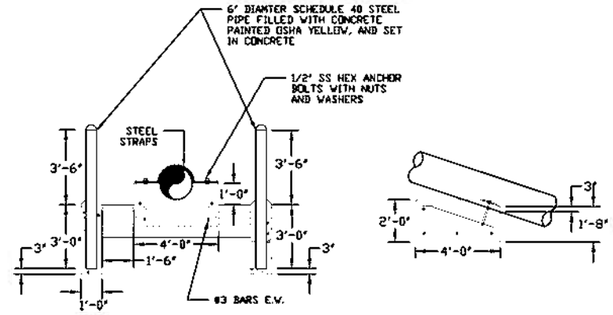
1/13 LEACHATE AND RISER PIPE PLAN
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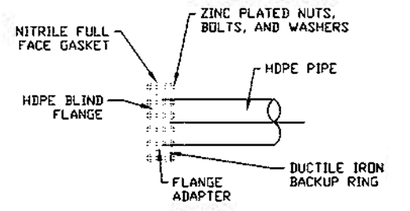
3/13 DEWATERING PIPE DISCHARGE PAD
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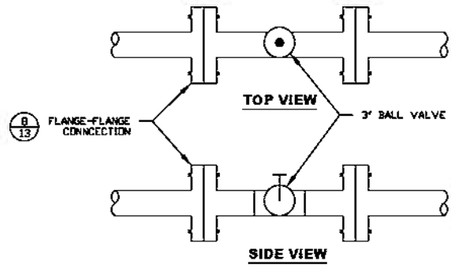
4/13 DEWATERING DISCHAGE PAD TOEDOWN
SCALE
0 3 6 FEET



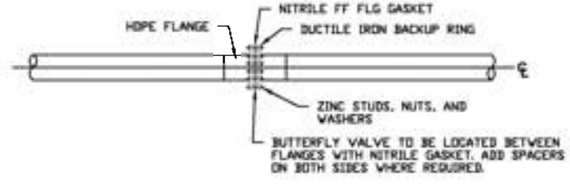
5/13 CONCRETE ANCHOR BLOCK
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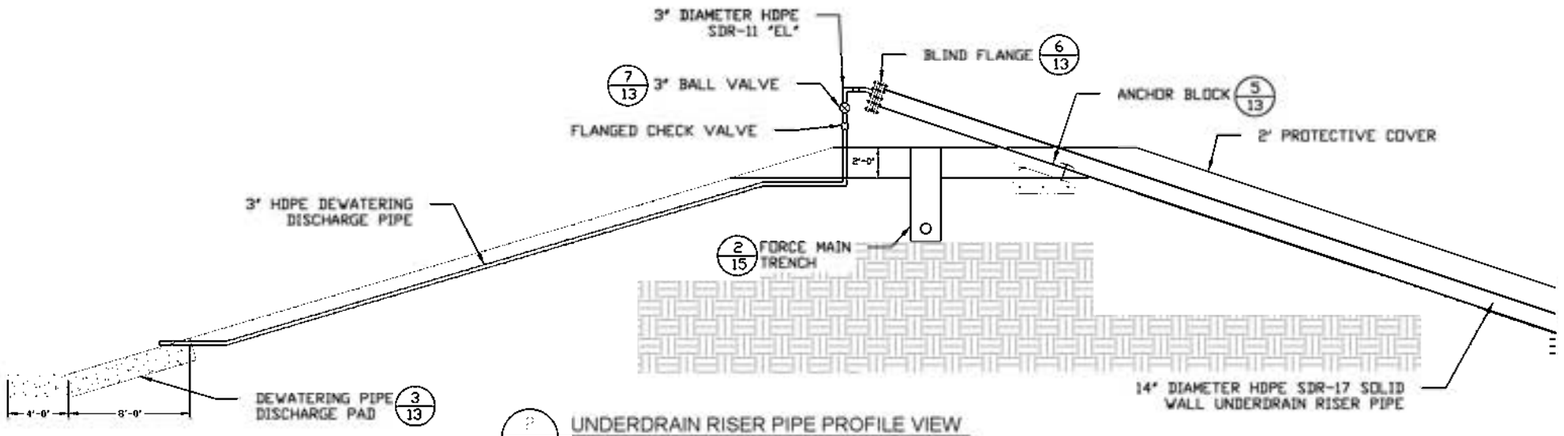
6/13 BLIND FLANGE DETAIL
NOT TO SCALE



7/13 3" BALL VALVE
NOT TO SCALE



8/13 FLANGE-FLANGE CONNECTION
NOT TO SCALE



9/13 UNDERDRAIN RISER PIPE PROFILE VIEW
SCALE
0 10 20 FEET

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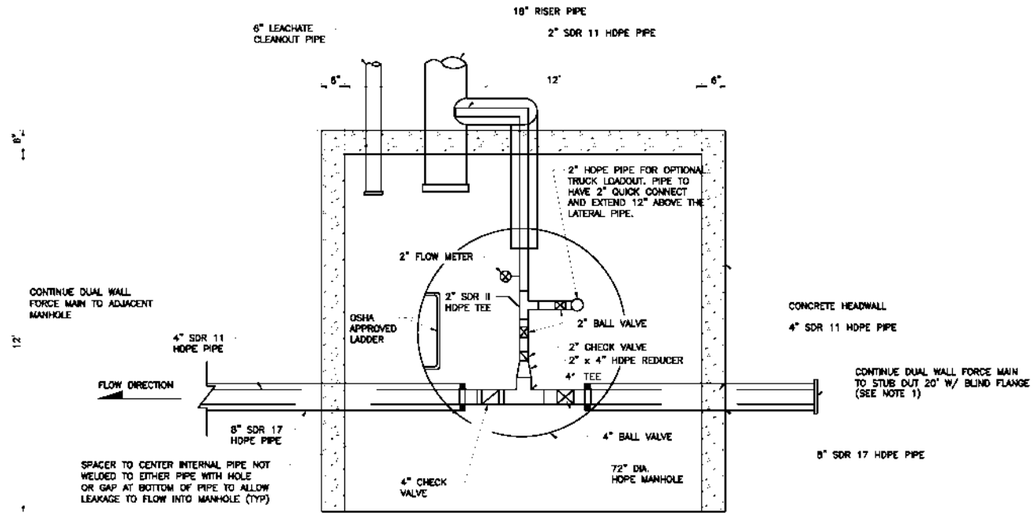
LEACHATE AND FORCEMAIN SYSTEM DETAILS

CELL 6 CONSTRUCTION PLANS

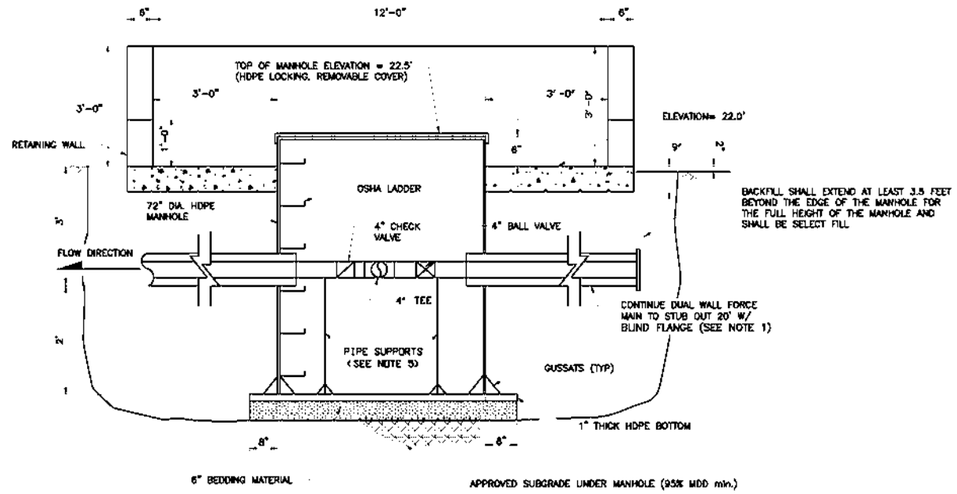
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CITY OF BROWNSVILLE
MUNICIPAL LANDFILL
9000 F.M. 802
BROWNSVILLE, TEXAS 78521

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS
12969 BRIAR FOREST, SUITE 365, HOUSTON, TX 77077
PH (281) 293-8494 FAX NO. (281) 293-7818

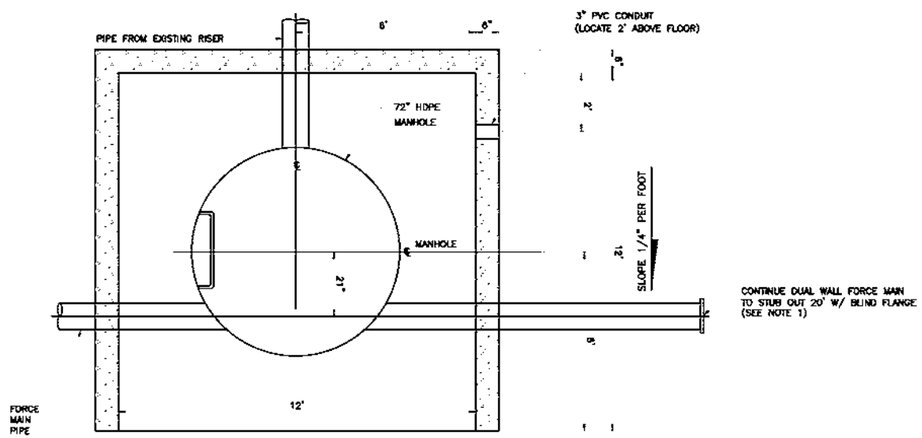
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1/4 LEACHATE MANHOLE & FORCE MAIN LOWER PLAN VIEW
NOT TO SCALE



3/4 MANHOLE CROSS-SECTION
NOT TO SCALE



2/4 LEACHATE MANHOLE UPPER PLAN VIEW
NOT TO SCALE

NOTES:

1. THE DUAL WALL FORCE MAIN WILL STUB OUT 20' FOR FUTURE EXPANSION AT CELL 8 MANHOLE, THE 4" CARRIER PIPE AND 8" CONTAINMENT PIPE WILL BE CAPPED WITH AN 8" BLIND FLANGE.
2. THE 2" FLOW METER SHALL BE FLANGED FOR REMOVAL AS NECESSARY. FLOW METER SHALL BE IFM MAGNETIC METER TYPE SUITABLE FOR IMMERSION IN LEACHATE. CONTRACTOR TO INSURE THERE IS SUFFICIENT STRAIGHT PIPE ON EITHER SIDE OF FLOW METER TO INSURE ACCURATE READINGS. FLOW METER SHALL ALSO INCLUDE CABLE & DIGITAL READ OUT TO BE INSTALLED IN PUMP CONTROL PANEL.
3. ALL ELECTRICAL CONDUIT PASSING THROUGH HDPE MANHOLE SHALL BE WATER-TIGHT.
4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE COMPLETE MANHOLE PIPING & CONTROL PANEL WORK TO THE ENGINEER PRIOR TO PURCHASE.
5. ALL PIPE SUPPORTS SHALL BE MINIMUM 1/4" STEEL AND SHALL BE COATED WITH CORROSION-RESISTANT PAINT. SUPPORTS SHALL BE SECURED TO MANHOLE FLOOR AS APPROVED BY MANHOLE MFG. WHERE PIPE TOUCHES SUPPORT SADDLES, A 1/2" THICK NEOPRENE PAD SHALL BE INSTALLED.



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MANHOLE AND FORCE MAIN DETAILS

CELL 6 CONSTRUCTION PLANS

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BROWNSVILLE, TEXAS 78521

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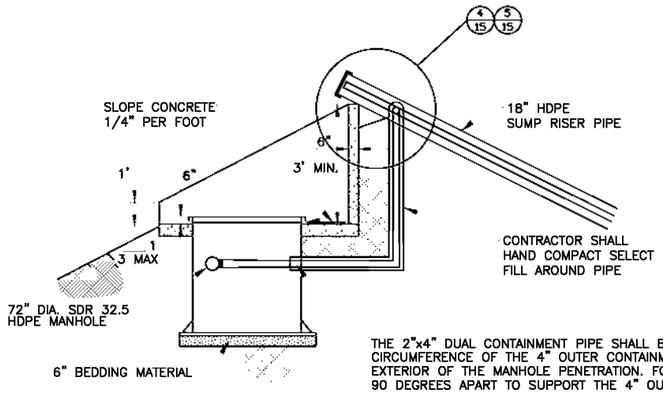
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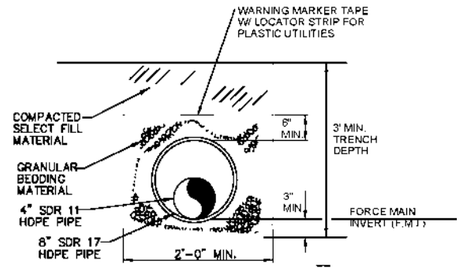
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THE 2"x4" DUAL CONTAINMENT PIPE SHALL BE EXTRUSION WELDED AROUND THE CIRCUMFERENCE OF THE 4" OUTER CONTAINMENT PIPE ON THE INTERIOR AND EXTERIOR OF THE MANHOLE PENETRATION. FOUR 1" GUSSETS SHALL BE EXTRUSION WELDED 90 DEGREES APART TO SUPPORT THE 4" OUTER CONTAINMENT PIPE CONNECTION ON THE EXTERIOR OF THE MANHOLE.

1/15 LEACHATE COLLECTION SUMP CONNECTION AND FORCE MAIN

NOT TO SCALE

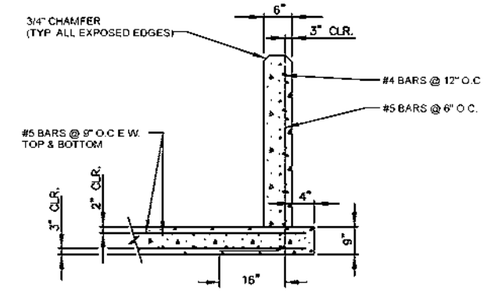


2/15 FORCE MAIN TRENCH

NOT TO SCALE

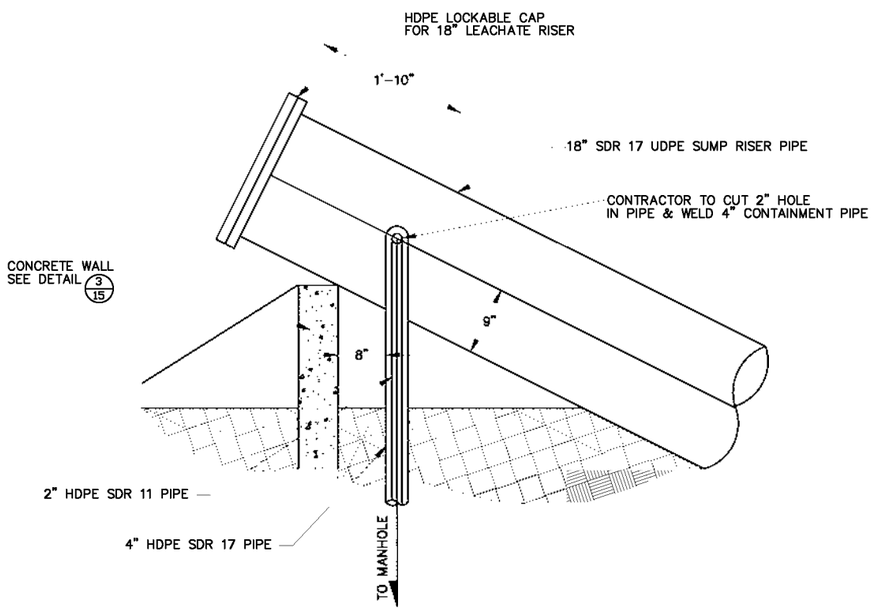
NOTE:

TYPE 1 BEDDING MATERIAL AROUND THE PIPE FROM THREE(3) INCHES UNDER THE PIPE TO SIX(6) INCHES OVER THE PIPE SHALL CONSIST OF SELECT COARSE GRAINED SOILS (OVER 50% RETAINED ON A NO. 200 SIEVE) AND LESS THAN 5% FINES SUCH AS GRAVEL, SAND, OR SILTY SAND MEETING UNIFIED SOIL CLASSIFICATION REQUIREMENTS AS PER ASTM DESIGNATION D-2487 FOR TYPE GW, GP, GM, GC, SW, SP, SM & SC, OR AS SPECIFICALLY APPROVED BY THE ENGINEER. BEDDING MATERIAL SHALL NOT CONSIST OF FINE SOIL (LESS THAN 50% RETAINED ON A NO. 200 SIEVE) SUCH AS SILT, CLAY OR ORGANIC SOILS MEETING REQUIREMENTS FOR SOIL TYPES ML, CH & PT. BEDDING MATERIAL SHALL BE FREE FROM CLODS, FROZEN MATERIAL, OR STONES LARGER THAN 3/4 INCH (19 mm) IN THEIR MAXIMUM DIMENSION.



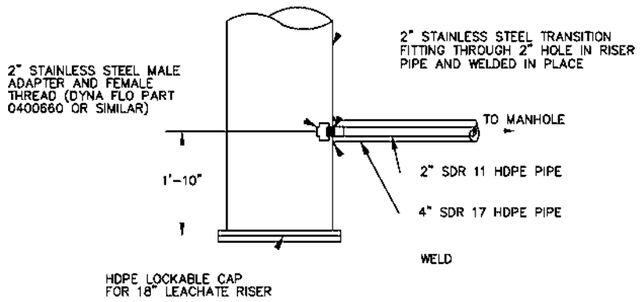
3/15 MANHOLE PAD CONCRETE DETAIL

NOT TO SCALE



4/15 BLOWUP PROFILE DETAIL

NOT TO SCALE



5/15 SUMP RISER CONNECTION

NOT TO SCALE

CONCRETE NOTES:

1. ALL CONCRETE SHALL BE 3,000 PSI TYPE I AT 28 DAY BREAK
2. ALL REBAR SHALL BE GRADE 60, ASTM A615.
3. ALL EXPOSED CONCRETE SHALL BE MOISTURE-CURED FOR 7 DAYS OR HAVE A CURING COMPOUND APPLIED.
4. SLUMP SHALL NOT EXCEED 5". WATER SHALL NOT BE ADDED TO MIX ON-SITE.
5. VIBRATORS SHALL BE USED TO CONSOLIDATE CONCRETE.
6. EXPOSED WALLS SHALL HAVE RUB FINISH AND SLABS SHALL HAVE BROOM FINISH.
7. PATCH ALL FORM HOLES & HONERY COMB AREAS.

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MANHOLE AND FORCE MAIN DETAILS

CELL 6 CONSTRUCTION PLANS

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PH: (281) 293-8494 FAX NO. (281) 293-7878

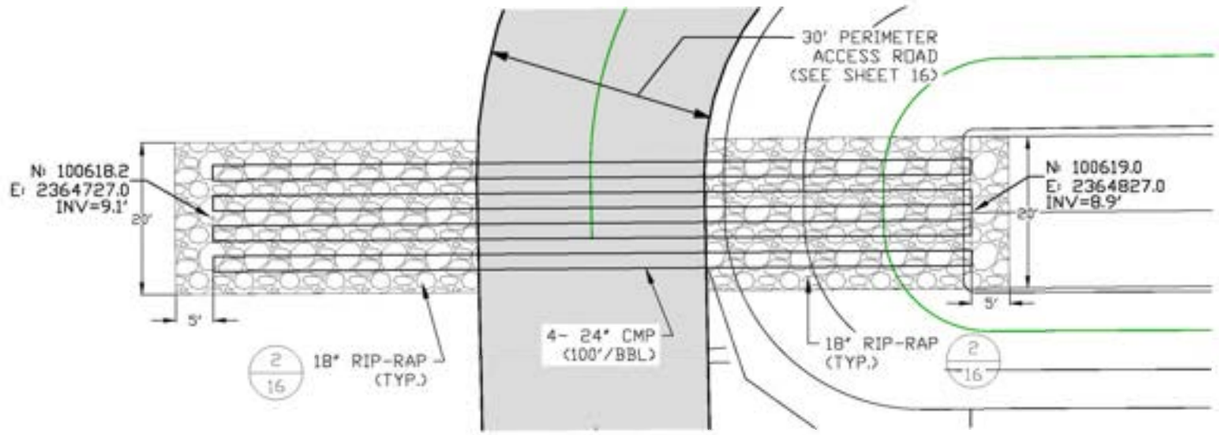
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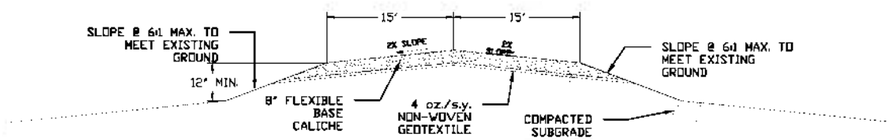
PERIMETER ACCESS ROAD CULVERT PLAN

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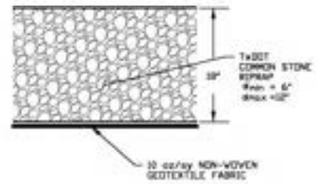
3/16 TEMPORARY DIVERSION DITCH AND BERM

NOT TO SCALE



4/16 PERIMETER ACCESS ROAD PAVING DETAIL

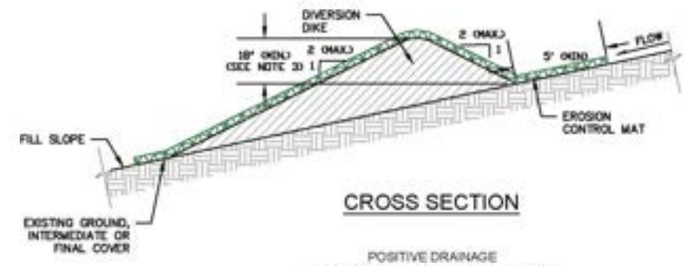
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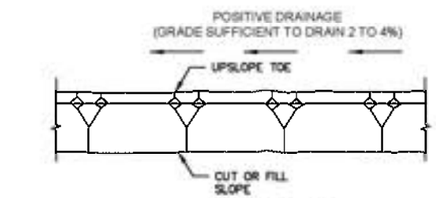
2/16 18" STONE RIP-RAP DETAIL

SCALE

0 2 4



CROSS SECTION



PLAN VIEW

GENERAL NOTES:

1. ALL DIKES SHALL BE MACHINE COMPACTED.
2. ALL DIVERSION DIKES SHALL HAVE POSITIVE DRAINAGE (2 TO 4 PERCENT) TO AN OUTLET.
3. CELL 6 TEMPORARY STORMWATER DIVERSION DIKE SHALL HAVE A 24" MIN. DEPTH.

DIVERSION DIKE

NOT TO SCALE

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RICARDO JOSE ESPINOZA MATUTE
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MISCELLANEOUS DETAILS

CELL 6 CONSTRUCTION PLANS

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MUNICIPAL LANDFILL
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BROWNSVILLE, TEXAS 78521

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13991 BRIAR FOREST, SUITE 350, HOUSTON, TX 77077
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NO.	DESCRIPTION	BY
1	1ST SUBMITTAL	JEM

CADD FILE:

DATE: 06/2026

SCALE: AS SHOWN

DRAWING NO.: 16



CITY OF BROWNSVILLE MUNICIPAL LANDFILL

Cell 6 Construction

Brownsville, Cameron County, Texas

SPECIFICATIONS

Prepared for:

THE CITY OF BROWNSVILLE
Brownsville, Texas 78521
(956)542-0701

Prepared by:

SCS ENGINEERS
Houston, Texas 77077
(281) 293-8494

June 2026

SPECIFICATIONS
CITY OF BROWNSVILLE MUNICIPAL LANDFILL
CELL 6 CONSTRUCTION SPECIFCATIONS

Prepared for:
City of Brownsville
9000 F/M
Brownsville, Texas 78521

Prepared by:
SCS Engineers
Texas Board of Professional Engineers Registration No. F-3407
12651 Briar Forest, Suite 205
Houston, Texas 77077
(281) 293-8494
(281) 293-7878 Fax

June 2026

SPECIFICATIONS FOR THE CELL 6 CONSTRUCTION
CITY OF BROWNSVILLE MUNICIPAL LANDFILL

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Division 1 – General Requirements

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Section 01155 – On-Site Health and Safety Requirements
Section 01160 – Survey Control
Section 01200 – Project Coordination and Meetings
Section 01330 – Submittal Procedures
Section 01400 – Quality Requirements
Section 01420 – References
Section 01500 – Temporary Facilities and Controls
Section 01600 – Project Requirements
Section 01770 – Closeout Procedures
– Certificate of Completion
– Final Payment – General Release and Indemnity Agreement
– Final Receipt, Waiver and Release of Lien Rights
Section 01781 – Project Record Documents

Division 2 – Site Construction

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Section 02210 – Rough Grading
Section 02211 – Surface Preparation
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Section 02223 – Select Fill
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Section 02531 – High Density Polyethylene Manholes
Section 02712 – Bedding Material
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Division 3 – Concrete

Section 03300 – Cast-In-Place Concrete

Division 11 – Equipment

Section 11210 – Leachate Extraction Pumping System
Section 11211 – Dewatering Extraction Pumping System

Division 15 – Mechanical

Section 15060 – High Density Polyethylene Pipe
Section 15070 – Dual Contained High Density Polyethylene Force Main
Section 15110 – Valves

Division 16 – Electrical

Section 16010 – General Electrical Provisions

Appendices

Soil and Liner Quality Control Plan, November 2002
Groundwater Data

DIVISION 1

SECTION 01100
SUMMARY OF WORK

1.0 GENERAL

1.1 WORK SPECIFIED

The major items of work to be performed by the CONTRACTOR involved in the Cell 6 Construction at the City of Brownsville Landfill for the City of Brownsville Department of Public Works shall include the following:

1.1.1 Site inspection and acceptance of pre-construction conditions at the site.

1.1.2 Site preparation, general excavation, waste excavation, structural fill, subgrade preparation and construction of intercell and perimeter berms, underdrain system installation, compacted cohesive soil barrier layer, geosynthetic liner system, leachate collection system, protective cover placement, and chimney drain installation.

1.1.3 Furnishing and installing leachate force main and manhole.

1.1.4 Construction of perimeter drainage channel and perimeter road.

1.1.5 Construction of drainage culverts.

1.1.6 Backfilling and re-grading of all areas disturbed during construction.

1.1.7 Cleanup of work site, including stockpile, borrow and material laydown areas.

1.2 MATERIAL

1.2.1 Soil material to be used as select/structural fill, compacted cohesive soil barrier layer and protective cover will be available from the cell excavation. Excavated materials shall be stockpiled as shown on the construction plans. A soil borrow area is located within a 1-mile off-road haul distance from the proposed work area. This borrow area is to be used if additional soil is required and the stockpile is exhausted. The borrow area is located southeast of the work area. The materials are in-situ and some segregation or removal of layers may be needed to locate the required material. Light clearing may also be required. Any disturbed areas shall be re-shaped and graded to drain prior to project completion.

1.2.2 The CONTRACTOR will provide temporary and permanent stormwater control necessary for construction and as shown on the contract documents or directed by the ENGINEER.

1.2.3 The CONTRACTOR shall supply all dewatering system components, as specified for this project. Components shall include (but not limited to) collection pipes and trenches, pumps, valves, fittings, outflow structures, and other items shown on the construction plans.

1.2.4 The CONTRACTOR shall supply all geosynthetic materials, as specified for this project. Materials shall include (but not limited to) geosynthetic clay liner (GCL), 60 mil HDPE smooth geomembrane, 60 mil HDPE double-sided textured geomembrane, 10-oz/sy nonwoven geotextile fabric, HDPE geonet and geonet/geotextile geocomposite, 10-oz/sy nonwoven geotextile for rip-rap pad and rock check dam (if applicable), and 4-oz/sy nonwoven geotextile for perimeter access road.

1.2.5 The CONTRACTOR shall supply all force main components, as specified for this project. Components shall include (but not limited to) leachate force main collection pipes and trenches, chimney drains, sumps, pumps, polyethylene manhole, valves, fittings, flow meters, and other items shown on the construction plans.

1.2.6 The CONTRACTOR shall supply all components for the culvert work, as specified for this project. Components shall include (but not limited to) earthwork grading, pipe, rip-rap pad, and other items shown on the construction plans.

1.2.7 The CONTRACTOR shall supply 4'' to 7'' stone or crushed concrete for stone check dam (if applicable), 6''to 12'' stone for stone rip-rap pad, and manufacturer recommended stone for gabion mat (if applicable).

1.2.8 The CONTRACTOR shall supply all post, steel wire, and fabric for silt fence.

1.2.9 The CONTRACTOR shall supply all materials to construct the perimeter access road.

1.2.10 The CONTRACTOR shall supply all electrical components as indicated on the construction drawings. The City will provide for the electrical connections to the electrical components.

1.2.11 The CONTRACTOR shall supply all equipment and manpower to construct the proposed project shown on the drawings.

1.2.12 All other materials necessary for performance of the work must be provided by the CONTRACTOR.

1.3 SPECIAL REQUIREMENTS

1.3.1 The CONTRACTOR is responsible for protecting all existing structures at the landfill during construction. The CONTRACTOR is responsible for protecting all existing landfill gas components during construction. Any damage to these components shall be repaired or replaced at the CONTRACTOR's expenses. The CONTRACTOR shall maintain all dike and berm elevations at all times if used as a haul route. The CONTRACTOR is responsible for protecting areas downgradient of the area under construction from erosion caused by runoff from the area under construction.

1.3.2 The CONTRACTOR and/or Subcontractors must abide by the CONTRACTOR's HEALTH AND SAFETY PLAN. The CONTRACTOR'S Health and Safety Plan shall meet all local, state, federal, and OSHA requirements. This document shall be submitted to the ENGINEER for review prior to the start of work.

1.3.3 The CONTRACTOR and/or Subcontractors must abide by the City of Brownsville Municipal Landfill Permit Amendment, Cameron County, Texas, Permit No. 1273-A, dated November 2002, Part III, Attachment 10, Soil and Liner Quality Control plan included therein.

1.3.4 The CONTRACTOR shall be responsible to pump all groundwater and storm water from the construction area, including the cell excavation and from the dewatering system.

1.3.5 The CONTRACTOR shall be responsible to provide any water required for his work, including water required for any structural fill moisture requirements. Water is available on-site.

1.3.6 The CONTRACTOR is responsible to control rain and storm run-off water in the construction area.

1.3.7 The CONTRACTOR shall not interfere with the daily operations of the landfill. Any work that may affect the haul road or other areas of the landfill must have prior OWNER'S approval or be completed during closed hours at the landfill.

1.4 WORK OUTSIDE THE CONSTRUCTION AREA

1.4.1 The CONTRACTOR shall be responsible for restoring disturbed areas outside the construction area by providing positive grading and backfill with common fill as necessary. Six (6) inches of topsoil and grassing shall be required over any previously existing grassed area disturbed by the CONTRACTOR.

1.5 DRAWINGS

The following drawings are provided along with these Specifications for use by the CONTRACTORS/Subcontractors.

Cell 6 Construction Plans

Drawing No.	Drawing Title
1	Cover Sheet and Index
2	Site Layout Plan
3	Cell 6 Excavation Plan
4	Cell 6 Excavation Points
5	Cell 6 Top of Compacted Cohesive Soil Barrier Layer Plan
6	Cell 6 Top of Compacted Cohesive Soil Barrier Layer Points
7	Cell 6 Top of Protective Cover Plan
8	Cell 6 Top of Protective Cover Points
9	Landfill Liner, Leachate Collection System, and Underdrain Details I
10	Landfill Liner, Leachate Collection System, and Underdrain Details II
11	Landfill Liner, Leachate Collection System, and Underdrain Details III
12	Force Main Plan
13	Leachate and Forcemain System Details
14	Manhole and Force Main Details I
15	Manhole and Force Main Details II
16	Miscellaneous Details

- END OF SECTION -

SECTION 01150
MEASUREMENT AND PAYMENT BASIS

1.0 GENERAL

1.1 SUMMARY

1.1.1 Under the price specified to be paid for each item, the Contractor shall furnish all labor, materials, equipment and all operations necessary to complete all work specified or shown. All supervision, overhead and profit items, protection and precautions and all other costs incidental to the construction work, and as specified, are included.

1.1.2 A complete working job shall be produced whether or not any particular wording or direction is omitted or not clearly stated.

1.1.3 Measurement and Payment shall be by the ENGINEER and/or OWNER, except where noted elsewhere in the specifications. Measurement for payment for lump sum items shall be on the basis of percentage of work complete.

1.1.4 Each price stated in the Bid shall constitute full compensation for each item of work completed.

1.1.5 The price for those items which involve excavation shall include compensation for disposal of surplus excavated material.

1.1.6 All final payments shall be based upon either construction drawing **plan view** quantities or by **in-place survey** measured procedures. All plan view quantities (square foot, square yard, linear foot, etc.) are measured in plan (planar) quantities. Limits of pay for excavation are shown on plans.

1.1.7 The CONTRACTOR shall submit the monthly invoice to both the OWNER and ENGINEER for review. The ENGINEER shall make his/her recommendation to the OWNER in a timely fashion. Only one invoice per month shall be permitted by the CONTRACTOR.

1.2 ITEM DESCRIPTIONS

1.2.1 Item No. 101, Mobilization/Demobilization:

1. Under the **lump sum** price, the CONTRACTOR shall perform all work necessary to mobilize and demobilize all equipment, materials and labor to and from the site, including office trailer and utilities. **Cost not to exceed 5 percent of the total bid price.**

2. Measurement and payment for this item shall be sixty (60) percent after mobilization and forty (40) percent after demobilization. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.2 Item No.102, Payment of Bonds:

1. Under this lump sum price, the CONTRACTOR will acquire a performance and a payment bond for the total amount of the project.

2. Payment for this item shall be the total **lump sum** amount based on an invoice from the Bond Company **for the cost of the bond without mark up**.

1.2.3 Item No. 103, Construction Surveying:

1. Under the bid for this item, the CONTRACTOR shall furnish all construction surveying required to complete the project. The CONTRACTOR shall be responsible to construct project to the lines and grades provided for on the construction drawings.

2. Measurement and payment for this item shall be **lump sum** and shall be paid monthly based on percentage of work completed as approved by ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.4 Item No. 104, Construction Dewatering:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to perform project dewatering on a seven-day per week, 24-hour per day basis throughout the duration of the project. This includes the west temporary diversion ditch, berm and culvert, as well as the Cell 6 temporary stormwater diversion dike. This shall include rain and runoff water from adjacent areas and groundwater, including water collected from the dewatering system. For water collected in the dewatering system, the CONTRACTOR may use the pump specified for the dewatering system or a temporary pump. The CONTRACTOR shall be required to have all standing water removed from the affected work areas within 6 hours of the completion of the rain event. Pump water discharge locations shall be approved in advance by the owner.

2. Measurement and payment for this item shall be **lump sum** and shall be paid monthly based on percentage of work completed as approved by ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.5 Item No. 105, Clearing and Grubbing:

1. Under the bid for this item, the CONTRACTOR shall be responsible for clearing and grubbing the areas designated on the construction plans. The contractor shall be responsible for clearing trees, bushes, and undergrowth within the "Area to be Cleared and Grubbed" as indicated on the construction drawings. Trees and bushes shall be stockpiled at a location designated by the OWNER.

2. Measurement and payment for this item shall be **per acre** basis. Payment for this item shall be made based on the percentage of the total acreage cleared and grubbed. Final payment will be based on survey quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.6 Item No. 106, General Excavation:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to perform excavation for the construction of Cell 6 to the lines and grades shown on the construction drawings between 0 and plus one-tenth foot of subgrade elevations and limits and stockpiling material as shown in the construction drawings. This item also includes any excavation for the construction of the perimeter drainage channel. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be per **cubic yard**. Monthly payments shall be based on percentage of work completed and approved by the ENGINEER. Final payment shall be based on surveyed quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.7 Item No. 107, 12" Compacted Cohesive Soil Barrier Layer:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and material required to construct a minimum 1.0-foot thick and maximum 1.1-foot thickness (as measured vertically) on sideslopes of the disposal cell of onsite soil layer of compacted cohesive soil barrier to provide a stable base for the installation of the geosynthetics in the disposal cell. The cohesive soil barrier shall be placed, processed and compacted in two 6-inch lifts to 95% MDD at moisture content of -1 to +3 of optimum moisture content. The subgrade surface shall be proof-rolled to identify any soft or wet areas prior to geosynthetic installation. The subgrade surface shall be smooth drum rolled to produce a smooth, even surface for the geomembrane. This work includes, but is not limited to, transportation of the soil material from on-site stockpiles to the area of

placement, placement, moisture condition, compaction, and preparation of the subgrade for liner of the soil material.

2. Measurement and payment for this item shall be per **square yard** of placed material. Monthly payments shall be based on percentage of work completed and approved by the ENGINEER. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.8 Item No. 108, Embankment Fill:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to perform filling, compacting, grading and contouring along the berm and slope construction as shown on the construction drawings, all to between 0 and plus one-tenth foot of the subgrade elevations and limits. The CONTRACTOR is responsible for compacting materials in accordance with the site's approved permit.

2. Measurement and payment for this item shall be per **cubic yard** of placed material. Monthly payments shall be based on percentage of work completed and approved by the ENGINEER. Final payment shall be based on surveyed quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.9 Item No. 109, Protective Cover:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to place a minimum 2.0-foot thick and maximum 2.2-foot thick (as measured vertically) protective soil cover layer on floors and sideslopes of disposal cell from onsite over the geosynthetic liner, except south of intercell berm, where area shall be filled to prevent stormwater from ponding, to the lines and grades shown on the construction drawings. This work includes, but is not limited to, transportation of the soil material from on-site stockpiles to the area of placement, and placement of the soil material.

2. Measurement and payment for this item shall be per **cubic yard** of placed material. Monthly payments shall be based on percentage of work completed and approved by the ENGINEER. Final payment shall be based on surveyed quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.10 Item No. 110, Chimney Drain:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the stone, geotextiles, sacrificial plastic

sheet and any other materials necessary to install the chimney drains at the locations shown on the drawings. The CONTRACTOR is responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be per **linear foot** of placed material. Monthly payments shall be based on percentage of work completed and approved by the ENGINEER. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.11 Item No. 112, Underdrain Trench:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 6" underdrain pipe, stone, geotextiles, and any other materials necessary to install the underdrain trenches and pipe. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of underdrain trench. Monthly payment shall be based on percent completed and approved by the ENGINEER. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.12 Item No. 112, Underdrain Collection Sump:

1. Under the unit bid for this item, the CONTRACTOR shall furnish and install the underdrain collection sump components, including pipes and fittings, stone, bedding materials and geotextiles and any other materials to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum basis** and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.13 Item No. 113, Leachate Collection Trench:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the stone, geotextiles, sacrificial plastic sheet and any other materials necessary to construct the leachate collection

trench with chimney drains. This does not include the 6" leachate collection and 18" riser pipes. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of leachate collection trench. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.14 Item No. 114, Leachate Collection Sump:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor equipment and materials to install the leachate collection sump components, including pipes and fittings, stone, bedding materials and geotextiles and any other materials to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum basis** and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.15 Item No. 115, 14" Underdrain Riser:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 14" underdrain riser pipe (perforated and non-perforated), all fittings, compacted soil, and any other materials necessary to install the underdrain riser pipe in the underdrain sump of Cell 6. The riser pipe will have a blind flange at the top end. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of underdrain riser pipe. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.16 Item No. 116, 18" Leachate Sump Riser:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 18" diameter leachate riser pipe

(perforated and non-perforated), flatstock, all fittings, bedding material, and any other materials necessary to install the leachate riser pipe in the leachate collection sump of Cell 6. This does not include the 6" leachate collection pipe. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of leachate riser pipe. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.17 Item No. 117, 6" Leachate Collection Pipe:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the leachate collection pipes (perforated and non-perforated), including all fittings, and any other materials necessary to install 6" the leachate collection pipe. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of leachate collection and riser pipe. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.18 Item No. 118, 4"x8" Dual Contained Force Main:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the dual walled force main pipe (4" diameter carrier pipe within an 8" diameter containment pipe) including trench excavation, filling, granular bedding material, compacting soil, warning marker tape, for construction of the force main trench to the lines and grades shown on the construction drawings. The force main shall be installed as shown on the drawings and as specified. The Contractor shall provide all materials necessary to install the force main. The force main piping shall be HDPE SDR 11 for the 4" carrier pipe and SDR 17 for the 8" containment pipe. Both the carrier and containment pipe shall be tested for leaks prior to final acceptance. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of installed leachate dual wall force main. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar)

quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.19 Item No. 119, Leachate Manhole:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to perform excavation, backfilling with select soil and compacting soil for the installation of one (1) HDPE SDR 32.5 72" manhole. Included in this bid item is excavation to the depth specified on the drawings for the manhole; provide and installation of sand bedding material; backfilling and compacting select material; concrete pads and wing walls; and other materials and appurtenances necessary to install the force main manhole. Also include all interior manhole piping which is to include ball valves, check valves, air release valves, and in-line IFM magnetic flow meter, as shown on the construction drawings. The manhole requires complete interior piping, including the connection piping between the leachate collection riser to the manhole as indicated on the construction drawings. Flow meter shall have cable routed to a digitizer to be installed within the control panels and be visible from the outside of the panel box. All material, including pipe supports, shall be suited for leachate liquid. All manholes shall be watertight. Shop drawings shall be submitted to the ENGINEER for approval. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall be paid monthly based on percentage of work completed as approved by ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.20 Item No. 120, Underdrain Dewatering Discharge System:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor equipment and materials to install the underdrain dewatering discharge system, including the 3" discharge piping, fittings, ball valves, check valves, pump, panel box, electrical hook up, concrete anchor block, bollards, concrete discharge pad, rip-rap, and all other materials and services to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER.

A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.21 Item No. 121, Leachate Pump and Control Panel:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the leachate pump controls and all components, including 2" discharge piping, panel box, pipes, fittings, electrical hook up and any other materials and services to complete this item. The CONTRACTOR shall furnish and install the leachate pump and all components, including pipes, fittings, and any other materials and services to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.22 Item No. 122, Cell 5 Liner Tie-in:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to locate, excavate and prepare the tie-in to the existing Cell 5 liner system to allow the liner installation CONTRACTOR for placement of liner material. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of liner tie-in. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.23 Item No. 123, Cell Marker Post:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 8' cell marker post and all components, including 6' of above ground steel post, painted red, 2' of below ground steel post, encased in concrete, and any other materials and services to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be on a per **each** basis. Final payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.24 Item No. 124, Perimeter Access Road:

1. Under the bid for this item, the CONTRACTOR shall be responsible for the supply of materials and the construction of an all-weather perimeter road. The road shall be constructed as indicated in the construction drawings. The subgrade material shall be compacted and proof rolled. A 4 oz./s.y. non-woven geotextile, shall be placed on the subgrade. An 8-inch flexible base caliche (TxDOT Specification No. 247 A and/or D, Grade 1) shall be constructed over the compacted subgrade and non-woven geotextile material. The road shall be constructed as indicated in the construction drawings.

2. Measurement and payment for this item shall be on a square yard basis. Final payment will be based on survey, plan (planar) quantities. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.25 Item No. 125, Removing Existing Culvert Crossing:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to remove and dispose in the active landfill face the existing culvert crossing, rip-rap pads and any other materials and services to complete this item. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.26 Item No. 126, Perimeter Access Road Culvert Crossing:

1. Under the unit bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to install the 4-24" corrugated metal pipe culvert crossing, rip-rap pads and any other materials and services to complete this item. The pipe shall be corrugated (2-2/3" x 1/2"), 12 gage, galvanized metal. The rip-rap pads for the perimeter access road culvert crossing shall be composed of 18" thick common, dry, stone rip-rap with diameter of 6" to 12" and underdrain with a 10 oz./sy. non-woven geotextile fabric. The CONTRACTOR shall be responsible to provide

materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **lump sum** basis and shall include all items necessary to complete this portion of the project. Payment shall be made upon completion as approved by the ENGINEER. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.27 Item No. 127, North Perimeter Ditch Re-grading:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials to re-grade (excavate and fill as necessary) the north perimeter ditch. Limits of regrading extend from the perimeter access road culvert crossing to the cell 4 culvert crossing. The CONTRACTOR to re-grade to allow for drainage. The CONTRACTOR shall be responsible to provide materials and workmanship in accordance with the project specifications and the construction drawings.

2. Measurement and payment for this item shall be **linear foot** of ditch re-grading. Monthly payment shall be based on percent completed. Final payment shall be based on surveyed, plan (planar) quantity. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.25 Item No. 201, Geosynthetic Clay Liner:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install a geosynthetic clay liner **($k \leq 1 \times 10^{-9}$)** within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The CONTRACTOR shall be responsible to completely protect the stored material from rain (using heavy plastic sheet or tarps) until it is installed. CONTRACTOR shall pay particular attention to the material specifications for this item found in the SLQCP. The GCL may not be standard run material by all manufacturers. **The specifications provided in the SLQCP must be met.** The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install GCL over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan area** with geosynthetic clay liner installed and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in the unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.26 Item No. 202, 60-mil Smooth HDPE Geomembrane Liner:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install smooth 60-mil High Density Polyethylene Geomembrane within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install smooth HDPE geomembrane over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan area** with 60-mil smooth HDPE liner installed does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.27 Item No. 203, 60-mil Double-sided Textured HDPE Geomembrane Liner:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install 60-mil High Density Polyethylene Geomembrane – Double-Sided Textured within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install textured HDPE geomembrane over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan area** with 60-mil High Density Polyethylene Geomembrane – Double-Sided Textured liner installed and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.28 Item No. 204, 200-mil Geonet:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install 200-mil High Density Polyethylene geonet within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install geonet over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan area** with 200-mil Geonet installed and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.29 Item No. 205, Cell Geotextile:

1. Under the unit price bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install non-woven geotextile fabric (10 oz./sy.) within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install geotextile over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan area** with non-woven geotextile fabric installed in the cell and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.30 Item No. 206, Leachate Collection Double-Sided Geocomposite:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install leachate collection geocomposite drainage layer, consisting of a **200-mil high density polyethylene geonet drainage layer with 10 oz./sy. non-woven geotextile fabric** heat bonded to both sides installed within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The leachate collection geocomposite shall be **GSE FabriNet, or Agru 200-mil Geocomposite with 10 oz./sy. nonwoven geotextile or equivalent**. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install geocomposite over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan area** with Leachate Collection Double-Sided Geocomposite installed as the leachate collection layer and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

1.2.31 Item No. 207, Underdrain Double-Sided Geocomposite:

1. Under the bid for this item, the CONTRACTOR shall furnish all labor, equipment and materials required to install geocomposite drainage layer, consisting of a **300-mil bi-planar high density polyethylene geonet drainage layer with 10 oz./sy. nonwoven geotextile fabric** heat bonded to both sides installed within the limits of the cell as shown on the construction drawings. Price shall include all manufacturers' quality control testing and reporting requirements specified in the SLQCP. The underdrain geocomposite shall be **GSE FabriNet, or Agru 300-mil Geocomposite with 10 oz./sy. nonwoven geotextile or equivalent**. The item shall include any overages, scraps or additional materials that the CONTRACTOR will need to install geocomposite over the areas requiring lining.

2. Measurement and payment for this item shall be **per square foot of surveyed plan area** with Underdrain Double-Sided Geocomposite liner installed and does not include square footage for overlap, anchor trench, or excess material. These costs shall be included in unit cost for plan (planar) area. A ten-percent (10%) retainer will be applied to each of the monthly invoices.

- END OF SECTION -

SECTION 01155
ON-SITE HEALTH AND SAFETY REQUIREMENTS

1.0 GENERAL

1.1 SUMMARY

1.1.1. Construction activities at landfill sites may place CONTRACTOR'S personnel, personnel of other Contractors hired by OWNER to perform Work at site, and public in potentially hazardous situations due to exposure to landfill refuse, leachate, and gases.

1.1.2. CONTRACTOR is responsible for implementation and enforcement of safe Work practices including, but not limited to, personnel exposure to refuse; leachate and gases; operation of equipment; and safety of public during progress of Work.

1.2 QUALITY ASSURANCE

1.2.1. Regulatory Requirements:

1. CONTRACTOR shall plan for and ensure personnel comply with basic provisions of OSHA Safety and Health Standards (29 CFR 1910 and especially 29 CFR 1910.120, March 6, 1990), and General Construction Standards (29 CFR 1926) as appropriate.

2. Comply with applicable laws and regulations of any public body having jurisdiction for safety of persons or property.

3. Comply with the Landfill's site safety program.

1.3 OPERATIONS AND EQUIPMENT SAFETY

1.3.1. CONTRACTOR is responsible for initiating, maintaining, and supervising safety precautions and programs in connection with Work. CONTRACTOR shall take necessary precautions for safety of employees on Project site and other persons and organizations that may be affected by Project.

1.3.2. CONTRACTOR'S duties and responsibilities for safety in connection with Work shall continue until such time as Work is complete and ENGINEER has issued notice to CONTRACTOR that Work is complete.

1.4 HEALTH AND SAFETY

1.4.1. CONTRACTOR is responsible for implementation and enforcement of health and safety requirements, taking necessary precautions and providing protection for following.

1. Personnel working on or visiting Project site, irrespective of employer.

2. Work and materials or equipment to be incorporated in Work area on or off-site.

3. Other property at or adjacent to Project site.

4. Public exposed to job related operations or potential release of toxic or hazardous materials.

1.4.2. CONTRACTOR shall prepare site-specific health and safety plan (HASP). CONTRACTOR is solely responsible for adequacy of HASP's preparation, monitoring, management, and enforcement.

1.5 SUBMITTALS

1.5.1 Contractor shall make available to the OWNER and/or ENGINEER a copy of the HASP. A copy of the document shall be maintained at the site at all times.

- END OF SECTION -

SECTION 01160
SURVEY CONTROL

1.0 GENERAL

1.1 LINES, GRADES AND LEVELS

1.1.1 Coordination and responsibility of construction surveying work on-site shall be that of the CONTRACTOR'S Superintendent.

1.1.2 The OWNER will provide a survey base line and benchmarks for construction purposes as required for the Limit of Work. The CONTRACTOR shall safeguard all survey points and benchmarks. Should any of these points be destroyed, the replacement cost will be borne by the CONTRACTOR. The CONTRACTOR shall assume the entire expense of rectifying work improperly constructed due to failure to maintain and protect such established survey points and benchmarks.

1.1.3 Construction benchmarks, layout, and record drawing data shall be based on the benchmark used to generate the existing topographic information as described in the referenced notes on the design drawings.

1.1.4 The CONTRACTOR shall be responsible for the layout of all grid coordinate locations, lines, grades, and levels necessary for the proper construction of the work called for on the Drawings and in the Specifications, at no additional cost to the OWNER.

1.1.5 The OWNER shall employ a Registered Land Surveyor, registered in the State of Texas, to provide all surveys necessary for contractual payment quantities and for record drawing submission.

1.1.6 The CONTRACTOR shall be responsible for the costs of any additional CQA re-survey work performed due to the CONTRACTOR'S work not being correct or complete at the time the CQA surveyor performs his work.

- END OF SECTION -

SECTION 01200
PROJECT COORDINATION AND MEETINGS

1.0 GENERAL

1.1 PRE-CONSTRUCTION CONFERENCE

1.1.1 The CONTRACTOR shall not commence work until a pre-construction conference with representatives of the CONTRACTOR, ENGINEER and OWNER is conducted. This pre-construction conference will be arranged by the OWNER and is intended to establish lines of communication between the parties involved. The time and place of the pre-construction conference will be determined at the time of bid award.

1.2 PROGRESS MEETINGS

1.2.1 Progress meetings will be held to review the work, to review the construction schedule, to discuss upcoming work, to make necessary adjustments to schedules, to discuss submittals, changes and substitutions, and to discuss any and all other items affecting the Project. The ENGINEER and/or OWNER will preside at progress meetings, the frequency of which will be determined during the preconstruction conference and may be altered as the project proceeds.

1.2.2 Attendance at the progress meetings will include the CONTRACTOR, OWNER, ENGINEER, major subcontractors and suppliers as appropriate to discuss agenda topics for each meeting.

1.2.3 Meeting minutes will be taken and distributed by the ENGINEER.

1.3 JOB SITE ADMINISTRATION

1.3.1 The CONTRACTOR shall keep a competent and authorized supervisory representative at each work location during all working hours who shall act as the agent of the CONTRACTOR.

1.3.2 The supervisory representative shall be a competent English-speaking superintendent capable of reading and thoroughly understanding the Contract Plans and Specifications, with full authority to fulfill the CONTRACTOR'S duties and responsibilities on the job. If, in the opinion of the OWNER, the supervisory representative or any of his successors proves incompetent, not conscientious, or not industrious, then the CONTRACTOR shall replace the supervisory representative upon written request by the OWNER.

1.3.3 The CONTRACTOR shall only employ competent individuals on the job. Whenever the ENGINEER or the OWNER notifies the CONTRACTOR in writing that any individual on the job, whether employed by the CONTRACTOR

or any Subcontractors, is not adhering to the Safety and Health Rules or imperils the safety of others or is incompetent, unfaithful, disorderly, or otherwise unsatisfactory, such individual shall be discharged from the contract work and shall not be employed on it, except with the written consent of the OWNER.

- END OF SECTION -

SECTION 01330
SUBMITTAL PROCEDURES

1.0 GENERAL

1.1 PROGRESS REPORTS, RECORDS AND DATA

1.1.1 The CONTRACTOR shall submit to the OWNER such schedules of quantities and costs, progress schedules, certified payrolls, reports, estimates, records and other data as the OWNER may request concerning work performed or to be performed under this Contract.

1.2 SHOP DRAWINGS, SAMPLES, AND PROJECT DATA

1.2.1 The CONTRACTOR shall submit for review by the ENGINEER ***four*** (4) copies of all shop drawings, construction schedules and such other information as may be required by the prosecution of the work in the shop and in the field as required by the Drawings, Specifications or the ENGINEER and/or OWNER'S instructions. Deviations from the Drawings and Specifications shall be called to the attention of the ENGINEER and/or OWNER at the time of the first submission of shop drawings and other drawings for consideration. The ENGINEER and/or OWNER'S review of any shop drawings shall not release the CONTRACTOR from responsibility for such deviations. Shop drawings shall be submitted with such promptness as to cause no delay in the work or the work of any other CONTRACTOR.

1.2.2 When submitted for the ENGINEER review, all shop drawings shall bear the CONTRACTOR'S certification that they have been reviewed, checked and approved, that they are in harmony with the requirements of the project and with the provisions of the Contract Documents, and that all field measurements and construction criteria, materials, catalog numbers and similar data have been verified. The CONTRACTOR shall also certify that the work represented by the shop drawings is recommended by the CONTRACTOR and that the CONTRACTOR'S guarantee will fully apply.

1.2.3 Checking of submittals is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Any action shown is subject to the requirements of the Contract Documents. The CONTRACTOR is responsible for the fabrication processes and techniques of construction coordination of work, and the satisfactory performance of the work.

1.2.4 The CONTRACTOR may only proceed with the fabrication and construction for items on returned submittals marked **"NO EXCEPTION TAKEN"** or **"MAKE CORRECTIONS AS NOTED."** Submittals must be resubmitted if marked

"REJECTED," "REVISE AND RESUBMIT," or **"SUBMIT SPECIFIED ITEM."**

1.3 The following items are required to be submitted by the CONTRACTOR to the ENGINEER prior to the ordering, fabricating or installation.

Geosynthetic clay liner
Geomembrane liner (smooth and textured)
Geocomposite
Geotextile
HDPE Pipe (Dual and single wall)
HDPE Manholes
Flexible Base
Concrete mix design
Rebar
Valves and Fittings
Flow Meter and Digitizer
Leachate Pump
Dewatering Pump
24" Culverts
Stone Rip-Rap
Gabion Mat
Flap Gates
Nuts, Bolts, and Washers
XR-5 Geomembrane
Post, steel wire and fabric for silt fence
40-mil HDPE Geomembrane
Geotextile
Stone or crushed concrete
Erosion Control Mat
Seed

1.4 CONSTRUCTION PROGRESS SCHEDULE

1.4.1 The CONTRACTOR shall, within 15 days after award of contract, provide and submit to the ENGINEER for review, the planned construction schedule for the work. This schedule may be in bar chart format. The schedule shall indicate, at a minimum, the start and finish dates for the major work tasks, show any overlapping work and indicate the overall project completion. Any planned non-work days shall also be indicated.

1.5 OPERATIONS AND MAINTENANCE MANUALS

1.5.1 All operations and maintenance manuals are considered part of the shop drawing submittal for any and all piece(s) of equipment, and the CONTRACTOR is responsible for providing ***four*** (4) such manuals to the ENGINEER as part of this contract.

1.6 SEDIMENTATION AND EROSION CONTROL

1.6.1 The CONTRACTOR'S plan for silt and erosion control shall be submitted to the ENGINEER and/or OWNER for review and authorization to proceed prior to implementation.

- END OF SECTION -

SECTION 01400
QUALITY REQUIREMENTS

1.0 GENERAL

1.1 GENERAL QUALITY CONTROL

1.1.1 The CONTRACTOR shall maintain quality control over the suppliers, manufacturers, products, services, site conditions, and workmanship to produce work of specified quality.

1.1.2 The CONTRACTOR shall comply with industry standards except when more restrictive tolerances or specified requirements indicate more rigid standards or more precise workmanship.

1.1.3 All testing locations for in-place testing shall be as determined by the ENGINEER. The ENGINEER reserves the right to require the CONTRACTOR to retest areas where samples locations were not selected by the ENGINEER, at no cost to the OWNER or ENGINEER.

1.2 OBSERVATION AND TESTING

1.2.1 The ENGINEER shall provide Construction Quality Assurance (CQA) services. These services will be performed in accordance with the requirements of governing authorities, and with specified standards, to establish whether the work is in accordance with the Contract Plans, Specifications, the site's permit, Erosion and Sediment Control Plan, Soil and Liner Quality Control Plan, and TCEQ requirements. Reports of the results of soil and material testing indicating compliance or non-compliance with specified standards and with the Contract Documents shall be submitted to the OWNER for review.

1.2.2 The CONTRACTOR shall cooperate with the ENGINEER and/or OWNER during all testing and sampling and furnish tools, equipment, samples of materials, and assistance as requested.

1.2.3 The CONTRACTOR shall allow the ENGINEER and/or OWNER ample time and opportunity for testing of materials used in the work. The CONTRACTOR shall advise the ENGINEER promptly upon placing orders for materials so that arrangements may be made, if desired, for inspection before shipment from the place of manufacture. The CONTRACTOR shall allow proper time for inspecting and testing of materials and workmanship. The CONTRACTOR must anticipate that possible delays in the execution of this work due to the necessity of materials being inspected and accepted for use.

1.2.4 The work shall at all times be subject to the observation of the OWNER and/or ENGINEER. Observation or non-observation by the OWNER and/or the

ENGINEER shall not relieve the CONTRACTOR from the contractual obligation to furnish work and material as required and properly complete the work in accordance with these Contract Documents. If the OWNER or the ENGINEER considers the work not properly accomplished, all or any part of the materials or equipment incorporated in it may be condemned or rejected. If any material, equipment, or work is condemned or rejected by the OWNER or ENGINEER, the CONTRACTOR shall bear all expenses for removal and proper replacement of such material, equipment, or work replacing any work done by others that is adversely affected by removal and proper replacement of improper work done by the CONTRACTOR shall be borne by the CONTRACTOR.

1.2.5 The approved SLQCP shall govern in any dispute between the contract documents as determined by the ENGINEER. A copy of this document is included in this bid package.

1.2.6 The CONTRACTOR shall be responsible for all costs associated with any CQA re-testing due to the failure of the CONTRACTOR's work.

1.3 SUBSTANDARD WORK OR MATERIALS

1.3.1 Any defective or substandard work or materials furnished by the CONTRACTOR which is discovered before the final acceptance of the work, as established by the ENGINEER and/or OWNER'S Certificate of Substantial Completion, or during the subsequent guarantee period, shall be removed immediately by the CONTRACTOR even if initially overlooked by the ENGINEER and/or OWNER and was recommended for payment. Any equipment or materials condemned or rejected by the ENGINEER and/or OWNER shall be tagged as such and shall be immediately removed from the site by the CONTRACTOR. Satisfactory work or materials shall be substituted by the CONTRACTOR for that rejected.

1.3.2 The ENGINEER and/or OWNER may order tests on substandard or damaged work, equipment, or materials to determine the required functional capability for possible acceptance, if there is no other reason for rejection. The cost of such test shall be borne by the CONTRACTOR and the nature, extent, and supervision of the tests will be as determined by the ENGINEER and/or OWNER. If the results of the tests indicate that the required functional capability of the work, equipment, or material is not impaired, consistent with the final general appearance of same, the work, equipment, or materials may be deemed acceptable. If the results of such tests reveal that the required functional capability of the questionable work or materials has been impaired, then such work or materials shall be deemed substandard and shall be replaced by the CONTRACTOR. The CONTRACTOR may elect to replace the substandard work or material in lieu of performing the tests.

1.4 WATERTIGHTNESS

1.4.1 All structures, pipes, and equipment which are to contain fluids shall be watertight under all operating conditions for which they are intended. The CONTRACTOR shall furnish all labor, materials and equipment and do all work required by the ENGINEER and/or OWNER to make all such parts of the work watertight, or to replace them if in the opinion of the ENGINEER and/or OWNER any leakage is excessive. All such parts of the work filled with water for testing watertightness shall be left filled as ordered by the ENGINEER and/or OWNER.

1.5 CARE OF WATERCOURSES

1.5.1 The CONTRACTOR shall maintain the flow in all watercourses, including open channels or in pipes, in all sewers and other pipes interfered with in the line of work and convey the flow to a suitable point of discharge so as not to flow upon the work or create a nuisance. In the discharge of water removed from the excavations by pumping or by gravity, similar precautions shall be observed. Any accumulation of silt caused by the pumping operation shall be removed by the CONTRACTOR at the end of the projects, or more frequent as necessary to maintain flow.

- END OF SECTION -

SECTION 01420
REFERENCES

1.0 GENERAL

The following Definitions are applicable to the specification:

1.1 The word "OWNER" shall mean City of Brownsville, or a duly authorized representative.

1.2 The word "CONTRACTOR" shall mean the successfully bidded contracting firm, or a duly authorized representative.

1.3 The word "ENGINEER" shall mean SCS Engineers (SCS) or a duly authorized OWNER's representative during the construction period. They shall have authority to reject the Work whenever such rejection may be necessary in their reasonable opinion to insure the proper execution of the Contract. The ENGINEER shall also provide Construction Quality Assurance and Construction Management services.

1.4 "SUBCONTRACTOR" shall mean any individual, firm or corporation supplying work and/or material at the Site pursuant to a separate agreement with the CONTRACTOR.

1.5 "Site" shall mean the specific area adjacent to and including the area upon which the Work is to be performed.

1.6 "Work" shall mean all activities of the CONTRACTOR undertaken at the Site pursuant to the Contract Documents relating to the Agreement.

1.7 "Project" shall mean the total construction of which the Work performed under the Contract Documents may be the whole or a part.

1.8 "Superintendent" shall be that person or persons appointed as the CONTRACTOR'S agent at the Site.

1.9 "Geotechnical Firm" shall mean any company capable of performing laboratory and field soils testing as required. Said Geotechnical Firm shall be under the supervision of a Registered Professional Engineer licensed in the State of Texas, and under contract with the ENGINEER.

1.10 "Contract Documents" shall mean all drawings, plans, specifications, and addendum prepared by SCS and made available for purchase during the bidding phase of this project.

- END OF SECTION -

SECTION 01500
TEMPORARY FACILITIES AND CONTROLS

1.0 GENERAL

1.1 EQUIPMENT

1.1.1 The CONTRACTOR shall furnish labor and equipment which will be efficient, appropriate and large enough to secure a satisfactory quality of work and at a rate of progress which will ensure the completion of the work within the time stipulated in the Agreement. If at any time such labor and equipment appears to the ENGINEER and/or OWNER to be inefficient, inappropriate or insufficient for securing the quality of work required or for producing the rate of progress aforesaid, the CONTRACTOR may be ordered to increase the efficiency, change the character or increase the labor and equipment, and the CONTRACTOR shall conform to such order. Failure of the ENGINEER and/or OWNER to give such order shall in no way relieve the CONTRACTOR of his obligations to secure the quality of the work and the rate of progress required.

1.2 PRIVATE LAND

1.2.1 The CONTRACTOR shall not enter or occupy private land outside of easements except by permission of the landowner.

1.3 PIPE LOCATIONS

1.3.1 Pipelines shall be located substantially as indicated on the Drawings, but the ENGINEER and/or OWNER reserves the right to make such modifications in locations as may be found desirable to avoid interference with existing structures or for other reasons. Where fittings are noted on the Drawings, such notation is for the CONTRACTOR'S convenience and is not a release from laying and jointing different or additional items where required.

1.4 HAULING, HANDLING, AND STORAGE OF MATERIALS

1.4.1 The CONTRACTOR shall, at his own expense, handle and haul all furnished materials and shall remove any surplus materials at the completion of the work. The CONTRACTOR shall provide suitable and adequate storage for equipment and materials that are liable to injury and shall be responsible for any loss or damage to any equipment or materials by theft, breakage, or otherwise. The CONTRACTOR shall be responsible for all damages to the work under construction during its progress and until final completion and acceptance even though partial payments have been made under the Contract.

1.5 OPEN EXCAVATIONS

1.5.1 All open excavations shall be adequately safeguarded by providing temporary barricades, caution signs, lights and other means to prevent accidents to persons, and damage to property. The CONTRACTOR shall, at own expense, provide suitable and safe means for completely covering all open excavations and for accommodating travel when work is not in progress. The length of open trench will be controlled by the particular surrounding conditions but shall always be confined to the limits prescribed by the ENGINEER and/or OWNER. If the excavation becomes a hazard, or if it excessively restricts traffic at any point, then special construction procedures shall be taken, such as limiting the length of trench.

1.6 TEST PITS

1.6.1 Test pits for the purpose of locating bedding material, select or structural fill in advance of the construction shall be at the discretion of the CONTRACTOR. Test pits shall be excavated and backfilled by the CONTRACTOR as directed by the ENGINEER and/or OWNER. Test pits shall be backfilled immediately after their purpose has been satisfied and the surface restored and maintained in a manner satisfactory to the ENGINEER and/or OWNER.

1.7 PROTECTION AND RELOCATION OF EXISTING STRUCTURES AND UTILITIES

1.7.1 The CONTRACTOR shall assume full responsibility for the protection of all buildings, structures, and utilities, public or private, including signs, services to buildings, gas pipes, water pipes, hydrants, sewers, drains, and electric and telephone cables, whether or not they are shown on the Drawings. The CONTRACTOR shall carefully support and protect all such structures and utilities from injury of any kind. The CONTRACTOR is required to comply with all provisions of General Laws Chapter 353 entitled "Excavations-Public Ways-Notice Requirements" otherwise known as Dig Safe. Any damage resulting from the CONTRACTOR'S operations shall be repaired at the CONTRACTOR'S own expense.

1.7.2 Assistance will be given the CONTRACTOR in determining the location of existing services. The CONTRACTOR, however, shall bear full responsibility for obtaining all locations of underground structures and utilities (including existing water services, drains, and sewers). Services to buildings shall be maintained and all costs or charges resulting from damage thereto shall be paid by the CONTRACTOR.

1.7.3 Protection and temporary removal and replacement of existing utilities and structures as described in this section shall be a part of the work under the Contract and all costs in connection therewith shall be included in the unit prices established in the Contract.

1.7.4 If, in the opinion of the ENGINEER and/or OWNER, permanent relocation of a

utility owned by the OWNER that is not shown on the plans or in the specifications is required, OWNER may direct the CONTRACTOR in writing to perform the work. Work so ordered will be paid as extra work. If relocation of a privately owned utility is required, the OWNER will notify the utility to perform the work as expeditiously as possible. The CONTRACTOR shall fully cooperate with the OWNER and utility, and shall have no claim for delay due to such relocation. The CONTRACTOR shall notify public utility companies in writing at least 72 hours (excluding Saturdays, Sundays, and legal holidays) before excavating in any public way.

1.7.5 All existing top of berm and dike elevations must be maintained. Should CONTRACTOR use any top of berm or dike to run equipment on, the existing top elevation must be maintained at all times.

1.8 PROTECTION OF CONSTRUCTION AND EQUIPMENT

1.8.1 All newly constructed work shall be carefully protected from damage in any way. All injured portions shall be reconstructed by and at the CONTRACTOR'S own expense.

1.8.2 All structures shall be protected in a manner approved by the ENGINEER and/or OWNER. Should any parts of the structures become heaved, cracked, or otherwise damaged, all such damaged portions of the work shall be completely repaired and made good by and at the CONTRACTOR'S own expense and to the satisfaction of the ENGINEER and/or OWNER.

1.8.3 If, in the final inspection of the work, any defects, faults or omissions are found, the CONTRACTOR shall cause the same to be repaired or removed and replaced by proper materials and workmanship without extra compensation for the materials and labor required. Further, the CONTRACTOR shall be fully responsible for the satisfactory maintenance and repair of the construction and other work undertaken herein for at least the guarantee period described in the Contract Documents.

1.8.4 The CONTRACTOR shall take all necessary precautions to prevent damage to any structure due to water pressure during and after construction and until such structure is accepted and taken over by the OWNER.

1.9 CARE AND PROTECTION OF PROPERTY

1.9.1 The CONTRACTOR shall be responsible for the preservation of all public and private property, and shall use every precaution necessary to prevent damage thereto. If any direct or indirect damage is done to public or private property by or on account of any act, omission, neglect, or misconduct in the execution of the work on the part of the CONTRACTOR, such property shall be restored by and at the Contractor's own expense to a condition similar or equal to that existing

before the damage was done or shall make good the damage in another manner acceptable to the ENGINEER and/or OWNER.

1.9.2 Along the location of this work, all fences, walks, bushes, trees, shrubbery, and other physical features shall be protected and restored in a thoroughly workmanlike manner. Fences and other features removed by the CONTRACTOR shall be replaced in the location indicated on the Drawings as soon as conditions permit. All grass areas beyond the limits of construction that have been damaged by the CONTRACTOR shall be graded and seeded.

1.9.3 Trees close to the work shall be boxed or otherwise protected against injury. The CONTRACTOR shall trim all branches that are liable to damage due to operations, but in no case shall any trees be cut or removed without prior notification of the OWNER. All injuries to bark, trunk, limbs, and roots of trees shall be repaired by dressing, cutting, and painting according to approved methods using only approved tools and materials.

1.9.4 The protection, removal, and replacement of existing physical features along the line of work shall be a part of the work under the Contract, and all costs in connection therewith shall be included in the Bid Proposal.

1.10 REJECTED MATERIALS AND DEFECTIVE WORK

1.10.1 Materials furnished by the CONTRACTOR and condemned by the ENGINEER and/or OWNER as unsuitable or not in conformity with the specifications shall forthwith be removed from the work by the CONTRACTOR, and shall not be made use of elsewhere in the work. Any errors, defects or omissions in the execution of the work or in the materials furnished by the CONTRACTOR, even though they may have been passed or overlooked or have appeared after the completion of the work, discovered at any time before the final payment is made hereunder, shall be forthwith rectified and made good by and at the expense of the CONTRACTOR and in a manner satisfactory to the ENGINEER and/or OWNER. The CONTRACTOR shall reimburse the OWNER for any expenses, losses or damages incurred in consequence of any defect, error, omission or act of the CONTRACTOR or Contractor's employees, as determined by the ENGINEER and/or OWNER, occurring previous to the final payment.

1.11 TEMPORARY UTILITIES

1.11.1 Temporary Light, Communication, and Power: The CONTRACTOR shall at own expense, provide temporary light and power as required for the prosecution and completion of work.

1.11.2 Temporary Water: The CONTRACTOR will provide water at his own expense for drinking purposes and other usage.

1.12 ACCESS TO THE WORK

1.12.1 The CONTRACTOR shall provide sufficient and proper facilities at all times for the inspection of all work under this project in preparation or in progress, by the OWNER, the agents and employees of the OWNER, by authorized representatives of the Texas Commission on Environmental Quality, and by the ENGINEER.

1.12.2 The CONTRACTOR shall furnish the ENGINEER and/or OWNER or its authorized representative and other personnel mentioned above with such facilities and assistance as are necessary to ascertain performance of the work in accordance with the Contract Documents.

1.13 DUST CONTROL

1.13.1 During the progress of the work, the CONTRACTOR shall conduct operations and maintain the activities area, including sweeping and sprinkling of water as necessary, so as to minimize the creation and dispersion of dust. No calcium chloride shall be used.

1.14 POLLUTION CONTROL

1.14.1 The CONTRACTOR shall conduct clean up and disposal operations, as necessary, to comply with state and local ordinances and anti-pollution laws.

1.14.2 Outdoor burning of rubbish and waste material on the site will not be permitted.

1.14.3 Disposal of volatile fluid wastes (such as mineral spirits, oil, gasoline, or paint thinner) in storm or sanitary sewer systems or into streams or waterways is not permitted.

1.15 SEDIMENTATION AND EROSION CONTROL

1.15.1 The CONTRACTOR shall plan and execute all operations, particularly those associated with excavation and backfilling, in such a manner as to minimize the amount of excavated and exposed fill or other foreign material that is washed or otherwise carried into waterways. The water quality of waterways shall not be degraded due to construction activities.

1.15.2 The CONTRACTOR'S plan for siltation control shall be submitted to the ENGINEER and/or OWNER for review and authorization to proceed prior to implementation.

1.15.3 The CONTRACTOR shall furnish and place hay bales and other materials necessary for sedimentation and erosion control.

1.15.4 Hay bales shall consist of hay from acceptable grasses and legumes, free from weeds, reeds, twigs, chaff, debris, other objectionable material or excessive amounts of seeds and grain. It shall be free from rot or mold and the moisture content shall not exceed fifteen (15) percent by weight at the time of weighing.

1.15.5 The hay shall be securely baled with wire of adequate size to allow for possible rusting while in use and to permit rehandling when the bale is in a saturated condition.

1.15.6 It is the intent of these Specifications to prevent the unnecessary occurrence of sedimentation or siltation of adjacent properties. In the event the sedimentation or siltation prevention measures used by the CONTRACTOR prove to be inadequate as determined by the ENGINEER and/or OWNER, the CONTRACTOR shall be required to adjust his operations to the extent necessary to prevent any such sedimentation or siltation or erosion, shall be repaired by the CONTRACTOR at no additional cost to the OWNER.

1.15.7 Existing natural drainage patterns and vegetative cover shall be preserved to the maximum possible extent.

1.15.8 Baled hay shall be placed to form temporary water stops, dams, diversions, dikes, berms and for other uses connected with water pollution control; bales may be left in place or disposed of by the CONTRACTOR as best suits field conditions and requirements, all as directed by the ENGINEER and/or OWNER.

1.15.9 On sloping terrain, hay bales may be used to trap sediment until vegetation has become established. The details of their placement shall be as approved by the ENGINEER and/or OWNER.

1.15.10 Sediment laden water pumped from the trenches or excavations shall not be pumped directly into watercourses. Sedimentation basins of hay bales, check dams, or other means acceptable to the ENGINEER and/or OWNER shall be used for this purpose.

1.15.11 The CONTRACTOR shall include the cost of sedimentation and erosion control work in his total bid price.

- END OF SECTION –

SECTION 01600
PROJECT REQUIREMENTS

1.0 GENERAL

1.1 SUMMARY

1.1.1 Material and Equipment Incorporated into Work:

1. Conform to applicable specifications and standards.

2. Comply with size, make, type, and quality specified or as specifically approved by Shop Drawing, ENGINEER and/or OWNER, or other submittal.

1.1.2 Manufactured and Fabricated Materials and Equipment:

1. Design, fabricate, and assemble in accordance with engineering and shop practices standard with industry.

2. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.

3. Two or more items of same kind shall be identical, by same manufacturer.

4. Material and equipment shall be suitable for service conditions.

5. Equipment capabilities, sizes, and dimensions shown or specified shall be adhered to, unless variations are specifically approved, in writing, in accordance with General Conditions.

6. Equipment shall be adapted to best economy in power consumption and maintenance. Parts and components shall be proportioned for stresses occurring during continuous or intermittent operation, and for additional stresses occurring during fabrication or installation.

7. Design so working parts readily accessible for inspection and repair, easily duplicated, and replaced.

1.1.3 Do not use material or equipment for purpose other than for which it is designed or specified.

1.2 SUBSTITUTIONS

1.2.1 Substitutions:

1. CONTRACTOR'S requests for changes in equipment and materials from those required by Contract Documents are considered "requests for substitutions" and subject to CONTRACTOR'S representations and review provisions of Contract Documents when one of following conditions are satisfied.

   A. Where request directly related to "or equal" clause or other language of same effect in Specifications.
   B. Where required equipment or material cannot be provided within Contract Time, but not as result of CONTRACTOR'S failure to pursue Work promptly or coordinate various activities properly.
   C. Where required equipment or material cannot be provided in manner compatible with other materials of Work, or cannot be properly coordinated therewith.

2. CONTRACTOR'S Options:

   A. Compatibility of Options: Where more than one choice is available as options for CONTRACTOR'S selection of equipment or material, select option compatible with other equipment and materials already selected.
   B. Standards, Codes, and Regulations: Where compliance with imposed standard, code or regulation is required, select from among products which comply with requirements of those standards, codes, and regulations.
   C. "Or Equal": For material or equipment specified by naming one or more equipment manufacturer and "or equal", CONTRACTOR shall submit request for substitution for equipment or manufacturer not specifically named. Submit in accordance with Article 6 of General Conditions and these General Requirements.
   D. Two or More Manufacturers: For equipment or material specified by naming several manufacturers, select one of manufacturers named. Do not provide or offer to provide unnamed manufacturer or equipment.
   E. Single Manufacturer or Material: For equipment or material specified by naming only one manufacturer or material and followed by words indicating no substitution, there is no option.

1.2.2 Conditions which are not substitutions:

1. Requirements for substitutions do not apply to CONTRACTOR options on materials and equipment provided for in Specifications.

2. Revisions to Contract Documents, where requested by OWNER or

ENGINEER, are "changes" not "substitutions."

3. CONTRACTOR'S determination of and compliance with governing regulations and orders issued by governing authorities do not constitute substitutions or basis for Change Orders, except as provided for in Contract Documents.

1.3 MANUFACTURER'S INSTRUCTIONS

1.3.1 Installation of equipment and materials shall comply with manufacturer's instructions. Obtain and distribute printed copies of such instructions to parties involved in installation, including 2 copies to ENGINEER and/or OWNER.

1. Maintain one set of complete instructions at job site during installation and until completion of Work.

1.3.2 Handle, store, install, connect, clean, condition, and adjust materials and equipment in accordance with manufacturer's written instructions and in conformance with Specifications.

1. If job conditions or specified requirements conflict with manufacturer's instructions, consult ENGINEER and/or OWNER for further instructions.

2. Do not proceed with Work without written instructions.

1.4 TRANSPORTATION AND HANDLING

1.4.1 The CONTRACTOR shall arrange deliveries of materials and equipment in accordance with Construction Progress Schedule, coordinate to avoid conflict with Work and conditions at site.

1. Deliver materials and equipment in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.

2. Immediately upon delivery, inspect shipments to ensure compliance with Contract Documents and approved submittals, and ensure products have been protected and are not damaged.

1.4.2 Provide equipment and personnel to handle materials and equipment by methods recommended by manufacturer to prevent soiling or damage to materials or equipment, or packaging.

1.5 STORAGE, PROTECTION, AND MAINTENANCE

1.5.1 On-site storage areas and buildings shall conform to requirements of Section

01500.

1.5.2 OWNER assumes no responsibility for materials and equipment stored in buildings or on-site or at another location approved in writing. Each CONTRACTOR assumes full responsibility for damage due to storage of materials and equipment.

1.5.3 Interior Storage:

1. Store materials and equipment in accordance with manufacturer's instructions, with seals and labels intact and legible.

2. Store materials and equipment subject to damage by elements in weather tight enclosures.

3. Maintain temperature and humidity within ranges required by manufacturer's instructions.

1.5.4 Exterior Storage:

1. Store fabricated materials and equipment above ground, on blocking or skids, to prevent soiling or staining. Cover materials and equipment subject to deterioration with impervious sheet coverings. Provide adequate ventilation to avoid condensation.

2. Store loose granular materials in well-drained area on solid surfaces to prevent mixing with foreign matter.

3. Materials such as geosynthetic materials, pipe, reinforcing and structural steel, and equipment shall be stored on pallets or racks, off ground.

1.5.5 Inspection and Maintenance:

1. Arrange storage to provide easy access for inspection, maintenance, and inventory.

2. Make periodic inspections of stored materials and equipment to ensure materials and equipment maintained under specified conditions and free from damage or deterioration, and coverings in-place and in condition to provide required protection.

3. Perform maintenance on stored material and equipment in accordance with manufacturer's written instructions and in presence of OWNER or ENGINEER.

1.5.6 The CONTRACTOR shall assume responsibility for protection of completed

construction and repair and restore damage to completed Work equal to original condition.

- END OF SECTION -

SECTION 01770
CLOSEOUT PROCEDURES

1.0 GENERAL

1.1 CLOSEOUT PROCEDURES

1.1.1 The CONTRACTOR shall submit Final Receipt, Waiver, and Release of Lien Rights (to be completed by each Supplier, Subcontractor, and Material Vendor) prior to final payment and/or issuance of Substantial Completion. A copy of the Final Receipt, Waiver, and Release of Lien Rights form follows this section.

1.1.2 The CONTRACTOR shall submit Final Payment - General Release and Indemnity Agreement within thirty (30) days of receiving final payment. A copy of the Final Payment - General Release and Indemnity Agreement follows this section.

1.1.3 The CONTRACTOR shall request from the ENGINEER and/or OWNER for issuance of the Certificate of Substantial Completion.

1.1.4 The CONTRACTOR shall submit a written certification that the Contract Documents have been reviewed and that the work is complete in accordance with the Contract Documents and ready for inspection.

1.1.5 The CONTRACTOR shall submit a statement of accounting giving the total adjusted Contract Sum, previous payments, and the sum remaining due.

1.2 FINAL CLEANING

1.2.1 The CONTRACTOR shall perform the final cleaning prior to final site inspection by the OWNER and/or ENGINEER. Final cleaning shall consist of removal or relocation, as directed by the ENGINEER and/or OWNER, of temporary construction materials and any and all removal of waste and surplus materials and rubbish arising from the action of the CONTRACTOR within the site.

1.3 WARRANTIES

For items of work delayed materially beyond the date of substantial completion, the CONTRACTOR shall provide an updated submittal within ten days after acceptance of the delayed items of work, listing the date of acceptance as the start of the warranty period.

- END OF SECTION -

CERTIFICATE OF COMPLETION

Type: Substantial [ ] Final [ ]

Project: City of Brownsville Municipal Landfill – Disposal Cell 6 Construction, Brownsville, TX

Agreement No.: Date:

Description of Work Completed:

Submitted by: CONTRACTOR'S Representative

Signature: Date:

Name (print):

Title:

Representing

I hereby certify that the above-identified work has been inspected and that it has been properly installed. I further certify that all required testing has been completed and that the results have been deemed acceptable. Also, the Work is in compliance with the drawings and specifications and is suitable for its intended use. Any identified exceptions to this Certificate of Completion are attached.

Certified by: CQA ENGINEER

Signature: Date:

Name (print):

Title:

Representing:

Certified/Accepted by: OWNER'S Representative

Signature: Date:

Name (print):

Title:

Representing: The City of Brownsville

FINAL PAYMENT
GENERAL RELEASE AND INDEMNITY AGREEMENT

KNOW ALL MEN BY THESE PRESENT:

That _____(CONTRACTOR) a _____ corporation, with an office at _____ in consideration of the payment of $_____ on Invoice No._____representing the final payment under the Agreement dated _____, between the undersigned and City of Brownsville (OWNER), covering the design, engineering, procurement, construction, or performance of services at (or for) the City of Brownsville Municipal Landfill – Disposal Cell 6, does hereby certify and warrant that it has been fully paid on account of said Agreement and does further certify and warrant that it has fully paid and satisfied all claims for work, labor, materials, supplies, equipment, and all other items used or furnished by the undersigned and its subcontractors and material ment in the performance of said Agreement. The undersigned therefore waives, releases, and discharges the City of Brownsville (OWNER) and the real property on which the undersigned's performance of this Agreement was performed, from and against any and all claims, liabilities, actions and judgments arising out of any matter related to this Agreement.

The undersigned, in consideration of the final payment being made by OWNER pursuant to such Agreement, does hereby release and forever discharge the City of Brownsville (OWNER) from any right of lien it may have against OWNER under said Agreement, and the undersigned hereby agrees to defend, indemnify, and hold harmless OWNER and its officers and agents from and against all claims, demands, and liabilities arising out of labor performed or material and equipment supplied by the undersigned or by its subcontractors or material vendors or otherwise caused in whole or in part by the undersigned in connection with the performance of said Agreement.

In addition, the undersigned agrees to reimburse OWNER for any excess payments made by it to the undersigned, which may be discovered as a result of OWNER's audit of the aforementioned Agreement.

IN WITNESS WHEREOF, the undersigned has caused this Release and Indemnity to be executed by its duly authorized officer this _____ day of _____, 20 __.

By:_____ (Signature)

Its:
(Authorized Agent's Typed Name and Title)

FINAL RECEIPT, WAIVER, AND RELEASE OF LIEN RIGHTS
(to be completed by each Supplier, Subcontractor and Material Vendor)

The undersigned hereby acknowledges receipt, payment, and satisfaction in full for all labor, services, and materials furnished or supplied up to and including the (date) _____, relating to use, to be used, or contributing to the construction, addition, or development of the work or improvements concerning that certain real property, commonly known as The City of Brownsville Municipal Landfill – Disposal Cell 6 Construction.

The undersigned hereby expressly waives, releases, and discharges the real property described above and the Owner thereof, of and from any and all claims for mechanics' liens and rights to any such claim which the undersigned has or may have for labor, services, or materials or otherwise in connection with said work of improvements and every part thereof up to and including the date hereof and does hereby waive and release any and all rights that the undersigned now has or may have to levy or place any mechanics' lien, attachment lien, judgment lien, or execution lien on or against the real property described above for any existing indebtedness of the Owner of said real property to the undersigned.

Invoice No:_____Supplier:
(or Subcontractor/Material Vendor)

Amount:_____By:
(Signature)

Title:
(Authorized Agent's Typed Name and Title)

Date:

SECTION 01781
PROJECT RECORD DOCUMENTS

1.0 GENERAL

1.1 MAINTENANCE OF RECORD DOCUMENTS AND SAMPLES

1.1.1 The CONTRACTOR shall maintain at the site for the OWNER'S permanent record one complete set of Record Documents which include a copy of the Contract Plans, Contract Specifications, Addenda, Change Orders, OWNER's Field Orders, Shop Drawings, Product Data, and Samples. The Contract Plans are to be used as Record Drawings by the CONTRACTOR.

1.1.2 The Record Documents shall be stored in the CONTRACTOR'S field office apart from other field documents used by the CONTRACTOR for construction purposes. The CONTRACTOR shall maintain the Record Documents in clean, dry, legible condition and in good order. The Record Documents shall be made available at all times for inspection by the OWNER and ENGINEER.

1.2 MARKING

1.2.1 The CONTRACTOR shall mark all changes on the Record Drawings upon construction of that item of work. The CONTRACTOR shall record information concurrently with construction progress and shall not cover any work until the required information has been recorded on the Record Drawings.

1.3 SUBMITTAL OF RECORD DRAWINGS

1.3.1 Record Drawings shall be provided by the CONTRACTOR, approved by the ENGINEER, and shall be submitted to the OWNER.

- END OF SECTION -

DIVISION 2

SECTION 02100
SITE PREPARATION

1.0 GENERAL

1.1 SECTION INCLUDES

1.1.1 Remove surface debris.

1.1.2 Clear site of plant life and grass. Being careful to avoid plant life and other features as landscaping as designated by OWNER.

1.1.3 Remove and stockpile topsoil.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 All materials and equipment used in conjunction with this work shall be considered incidental to the work.

3.0 EXECUTION

3.1 PROTECTION

3.1.1 Notify corporations, companies, individuals, or authorities owning utilities running to property or encountered during excavating operations.

3.1.2 Protect, support, and maintain utilities that are to remain.

3.1.3 Protect benchmarks from damage or displacement.

3.2 CLEARING

3.2.1 Clear areas required for access to site and execution of work.

3.3 REMOVAL

3.3.1 Remove debris, rock, and extracted plant life as directed by OWNER.

3.3.2 Remove topsoil to entire depth in areas where grade is to be raised and in areas to be covered by structure, walk, or paving. Stockpile where indicated on Drawings or designated by OWNER and/or ENGINEER. Grade stockpile for proper drainage. Strip stockpile areas of vegetation prior to stockpiling.

- END OF SECTION -

SECTION 02210
ROUGH GRADING

1.0 GENERAL

1.1 SECTION INCLUDES

1.1.1 Removal of subsoil.

1.1.2 Cutting, grading, and compacting soil to bottom of liner grades.

1.1.3 Segregating and stockpiling excess materials as directed by OWNER.

1.2 RELATED SECTIONS

1.2.1 02100 - Site Preparation

1.2.2 02211 - Surface Preparation

1.3 REFERENCES

1.3.1 ASTM D698 - Test Methods for Moisture-Density Relations of Soils and Soil Aggregate Mixtures Using 5.5-lb. (2.49 kg) Rammer and 12-in. (305 mm) Drop.

1.3.2 ASTM D1557 - Test Methods for Moisture Density Relations of Soils and Soil Aggregate Mixtures Using 10-lb. (4.54 kg)Rammer and 18-in. (457 mm) Drop.

1.3.3 ASTM D2216 - Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate in-place by Nuclear Methods.

1.3.4 ASTM D2922 - Test Method for Density of Soil and Soil-Aggregate in-place by Nuclear Methods.

1.3.5 ASTM D1556 - Test Method for Density of Soil in-place by the Sand-Cone Method.

1.3.6 ASTM D2167-84 - Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Soils are classified in accordance with Unified Soil Classification System.

1. Suitable materials for structural fill for the landfill shall be GW, GP, SW, SP, SM, GM, GC, SC, ML, CH or CL, properly worked within moisture content range which will readily facilitate compaction to requirements specified.

2. Unsuitable materials for soil fill are PT, OH, MH, and OL. Use as general fill only.

3. Maximum size aggregate for soil fill materials shall be 4-inches. For GCL, maximum particle size at subgrade surface shall not exceed $^{3}/_{4}$ inch.

4. Off-site borrow sources must be approved by OWNER or OWNER'S representative.

5. Free of frozen material, ice, snow, or excessive moisture.

6. Compacted soil material shall be approved by ENGINEER before placement based upon information obtained from quality assurance testing.

3.0 EXECUTION

3.1 EXAMINATION

3.1.1 Verify site conditions are consistent with the design Drawings. Any discrepancies shall be reported to the OWNER and/or ENGINEER.

3.1.2 Verify that construction benchmarks designated on Drawings and intended elevations for the Work are as indicated.

3.2 PREPARATION

3.2.1 Identify required lines, levels, contours, and datum.

3.2.2 Stake and flag locations of known monitoring devices.

3.2.3 Locate, identify, and protect monitoring devices to remain from damage.

3.2.4 Protect plant life and other features remaining as a portion of landscaping

as designated by OWNER.

3.2.5 Protect benchmarks, existing structures, fences, paving, and curbs from excavating equipment and vehicular traffic as required.

3.3 EXCAVATION

3.3.1 Excavate subsoil from areas to be regraded for drainage ditches, perimeter berm, access road and anchor trench. Segregate and stockpile for use as common fill.

3.3.2 Grade in areas as established by project schedule and perform in manner and sequence providing proper drainage.

3.4 FILLING

3.4.1 Fill berms to contours and elevations shown in the Drawings.

3.4.2 Place fill materials in 8 inch loose lifts to compact to an approximate 6 inch lift. Anchor trench fill shall be placed in maximum 8 inch loose lift thickness and compacted with a vibrating tamper or equivalent.

3.4.3 Maintain moisture content at no greater than 5% above the predetermined optimum moisture content. Fill materials to be compacted to attain a density of 95% of maximum dry density as determined by ASTM D698, or 90% relative compaction based on ASTM D1557.

3.4.4 Make grade changes gradual. Blend slope into level areas, maintaining proper drainage.

3.4.5 Remove and store surplus fill materials from site as directed by OWNER.

3.4.6 Do not damage any underlying geosynthetics in anchor trench area.

3.4.7 Density test will be performed by the CQA firm at a minimum rate of 1/10,000 ft^2 per lift.

3.5 FIELD QUALITY CONTROL

3.5.1 ENGINEER will determine optimum moisture content and maximum dry density for all materials prior to construction.

3.5.2 Cooperate fully with the OWNER and ENGINEER in complying with the construction quality assurance plans for this site including performing compaction control tests.

3.5.3 Field inspection and testing will be performed by the ENGINEER.

- END OF SECTION -

SECTION 02211
SURFACE PREPARATION

1.0 GENERAL

1.1 SECTION INCLUDES

1.1.1 Preparation of the subgrade surface material to facilitate geosynthetic liner installation.

1.1.2 Removing unsuitable subgrade material, as determined by the ENGINEER, and filling with compacted soil so described in Section 02210. All undercutting and backfilling with surface material below subgrade as necessary and approved by OWNER to render the prepared surface acceptable for geosynthetic liner installation will be included in cost for surface preparation.

1.2 DEFINITIONS

1.2.1 Subgrade materials - In situ soils and soil fill materials located directly beneath the landfill liner.

1.2.2 Prepared Surface - Top of the subgrade materials. The material in contact with the landfill liner.

1.3 RELATED SECTIONS

1.3.1 Section 02210 - Rough Grading

1.4 REFERENCES

1.4.1 ASTM D698 - Test Methods for Moisture-Density relations of Soils and Soil Aggregate Mixtures Using a 5.5-lb. (2.49 kg) Rammer and 12-in. (305 mm) Drop.

1.4.2 ASTM D1557 - Test Methods for Moisture Density Relations of Soils and Soil Aggregate Mixtures Using 10-lb. (4.54 kg) Rammer and 18-in. (457 mm) Drop.

1.4.3 ASTM D2216 - Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate in-place by Nuclear Methods.

1.4.4 ASTM D2922 - Test Method for Density of Soil and Soil-Aggregate in-place by Nuclear Methods.

1.4.5 ASTM D1556 - Test Method for Density of Soil in-place by the Sand-Cone Method.

1.4.6 ASTM D2167-84 - Test Method for Density and Unit Weight of Soil in-place by the Rubber Balloon Method.

1.4.7 ASTM D5084-90 - Standard Test Method for Measurements of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter.

1.4.8 ASTM D2166-91-Standard Test Method for Unconfined Compressive Strength of Cohesive Soil.

2.0 PRODUCTS

2.1 MATERIAL

2.1.1 Free of organic material, silt or muck or other deleterious material as determined by the ENGINEER.

2.1.2 Maximum particle size - $^{3}/_{4}$ inch for GCL

2.1.3 Contains no ice, snow, frozen material or excessive moisture.

3.0 EXECUTION

3.1 PLACEMENT TO TOP OF SUBGRADE ELEVATION

3.1.1 Excavate or fill and finish grading to a tolerance of +0.1 foot. Fill placement shall be in accordance with Section 02210.

3.1.2 Stockpile soils as directed by the OWNER and/or ENGINEER.

3.2 REMOVING UNSUITABLE SUBGRADE

3.2.1 Examine prepared surface for ruts and fill with soil as described in Section 02210.

3.2.2 Examine and remove soft soil, desiccated soil, or other unsuitable material as determined by ENGINEER. Replace with soil as described in Section 02210.

3.2.3 Remove buildup of fines to stockpile as directed by OWNER and/or ENGINEER.

3.3 SUBGRADE PREPARATION PRIOR TO LINER INSTALLATION

3.3.1 Finish grade with a smooth drum roller. Scarify, moisture condition, and compact as necessary.

3.3.2 Rake surface to remove soil, debris, and rock particles greater than $^{3}/_{4}$ inch in diameter for GCL.

- END OF SECTION -

SECTION 02222
EXCAVATION

1.0 GENERAL

1.1 SUMMARY

1. Section includes requirements for stripping vegetation, excavating the force main trench, manhole area and related work.

1.2 MEASUREMENT AND PAYMENT

1.2.1 Where there is not a separate item listed for work of this Section, no separate measurement and payment is made. Include cost for work under this Section in the related item listed on the Unit Price Schedule.

1.2.2 Measurement and payment is as noted on the Unit Price Schedule.

1.2.3 Refer to Section 01150 - Measurement and Payment for unit price procedures.

1.2.4 Measurement shall be on linear foot basis.

1.2.5 No payment will be made for over-excavation or over-filling beyond the design limits, except as directed by the Engineer.

1.2.6 Final payment is based upon surveyed quantities.

2.0 EXECUTION

2.1 SITE PREPARATION

2.1.1 Prepare the site for construction in accordance with Section 02100 - Site Preparation.

2.1.2 Remove material that may interfere with the proposed work, including unusable materials, disturbed soils and/or objectionable materials as directed by Engineer.

2.2 CONSTRUCTION

2.2.1 Construct to lines, grades and dimensions shown on the Plans, and to within -0.1 foot tolerance.

2.2.2 CONTRACTOR shall bear the cost to backfill any over-excavated areas not due to poor or weak soils as defined by the ENGINEER

- END OF SECTION -

SECTION 02223
SELECT FILL

1.0 GENERAL

1.1 DESCRIPTION

1.1.1 Transport, place and compact fill materials to the lines and grades in accordance with the Drawings and as directed by the OWNER.

1.1.2 Select fill material shall be used to construct the Cell 6 berm, backfill any over-excavated areas of Cell 6, construct the non-flex-base portions of the perimeter road, backfill manhole, and force main trench~~, diversion dikes and let down structures~~.

1.2 RELATED SECTIONS

1.2.1 Structural Fill - Soil Liner Quality Control Plan (SLQCP)

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Non-organic soils, including those classified as GW, GP, SW, SP, SM, GM, GC, SC, ML, CH or CL by the unified soil classification system. Free of silt, muck, or other deleterious material as determined by the OWNER'S REPRESENTATIVE or QAC.

2.1.2 Maximum particle dimension - 2- inch.

2.1.3 Free of frozen material, ice, snow, or excessive moisture.

2.1.4 Select fill material shall be approved by the OWNER'S REPRESENTATIVE or ENGINEER before placement based upon information obtained from quality assurance testing.

2.2 COMPACTED COHESIVE SOIL BARRIER MATERIAL

2.2.1 Non-organic soils, having a plasticity index (PI) between 5 and 50 percent, at least 10 percent passing the No. 200 sieve, and at least 90 percent passing the No. 4 sieve. Free of silt, muck, or other deleterious material as determined by the OWNER'S REPRESENTATIVE or QAC.

2.2.2 Maximum particle dimension – 3/4- inch.

2.2.3 Free of frozen material, ice, snow, or excessive moisture.

2.2.4 Compacted cohesive soil barrier material shall be approved by the OWNER'S

REPRESENTATIVE or QAC before placement based upon information obtained from quality assurance testing.

3.0 EXECUTION

3.1 INSTALLATION

3.1.1 Do not place select fill material until subbase is approved by OWNER'S REPRESENTATIVE or ENGINEER. Coordinate subbase construction with ENGINEER.

3.1.2. Place at a moisture content between -2% and +3% of the predetermined optimum moisture content.

3.1.3 Place in loose lifts in maximum thickness of 8-inch loose lift prior to compaction.

3.1.4 Compact each lift to 90% relative compaction based on ASTM D-698-78.

3.1.5 Compaction around manhole and in force main trench shall be with mechanical tampers.

3.1.6 Select fill material shall be compacted with mechanical tampers for under concrete slabs and against concrete wing walls.

3.2 FIELD QUALITY CONTROL

3.2.1 OWNER will determine optimum moisture content and maximum dry density for all materials prior to construction.

- END OF SECTION -

SECTION 02400
60-mil HDPE GEOMEMBRANE

1.0 GENERAL

1.1 DESCRIPTION

1.1.1 Supply and install polyethylene geomembrane for cell liner system.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Supply geomembranes and resins which comply to the specifications provided in the Soil and Liner Quality Control Plan.

2.1.2 The primary liner, installed directly over the Geosynthetic Clay Liner (GCL), shall be a 60-mil HDPE geomembrane.

2.1.3 Smooth geomembrane shall be installed on the floor and double-sided textured geomembrane shall be installed on the slopes.

3.0 EXECUTION

3.1 EXAMINATION

3.1.1 Manufacturer's Quality Control Testing shall comply to the requirements provided in the Soil and Liner Quality Control Plan.

3.2 INSTALLATION

3.2.1 Installation of the geomembrane shall comply with the requirements provided in the Soil and Liner Quality Control Plan.

3.2.2 The use of a loader or other large equipment may not be allowed for the geomembrane deployment over the GCL. The ENGINEER shall make the determination in the field.

- END OF SECTION -

SECTION 02410
GEOTEXTILE

1.0 GENERAL

1.1 SECTION INCLUDES

Supply and install geotextile for landfill liner system.

1.2 RELATED SECTIONS

1.2.1 Section 02400 – 60-mil HDPE Geomembrane

1.2.2 Section 02712 – Bedding Material

1.2.3 Section 02727 – Protective Soil Cover

1.3 REFERENCES

Use the latest version of referenced standards.

1.3.1 ASTM D3776 - Test Methods for Mass Per Unit Area (Weight) of Woven Fabric.

1.4 QUALITY CONTROL SUBMITTALS

1.4.1 Pre-installation

Submit the following to OWNER and/or ENGINEER for approval, prior to geotextile deployment:

1. Manufacturer's specification for the geotextile which includes properties contained in Article 2.01 of this Section.

2. Written certification that minimum average roll values given in manufacturer's specification are guaranteed by geotextile manufacturer.

3. Quality control certificates, signed by a responsible party employed by geotextile manufacturer. Each quality control certificate shall include roll identification numbers, sampling procedures and results of quality control tests.

1.5 DELIVERY, STORAGE AND HANDLING

1.5.1 Packing and Shipping

1. Geotextiles shall be supplied in rolls wrapped in relatively impermeable and opaque protective covers.

2. Geotextile rolls shall be marked or tagged with the following information.

a) Manufacturer's name
b) Product identification
c) Roll number
d) Roll dimensions

1.5.2 Storage and Protection

1. CONTRACTOR shall store and protect geotextile from dirt, water, ultraviolet light exposure, and other sources of damage.

2. Preserve integrity and readability of geotextile roll labels.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Supply geotextile in which "minimum average roll values", as defined by Federal Highway Administration (FHWA), meet or exceed geotextile property values specified below. Obtain written approval for these materials from the OWNER.

1. Non-woven geotextile to have a minimum mass per unit area of 10.0 oz./sq yd per

ASTM D3776

2.1.2 Geotextiles shall be stock products, i.e., except when specifically authorized in writing by OWNER, supplier shall not furnish products specifically manufactured to meet these specifications.

2.1.3 Geotextile shall be comprised of polymeric yarns, or fibers, oriented into a stable network which retains its structure during handling and placement.

2.2 SOURCE QUALITY CONTROL

Ensure that geotextile manufacturer meets the conditions in this Section.

2.2.1 Tests, Inspections

1. Geotextiles shall be tested by geotextile manufacturer to evaluate characteristics for quality control. At a minimum, the mass per unit area test shall be performed in accordance with test methods specified in Article 2.01 of this Section.

2. At a minimum, quality control tests shall be performed for every 100,000 ft^2

(10,000 m^2) of geotextile produced. Samples not satisfying these specifications and manufacturer's specifications shall result in rejection of applicable rolls.

3. At geotextile manufacturer's discretion and expense, additional testing of individual rolls may be performed to more closely identify noncomplying rolls and to qualify individual rolls.

3.0 EXECUTION

3.1 INSTALLATION

3.1.1 Geotextile Deployment

Handle geotextiles in a manner to ensure they are not damaged. Comply with the following:

1. On slopes, anchor geotextile securely and deploy it down slope in a controlled manner to continually keep geotextile in tension.

2. Weight geotextile with sandbags or equivalent in presence of wind. Do not remove weight until replaced with cover material.

3. Cut geotextiles with a geotextile cutter (hook blade). Protect adjacent materials from potential damage due to cutting of geotextile.

4. Prevent damage to underlying layers during placement of geotextile.

5. During geotextile deployment, do not entrap in or beneath geotextile, stones, excessive dust, or moisture that could damage geomembrane, cause clogging of drains or filters, or hamper subsequent seaming.

6. Visually examine entire geotextile surface before seaming. Ensure no potentially harmful foreign objects, such as needles, are present. Remove foreign objects encountered or replace geotextile.

3.1.2 Seaming Procedures

1. In general, no horizontal seams or splices are allowed on side slopes (i.e., seams shall be downslope, not across the slope) except as part of a patch. A splice is defined as a seam connecting the ends of two rolls.

2. Overlap geotextile a minimum of 3 inches (75 mm) prior to seaming.

3. On slopes steeper than 10:1 (horizontal:vertical), continuously sew geotextiles. Spot sewing is not allowed.

4. On slopes shallower than 10:1 (horizontal: vertical), continuously sew

geotextiles (preferred), or thermally bond with written approval of OWNER.

5. Ensure at seams that no earth cover material is present beneath geotextile.

6. When sewing, use polymeric thread with chemical and ultraviolet light resistance properties equal to or exceeding those of the geotextile.

7. Use a sewing thread color that contrasts with color of geotextile being sewn, to allow for ease of inspection.

8. Use a locking stitch.

3.1.3 Defects and Repairs

Repair holes or tears in geotextile as follows:

1. On slopes, sew into place, in accordance with Article 3.02 B of this Section, a patch made from same geotextile.

2. On slopes shallower than 10:1 (horizontal: vertical), sew geotextile patch into place (preferred) or spot-seam in place a patch made from same geotextile, with a minimum 12 inches (0.60 m) overlap in all directions.

3. Remove any soil or other material that may have penetrated the torn geotextile.

3.2 INTERFACE WITH OTHER PRODUCTS

3.2.1 Ensure the following when deploying soil materials located on top of a geotextile.

1. Geotextile and underlying lining materials are not damaged.

2. Minimal slippage of geotextile on underlying layers occurs.

3. No excess tensile stresses occur in geotextile.

- END OF SECTION -

SECTION 02420
GEONET

1.0 GENERAL

1.1 SECTION INCLUDES

Supply and install geonet for landfill lining and leachate systems.

1.2 RELATED SECTIONS

1.2.1 Section 02400 – 60-mil HDPE Geomembrane

1.2.2 Section 02410 – Geotextile

1.2.3 Section 02430 – Geotextile/Geonet Composite

1.3 REFERENCES

Use the latest version of referenced standards.

1.3.1 ASTM D1505 - Test Method for Density of Plastics by the Density-Gradient Technique.

1.3.2 ASTM D1603 or D4218- Test Method for Carbon Black in Olefin Plastics.

1.3.3 ASTM D1682 - Test Methods for Breaking Load and Elongation of Textile Fabrics. Modifications: Use 4 in x 8 in specimens with a grip separation of 4 inches and test at a rate of 8 in/minimum. Continue test until first strand completely separates. Report average of 5 tests in machine and cross direction.

1.3.4 ASTM D374 or D5199 - Method for Measuring Thickness of Textile Materials.

1.3.5 ASTM D3776 - Test Methods for Mass Per Unit Area (Weight) of Woven Fabric (Option C).

1.3.6 ASTM D4716 - Test Method for Constant Head Hydraulic Transmissivity (In-Plane Flow) of Geotextiles and Geotextile Related Products. Modifications: Measure between two steel plates at a gradient of 1.0 and a confining pressure of 15,000 psf for leachate collection applications. Apply confining pressure at least one hour prior to test.

1.4 QUALITY CONTROL SUBMITTALS

1.4.1 Pre-installation

Submit the following to OWNER for approval, prior to geonet deployment:

1. Origin (supplier's name and production plant) and identification (brand name and number) of resin.

2. Copies of dated quality control certificates issued by resin supplier.

3. Results of tests conducted by geonet manufacturer to verify that resin used to manufacture geonet meets the specifications listed in Article 2.01 of this Section.

4. Statement indicating that any reclaimed polymer added to resin during manufacturing was done with appropriate cleanliness and, for geonet used for leachate collection applications, did not exceed 2 percent by weight.

5. List of materials which comprise geonet, expressed in the following categories as percent by weight: polyethylene, carbon black, other additives.

6. Geonet specification which includes properties listed in Article 2.01 of this Section measured using the appropriate test methods.

7. Written certification that minimum values given in geonet manufacturer's specification are guaranteed by geonet manufacturer.

8. Quality control certificates, signed by a responsible party employed by manufacturer. Each quality control certificate shall include roll identification numbers, testing procedures and results of quality control tests.

1.5 DELIVERY, STORAGE AND HANDLING

1.5.1 Packing and Shipping

1. Geonet rolls shall be marked or tagged with the following information:

   a) Manufacturer's name

b) Product identification
c) Roll number
d) Roll dimensions

1.5.2 Storage and Protection

1. CONTRACTOR shall store and protect geonet from dirt, water, and other sources of damage.

2. Preserve integrity and readability of geonet roll labels.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Provide geonet meeting the following specifications and capable of retaining its structure during handling, placement, and long-term service.

GEONET PROPERTIES

PROPERTY	METHOD	VALUE
Thickness	ASTM D379 or D5199	200 mils min.
Mass per Unit Area	ASTM D5261	0.16 lb/ft^2 min.
Density (geonet)	ASTM D1505	0.940 g/cc min.
Tensile Strength	ASTM D1682*	40 lb/in min.
Carbon Black Content	ASTM D4218 or D1603	2.0 - 3.0%
Transmissivity	ASTM D4716* @ 20 psi confining pressure	1x10^{-3} m^2/sec min.

*Test Methods as modified in Article 1.03

2.2 SOURCE QUALITY CONTROL

Ensure that geonet manufacturer meets the conditions in this Section.

2.2.1 Tests, Inspection

1. Geonets shall be tested by geonet manufacturer to evaluate characteristics for quality control. At a minimum, the following tests shall be performed for quality control in accordance with test methods specified in Article 1.03 of this Section:

    a) Density
    b) Mass per unit area
    c) Thickness
    d) Carbon black content

2. Geonet manufacturer shall perform quality control tests for at least every 100,000 ft^2 (4000 m^2) of geonet produced (1 per resin lot minimum). Samples not satisfying these specifications and manufacturer's specifications shall result in the rejection of applicable rolls.

3. At geonet manufacturers' discretion and expense, additional testing of individual rolls may be performed to more closely identify noncomplying rolls and to qualify individual rolls.

4. The following tests need not be run at 1 per 100,000 ft^2 frequency. Geonet manufacturer shall certify that these tests have been performed for each resin in accordance with test methods specified in Article 2.01 A of this Section:

    a) Transmissivity
    b) Tensile strength

3.0 EXECUTION

3.1 INSTALLATION

3.1.1 Geonet Deployment

Do not damage geonets while handling. Comply with the following:

1. On slopes, secure geonet and then roll it down slope in a manner to continually keep geonet in tension. If necessary, position geonet by hand after unrolling to minimize wrinkles.

2. Weight geonets with sandbags or equivalent in presence of wind. Do not remove weight until replaced with cover material. Handle sandbags with care to prevent rupture or damage of sandbag.

3. Do not weld geonet to geomembrane.

4. Cut geonet using scissors or other cutting tools, approved by OWNER. Do not leave tools in geonet.

5. Do not damage underlying layers during placement of geonet.

6. During geonet deployment, do not entrap in geonet dirt or excessive dust that could cause clogging of drainage system, and stones that could damage adjacent geomembrane. If dirt or excessive dust is entrapped in geonet, hose clean prior to placement of next layer of material.

3.1.2 Seams and Overlaps

Join adjacent geonet in accordance with Design Drawings and specifications. At a minimum, meet the following requirements:

1. Overlap adjacent geonet rolls a minimum of 4 in (100 mm).

2. Tie geonet overlaps with plastic fasteners. Use white or yellow tying devices for easy inspection. Do not use metallic devices.

3. Tie every 5 feet (1.5 m) along slope, every 6 inches (0.15 m) in anchor trench, and every 6 inches (0.15 m) along end-to-end seams on base of landfill.

4. In general, no horizontal seams are allowed on side slopes.

5. In corners of side slopes, where overlaps between perpendicular geonet strips are required, unroll an extra layer of geonet along slope, on top of previously installed geonets, from top to bottom of slope.

6. Stagger joints when more than one layer of geonet is installed.

3.1.3 Defects and Repairs

1. Repair damage to geonet as follows, if hole or tear width across roll is less than 50 percent of width of roll.

   a) Place a patch extending 1 foot (0.3 m) beyond edges of hole or tear.
   b) Secure patch to original geonet by tying every 6 inches (0.15 m). Use tying devices as indicated in Article 3.02 B of this Section.

2. Repair damage to geonet as follows, if hole or tear width across roll is more than 50 percent of width of roll.

   a) On base of landfill, cut out damaged area and join the two portions of the geonet as indicated in Article 3.02 B of this Section.

   b) On sideslopes, remove and replace damaged geonet panel.

3. ENGINEER shall observe repairs and report noncompliance with the above requirements in writing to OWNER.

3.2 INTERFACE WITH OTHER PRODUCTS

3.2.1 Do not place soil in direct contact with geonet.

3.2.2 Ensure the following when deploying soil materials near geonet:

1. Geonet and underlying lining materials are not damaged.

2. Minimal slippage of geonet on underlying layers occurs.

3. No excess tensile stresses occur in geonet.

- END OF SECTION -

SECTION 02430
GEOTEXTILE/GEONET COMPOSITE

1.0 GENERAL

1.1 SECTION INCLUDES

Supply and install thermally bonded geotextile and geonet as a composite drainage on landfill floor and side slope.

1.2 RELATED SECTIONS

1.2.1 Section 02400 – 60-mil HDPE Geomembrane

1.2.2 Section 02410 – Geotextile

1.2.3 Section 02420 – Geonet

1.3 REFERENCES

Use the latest version of referenced standards.

1.3.1 ASTM D413 - Standard Test Method for Rubber Property - Adhesion to Flexible Substrate.

1.3.2 ASTM D374 or D5199 - Method for Measuring Thickness of Textile Materials.

1.3.3 ASTM D3776 - Test Methods for Mass Per Unit Area (Weight) of Woven Fabric.

1.3.4 ASTM D4716 - Test Method for Constant Head Hydraulic Transmissivity (In-Plane Flow) of Geotextiles and Geotextile Related Products. Modifications: Measure between two steel plates at a gradient of 1.0 and a confining pressure of 15,000 psf for leachate collection applications. Apply confining pressure at least one hour prior to test.

1.4 QUALITY CONTROL SUBMITTALS

1.4.1 Pre-installation

Submit the following to OWNER for approval, prior to geocomposite deployment:

1. Origin (supplier's name and production plant) and identifications (brand name and number of geotextile and geonet used to manufacture composite).

2. Copies of dated quality control certificates issued by geotextile and geonet manufacturer.

3. A specification fo the geocomposite which includes all properties published by manufacturer measured using appropriate methods.

4. Written certification that minimum values given in the manufacturer's specification are guaranteed by geocomposite manufacturer.

5. Quality control certificates for the geocomposite, signed by a responsible party employed by manufacturer. Quality control certificates shall include roll identification numbers, testing procedures and results of quality control tests.

1.5 DELIVERY, STORAGE AND HANDLING

1.5.1 Packing and Shipping

1. Geocomposites shall be supplied in rolls wrapped in relatively impermeable and opaque protective covers.

2. Geocomposite rolls shall be marked or tagged with the following information:

   a) Manufacturer's name
   b) Product identification
   c) Roll number
   d) Roll dimensions

1.5.2 Storage and Protection

1. CONTRACTOR shall store and protect geocomposites from dirt, water, ultraviolet light exposure, and other sources of damage.

2. Preserve integrity and readability of geocomposite roll labels.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Provide geonet meeting the following specifications and capable of retaining its structure during handling, placement, and long-term services.

GEOCOMPOSITE PROPERTIES

PROPERTY	METHOD	VALUE
Mass per Unit Area (geotextile)	ASTM D3776	10.0 oz/yd^2 min.
Mass per Unit Area (geonet)	ASTM D5261	0.16 lb/ft^2 min.
Thickness (geonet)	ASTM D1777	200 to 300 mils (See Measurement and Payment)
Peel Strength	ASTM D413	1 lb/in min.

2.2 SOURCE QUALITY CONTROL

Ensure that geocomposite manufacturer meets the conditions in this Section.

2.2.1 Tests, Inspection

1. Geocomposites shall be tested by geocomposite manufacturer to evaluate characteristics for quality control. At a minimum, the following tests shall be performed for quality control in accordance with test methods specified in Article 1.03 of this Section:

   a) Mass per unit area
   b) Thickness
   c) Geotextile-geonet adhesion (peel strength)

2. Geocomposite manufacturer shall perform quality control tests for at least every 100,000 ft^2 (4000 m^2) of geocomposite produced (1 per resin lot minimum). Samples not satisfying these specifications

and manufacturer's specifications shall result in the rejection of applicable rolls.

3. At geocomposite manufacturers' discretion and expense, additional testing of individual rolls may be performed to more closely identify noncomplying rolls and to qualify individual rolls.

4. Geocomposite components shall be evaluated by component manufactures to determine characteristics for quality control.

3.0 EXECUTION

3.1 INSTALLATION

3.1.1 Geocomposite Deployment

Do not damage geocomposites while handling. Comply with the following:

1. On slopes, anchor geocomposite securely and deploy it down the slope in a controlled manner to continually keep the geocomposite in tension.

2. Weight geonets with sandbags or equivalent in presence of wind. Do not remove weight until replaced with cover material. Handle sandbags with care to prevent rupture or damage of sandbag.

3. Cut geocomposite with a cutter (hook blade). Protect adjacent materials from potential damage due to cutting of geomembrane.

4. Prevent damage to underlying layers during placement of geocomposite.

5. During deployment, do not entrap in or beneath geocomposite, stones, excessive dust, or moisture that could damage geomembrane, cause clogging of geonet, or hamper subsequent seaming.

6. Visually examine entire geocomposite surface before seaming. Ensure no potentially harmful foreign object such as needles are present. Remove foreign objects encountered or replace geocomposite.

3.1.2 Seams and Overlap Procedures

Join adjacent geonet in accordance with Design Drawings and specifications. At a minimum, meet the following requirements:

1. Overlap adjacent geonet rolls a minimum of 4 in (100 mm).

2. Tie geonet overlaps with plastic fasteners. Use white or yellow tying devices for easy inspection. Do not use metallic devices.

3. Tie every 5 feet (1.5 m) along slope, every 6 inches (0.15 m) in anchor trench, and every 6 inches (0.15 m) along end-to-end seams on base of landfill.

4. In general, no horizontal seams are allowed on side slopes, unless approved by ENGINEER.

5. Overlap geotextile a minimum of 3 inches (75 mm) prior to seaming.

6. On slopes steeper than 10:1 (horizontal: vertical), continuously sew geotextiles. Spot sewing is not allowed.

7. On slopes shallower than 10:1 (horizontal: vertical), seam geotextiles as indicated in section 3.1.2 above (preferred), or thermally bond with written approval of OWNER.

8. Ensure at seams that no earth cover material is present beneath geotextile.

9. When sewing, use polymeric thread with chemical and ultraviolet light resistance properties equal to or exceeding those of the geotextile.

3.2 FIELD QUALITY CONTROL

3.2.1 Defects and Repairs

Repair small defects as judged by ENGINEER as follows, if geonet is undamaged but geotextile is damaged:

1. Remove damaged geotextile.
2. Cut patch of new geotextile to provide a minimum of 12 inches overlap.
3. Thermally bond geotextile patch to existing geocomposite.

If the geonet is damaged:

1. Remove damaged geonet.
2. Cut a patch of new material to replace removed geonet.
3. Secure a patch to original geonet by tying every 6 inches (.15 m). use tying devices as indicated in Article 3.2.1 of this section.
4. Place a geotextile patch overlapping the damaged area by a minimum 12 inches.
5. Thermally bond the geotextile patch to the existing geocomposite.

Replace the geocomposite if judged by the ENGINEER to be a large defect.

3.3 INTERFACE WITH OTHER PRODUCTS

3.3.1 Ensure the following when deploying soil materials located on top of geocomposite.

1. Geocomposite and underlying lining materials are not damaged.
2. Minimal slippage of geocomposite on underlying layers occurs.

4. No excess tensile stresses occur in geocomposite.

3.3.2 If textile is bonded to only one side of geonet, do not place soil in direct contact with geonet.

- END OF SECTION -

SECTION 02440
GEOSYNTHETIC CLAY LINER

1.0 GENERAL

1.1 DESCRIPTION

1.1.1 Supply and install Geosynthetic Clay Liner (GCL) for the cell lining system.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Supply GCL which complies with the requirements provided in the Soil Liner Quality Control Plan.

2.1.2 GCL must meet a maximum permeability of **1×10^{-9} cm/sec.**

2.1.3 GCL material requirements stated in the Soil Liner Quality Control Plan (SLQCP) may be more stringent than standard product. CONTRACTOR shall provide material meeting the SLQCP.

3.0 EXECUTION

3.1 EXAMINATION

3.1.1 Manufacturer's Quality Control Testing shall comply with the requirements provided in the Soil Liner Quality Control Plan.

3.1.2 Maximum soil particle size allowed in the upper surface of the subgrade is ¾-inch.

3.1.3 CONTRACTOR shall cover and protect GCL from rain while it is stockpiled at the site. Cover shall be heavy plastic or tarp and shall be secured from wind. GCL rolls shall be stored off the ground and be stacked no more than three rolls high. Rolls must be unloaded from trucks using a roll core stinger bar or by straps as not to damage the core. Fork lift blades shall not be allowed.

3.2 PREPARATION

3.2.1 Earthwork CONTRACTOR shall be responsible for preparing supporting soil to the specifications provided in the Soil Liner Quality Control Plan.

3.3 INSTALLATION

3.3.1 Installation of the GCL shall comply with the specifications provided in the Soil Liner Quality Control Plan.

3.3.2 Loose bentonite powder shall be placed in seam overlap in accordance with the SLQCP.

3.3.3 The CONTRACTOR shall continuously water (if necessary) and smooth drum roll ahead of GCL deployment.

- END OF SECTION -

SECTION 02531
HIGH DENSITY POLYETHYLENE MANHOLES

1.0 GENERAL

This specification shall govern the materials and fabrication of high density polyethylene manholes.

2.0 DESCRIPTION OF WORK

This contract covers the purchase and fabrication of high density polyethylene manholes.

3.0 MATERIALS

The pipe for the manholes shall be made from high density polyethylene (HDPE) resins meeting the following requirements.

3.1 HDPE MATERIAL SPECIFICATIONS

3.1.1 HDPE material supplied under this specification shall be manufactured from a PE 4710 resin listed with the Plastic Institute (PPI) as TR-4. The resin material shall meet ASTM D 3350 with a minimum cell classification of 445474C. The polyethylene compound shall be suitably protected against degradation by ultraviolet light by means of carbon black of not less than 2 percent.

3.1.2 Physical Properties of HDPE Compound

1. The density shall be no less than 0.955 gms/ccm as referenced in ASTM D 1505.

2. The melt index shall be no greater than 0.15 gms/10 minutes when tested in accordance to ASTM D 1238 – Condition E. Melt flow shall be no greater than 4.0 gms/10 min when tested in accordance with ASTM D1238 – Condition F.

~~3. The flexural modulus shall be 110,000 to less than 160,000 psi as referenced in ASTM D790.~~

~~4. The tensile strength at yield shall be 3,200 to less than 3,500 psi in~~

~~accordance with ASTM D 638.~~

~~5. Slow Crack Growth Resistance shall be per ASTM F 1473 (PENT test). The results shall be greater than 100 hours.~~

~~6. Hydrostatic Design Basis shall be 1,600 psi at 23 degrees C when tested in accordance with ASTM D 2837.~~

4.0 SUBMITTALS AND QUALITY ASSURANCE

4.1 QA/QC CERTIFICATION

4.1.1 The manhole supplier shall submit certification that the HDPE material meets the specifications.

4.1.2 The fabricator of the manholes shall submit drawings showing the position of the inlets, outlets and overall dimensions along with any other special features such as manways, ladders, etc.

4.1.3 The fabricator shall submit data indicating the manholes meet the requirements of ASTM F 1759, "Design of High Density Polyethylene (HDPE) Manholes for Subsurface Applications". The manholes should be proven to have acceptable design for the following areas.

1. Ring compressive strain
2. Combined ring compressive and ring bending strain
3. Ring buckling
4. Axial strain
5. Axial buckling
6. Thickness of the bottom based on depth and groundwater. Thickness should be based on acceptable stress and deflection amounts.

4.1.4 Calculations supporting these requirements will be part of the submittal package.

4.1.5 The fabrication technician shall perform the work in accordance to butt fusion of HDPE per ASTM D 2657 and for extrusion and hot air welding ASTM C 1147. The fabricator shall submit the written quality assurance program used during fabrication of the manholes. The fabricator may be required to submit their overall QA/QC program for fabricating

thermoplastic structures, the welding certification program for the fabrication technician per ASTM C 1147 and the facility safety program.

4.1.6 The manholes and pipe shall be tested with water and air. The structure shall be determined to be leak free prior to shipping. A written certification shall be sent to the ENGINEER certifying the manholes are leak free. The test results shall become part of the submittals. An identification plate indicating the job number, testing data, date built and by whom shall be attached to the manhole.

4.2 APPROVAL OR REJECTION

4.2.1 Written approval or rejection of substitution given by the ENGINEER.

4.2.2 ENGINNER reserves the right to require proposed product to comply with the requirements of specified product.

4.2.3 In the event substitution results in a change of Contract Price or time, provisions in the Agreement will be applied for adjustment.

4.2.4 Substitutions will be rejected if:

1. Submittal is not through the CONTRACTOR with his stamp or approval.
2. Requests are not made in accordance with this section.
3. In the ENGINEERS opinion, acceptance will require substantial revision of the original design.
4. In the ENGINEERS opinion, substitution is not equal to original product specified or will not perform adequately the function for which it is intended.

4.3 THIRD PARTY TESTING

The OWNER or ENGINEER may request certified lab data to verify the physical properties of materials not meeting the requirements of this specification.

4.4 DEVIATIONS - Procedure for requesting substitute

4.4.1 Consider after award of Contract

4.4.2 A letter defining the deviation and justification must be sent to the

ENGINEER. The letter must identify:

1. The product
2. Manufacturer's name
3. Representative contact name and telephone number
4. Specification section or drawing reference of originally specified product
5. Discrete name or tag number assigned to original product in Contract document

4.4.3 Manufacturer's literature must be clearly marked to show compliance of proposed product with contract document.

4.4.4 Itemize comparison of original and proposed product addressing product characteristics including but not limited to:

1. Size
2. Composition or material of construction
3. Weight
4. Electrical or mechanical requirements
5. Product experience
   - A. Location of past projects utilizing the product.
   - B. Name and telephone numbers of persons associated with referenced projects knowledgeable concerning proposed product.
   - C. Available field data and reports associated with proposed product.
6. Data relating to changes in construction schedule.
7. Data relating to changes in cost.
8. Samples: At request of the ENGINEER, a full size sample may be required. This sample may be held by the ENGINEER until completion of the project.

4.5 REJECTION

The high density polyethylene manhole may be rejected for failure to meet any of the requirements of this specification.

5.0 HDPE MANHOLE CONSTRUCTION

5.1 The HDPE manholes shall be constructed of HDPE pipe with a nominal OD of 72" and a SDR of 32.5.

5.2 The bottom thickness of the manholes will be determined in accordance with ASTM F 1759. Calculations must be provided to justify the thickness of the bottom.

5.3 The inlets and outlets shall be extrusion welded on the inside and outside of the structure using good welding practice. Gussets shall be attached at 90 degrees, 180 degrees, 270 degrees and 360 degrees around the inlets and outlets unless impractical.

5.4 All manhole connections larger than 4" nominal OD pipe shall be butt fusion welded, electrofusion welded or flanged connections. For 4" OD pipe and smaller threaded transition fittings can also be used as well as the acceptable connections listed.

5.5 Manholes shall be factory tested with water. The hydrostatic test shall be conducted by filling the structure with water and checking for leaks. Minimum test duration will be one hour. Data showing the structure to be leak-free will be supplied. The OWNER or his representative may request to observe the test.

5.6 The ladders in the manholes shall conform to OSHA standards.

5.7 Top of manholes shall be built to requirements on the drawings.

5.8 When large changes in temperature are expected restraints shall be designed as an integral part of the manhole by the fabricator/manufacturer to prevent strain at the inlets and outlets. These restraints shall be cast into a concrete collar around the pipe. Anti-flotation and/or anti-settling anchor collars, if required, shall be designed as an integral part of the manhole by the fabrication/manufacturer of the manholes. Shop drawings, approved by the ENGINEER shall be required for restraints, anchors, collars, etc... that are designed by the manhole fabricator/manufacturer prior to acceptance of the HDPE structures.

6.0 CONSTRUCTION PRACTICES

6.1 Handling of Manholes. HDPE manholes shall be stored on clean, level and dry ground to prevent undue scratching or gouging of the material. The handling of HDPE manholes shall be done in such a manner that there is no damage. Nylon slings shall be used.

6.2 Flanged connections. Flange adapters (where shown on the drawings) shall be

attached to the HDPE manhole inlets and outlets stubs during fabrication by butt fusion welding per ASTM D 2657. A ductile iron back up ring will be used with each flanged connection. The rings will use a standard ANSI 150# bolt pattern. Check the drawings for materials required for corrosive conditions.

6.2.1 Bolts shall be tightened in a "star pattern" to recommended torque values.

6.2.2 Bolts must be tightened a second time after 24 hours to ensure a positive seal.

6.2.3 Gaskets are not required on HDPE to HDPE connections.

6.3 Pipe joining. HDPE pipe shall be joined by using butt fusion. All butt fusion welds should be made as described in ASTM D 2657. Electrofusion welding can be used for making pipe welds. Hot air and extrusion welding are not permitted for pipe joining. All pipes and fittings welds should be made using equipment that has been serviced by an authorized service and repair center with at least one certified master mechanic on staff within 3 months from the first fusion on the project. An authorized fusion data recorder shall be used to record al fusion welds n hydraulically operated fusion machines. A record of the temperature, pressure and graph of the fusion cycle shall be maintained by the CONTRACTOR.

6.4 Handling of Fused Pipe. Fused segments of pipe shall be handled so as to avoid damage to the pipe. Limit bending of the pipe welded to fittings or manholes. Nylon slings shall be used.

7.0 DIRECT BURIAL INSTALLATION

7.1 Manhole Excavation. The manhole excavation shall be constructed in accordance with construction drawings. All required safety precautions for manhole installation are responsibility of the CONTRACTOR.

7.2 Backfilling shall extend at least 3.5 feet beyond the edge of the manhole for the full height of the manhole and extend laterally to undisturbed soils. Compaction shall meet the requirements on the construction drawings and the approved SLQCP.

- END OF SECTION -

SECTION 02712
BEDDING MATERIAL

1.0 GENERAL

1.1 DESCRIPTION

1.1.1 Transport and place on-site bedding material in accordance with the Drawings and as directed by the OWNER.

1.2 REFERENCES

1.2.1 ASTM D 422-63 - Standard Test Method for Particle-Size Analysis of Soils.

2.0 PRODUCTS

2.1 DRAINAGE MATERIAL

2.1.1 CONTRACTOR to supply material obtained from on-site sources.

2.1.2 Free of organic or other deleterious material as determined by the OWNER.

2.1.3 Free of frozen material, ice, snow, or excessive moisture.

2.1.4 Meets the following gradation requirements:

Bedding material:	U.S. Sieve Size	Percent Passing
	½"	100
	No. 200	15

2.1.5 Material will be available on site. However, some removal of overburden may be encountered in order to obtain acceptable material. Excess overburden material shall be spread evenly over adjacent areas.

3.0 EXECUTION

3.1 PLACEMENT

3.1.1 Place only when trenching elevations and lines have been verified.

3.1.2 Place to lines and grades indicated on the Drawings.

3.1.3 CONTRACTOR shall be responsible for costs involved in repairing any damage done to pipes, manhole, and existing components as a result of placement of granular bedding material.

- END OF SECTION -

SECTION 02727
PROTECTIVE SOIL COVER

1.0 GENERAL

1.1 DESCRIPTION

1.1.1 Excavate, transport, stockpile, and place drainage layer and/or protective soil cover from on-site source above geomembrane and/or geotextile/geonet composite in accordance with the Drawings and as directed by OWNER.

1.2 RELATED SECTIONS

1.2.1 Section 02400 – 60-mil HDPE Geomembrane

1.2.2 Section 02410 – Geotextile

1.2.3 Section 02430 – Geonet/Geotextile Geocomposite

1.2.4 Section 02712 – Drainage Stone and Bedding Material

2.0 PRODUCTS

2.1 PROTECTIVE SOIL COVER

2.1.1 CONTRACTOR to supply material obtained from on-site or off-site sources.

2.1.2 Free of organic or other deleterious material as determined by the OWNER.

2.1.3 Free of frozen material, ice, snow, or excessive moisture.

2.1.4 Shall not contain rocks or large clods.

3.0 EXECUTION

3.1 PLACEMENT

3.1.1 Place only when underlying geosynthetic installations are completed.

3.1.2 Place to the lines and grades indicated on the drawings.

3.1.3 Place in uniform lifts of **no less than 12 inches** in accordance with the Drawings and as directed by OWNER. Do not operate any equipment closer than 12 inches to the geomembrane.

3.1.4 Do not damage underlying geosynthetic installations. CONTRACTOR shall be responsible for costs involved in repairing any damage done to geosynthetic components as a result of drainage layer or protective soil cover placement.

3.1.5 Place in accordance with Section 02400 - Polyethylene Geomembrane.

3.1.6 Do not compact drainage layer or protective soil cover layer.

3.1.7 Finish grade to a tolerance of +0.1 foot, unless variance from plus-side tolerance is approved by OWNER.

3.1.8 Use only track vehicles with a ground pressure of 5 psi or less to place the first 12 inches of material.

3.1.9 Restrict rubber tired vehicles to areas with 3 feet of cover over geomembrane. Vehicles must not travel faster than 5 mph.

- END OF SECTION -

DIVISION 3

SECTION 03300
CAST-IN-PLACE CONCRETE

1.0 GENERAL

1.1 RELATED DOCUMENTS

1.1.1 Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

1.2.1 This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

1.2.1.1. Head walls, wing walls, slope paving, pads, and anchor block.

1.2.2 Related Sections include the following:

1.2.2.1. Division 2 Section 02223 Select Fill

1.3 DEFINITIONS

1.3.1 Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

1.4 SUBMITTALS

1.4.1 Product Data: For each type of product indicated.

1.4.2 Design Mixtures: For each concrete mixture. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1.5 QUALITY ASSURANCE

1.5.1 Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

1.5.2 Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.

1.5.3 Welding: Qualify procedures and personnel according to AWS D1.4, "Structural Welding Code--Reinforcing Steel."

1.5.4 ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1.5.4.1. ACI 301, "Specification for Structural Concrete,"

1.5.4.2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

1.6 DELIVERY, STORAGE, AND HANDLING

1.6.1 Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage

2.0 PRODUCTS

2.1 FORM-FACING MATERIALS

2.1.1 Smooth-Formed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
2.1.1.1. Plywood, metal, or other approved panel materials.
2.1.1.2.1.1. Exterior-grade plywood panels, suitable for concrete forms.

2.1.2 Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch minimum.

2.1.3 Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.1.4 Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

2.1.4.1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.

2.1.4.2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.

2.2 STEEL REINFORCEMENT

2.2.1 Reinforcing Bars: ASTM A 615/A 615M, Grade 60 deformed.

2.3 REINFORCEMENT ACCESSORIES

2.3.1 Joint Dowel Bars: ASTM A 615/A 615M, Grade 60 plain-steel bars, cut bars true to length with ends square and free of burrs.

2.3.2 Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

2.3.2.1. For concrete surfaces exposed to view where legs of wire bar supports contact forms, use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

2.4 CONCRETE MATERIALS

2.4.1 Cementitious Material: Use the following cementitious materials, of the same type, brand, and source, throughout Project:

2.4.1.1. Portland Cement: ASTM C 150, Type II

2.4.2 Normal-Weight Aggregates: ASTM C 33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source:

2.4.2.1. Maximum Coarse-Aggregate Size: 3/4 inch nominal.

2.4.2.2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

2.4.3 Water: ASTM C 94/C 94M and potable.

2.5 ADMIXTURES

2.5.1 Air-Entraining Admixture: ASTM C260.

2.5.2 Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.6 CURING MATERIALS

2.6.1 Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.

2.6.1.1. Products:

A. Axim Concrete Technologies; Cimfilm.
B. Burke by Edoco; BurkeFilm.
C. ChemMasters; Spray-Film.

2.6.2 Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

2.6.3 Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

2.6.4 Water: Potable.

2.6.5 Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.

1. Products:

A. Anti-Hydro International, Inc.; AH Curing Compound #2 DR WB.
B. Burke by Edoco; Aqua Resin Cure.
C. ChemMasters; Safe-Cure Clear.

2.7 CONCRETE MIXTURES, GENERAL

2.7.1 Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.

1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

2.7.2 Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:

1. Fly Ash: 25 percent.
2. Combined Fly Ash and Pozzolan: 25 percent.
3. Ground Granulated Blast-Furnace Slag: 50 percent.
4. Combined Fly Ash or Pozzolan and Ground Granulated Blast-Furnace Slag: 50 percent portland cement minimum, with fly ash or pozzolan not exceeding 25 percent.
5. Silica Fume: 10 percent.
6. Combined Fly Ash, Pozzolans, and Silica Fume: 35 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.
7. Combined Fly Ash or Pozzolans, Ground Granulated Blast-Furnace Slag, and Silica Fume: 50 percent with fly ash or pozzolans not exceeding 25 percent and silica fume not exceeding 10 percent.

2.7.3 Limit water-soluble, chloride-ion content in hardened concrete to 0.06 percent by weight of cement.

2.7.4 Admixtures: Use admixtures according to manufacturer's written instructions.

1. Use plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.

2.8 CONCRETE MIXTURES

2.8.1 Slabs-on-Grade and Wing Walls: Proportion normal-weight concrete mixture as follows:

1. Minimum Compressive Strength: 3000 psi at 28 days, Type II.
2. Minimum Cementitious Materials Content: 470 lb/cu. yd.
3. Slump Limit: 5 inches, plus or minus 1 inch.
4. Air Content: 6 percent, plus or minus 1.5 percent at point of delivery for 3/4-inch nominal maximum aggregate size.

2.9 FABRICATING REINFORCEMENT

2.9.1 Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.10 CONCRETE MIXING

2.10.1 Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

2.10.2 Project-Site Mixing: Not Allowed.

3.0 EXECUTION

3.1 FORMWORK

3.1.1 Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

3.1.2 Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

3.1.3 Limit concrete surface irregularities, designated by ACI 347R as abrupt or gradual, as follows:
1. Class B, 1/4 inch for smooth-formed finished surfaces.
2. Class C, 1/2 inch for rough-formed finished surfaces.

3.1.4 Construct forms tight enough to prevent loss of concrete mortar.

3.1.5 Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
1. Install keyways, reglets, recesses, and the like, for easy removal.
2. Do not use rust-stained steel form-facing material.

3.1.6 Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

3.1.7 Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

3.1.8 Retain one of two options in first paragraph below. ACI 301 requires chamfers, unless otherwise specified.

3.1.9 Chamfer exterior corners and edges of permanently exposed concrete.

3.1.10 Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

3.1.11 Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

3.1.12 Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

3.1.13 Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 STEEL REINFORCEMENT

3.2.1 General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

3.2.2 Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

3.2.3 Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.
1. Weld reinforcing bars according to AWS D1.4, where indicated.

3.2.4 Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

3.3 CONCRETE PLACEMENT

3.3.1 Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

3.3.2 Do not add water to concrete during delivery, at Project site, or during placement unless approved by ENGINEER.

3.3.3 Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.
1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.

3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

3.3.4 Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

3.3.5 Hot-Weather Placement: Comply with ACI 301 and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

3.4 FINISHING FORMED SURFACES

3.4.1 Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities. Rub finish exposed concrete walls. Broom finish exposed pads.

3.5 CONCRETE PROTECTING AND CURING

3.5.1 General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

3.5.2 Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
   - A. Water.
   - B. Continuous water-fog spray.
   - C. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
   - A. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.
   - B. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.
   - C. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.
   - A. After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer.

3.6 CONCRETE SURFACE REPAIRS

3.6.1 Defective Concrete: Repair and patch defective areas when approved by ENGINEER. Remove and replace concrete that cannot be repaired and patched to ENGINEER's approval.

3.6.2 Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension in solid concrete, but not less than 1 inch in depth. Make edges of cuts perpendicular to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

- END OF SECTION -

DIVISION 11

SECTION 11210
LEACHATE EXTRACTION PUMPING SYSTEM

1.0 GENERAL

1.1 SCOPE OF WORK

1.1.1 The (or each) leachate extraction pumping system as outlined in this section shall minimally consist of pump-end and motor with power cable (complete pump assembly); system controller and level sensor(s), deployment and retrieval system to include pump carriage/sled and shroud, if necessary and associated discharge hose/pipe and appropriate fittings to exit the sump or riser, tested, complete and per the operating conditions as shown on drawings and specifications.

1.1.2 System shall be designed for leachate extraction and or dewatering service. Multiple systems shall ideally be identical and interchangeable and if not identical, will share as many identical and interchangeable components as practicable.

1.2 EXPERIENCE ASSURANCE

1.2.1 All equipment within the leachate extraction pumping system listed in this section shall be provided by a single manufacturer who shall have complete responsibility for the system. The manufacturer shall be a duly incorporated, licensed and insured entity with experience in providing complete leachate extraction pumping systems for landfills and other wastewater applications.

1.2.2 The supplier of the leachate removal system shall provide all warranty and warranty services without regard for or dependence on pass through warranties, which may or may not be provided by the original equipment manufacturer (OEM) of varies components of the system for a period of 18 months from date of start-up.

1.2.3 Any system manufacturer or supplier not specifically named as an approved manufacturer must provide a complete submittal package to the engineer prior to the bid date for pre-approval as an equal system provider. Submittals must include manufacturer's UL ID number and a copy of manufacturer's SCCR (Short Circuit Current Rating) label. It is the design engineer's purpose to insure that the equipment provided on the project be of satisfactory performance and quality to give the end-user the maximum long lived benefit as possible. To simplify comparison, the manufacturer seeking approval will address each paragraph as either "no exception taken" meaning acceptance of both the fact and spirit of the specification or "exception taken" with relevant information and data arguing equality to the specification requirement.

1.3 SUBMITTALS

1.3.1 The submittal package shall include a complete list of components to be provided, pump curves, motor data, layout drawing, control panel drawings consisting of wiring schematic, bill of materials and component layout drawing, and warranty statement.

2.0 PRODUCTS

2.1 PUMPS

2.1.1 The contractor shall furnish and install one complete leachate extraction pumping system.

2.1.2 Pump shall be of centrifugal multi-stage turbine submersible design suitable for primary landfill leachate. The pump shall be coupled to an industrial rated submersible motor that is non-overloading throughout the operating curve of the pump.

2.1.3 Leachate extraction pump shall be rated for a minimum duty performance of 60 gallons per minute (GPM) at 60' Total Dynamic Head (TDH). Alternate curves will require Engineer approval.

2.1.4 Motor horsepower shall be a minimum of 1.5 horsepower for the leachate extraction pump, and shall operate on 230 volt, single phase, 60 hertz supply power.

2.1.5 Pump design shall include the following features:

2.1.5.1 All series 300 stainless steel construction shall include impellers, bowls, guide vanes, and inlet screen.

2.2 MOTOR DESIGN

2.2.1 The motor shall conform to NEMA standards for submersible applications.

2.2.2 All materials coming in contact with leachate shall be 300 series stainless steel and E-Glide.

2.2.3 The motor shall not require the use of oil or grease for lubrication.

2.2.4 A properly sized one-piece jacketed power cable, from pump motor to motor lead breakout box, suitable for leachate service shall be provided.

2.3 CARRIAGE

2.3.1 The leachate extraction pump shall be supplied as a sealed unit and mounted on a stainless steel wheeled carriage/sled shroud for use in a 18" HDPE riser pipe with a constant inside diameter set at a 3 to 1 slope. No plastic or HDPE housings will be accepted.

2.3.2 The wheeled carriage shall provide a low center of gravity and all wheels shall remain in contact with the inner contour of the riser pipe. The wheels shall be constructed of E-TEC non-corrosive material with self-lubricating qualities and must be able to travel over welding beads typically found in riser pipe fabrications. A stainless steel inlet suction screen shall be provided to prevent debris from entering the inlet of the pump.

2.3.3 The level sensor shall be mounted at the center bottom of the wheeled carriage and be removable or replaceable without disassembly of the pump assembly or removal of the pump from the wheeled carriage. A continuous length of sensor cable shall be field trimmed to proper length at time of installation by the installing contractor.

2.3.4 A safety/retrieval cable assembly with properly sized cable clips, snap hooks, and anchor eye bolt constructed of 300 series stainless steel shall be provided.

2.4 DISCHARGE PIPE

2.4.1 Discharge pipe, between the pump and top of the riser, shall be 2" HDPE pipe. HDPE to be field welded.

2.5 DISCHARGE PIPE FITTINGS

2.5.1 All pipe fittings shall be 300 series stainless steel. Fittings shall consist of two (2) 2" stainless steel HDPE transitions, and one (1) 2" stainless steel camlock/adapter assembly for each pumping system.

2.6 DISCHARGE EXIT FITTINGS

2.6.1 A right angle slip fit taper lock discharge adapter with Viton o-ring seal shall be provided, that will allow quick connection/disconnection of the pump discharge hose from the riser exit, and allow the pump to be removed without interference of the stationary fittings. The exit arrangement shall thread through the riser pipe as to provide gas tight connection.

2.6.2 All fittings shall be 300 series stainless steel construction.

2.6.3 The exit connections will penetrate the riser wall approximately 6" from the top of the riser pipe by means of 300 series stainless steel, male threaded exit nipple.

3.0 CONTROLS

3.1 CONTROL PANEL

3.1.1 The system controller shall be manufactured by the same manufacturer as the pumps and built and listed under UL508 and UL698a for use in Class I, II, and III, Division 1, Hazardous Locations. The system controller shall have an attached detailed UL label and an attached detailed SCCR label in compliance with Article 409 of the 2005 National electric Code (NFPA 70). The system controller will comply with all necessary requirements dictated by the installed panel's location and service.

3.1.2 The control panel shall provide level indication, pump operation, and motor protection.

3.1.3 Control panel shall consist of a NEMA 4X, 14 gauge, 304 stainless steel enclosure with lockable outer cover. The door shall open a minimum of 180 degrees and be provided with a view window. Mount control panel with the bottom of the control panel 3 feet to 0 inches above concrete pad or finished grade.

3.1.4 The inner door shall be polished aluminum dead front mounted on a continuous aircraft type hinge. The dead front door shall contain cutouts for the mounted equipment and operator accessible equipment and provide protection of personnel from live internal wiring.

3.1.5 Operator accessible components mounted on the dead front door shall include following:

a. H-O-A Switch

b. Pump Run Indicating Light (Green)

c. Motor Overload Indicating Light (Red)

d. Digital Level Indicator

e. Elapsed Time Meter

3.1.6 The back plate shall consist of 12-gauge sheet steel and finished with a primer coat and two coats of baked on enamel. All hardware mounted to the sub-panel shall be accomplished with machine thread tapped holes. Sheet metal screws are not acceptable. All devices shall be permanently identified with phenolic engraved nameplates.

3.1.7 The panel power distribution shall include all necessary components and shall be completely wired with standard copper conductors. Control wiring shall be properly sized and installed in Panduit type wiring trays.

3.1.8 Individual fuses be provided from main power, each pump, and control circuit.

3.1.9 The motor contactor shall be sized to the pump horsepower. A capacitor shall be used to start the motor and a relay shall be used to remove the start winding from the circuit when the motor reaches operating speed.

3.1.10 A fused type control transformer shall be used to provide the 120 VAC control circuit.

3.1.11 Individual surge arrestors shall be provided in the control panel for incoming supply power, control circuit and the 4 to 20 mA instrument circuit.

3.1.12 A thermostat-controlled heater shall be provided to control the inside temperature and alleviate the buildup of condensation in the control panel.

3.1.13 A corrosion inhibitor shall be provided within the enclosure.

3.1.14 A top mounted, 40 watt, weatherproof/shatterproof red visual high-level alarm beacon shall be provided.

3.2 BREAK OUT JUNCTION BOXES

3.2.1 Separate and individual breakout boxes, for power leads and level sensor leads shall be provided for installation near the top of the riser pipe.

3.2.2 Breakout boxes to be NEMA 4X fiberglass and include proper sized cord restraint and ½" conduit gastight seal fitting.

3.3 LEVEL CONTROL

3.3.1 A panel mounted digital readout display controller with a non-fading digital display shall be provided to indicate level in the sump. The pump "ON",

"OFF"' and "HIGH LEVEL" selections shall be user friendly and capable of being set/adjusted using buttons on the front of the meter.

The controller shall be capable of accepting a 4 to 20 mA signal from a submersible transducer, and provide a level indication range of 0 to 138.6 inches of liquid. When a high level condition occurs, the display will flash until the condition is corrected.

3.3.2 A submersible transducer with adequate sized cable shall be provided. The transducer shall be constructed of 300 series stainless steel and shall be mounted to the front center axis of the wheeled pump carriage. Transducer shall provide a 4 to 20 mA output signal and come equipped with built-in surge protection. Static accuracy shall be no less than 1.0%.

3.3.3 A permanent aneroid bellows type breather device shall be mounted in the level breakout box to prevent moisture in the vent tube.

3.3.4 A panel mounted intrinsically safe barrier shall be provided for the transducer signal.

3.4 REMOTE TANK LOCKOUT (If Required)

3.4.1 A storage tank high level lockout/tank float shall be provided to temporarily prevent the leachate extraction pump from pumping from the landfill if a high level condition exists in the storage or equalization tank. The lockout will automatically reset once the tank liquid level drops and adequate storage capacity is available. Signal from the pump system controller to the tank shall be intrinsically safe.

3.4.2 A NEMA 4X fiberglass breakout box, with proper sized cord restraint and ½" conduit gastight seal fitting, for tank float lead shall be provided for installation at the tank.

4.0 FLOW MONITORING

4.1 FLOW METER SYSTEM

4.1.1 An IFM Magnetic Flow Meter System shall be provided to register liquid flow rate and to record total flow and shall operate from a 115V, 60H, single-phases power supply.

4.1.2 Sensor shall be linear with a repeatability factor of +/-0.5% and will incorporate the following features:

a. Electromagnetic sensor with no moving parts, sized for specified flow rate range to maximized system accuracy.

b. Digital transmitter.

c. Line size shall be 2".

d. Flow velocity shall be between 1.5 and 27 fps.

4.1.3 Meter shall be a bi-directional, eight digit flow rate display and eight digit flow totalizer display.

4.1.4 Meter shall be front panel programmable for ease of calibration to line size and change in units.

4.1.5 Meter shall include a non-volatile memory to retain programmed settings and totalized flow when power is disconnected.

4.1.6 Meter shall include a two line, eight digit, 1/3 inch high display showing flow rate and totalized flow.

4.1.7 Meter programming shall be menu driven to simplify setup.

4.1.8 Meter shall maintain full function in temperatures between 0 degrees and 55 degrees C, with ability to extend low temperature range with optional meter heater.

4.1.8 Flow meter shall be scalable in a variety of engineering units.

5.0 MISCELLANEOUS ITEMS

5.1 CABLE FITTINGS

5.1.1 Non-metallic, compression type threaded cable exit fittings, properly sized for the pump power cable and level sensor cable shall be provided for installation in the riser.

6.0 EXECUTION

6.1 START-UP

6.1.1 The manufacturer of the system shall provide field installation assistance, start-up and training of the system. The scheduling of this service shall be coordinated with the Contractor to insure the riser is in place and the control

panel is connected to power, prior to the arrival of the manufacturers certified technician.

6.1.2 A start-up report shall be provided to include all component settings and motor operating characteristics. The report shall certify the system has been properly installed, or note any found deficiencies that need to be corrected.

6.1.3 At the time of start-up, the contractor shall coordinate with the manufacturer and the owner to provide operator training and troubleshooting.

6.1.4 A complete operations and maintenance manual with index for the system shall be provided. Information shall include manufacturers contact list, equipment list, equipment cut sheets, parts breakdowns, control panel information and a troubleshooting guide.

- END OF SECTION -

SECTION 11211
DEWATERING EXTRACTION PUMPING SYSTEM

1.0 GENERAL

1.1 SCOPE OF WORK

1.1.1 The (or each) dewatering extraction pumping system as outlined in this section shall minimally consist of pump-end and motor with power cable (complete pump assembly); system controller and level sensor(s), deployment and retrieval system to include pump carriage/sled and shroud, if necessary and associated discharge hose/pipe and appropriate fittings to exit the sump or riser, tested, complete and per the operating conditions as shown on drawings and specifications.

1.1.2 System shall be designed for dewatering extraction and or leachate service. Multiple systems shall ideally be identical and interchangeable and if not identical, will share as many identical and interchangeable components as practicable.

1.2 EXPERIENCE ASSURANCE

1.2.1 All equipment within the dewatering extraction pumping system listed in this section shall be provided by a single manufacturer who shall have complete responsibility for the system. The manufacturer shall be a duly incorporated, licensed and insured entity with experience in providing complete dewatering extraction pumping systems for landfills and other dewatering applications.

1.2.2 The supplier of the dewatering extraction system shall provide all warranty and warranty services without regard for or dependence on pass through warranties, which may or may not be provided by the original equipment manufacturer (OEM) of varies components of the system for a period of 18 months from date of start-up.

1.2.3 Any system manufacturer or supplier not specifically named as an approved manufacturer must provide a complete submittal package to the engineer prior to the bid date for pre-approval as an equal system provider. Submittals must include manufacturer's UL ID number and a copy of manufacturer's SCCR (Short Circuit Current Rating) label. It is the design engineer's purpose to insure that the equipment provided on the project be of satisfactory performance and quality to give the end-user the maximum long lived benefit as possible. To simplify comparison, the manufacturer seeking approval will address each paragraph as either "no exception taken" meaning acceptance of both the fact and spirit of the specification or

"exception taken" with relevant information and data arguing equality to the specification requirement.

1.3 SUBMITTALS

1.3.1 The submittal package shall include a complete list of components to be provided, pump curves, motor data, layout drawing, control panel drawings consisting of wiring schematic, bill of materials and component layout drawing, and warranty statement.

2.0 PRODUCTS

2.1 PUMPS

2.1.1 The contractor shall furnish and install one complete dewatering extraction pumping system.

2.1.2 Pump shall be of centrifugal multi-stage turbine submersible design suitable for primary landfill dewatering. The pump shall be coupled to an industrial rated submersible motor that is non-overloading throughout the operating curve of the pump.

2.1.3 Dewatering pump shall be rated for a minimum duty performance of 200 gallons per minute (GPM) at 60' Total Dynamic Head (TDH). Alternate curves will require Engineer approval.

2.1.4 Motor horsepower shall be a minimum of 3 horsepower for the dewatering extraction, and shall operate on 230 volt, single phase, 60 hertz supply power.

2.1.5 Pump design shall include the following features:

2.1.5.1 All series 300 stainless steel construction shall include impellers, bowls, guide vanes, and inlet screen.

2.2 MOTOR DESIGN

2.2.1 The motor shall conform to NEMA standards for submersible applications.

2.2.2 All materials coming in contact with leachate shall be 300 series stainless steel and E-Glide.

2.2.3 The motor shall not require the use of oil or grease for lubrication.

2.2.4 A properly sized one-piece jacketed power cable, from pump motor to motor lead breakout box, suitable for landfill service shall be provided.

2.3 CARRIAGE

2.3.1 The dewatering pump shall be supplied as a sealed unit and mounted on a stainless steel wheeled carriage/sled shroud for use in a 14" HDPE riser pipe with a constant inside diameter set at a 3 to 1 slope. No plastic or HDPE housings will be accepted.

2.3.2 The wheeled carriage shall provide a low center of gravity and all wheels shall remain in contact with the inner contour of the riser pipe. The wheels shall be constructed of E-TEC non-corrosive material with self-lubricating qualities and must be able to travel over welding beads typically found in riser pipe fabrications. A stainless steel inlet suction screen shall be provided to prevent debris from entering the inlet of the pump.

2.3.3 The level sensor shall be mounted at the center bottom of the wheeled carriage and be removable or replaceable without disassembly of the pump assembly or removal of the pump from the wheeled carriage. A continuous length of sensor cable shall be field trimmed to proper length at time of installation by the installing contractor.

2.3.4 A safety/retrieval cable assembly with properly sized cable clips, snap hooks, and anchor eye bolt constructed of 300 series stainless steel shall be provided.

2.4 DISCHARGE PIPE

2.4.1 Discharge pipe, between the pump and top of the riser, shall be 3" HDPE pipe. HDPE to be field welded.

2.5 DISCHARGE PIPE FITTINGS

2.5.1 All pipe fittings shall be 300 series stainless steel. Fittings shall consist of two (2) 3" stainless steel HDPE transitions, and one (1) 3" stainless steel camlock/adapter assembly for each pumping system.

2.6 DISCHARGE EXIT FITTINGS

2.6.1 A right angle slip fit taper lock discharge adapter with Viton o-ring seal shall be provided, that will allow quick connection/disconnection of the pump discharge hose from the riser exit, and allow the pump to be removed without interference of the stationary fittings. The exit arrangement shall thread through the riser pipe as to provide gas tight connection.

2.6.2 All fittings shall be 300 series stainless steel construction.

2.6.3 The exit connections will penetrate the riser wall approximately 6" from the top of the riser pipe by means of 300 series stainless steel, male threaded exit nipple.

3.0 CONTROLS

3.1 CONTROL PANEL

3.1.1 The system controller shall be manufactured by the same manufacturer as the pumps and built and listed under UL508 and UL698a for use in Class I, II, and III, Division 1, Hazardous Locations. The system controller shall have an attached detailed UL label and an attached detailed SCCR label in compliance with Article 409 of the 2005 National electric Code (NFPA 70). The system controller will comply with all necessary requirements dictated by the installed panel's location and service.

3.1.2 The control panel shall provide level indication, pump operation, and motor protection.

3.1.3 Control panel shall consist of a NEMA 4X, 14 gauge, 304 stainless steel enclosure with lockable outer cover. The door shall open a minimum of 180 degrees and be provided with a view window. Mount control panel with the bottom of the control panel 3 feet to 0 inches above concrete pad or finished grade.

3.1.4 The inner door shall be polished aluminum dead front mounted on a continuous aircraft type hinge. The dead front door shall contain cutouts for the mounted equipment and operator accessible equipment and provide protection of personnel from live internal wiring.

3.1.5 Operator accessible components mounted on the dead front door shall include following:

a. H-O-A Switch

b. Pump Run Indicating Light (Green)

c. Motor Overload Indicating Light (Red)

d. Digital Level Indicator

e. Elapsed Time Meter

3.1.6 The back plate shall consist of 12-gauge sheet steel and finished with a primer coat and two coats of baked on enamel. All hardware mounted to the sub-panel shall be accomplished with machine thread tapped holes. Sheet metal screws are not acceptable. All devices shall be permanently identified with phenolic engraved nameplates.

3.1.7 The panel power distribution shall include all necessary components and shall be completely wired with standard copper conductors. Control wiring shall be properly sized and installed in Panduit type wiring trays.

3.1.8 Individual fuses be provided from main power, each pump, and control circuit.

3.1.9 The motor contactor shall be sized to the pump horsepower. A capacitor shall be used to start the motor and a relay shall be used to remove the start winding from the circuit when the motor reaches operating speed.

3.1.10 A fused type control transformer shall be used to provide the 120 VAC control circuit.

3.1.11 Individual surge arrestors shall be provided in the control panel for incoming supply power, control circuit and the 4 to 20 mA instrument circuit.

3.1.12 A thermostat-controlled heater shall be provided to control the inside temperature and alleviate the buildup of condensation in the control panel.

3.1.13 A corrosion inhibitor shall be provided within the enclosure.

3.1.14 A top mounted, 40 watt, weatherproof/shatterproof red visual high-level alarm beacon shall be provided.

3.2 BREAK OUT JUNCTION BOXES

3.2.1 Separate and individual breakout boxes, for power leads and level sensor leads shall be provided for installation near the top of the riser pipe.

3.2.2 Breakout boxes to be NEMA 4X fiberglass and include proper sized cord restraint and ½" conduit gastight seal fitting.

3.3 LEVEL CONTROL

3.3.1 A panel mounted digital readout display controller with a non-fading digital display shall be provided to indicate level in the sump. The pump "ON",

"OFF"' and "HIGH LEVEL" selections shall be user friendly and capable of being set/adjusted using buttons on the front of the meter.

The controller shall be capable of accepting a 4 to 20 mA signal from a submersible transducer, and provide a level indication range of 0 to 138.6 inches of liquid. When a high level condition occurs, the display will flash until the condition is corrected.

3.3.2 A submersible transducer with adequate sized cable shall be provided. The transducer shall be constructed of 300 series stainless steel and shall be mounted to the front center axis of the wheeled pump carriage. Transducer shall provide a 4 to 20 mA output signal and come equipped with built-in surge protection. Static accuracy shall be no less than 1.0%.

3.3.3 A permanent aneroid bellows type breather device shall be mounted in the level breakout box to prevent moisture in the vent tube.

3.3.4 A panel mounted intrinsically safe barrier shall be provided for the transducer signal.

3.4 REMOTE TANK LOCKOUT (If Required)

3.4.1 A storage tank high level lockout/tank float shall be provided to temporarily prevent the leachate extraction pump from pumping from the landfill if a high level condition exists in the storage or equalization tank. The lockout will automatically reset once the tank liquid level drops and adequate storage capacity is available. Signal from the pump system controller to the tank shall be intrinsically safe.

3.4.2 A NEMA 4X fiberglass breakout box, with proper sized cord restraint and ½" conduit gastight seal fitting, for tank float lead shall be provided for installation at the tank.

4.0 MISCELLANEOUS ITEMS

4.1 CABLE FITTINGS

4.1.1 Non-metallic, compression type threaded cable exit fittings, properly sized for the pump power cable, level sensor cable and flow sensor cable shall be provided for installation in the riser.

5.0 EXECUTION

5.1 START-UP

5.1.1 The manufacturer of the system shall provide field installation assistance, start-up and training of the system. The scheduling of this service shall be coordinated with the Contractor to insure the riser is in place and the control panel is connected to power, prior to the arrival of the manufacturers certified technician.

5.1.2 A start-up report shall be provided to include all component settings and motor operating characteristics. The report shall certify the system has been properly installed, or note any found deficiencies that need to be corrected.

5.1.3 At the time of start-up, the contractor shall coordinate with the manufacturer and the owner to provide operator training and troubleshooting.

5.1.4 A complete operations and maintenance manual with index for the system shall be provided. Information shall include manufacturers contact list, equipment list, equipment cut sheets, parts breakdowns, control panel information and a troubleshooting guide.

- END OF SECTION -

DIVISION 15

SECTION 15060
HIGH DENSITY POLYETHYLENE PIPE

1.0 GENERAL

1.1 DESCRIPTION

Supply and install high density polyethylene (HDPE) pipe for underdrain system and leachate collection as shown on the Drawings and as directed by the OWNER.

1.2 RELATED SECTIONS

1.2.1 Section 02712 - Bedding Material

1.3 REFERENCES

1.3.1 ASTM D-1248 Specification for Polyethylene Plastics Molding and Extrusion Materials.

1.3.2 ASTM D-3350 Specification for Polyethylene Plastics Pipe and Fitting Materials.

2.0 PRODUCTS

2.1 HDPE PIPE

2.1.1 Drisco 1000 pipe manufactured by Phillips DriscoPipe, Inc. or an ENGINEER approved equivalent.

2.1.2 Conform to cell classification of 345434-C in accordance with ASTM D-3350.

2.1.3 Conform with dimensions shown on the drawings.

3.0 EXECUTION

3.1 STORAGE AND HANDLING

3.1.1 Exercise care during loading, transit, and unloading to prevent damage by abrasion and puncturing.

3.1.2 Store pipe with support to prevent development of permanent set.

3.2 PIPE CONNECTIONS

3.2.1 Connect HDPE pipe sections by fusion welding.

3.2.2 Fusion equipment used in joining procedures shall be capable of meeting conditions recommended by pipe manufacturer, including but not limited to, temperature requirements, alignment, and fusion pressures.

3.2.3 Excessive extrudate within the pipe must be removed.

3.2.4 All pipes shall be beadles at the seams of the interior wall.

3.2.5 All shavings MUST be removed by either flushing with water or high pressure air.

3.3 FIELD QUALITY CONTROL

3.3.1 Pipe may be rejected for failure to conform to Specifications for:

1. Fractures or cracks passing through pipe wall, except single crack not exceeding 2 in. in length at either end of pipe which could be cut off and discarded. Pipes within one shipment will be rejected if defects exist in more than 5% of shipment or delivery.

2. Cracks sufficient to impair strength, durability or serviceability of pipe.

3. Defects indicating improper proportioning, mixing, and molding.

4. Damaged ends, where such damage would prevent making satisfactory joint.

3.3.2 Acceptance of fittings, stubs or other specially fabricated pipe sections shall be based on visual inspection at job site and documentation they conform to these Specifications.

3.3.3 Pipe testing shall be as described in Section 15070.

- END OF SECTION -

SECTION 15070
DUAL CONTAINED HIGH DENSITY POLYETHYLENE FORCE MAIN

1.0 GENERAL

1.1 DESCRIPTION OF WORK

1.1.1 Work Included

1. This section covers the material (pipe, fittings, and appurtenances, including carrier access ports/structures and low point inspection points, pipe sleeves, concrete inserts, hangers and supports), joining methods and general installation practice for dual contained high density polyethylene (HDPE) piping systems to be furnished, installed and tested as shown on the Drawings and as specified herein. All piping and fittings, flanges, sleeve couplings, pipe hangers and supports, not otherwise specifically provided for in these Specification, but necessary to complete the various systems shall be included under this section of Work.

2. Work under this contract will require installation of containment pipe with carrier pipe at the location shown on the drawings.

1.1.2 Related Section

1. All items of related Work, necessary to complete the Work, shall be provided by the CONTRACTOR.

1.2 SUBMITTALS

1.2.1 Product Data - The CONTRACTOR shall obtain a letter certifying the pipes suitability for the proposed application and its compatibility with the leachate constituents from the pipe manufacturer. Submit product data to the ENGINEER for review in accordance with this section for all dual contained pipe, fittings and related appurtenances.

1.2.2 Shop Drawings - The piping Drawings included with these Specifications are not intended to show all piping details. The intent of the Drawings is to illustrate the conceptual layout, routing and approximate pipe sizes.

1.2.3 Certifications

1. The CONTRACTOR shall obtain certification from the manufacturer confirming the pipes physical properties meet the specifications.

2. The CONTRACTOR shall have a registered professional ENGINEER provide certification of the pressure testing results of the installed piping.

3. Certified dimensional as-built drawings/profiles of all installed pipe, fittings, and structures.

4. The Supplier of the material shall submit, through the CONTRACTOR, a Certificate of Compliance that the pipe, fittings and other products or materials furnished for this project have been inspected at the plant and meet or exceed the standards set forth in this specification. The CONTRACTOR shall submit these certificates to the ENGINEER for approval prior to installation of the pipe materials.

5. Provide a statement that personnel responsible for fusing the pipe have been trained and qualified.

1.2.4 For items that do not meet all of the requirements of this specification, the bid/submittal shall include a written description of the deviations, along with data that show the magnitude and the justification for the deviation from the specification. The decision to accept material deviating from this specification shall be the responsibility of the specifying ENGINEER and must be approved in writing.

1.3 QUALITY ASSURANCE

1.3.1 All pipes and pipe fittings used in the various piping systems shall conform to the specifications. All materials and equipment shall be in accordance with the appropriate requirements specified herein, and shall be equal to the products listed.

1.3.2 Standards

1. All Work shall conform to the applicable provisions of the codes, standards, Specifications and requirements as specified herein.

2. Piping System materials, fabrication erection, testing and inspection shall conform to the requirements of ASTM D-1248, "Specification for Polyethylene Plastics Molding and Extrusions Materials" and ASTM D3350, "Specification for Polyethylene Plastics Pipe and Fitting Material."

1.3.3 All shavings MUST be removed by either flushing with water or high pressure air.

1.4 REFERENCE DOCUMENTS AND STANDARDS

Unless otherwise specified, references to documents shall mean the latest published edition of the referenced document in effect at the project bid date.

1.4.1 ANSI/AWWA

1. ANSI/AWWA C901 Polyethylene (PE) Pressure Pipe and Tubing, ½ in. (13 mm) Through 3 in. (76 mm) for Water Service.

2. ANSI/AWWA C906 Polyethylene (PE) Pressure Pipe and Fittings, 4 in. (100 mm) Through 63 in. (1,600 mm), for Water Distribution and Transmission.

3. AWWA M55 Manual of Water Supply Practices, PE Pipe–Design and Installation.

1.4.2 Plastic Pipe Institute, PPI

1. PPI Handbook of Polyethylene Pipe – 2009 (2ndEdition).

2. PPI Material Handling Guide for HDPE Pipe and Fittings.

3. PPI TR-38 Bolt Torque for Polyethylene Flanged Joints.

4. PPI TN-42 Recommended Minimum Training Guidelines for PE Pipe Butt Fusion Joining Operators for Municipal and Industrial Projects.

5. PPI TR-46 Guidelines for Use of Mini-Horizontal Directional Drilling for Placement of High Density Polyethylene Pipe.

1.4.3 ASTM

1. ASTM D 1238 Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer.

2. ASTM D 1505 Standard Test Method for Density of Plastics by the Density-Gradient Technique.

3. ASTM D 2321 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications.

4. ASTM D 2774 Standard Practice for Underground Installation of Thermoplastic Pressure Piping.

5. ASTM F 2880 Standard Specification for Lap-Joint Type Flange Adapters for Polyethylene Pressure Pipe in Nominal Pipe Sizes 3⁄4 in. to 65 in.

6. ASTM D 3035 Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter.

7. ASTM D 3261 Standard Specification for Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing.

8. ASTM D 3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials.

9. ASTM F 585 Standard Guide for Insertion of Flexible Polyethylene Pipe Into Existing Sewers.

10. ASTM F 714 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter.

11. ASTM F1417 Standard Test Method for Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air.

12. ASTM F 1962 Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit under Obstacles, Including River Crossings.

13. ASTM F 2164 Standard Practice for Field Leak Testing of

Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure.

14. ASTM F 2206 Standard Specification for Fabricated Fittings of Butt-Fused Polyethylene (PE) Plastic Pipe, Fittings, Sheet Stock, Plate Stock, or Block Stock.

15. ASTM F 2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings.

16. ASTM F 3124 Standard Practice for Data Recording the Procedure Used to Produce Heat Butt Fusion Joints.

17. ASTM F 3183 Standard Practice for Guided Side Bend Evaluation of Polyethylene Pipe Butt Fusion Joint.

18. ASTM F 3190 Standard Practice for Heat Fusion Equipment (HFE) Operator Qualification on Polyethylene (PE) and Polyamide (PA) Pipe and Fittings.

2.0 PRODUCTS

2.1 RESIN AND MATERIAL REQUIREMENTS

1. All pipe and fitting material shall be manufactured from a PE 4710 resin listed with the Plastic Pipe Institute (PPI) as TR-4. The resin material shall meet the specifications of ASTM D 3350 with a minimum cell classification of 445474C. The polyethylene compound shall be suitably protected against degradation by ultraviolet light by means of carbon black of not less than 2 percent.

2.2 DUAL CONTAINED HDPE PIPE AND FITTINGS

2.1.1 Pipe, Fittings, and Supports

1. Pipe used to fabricate the dual contained system shall be made of HDPE material with a minimum material designation code of PE4710 and with a minimum Cell Classification as noted in 2.1. The density shall be no less than 0.941 – 0.955 gms/cm^3 as referenced in ASTM D1505. Melt flow shall be no greater than 0.15 gms/10 min when tested in accordance with ASTM D1238 – Condition E. Melt flow shall be no greater than 4.0 gms/10 min

when tested in accordance with ASTM D1238 – Condition F.

2. Both the carrier and containment pipe shall have an IPS (Iron Pipe Size) OD and, when required, pipe shall meet AWWA C901 (1/2" to 3") or AWWA C906 (4" to 63"), and shall be listed as meeting NSF-61. Pipe sizes 3" and large shall have a manufacturing standard of ASTM F 714, while pipe smaller than 3" shall be manufactured to the dimensional requirements listed in ASTM D 3035.

3. The carrier pipe will have a nominal OD of 4" with Standard Dimension Ratio (SDR) of 11 . The containment pipe will have a nominal OD of 8" with Standard Dimension Ratio (SDR) of 17. (Alternatively, the size and SDR of the dual containment pipe combinations shall be as specified on plans.)

4. Dual Contained pipe shall be prefabricated prior to shipment to the jobsite. No on-site fabrication to the pipe, fittings or system shall be allowed without express written consent of the ENGINEER and the piping supplier. Each end of pipe will have a centralizer that is thermally bonded to both the OD of the primary carrier and the ID of the secondary containment piping and designed such that movement will be restrained between the two piping systems during the simultaneous butt fusion process. Centralizer shall be thermally bonded to the primary carrier pipe, and maintain position and alignment of the primary carrier in relation to the secondary containment piping.

5. Dual Contained Pipe shall be manufactured by an ISO 9001 certified manufacturer. The pipe manufacturer shall have a minimum 10 years of experience in manufacturing and production of dual contained piping and related fittings.

6. The fittings supplied under this specification shall be made from a polyethylene compound having a cell classification equal to or exceeding the compound used in the pipe or shall be manufactured using a polyethylene compound having a cell classification equal to or exceeding the cell classification of the pipe supplied under this specification. The pressure rating of carrier fittings shall have a minimum pressure rating equal to or greater than the pipe to which they are joined unless otherwise specified on the plans or accepted by OWNER/ENGINEER. To insure compatibility of polyethylene

resins, all fittings supplied under this specification shall be the same manufacture as the pipe being supplied. Where required, all fitting shall meet the requirements of AWWA C901 or C906.

7. End termination fittings shall be used to seal the system at both ends. The fitting shall be simultaneously butt fused to the carrier and containment pipe to seal the annular space. Terminations that are not butt fused in the system will not be allowed. This fitting will also provide the transition to single wall piping using the following components and guidelines:

   a. Flange Adapters shall meet the dimensional and material requirements of ASTM F 2880.

   b. Ductile Iron, Stainless Steel, or Steel back-up rings (Van-Stone style lap joint flanges) shall have a radius on the inside diameter of the bore so as to be compatible with HDPE Flanges. Back up rings shall have bolt pattern that will mate with AWWA C207 Class D (or B or E), ASME/ANSI B 16.5 Class 150, ASME/ANSI B 16.1 Class 125, or ASME/ANSI B16.47 Series A.

   c. Flange assemblies shall be assembled and torqued according to PPI TN-38, "Bolt Torque for Polyethylene Flanged Joints."

   d. Threaded transition fittings may be used in lieu of flanges, but unions must be employed to allow connections where pipe will not have any freedom of movement.

8. Centralizers used for pipe ends will be either molded from HDPE Pipe Grade resins or machined from HDPE Pipe Grade sheet. Manual or hand cut centralizers are not permitted since they have a low degree of dimensional accuracy. Centralizers should have at least two openings that will permit the flow of liquid between the carrier pipe and the containment pipe. The OD of the centralizer shall match the ID of the containment piping as closely as possible. Centralizer spacing for prefabricated pipe will have a spacing of 53", or standard spacing based on industry standards.

9. The pipe supports supplied under this specification shall be provided complete with all necessary appurtenances to provide

a complete and working system. The pipe supports shall be placed where shown on the drawings and any additional areas recommended by the pipe manufacturer. The pipe supports shall be Grinnell Figure 191 or equal.

10. Manholes and structures shall be supplied by the same supplier as dual containment pipe and fittings. Structures shall meet the specific requirements of Section 02531 of the specifications and details on the plan drawings.

11. Flanges or electrofusion couplings shall be used for all manhole connections. The inlets and outlets shall be flanged for ease of installation.

12. All pipe flanges shall have ANSI gaskets.

2.1.2 Fusion Unit Requirements

1. All Fusion Equipment, whether new or used, rented or owned, shall be adhere to Dual Contained piping system manufacturer's recommendations. The butt fusion equipment used to join the pipe shall be capable of meeting all normal butt fusion requirements: alignment, heating, trimming and fusion pressure.

2. If the CONTRACTOR owns butt fusion equipment, the equipment must be serviced within 3 months prior to use for this project. The machine must be environmentally friendly and in satisfactory working order. The hydraulic system must be leak free. The pressure gage and thermometer must be checked for accuracy. For projects with pipe quantities of 5000' or longer, the fusion equipment should be serviced by an authorized service and repair center with at least one certified master mechanic on staff within 3 months from the first fusion on the project.

3. Rental Fusion Equipment must be supplied by an authorized service and repair center with at least one certified master mechanic on staff. When requested by OWNER or his authority, an inspection report detailing the components inspected within 3 months prior to arrival at jobsite will be provided.

2.1.3 Pipeline Locating Materials

1. A detectable plastic marker tape shall be 5 mil minimum thickness with a solid aluminum core of .35mil minimum thickness and a minimum width of 2". The background of the tape shall be colored based on pipe service with black lettering continuously printed. Marker tape shall have a minimum 35 lbs./inch tensile strength. The installation of the tape shall be at 18 inches below finish grade.

2.1.4 The OWNER or the ENGINEER may request certified lab data to verify the physical properties of the materials supplied under this specification or may take random samples and have them tested by an independent laboratory.

2.1.5 Rejection - Polyethylene pipe, and fittings may be rejected for failure to meet any of the requirements of this specification.

3.0 EXECUTION

3.1 ERECTION, INSTALLATION AND APPLICATION

3.1.1 Pipe Joining - Sections of polyethylene pipe should be joined into continuous lengths on the job site above ground. The joining method shall be the butt fusion method and shall be performed in strict accordance with the pipe manufacturer's recommendations. The butt fusion equipment used in the joining procedures should be capable of meeting all conditions recommended by the pipe manufacturer, including, but not limited to, temperature requirements, alignment and fusion pressures. Joining, laying, and pulling of polyethylene pipe shall be accomplished by personnel trained in working with dual containment polyethylene pipe systems.

3.1.2 General - Keeping the annular space of dual contained pipe and fittings clean and dry should be the goal of all installations. Contamination of the annular space could lead to either poor fusions or problematic false indications of leaks or loss of integrity of the carrier/containment pipe system.

3.1.3 Direct Burial

1. Buried HDPE pipe and fittings shall be installed in accordance with ASTM D 2321 or ASTM D 2774 for pressure systems and AWWA Manual of Practice M55 Chapter 8. The Design Window identified in AWWA M55 Chapter 5 (page 65 of 2006 version) shall be considered acceptable design and installation conditions based on

the containment pipe DR.

2. Pipe embedment - Embedment material should be Class I, Class II, or Class III materials as defined by ASTM D-2321 Section 6. Class IV or Class V materials are not recommended; however, they may be used only with the evaluation and approval of the ENGINEER at a demonstrated achievable compaction.

3. Bedding: Pipe bedding shall be in conformance with ASTM D 2321 Section 8. Compaction rates should be as specified in ASTM D 2321. Deviations shall be approved by the ENGINEER.

4. Haunching and backfill shall be as specified in ASTM D 2321 Section 9 with Class I, II, or III materials. Compaction shall be in excess of 85% Proctor, providing a minimum modulus of 1000 psi or greater.

3.1.4 Fusion Joining Requirements:

1. All Dual Contained HDPE pipe shall be joined using the simultaneous butt fusion welding process which produces homogeneous, seal, leak tight joints for both the carrier and containment pipe.

2. The Dual Containment supplier shall provide written simultaneous butt fusion welding procedure as part of the submittal package. The procedure should identify quality checks and incorporate principles outlined in ASTM F 2620 or PPI TR-33. The procedure shall identify how the simultaneous butt fusion pressure is determined.

3. Fusion joints shall be made by personnel trained by the dual containment system supplier. A record or certificate of training for the fusion operator must be provided that documents training date.

4. Considerations should be given to adverse weather conditions, such as temperatures below freezing, precipitation, or wind. Provisions shall be accepted by the OWNER/ENGINEER.

3.1.5 Fusion Operators:

1. The employer of the fusion machine operator is responsible for the

fusion joint quality of the fusion weld made by that individual. The employer is responsible for documenting all training and qualification records for that individual, including compliance to any code requirements for fusion/bonder operators.

2. All HDPE fusion equipment operators shall be trained by the dual containment system manufacture to the simultaneous fusion procedure. Fusion equipment operators shall have current, formal training on all fusion equipment employed on the project. Training received more than two years prior to operation with no evidence of activity within the past 6 months shall not be considered current.

3. When the fusion machine operator is employed by the fusion machine and dual contained system supplier, the supplier shall maintain an ISO 9001 Certified Quality Management System.

3.1.6 Butt Fusion Equipment:

1. For 6" and larger pipe sizes, the pipe butt fusion machine shall be a self-contained hydraulic fusion machine capable of butt fusing HDPE pipe. The carriage must be removable from the chassis for in-ditch use. The machine must be compatible with an electronic data recording device. Accessories will include all butt fusion inserts for the specified range of pipe sizes, a pyrometer kit for checking the surface temperature of the heater, extension cord of appropriate gauge (25' minimum), and hydraulic extension hoses (minimum of four at 25' each).

2. Fusion Data Recording:

a. For containment sizes 6" and larger pipe sizes, an authorized fusion data recorder shall be used to record all fusion welds on hydraulically operated fusion machines. The device shall be capable of meeting the requirements of ASTM F 3124, "Standard Practice for Data Recording the Procedure used to Produce Heat Butt Fusion Joints in Plastic Piping Systems or Fittings". The device, or combination of devices, shall record the following variables of each fused joint:

I. Heater surface temperature- immediately before inserting the heater plate, measure with a pyrometer

and manually enter into the weld record.

ii. Gauge pressure during the initial heat cycle

iii. Gauge pressure and elapsed time during the heat-soak cycle

iv. Heater removal (dwell) time

v. Gauge pressure and elapsed time during the fusing/cool cycle

vi. Drag pressure

vii. Pipe diameter(s) and wall thickness(es)

viii. Type of HDPE material (Specification and Classification) and manufacturer

ix. Fusion Machine Identification

b. The device shall record the operator name and a unique operator ID number, along with the date and time of each weld.

c. Records showing the device is up to date on all required calibration should be available for review when requested.

d. All fusion welds should be traceable to the report (via operator and weld ID) with an indentation weld stamp or by permanent paint marker/pen next to fusion weld.

3.1.7 Butt Fusion Examination and Data Review:

1. Visual: For pipe sections, examine the full exterior circumference of the containment for bead uniformity before cutting. Where required, create a test fusion and disassemble after cutting the pipe sections to review the interior beads. All beads should have visually acceptable bead formation as shown in Fig 4 and Appendix X2 of ASTM F 2620. In addition, the following characteristics are expected:

a. There shall be no evidence of cracks or incomplete fusing

b. There shall be no evidence of captured objects (e.g., pipe shavings, facer ribbons) between bonded surfaces.

c. Variations in upset bead heights on opposite sides of the cleavage and around the circumference of fused pipe joints are acceptable.

d. The apex of the cleavage between the upset beads of the fused joint shall remain above the base material surface

e. Fused joints shall not display visible angular misalignment, and outside diameter mismatch shall be less than 10% of the nominal wall thickness

f. Fusion data records, when required, shall be reviewed to meet acceptable fusion criteria can be used as additional verification of visual indicators.

3.1.8 Fusion Data Record Review

1. The fusion date record for each fused joint shall be compared to the approved fusion procedure. The reviewer shall verify the following:

a. That all data required by section 3.1.6 was recorded

b. pressure was within the acceptable range

c. Heater surface temperature was within the acceptable range

d. Butt fusion pressure applied during the fusing/cool cycle was correctly calculated to include drag pressure, fell within the acceptable range for the applicable size and agrees with the recorded hydraulic fusing pressure.

e. Butt fusing pressure was reduced to a value less than or equal to drag pressure at the beginning of the heat soak cycle.

f. Fusing machine was opened at the end of the heat soak cycle, the heater was removed, and the end were brought together at the fusion pressure with the acceptable time range

g. Cooling time at butt fusing pressure met the minimum time specified

2. If the recorded data is outside the limits of the acceptable range, the joint is unacceptable and must be removed and replaced.

3. Frequency. Records for test fusion joints should be reviewed immediately after the joint is completed. Fusion joints for jobsite fusions should be reviewed daily or before being covered with backfill.

3.2 TRASPORTATION, UNLOADING, HANDLING AND STORAGE

All pipe ends shall be sealed with polyethylene in order to prevent debris from entering the pipe during delivery. Pipe shall be stored on clean, level ground to prevent undue scratching or gouging. Nylon slings are suggested for handling in order to prevent damage. If the pipe must be stacked for storage, such stacking should be done in accordance with the pipe manufacturer's recommendations.

3.2.1 The manufacturer shall package product in a manner designed to deliver the pipe and fittings to the project neatly, intact and without physical damage. During transportation each pipe shall rest on suitable pads, strips skids, or blocks securely wedged or tied in place.

3.2.2 During loading, transportation, and unloading, every precaution should be taken to prevent damage to the pipe. The handling of the pipeline shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. Cuts or gouges that reduce the wall thickness by more than 10% are not acceptable and must be cut out and discarded.

3.2.3 Handle all piping material in accordance with the PPI Handbook of Polyethylene Pipe (2nd Edition), Chapter 2. All pipe and accessories shall be loaded and unloaded by lifting with hoists or by skidding in order to avoid shock or damage. Under no circumstances shall materials be dropped. Pipe handled on skidways shall not be rolled or skidded against pipe on the ground. Slings, hooks or pipe tongs shall be padded and used in such a manner as to prevent damage to the exterior surface or interior of

the pipe. All pipe and fittings shall be subjected to visual inspection at time of delivery and before they are lowered into the trench to be laid.

3.2.4 Materials, if stored, shall be kept safe from damage and shall not be stacked higher than the limits recommended by the manufacturer. The bottom tiers shall be kept off the ground on timbers, rails, or concrete. Pipe shall not be stored close to heat sources. The CONTRACTOR shall be responsible for all security, damage and loss of pipe, excluding Acts of God.

3.2.5 Sealing surfaces of mating components (i.e. flange faces) shall be kept free from dirt or foreign matter at all times. The open ends of all pipe sections of joined and/or installed pipe (not in service) shall be capped or plugged to prevent insects, animals, or foreign material from entering the pipe line or pipe section. Use waterproof nightcaps to prevent the entrance of any type of natural precipitation into the carrier or containment pipe and will be secured to the pipe in such a manner that the wind cannot blow them loose. Where possible, the pipe shall be raised and supported at a suitable distance from the open end such that the open end will be below the level of the pipe at the point of support.

3.2.6 All pipe and fittings shall be subjected to visual inspection at time of delivery and before they are installed or lowered into the trench to be laid. Defective, damaged, or unsound pipe will be rejected. Cuts, punctures, or gouges that penetrate or reduce the wall thickness by 10% or more are not acceptable and must be removed and discarded. Joints or fittings that do not conform to these specifications will be rejected and must be removed immediately by the CONTRACTOR.

3.3 FIELD QUALITY CONTROL

The CONTRACTOR shall insure testing can be accomplished in a safe manner, including protection of personnel, equipment, and public in the event of a failure during testing. The CONTRACTOR shall restrain pipe, components, and test equipment as required. All pumps, valves, temporary connections, meters, gauges and other measuring devices shall be furnished, installed and operated by the CONTRACTOR and all such equipment and devices and their installation shall be approved by the OWNER's ENGINEER. The pressure gauges or data recorders should be calibrated and sufficiently sized to provide mid-range data (pressure tested will not be below 10% or greater than 90% of gauge capacity) that result in easy reading, interpretation. Gauges shall be accurate to within 2% of full scale with increments no greater than X psi. Test pressure shall not exceed the lowest rated component of the system, which may be a fitting or valve.

3.3.1 Water Piping Test - All water piping shall be tested at the hydrostatic pressure specified in Table 1 for a duration of one hour and shall not vary more than ±5 psi. The hydrostatic pressure shall be applied and the pipe allowed to stretch to equilibrium over a 2-3 hour period. The hydrostatic pressure shall then be returned to the test pressure and the one hour test conducted.

3.3.2 Compressed Air Test - All piping tested with compressed air as the medium shall be tested at the pressures shown in Table I for a duration of ten minutes. Each joint shall be tested with a soap solution shall show no sign of leakage.

3.3.3 Leakage Test - The leakage test for the line shall be conducted concurrently with the pressure test. The test pressure of 100 psi at the same location as the pressure test connection shall be maintained constant during the entire time that line leakage measurements are being made, so that the allowable leakage rate specified in Table 2 may be determined accurately.

3.3.4 Table 1: Pipe Test Pressure Schedule

Line Description	Pipe	Type	Pressure or Gravity	Test Pressure (PSIG)	Test Media
HDPE Carrier Pipe	HDPE	SDR11	Pressure	100	Water
HDPE Containment Pipe	HDPE	SDR17	Gravity	110	Water/Air

3.3.5 Table 2: Allowance for Expansion Under Test Pressure

Nominal Pipe Size (in.)	Allowance for Expansion (US Gals/100 feet of pipe)
3 and smaller	0.1
4	0.13

3.3.6 Containment Pipe Testing

1. Access to the annular space via low point drains or access ports will used to conduct containment pipe testing.

2. The annular space between the carrier and containment pipe shall be tested to a maximum of 10 psi air pressure. Air pressure should be allowed to equalize for 10 minutes, then monitor the pipe for the test

period of 10 minutes, during which no drop in pressure shall be allowed.

3. Intermediate testing of containment annular space may be used for evaluation of fusion and pipe integrity prior to final testing. No hydrostatic test of the carrier is required for intermediate testing. Welding and subsequent removal of end terminations will likely be necessary to provide temporary closure of the annular space.

4. Final low pressure air testing of containment shall be conducted upon completion of the hydrostatic testing of the carrier pipe outlined in section 3.3.7.

5. Warning: All pneumatic test, regardless of pressure, can be dangerous and safety procedures shall be identified, documented, approved by the OWNER and ENGINEER, and followed. ASTM F1417 may provide useful guidance and information for reference.

3.3.7 Carrier Pipe Testing

1. Carrier Pressure testing shall be conducted in accordance with requirements and recommendations of ASTM F 2164 (Field Leak Testing of Polyethylene Pressure Piping Systems Using Hydrostatic Pressure), AWWA Manual of Practice M55 Chapter 9, and PPI Handbook of Polyethylene Pipe Chapter 2 (2nd Edition). High pressure or pneumatic (compressed air) leakage testing of HDPE pressure piping is prohibited for safety reasons.

   a. The section of pipe to be tested shall be filled with potable or generally clean water (uncontaminated river/lake water) approved by the OWNER/ENGINEER. While the system is being filled with water, air shall be carefully and completely exhausted. Due to the complexity of adding fittings in installed dual contained piping, systems requiring venting shall use air vent valves within containment structures located at high points during the design phase.

   b. The test procedure for HDPE pipe consists of two steps: 1) the initial phase or expansion phase and 2) the test phase. During the initial/expansion phase, sufficient make-up water shall be added hourly for 3 hours to return to the test

pressure. During the test phase, the expansion phase pressure is reduced by 10 psi to test phase pressure and monitored for at least one hour (3 hours maximum).

c. Under no circumstances shall the total time under hydrostatic test exceed eight (8) hours. If the test is not completed due to leakage, equipment failure or any other reason, depressurize the test section and permit the system to "relax" for eight (8) hours prior to the next testing sequence.

d. The test pressure shall be 1.5 times the operating pressure at the lowest point in elevation along the test section's vertical pipeline profile. In accordance with section 9.8 of ASTM F 2164, the pipe shall pass if the final pressure is within 5% of the test phase pressure for the testing period (3 hours maximum). If the test section fails this test, the CONTRACTOR shall repair or replace all defective materials and/or workmanship at no additional cost to the OWNER.

2. Test pressures require consideration of thermal conditions. Polyethylene piping materials are typically pressure rated at 73°F (23°C) and PE piping at temperatures greater than 80°F (26°C) require reduced test pressures. (Note that higher pipe temperatures should consider both ambient temperatures and radiant solar heating of exposed black HDPE pipe) Guidance for elevated temperatures can be found in the appendix of Chapter 3 (Material Properties) of the PPI Handbook of PE Pipe.

3. All pressure and leakage testing shall be done in the presence of a representative of the OWNER and ENGINEER.

3.4 ADJUSTING AND CLEANING

3.4.1 If inspections or tests show defects, such detective work or material shall be replaced and inspected and test repeated. All repairs to piping shall be made with new material. No caulking of screwed joint or holes will be accepted.

3.4.2 Repair of Damaged Sections - Segments of pipe having cuts or gouges in excess of 10 % of the wall thickness of the pipe should be cut out and

removed. The undamaged portions of the pipe shall be rejoined using the butt fusion joining method.

- END OF SECTION -

SECTION 15110
VALVES

1.0 GENERAL

1.1_ DESCRIPTION

1.1.1 Work under this Section includes check valves, ball valves, and air/vacuum valves.

2.0 PRODUCTS

2.1 Values shall meet the requirements of the applicable specification, and maximum operating pressure ratings.

2.1.1 Valves shall be chemically designed to handle leachate with a pH range of 4 to 6.

2.1.2 Valves shall be designed to joint with a HDPE Pipe.

2.1.3 Shop drawings are required for all valves.

3.0 EXECUTION

3.1 CHECK VALVES

3.1.1 All ball check valves shall be of a solid thermoplastic construction and shall be designed with an elastomeric uniseat/seal for tight and shut-off under pressure. The same seal shall function as both the ball seat and the union seal.

3.2 PLUG VALVES

3.2.1 The valve shall be of a tapered cylindrical plug design made of polypropylene. Valve shall come standard with a sealed position indicator, clean-out plug and EPDM seals and be of the non-rising stem design.

3.2.2 The valve shall be of a tapered cylindrical plug design made of CPVC, thickly lined with a styrene butadiene rubber (SBR) material. Valve is to come standard with a sealed position indicator and SBR seals. Valve shall have shallow seating area in bottom of valve body, be self-cleaning and be of the non-rising stem design.

3.3 BALL VALVES

3.3.1 The valve shall be made of polypropylene. Valve shall be true union type.

3.3.2 The valve shall be made of CPVC with viton seals.

- END OF SECTION -

DIVISION 16

SECTION 16010
GENERAL ELECTRICAL PROVISIONS

1.0 GENERAL

1.1_ DESCRIPTION

These specifications set forth conditions, and include the work to be performed, equipment to be installed, and certain methods to be employed to implement a complete operable electrical installation.

1.2 SUBMITTALS

1.2.1 Submit all materials and equipment for review. Each sheet of descriptive literature submitted shall be clearly marked to identify the material or equipment as follows:

1. Submit schematics and connection diagrams for all electrical equipment. A manufacturer's standard connection diagram or schematic showing more than one scheme of connection will not be accepted unless it is clearly marked to show the intended connections.

2. Equipment and materials descriptive literature not readily cross-referenced with the drawings or specifications shall be identified with a suitable notation.

1.3 CODES AND STANDARDS

1.3.1 These specifications are minimum requirements and shall govern except where made more stringent by other sections of this specification or local, state or federal laws or regulations. Where conflict between drawings, specifications, codes or standards occurs, the more stringent requirements shall govern. No extra compensation for such compliance will be allowed.

1.3.2 Submission of proposal is considered evidence that the Contractor is proficient and experienced, and knowledgeable of all standards, codes, ordinances, permits, and regulations affecting his work.

1.3.3 The materials and installation shall conform to the minimum requirements and latest outstanding issues and revisions of the following codes, standards, and regulations wherein they apply:

1. NFPA No. 70, National Electrical Code (latest edition).

2. American National Standard, National Electrical Safety Code, (latest edition).

3. Applicable publications of NEMA, ANSI, IEEE and ICEA.

4. Underwriters' Laboratories, Inc. Standards

5. OSHA requirements.

1.4 PERMITS, INSPECTIONS, AND UTILITY CONNECTIONS

1.4.1 The Contractor shall obtain all necessary permits and shall pay all fees in connection with all permits, inspections, and approval by the proper authorities in local jurisdiction of such work. Final inspection by the Engineer will not occur until necessary certificates of satisfactory inspection are received.

1.4.2 Utility company installation and/or premium charges in all forms are to be paid by the Contractor who will ascertain these charges prior to bidding.

1. Verify with Electric Utility service information specified herein and as shown on Drawings before submitting Bid. Include deviations required by Electric Utility from Drawings or Specifications. Consult with Electric Utility regarding service entrance requirements and metering equipment. Include in Bid, Electric Utility charges for extension of Electric Utility distribution system to point of services termination, in accordance with requirements of applicable service rules and regulations of Electric Utility, and complying with Drawings.

1.5 DRAWINGS

1.5.1 Drawings and specifications are provided for assistance of the Contractor and are diagrammatic only to indicate the general arrangement and location of circuits, outlets, etc. Exact locations will be governed by the building and site where dimensioned. Deviations from the arrangement indicated to meet structural conditions shall be made with no expense to the Owner.

1.5.2 The location of outlets and connections for equipment to be installed by

others are indicated on the plans; verify these locations with the party responsible for installing such equipment.

1.5.3 Throughout the progress of construction, the Contractor shall keep a set of detailed field record drawings, including the exact location of concealed work and underground utilities. This requirement does not authorize any deviations from the contract drawings without prior approval from the Engineer. The field record information shall be marked in a legible manner on prints of the drawings. At the completion of work, the field record information shall be delivered by the Contractor to the Engineer.

1.6 CLEARANCES

1.6.1 Equipment:

Maintain working clearances around electrical equipment as required for proper maintenance and operation, as required by N. E. C.

1.7 TEMPORARY POWER

1.7.1 The Electrical Contractor shall provide all labor and material for temporary power and lighting required in construction for all trades until the permanent system is in operation.

1.7.2 Complete installation shall be in compliance with all applicable codes. Electrical Contractor's bids will allow removal and salvage for any temporary service when it is no longer required to supply his own portable source for these machines.

1.7.3 Power for welding machines and other high current drawing machines will not be supplied. Contractor will be required to supply his own portable power source for these machines.

2.0 PRODUCTS

2.1 MATERIALS

2.1.1 Where specified herein, indicated in equipment list, or shown on the drawings, the Contractor will furnish all equipment and materials for installation, connection, and placing into satisfactory operating service. The Contractor shall review the drawings, specifications, manufacturer's recommendations, schedules, and building structures for clarification of his

responsibility in the handling and installation of equipment and material. Manufacturer's drawings and installation instructions shall be furnished with the equipment for use by the Contractor. Where applicable, and not in contradiction with the drawings and specifications, the Contractor shall install and connect the equipment in accordance with the manufacturer's recommendations and instructions.

2.1.2 Material and equipment shall be furnished new and as listed Underwriters' laboratories, Inc. and shall bear UL approval labels and all applicable federal specifications.

2.1.3 Products shall be by established manufacturers regularly engaged in making type of materials to be provided and complete with all parts, accessories, trimmings, connections, etc. reasonably incidental thereto as specified in detail or as described in manufacturer's catalog. All equipment shall be properly cleaned, adjusted, and put in complete working order ready for service.

2.1.4 All packaged equipment shall be completely factory wired prior to delivery to the job. Connection to and bonding of this equipment is required under this section of the specifications.

1. The CONTRACTOR shall check all prewired controls before energizing to verify that all internal wiring is properly coordinated to the voltage to be applied.

2. The General Equipment Requirements shall apply to all equipment furnished under this section.

3.0 EXECUTION

3.1 INSTALLATION

3.1.1 The CONTRACTOR shall provide and install all equipment as specified, required or implied in this specification except as noted. This requirement shall include all labor, materials, and incidentals in a manner consistent with good practice necessary for a complete operable installation. The systems and equipment to be provided and installed by the Contractor include:

1. Permanent power connections to the leachate pump control panels through a locally mounted disconnect panel.

2. Verify that all components of the control panel are in operating order.

3. Verify proper operation of the leachate pump.

3.1.2 Cooperation with other trades shall be implemented by the Contractor by his reference to the Drawings and other sections of the specifications for work by other trades and to be carried on simultaneously or sequentially with the electrical work. This requirement is to facilitate constriction to proceed with no harm to the Owner due to the absence of cooperation. All other drawings and sections of the specifications shall become part of the electrical specifications as they relate to electrical work.

3.1.3 The Contractor shall verify equipment dimensions to insure dimensional compatibility.

3.1.4 Contractor shall provide at all times services of one or more experienced superintendents in charge of all required personnel.

3.1.5 No work shall be covered or enclosed until work is tested in accordance with applicable Codes and Regulations and successful tests witnessed and approved by authorized inspection authority. Written approvals shall be secured by Contractor and shall be submitted to the Engineer before final acceptance of work.

3.1.6 All conduit penetrations through HDPE manholes shall be sealed to prevent transfer of water, heat and smoke. Use an approved sealant compatible with HDPE material.

3.1.7 The Electrical Contractor shall be responsible for repairs and finish of all holes placed for conduit if such holes are placed after general construction is completed.

3.1.8 All equipment wiring shall be installed in accordance with shop drawings to be furnished by the supplier of the equipment. Where necessary, circuits shall be adjusted in size to match equipment being furnished.

3.1.9 Direct connections between rough-in box, or conduit stub, and special equipment shall be made with flexible conduit. A green ground wire shall be installed in all flexible conduits to provide ground continuity.

3.1.10 All excavation, backfilling, and concrete work shall conform to the

respective sections of these specifications.

3.1.11 If an underground cable is installed, a plastic non-deteriorating warning maker shall be placed above cables and conduits the full length of the trench at a depth of 12" below grade. The marker shall be yellow, 6" wide, and labeled "BURIED ELECTRIC LINE" or similar; Brady UT 20- Y6, or approved equal.

3.1.12 The Contractor shall be responsible for receiving and promptly checking the equipment and for protecting the equipment against mechanical and electrical damage at all times after it is received.

3.1.13 Mounting heights unless otherwise noted shall be from the finished floor to the bottom of the device.

Receptacle	Bottom of leachate pump control panel
Disconnect Switches	4'-0"

3.1.14 Circuits for different types of signals shall be run in separate conduits, i.e., 120 V, 4-20 ma, thermocouple, and pulse circuits shall be grouped in their own conduits.

3.1.15 The Electrical Contractor shall be responsible for providing all conduit and wiring for the control and interconnections of mechanical equipment. The Contractor should refer to the mechanical specifications to determine work of this kind that will be handled by others.

3.1.16 Contractor Furnished: AB materials and equipment shall be of types and manufacturer specified wherever practical. Should materials or equipment so specified be unobtainable, the Contractor shall submit the description and manufacturer's literature, reason for the substitution request and shall secure the approval of the Owner before substitution of other material or equipment. This specification establishes performance requirements and the quality of equipment acceptable for use and shall in no way be construed to limit procurement from other manufacturers, except where noted "No Substitute."

3.1.17 Equal or Equivalent: The term "or equal" and similar terms as used on the drawings or specifications shall be interpreted to mean "equal or equivalent" in the opinion of the Owner's Representative.

3.1.18 Manufacturer's Prints: Where the Contractor furnishes equipment other than

standard construction items he shall furnish manufacturer's prints and reproducibles of all such equipment to the Owner.

3.1.19 The Contractor shall be responsible for properly protecting the equipment and materials at all times from the weather or any other adverse environmental conditions. Such responsibility shall include the furnishing of adequate shelter and heat to protect the insulation of all electrical apparatus subjected to humid conditions indoor or outdoor. Adequate shelter shall be defined as an enclosed, dried-in area complete with sealed roof.

3.2 IDENTIFICATION AND INSTRUCTIONS

3.2.1 All electrical systems shall be color coded. Neutrals shall be color code per National Electrical Code 210-5. Phase A, B and C shall be color code such that they shall be the same color throughout the entire building. Different voltages shall be different colors.

3.2.2 Wires in each disconnect or outlet shall be labeled with wrap-on numbers according to the circuit number to which they are connected.

3.2.3 All temporary electric service and wiring shall comply with NEC.

3.3 TESTS

3.3.1 During the course of construction, conduct the following tests on the electrical installation.

1. Test the ground system.

2. Check leachate pump motors for proper rotation.

3. Test each primary cable, if applicable, before energization with non-destructive DC potential test conducted by a testing agency approved by Engineer.

3.4 PLACING OF SYSTEMS IN OPERATION

3.4.1 Contractor shall be responsible for all start-up procedures and system checks.

3.4.2 All equipment shall be installed, tested and operated in accordance with

respective manufacturer's recommendations.

3.5 GUARANTEES

3.5.1 All labor, materials and equipment shall be guaranteed in writing by installing contractor for one year after final acceptance date and/or normal continuous complete season's operation applicable to equipment or system.

3.5.2 Acceptance date shall be determined by Engineer and stated in writing. Contractor shall secure equal guarantees from suppliers.

3.5.3 Contractor shall make all necessary alterations, repairs, adjustments and replacements during guarantee period as directed by Engineer to comply with Contract Documents, at no cost to the Owner.

3.5.4 Repair or replacements made under the guarantee provision shall bear further one year guarantee from date of acceptance of repair or replacement.

3.6 INSPECTION

Upon completion of the work described under these specifications and drawings, the Electrical Contractor shall obtain and pay for inspection and approval by the local electrical inspecting authority. One (1) certified copy of the inspection report shall be delivered to the Engineer.

3.7 HOUSEKEEPING AND CLEANUP

Daily remove from the site all debris and rubbish accumulating as a result of the electrical installation. Upon completion of the project, dispose of all debris and rubbish and leave manholes and electrical equipment rooms broom clean. Clean the interiors of all cabinets, pullboxes and equipment enclosures.

3.8 OPERATING INSTRUCTIONS

Provide four (4) bound sets of operating and maintenance instructions to ENGINEER.

3.9 TIE-INS

3.9.1 All tie-ins of new or modified equipment to existing energized equipment

shall be scheduled through the Owner. The Contractor shall not de-energize any circuit. If an operating circuit must be de-energized for purposes of performing work, de-energization of the circuit shall be scheduled through the Owner. The switch or circuit breaker will be opened by the plant personnel and the switch or breaker locked and tagged-out by both Contractor and Owner.

- END OF SECTION -

APPENDICES

CITY OF BROWNSVILLE MUNICIPAL LANDFILL PERMIT AMENDMENT APPLICATION MSW-1273A CAMERON COUNTY, TEXAS

SOIL AND LINER QUALITY CONTROL PLAN

PART III, ATTACHMENT 10

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1.0 INTRODUCTION

1.1 Purpose

In keeping with Section (§) 330.6 of the Municipal Solid Waste Rules (MSWR), this Soil and Liner Quality Control Plan (SLQCP) has been developed to fulfill the requirements of §330.205 and §330.206 (relating to lining systems) and §330.203 (relating to liners constructed below the groundwater table). The intent of this SLQCP is to provide reasonable technical guidance and a suggested minimum level of construction control and testing for various types of liner systems and to provide guidance for the analysis, design, and construction of liners placed below the seasonal high water table.

1.2 Review of Regulatory Requirements

New Type I Municipal Solid Waste Landfill (MSWLF) units and lateral expansions must be constructed in accordance with one of the following provisions (§330.200):

> *(1) a design that ensures that the concentration values listed in Table 1 of this section will not be exceeded in the uppermost aquifer at the relevant point of compliance, as specified by the executive director under subsection (d) of this section; or*
>
> *(2) a composite liner, as defined in subsection (b) of this section, and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner.*
>
> *(b) For purposes of this section, "composite liner" means a system consisting of two components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML) and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than 1 x 10^{-7} cm/sec. FML components consisting of high density polyethylene (HDPE) shall be at least 60-mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component.*

Alternate liner systems (e.g., the use of geosynthetic clay liner to replace the soil portion of a composite liner) may also be constructed in lieu of the standard Subtitle D liner which meet the requirements of 30 TAC

330.202.

The construction and testing of all liners must be in accordance with this Soil and Liner Quality Control Plan (SLQCP) as required by §330.205. It is recommended that a copy of the current SLQCP be maintained on site at all times and be available for reference by the TNRCC's inspector and permittee's employees responsible for the construction or testing of the liner.

This SLQCP provides materials, construction, and QA/QC (Quality Assurance/Quality Control) criteria for various elements of the liner system, including:

- In situ and constructed soil liners (Chapter 2)
- Geomembrane (Chapter 3)
- Geosynthetic clay liners as an alternative liner (Chapter 4)
- Leachate collection layer (Chapter 5).

This SLQCP also defines the various physical conditions that can be encountered in the field when designing and constructing liners below the seasonal high water table. Design and construction methods are discussed that can be employed to assure that the liner systems are constructed under stable conditions and can maintain their integrity throughout the landfill operations and post operations phases.

1.3 Full-Time Quality Control/Quality Assurance

The construction and testing of all elements of the liner and final cover must be in accordance with this SLQCP. Supervision of liner construction and all QA/QC activities should be provided by an independent licensed engineer with experience in geotechnical engineering (GP). The GP may be a geologist with experience in geotechnical testing and evaluating the engineering properties of soils for liner systems which involve in situ or compacted soil only. The GP or his representative should be on site for all liner system construction and testing. It is recommended that the GP be on site at least once weekly, or as often as necessary depending on the experience of the GP representative, for all extraordinary construction events during all liner system construction.

2.0 SOIL LINERS

2.1 General

All constructed soil liners must possess a coefficient of permeability no greater than $1x10^{-7}$ cm/sec, a liquid limit (LL) not less than 30, and a plasticity index (PI) not less than 15. The percentage of soil fines passing the 200 mesh sieve must be at least 30%. All of the soil material must pass the one-inch sieve and shall not contain rocks or stones that total more than 10% by weight. The minimum thickness for any constructed soil liner at the City of Brownsville Municipal Landfill is two feet for a composite liner. (§330.205(c)(6) and §330.205(h))

The sequence of development as approved in the Site Development Plan (SDP) on file with the TNRCC must be followed so that liner coverage in a landfill is developed in a fashion that minimizes contaminant migration beyond the constructed limits during filling and maximizes the operational life of the site. This sequence shall not be altered without an approved permit modification from the TNRCC.

The depth of excavation should be no deeper than that allowed within the SDP and should coincide with the bottom of the liner.

2.2 Soil Liner Material Requirements

Representative samples of the soils to be used for liners must first be tested, in accordance with the following standards, in a geotechnical laboratory to ensure that they meet the following minimum requirements set forth in the MSWR. Additional initial soil testing will be required if there is a change in material or borrow source. Table I at the end of this SLQCP lists the required quality control testing and minimum requirements.

- Sieve Analysis - ASTM D 422 or ASTM D 1140 - At least 30% passing the #200 mesh sieve.
- Atterberg Limits - ASTM D 4318 - Liquid Limit (LL) of not less than 30 and a Plasticity Index (PI) of not less than 15.
- Coefficient of Permeability - Appendix VII of the Corps of Engineers Manual EM 1110-2-1906 or ASTM D 5084 - $1x10^{-7}$cm/sec or less.

2.2.1 Soils for Constructed Liners

2.2.1.1 Moisture/Density (M/D) Testing

In addition to the minimum test requirements in 2.2, above, a moisture/density relationship must be determined for each soil borrow source to be used in soil liner construction. This moisture/density (M/D) compaction curve must include a zero-air-voids line based upon an estimated or measured Specific Gravity of the compacted soil. The two acceptable standard moisture/density relationship test procedures are:

- ASTM D 698 (Standard Proctor) -- 12,400 ft-lbf/ft^3 [1](for light-weight equipment), or
- ASTM D 1557 (Modified Proctor) -- 56,000 ft-lbf/ft^3 [1] (for heavy equipment)

In order to determine that the proposed soil is suitable for use as liner material, permeability tests must be conducted on samples compacted under the above-listed compactive-effort test procedures. These soils shall be prepared and tested as next described.

2.2.1.2 Coefficient of Permeability Testing

Once moisture-content/density relationships have been determined for one or more compactive efforts, a soil sample should be compacted to approximately 95% of the maximum dry density at the optimum moisture content using ASTM D 698 or to approximately 90% of maximum dry density at a moisture content 1% drier than optimum using ASTM D 1557. An appropriate coefficient of permeability test should then be performed on this sample. The maximum acceptable coefficient of permeability of $1x10^{-7}$ cm/sec for any given soil sample must be demonstrated in the laboratory before the material is considered suitable for liner construction.

Once the acceptable coefficient of permeability is demonstrated through testing, the percent compaction and moisture content of the demonstration sample become the minimum standards for use in field control (The minimum standards, however, must not be less than 95% compaction at optimum moisture using ASTM D 698 or 90% compaction at a moisture content 1% dry of optimum using ASTM D 1557).

---

[1] The energy values assigned to each of these two test methods are the compactive efforts used in the soils laboratory to compact each test specimen, and should be comparable to the compaction capability of the equipment used to construct the soil liner.

The permeant fluid for permeability testing must be: tap water, a 0.005N calcium sulfate solution, or captured ground water from the test boring where the soil samples are taken. Distilled or deionized water is not acceptable as a permeant and shall not be used. (§330.56(d)(5)(B)(ii))

Test methods and all test data calculations must be provided in the Soil Liner Evaluation Report (SLER). Any deviation from the methods listed below must be fully justified and explained to the TNRCC and its permission granted prior to their use. These variations must also be noted and TNRCC authorization documented in the SLER.

The two acceptable laboratory test methods for determining the coefficient of permeability are as follows:

- Falling head -- Appendix VII of the Corps of Engineers Manual EM 1110-2-1906 or ASTM D 5084.
- Constant head -- Appendix VII of the Corps of Engineers Manual EM 1110-2-1906 or ASTM D 5084

Alternate methods of testing for the coefficient of permeability by using field testing may be used for tests pads and are discussed later in 2.5.2 of this Section.

2.3 Soil Liner Construction Requirements

The key elements of soil liner construction are: strong quality control, suitable soil selection, moisture content, degree of compaction, type and weight of compaction equipment, lift thickness, clod size, lift interface bonding, liner protection from desiccation, protection from ponded water, and conscientious maintenance after the liner is complete.

2.3.1 General

Liners on side slopes with greater than a 3:1 slope angle (3 horizontal to 1 vertical) should not be constructed in parallel lifts due to both the inherent lack of stability of the compaction equipment on these steep slopes as well as the compaction inefficiency.

Placement of constructed liners (clay-type material) should be in accordance with the following:

- All surface areas should be properly scarified a minimum of two inches and prepared to receive the liner.
- The top of each lift should be roughened to a shallow depth prior to the placement of the next lift of soil for compaction.
- No loose lift should be thicker than the pads of the compactor so that complete bonding with the top of the previous lift is achieved.
- Equipment and safety limitations prohibit finished grades with slopes greater than 3:1 if the liner is constructed parallel to the surface. For an excavated wall with steeper than 3:1 side slopes, the sidewall liner must be constructed in successive horizontal lifts.
- The top surface of the completed soil liner must be proof rolled with a smooth-wheel roller prior to final liner thickness surveying when placement of a geomembrane liner is required.
- The surface of a soil liner shall be proof rolled when construction is shut down for more than 24 hours to mitigate the effects of desiccation.

2.3.2 Constructed Soil Liners

These constructed liners include those of over-excavated and recompacted in situ soils and soils from a borrow source.

Soil liners will be constructed in an expeditious manner. Any prolonged soil liner construction schedules or hiatus in construction; such as larger than typical cell constructions, inclement weather delays, contractor issues, etc., will be explained in the SLER.

2.3.2.1 Liner Tie-in

When a continuous trench (area fill) method of landfill development is in use, the leading twenty (20) feet of the floor liner shall not receive waste to facilitate tie-in with the next liner segment. Continuous floor liners shall not be constructed by "butting" the entire thickness of a new liner segment next to the previously constructed section of liner. Liner tie-ins shall be done using one of the following methods:

- The edge of the old section of liner is cut back on a slope so that the entire existing liner edge is tied to new construction without superimposed construction joints (Figure 1).
- The edge of the old section of liner is cut back on off-set layers (stair-step) so that each unit thickness of the existing liner edge is tied to new construction without superimposed

construction joints. The length of the tie-in area should be at least 5 feet per foot thickness of liner (Figure 2).

2.3.2.2 Hydrating Liner Soil

The proper method of adding water to the liner soil cannot be overemphasized. Because of their cohesive nature, some clay soils are at best difficult to hydrate to the required moisture content necessary for compaction. Therefore, prior to adding water, clod size reduction should be completed through disking, pulverizing, possibly screening, etc. (It is recommended that a minimum of five passes of a disk or three passes of a pulverizer be made at alternating right angles where space permits for soil processing. Additional passes should be performed if necessary to thoroughly break up and blend the liner soil prior to compacting.) Water is added, then the soil is thoroughly mixed and stockpiled if necessary to allow adequate time (usually overnight or longer) to hydrate. The higher the plasticity of the soil, the longer this mixing and hydration process will take. Water used in hydrating liner soils must be clean and shall not have come into contact with waste or any objectionable material.

2.3.2.3 Clod and Rock Size

The maximum clod size of the compacted liner soils shall be approximately one inch in diameter but in all cases soil clods shall be reduced to the smallest size necessary to achieve the coefficient of permeability reported by the testing laboratory and to destroy any macrostructure evidence after the compaction of the clods under density-controlled conditions. (§330.205(g))

The liner soil material shall contain no rocks or stones larger than one inch in diameter or that total more than 10% by weight (§330.205(h)). One-hundred percent of the material used in the soil liner must pass the 1-inch screen. The final lift for composite liners shall not contain any rocks or any other materials that can cause damage to the geomembrane.

2.3.2.4 Compactive Effort (Soils Compaction)

All constructed soil liners must be compacted with a pad/tamping-foot (preferable) or prong-foot roller (§330.205(g)). No other type of equipment is suitable for the compaction of constructed soil liners. The lift thickness shall be controlled so that there is total penetration through the loose lift under compaction into the top of the previously compacted lift; therefore, the compacted lift thickness must not be greater than the

pad or prong length. This is necessary to achieve adequate bonding between lifts and reduce seepage pathways. Adequate cleaning devices must be in place and maintained on the compaction roller so that the prongs or pad feet do not become clogged with clay soils to the point that they cannot achieve full penetration during initial compaction. The footed roller is necessary to achieve bonding and to reduce the individual clods and achieve a blending of the soil matrix through its kneading action. In addition to the kneading action, weight of the compaction equipment is important. When using ASTM Test Method D 698 (Standard Proctor) density, the minimum weight of the compactor should be 1500 pounds per linear foot of drum length, and a minimum of eight passes is recommended for the compaction process. Compaction equipment that develops a compactive effort equal to ASTM D 1557 (Modified Proctor) will result in greater compaction, lower coefficient of permeability due to decreased void space, and a lower optimum moisture content necessary to achieve the maximum dry density. This lower optimum moisture content may help in controlling the desiccation cracking of highly plastic clays frequently used for liner soil.

2.3.2.5 Soil Plasticity

Quality control of the soil plasticity shall be closely adhered to and maintained during material selection for liner construction. Testing of the Atterberg limits and gradation should be continually checked so that any changes in either physical property can be detected and additional appropriate laboratory testing performed. Any time the LL or PI changes by more than 10 points, a new compaction series should be run in the laboratory to determine the maximum dry density, optimum moisture, and the laboratory coefficient of permeability. To adequately determine the variability of the soil used for liner construction, it is strongly recommended that all liner soil borrow sources be thoroughly tested prior to use to establish their Atterberg limits and compaction parameters. This may require drilling auger holes at the borrow source to retrieve adequate samples to determine these factors.

Due to the high shrink/swell and desiccation cracking characteristic of highly-plastic clays it is suggested that, where possible, the PI of clay liner soils be limited to between 15 - 30.

2.3.2.6 Liner Protection

Constructed and tested liners on which a SLER has been submitted shall have sufficient surface-drainage controls to prevent the accumulation of both contaminated and non-contaminated water. Any ponded water that accumulates on newly constructed liner surfaces shall be promptly and appropriately removed. The surface of the completed soil liner must be kept moist prior to placement of geomembrane or other overlying

materials to reduce shrinkage cracking, but saturation of these soils by ponding water is not an acceptable practice. Complete saturation of any portion of the liner and its protective cover compromises their structural integrity and accelerates and increases the degree of shrinkage cracking in the event of drying.

2.3.2.7 Protective Cover

Protective cover overlying a leachate collection and removal system in general must have permeabilities equal to or exceeding 10^{-4} centimeters per second, or be provided with appropriate passageways for moisture, such as chimneys, in order to allow leachate to readily drain to the LCRS. The minimum protective cover thickness is as follows:

- There must be at a minimum 24 inches of cover material between a geomembrane and waste. Part of this separation can be provided by a suitably designed leachate collection and removal system.
- There must be at a minimum 12 inches of cover between leachate collection pipes and waste.
- There must be at a minimum 12 inches of cover between clay liners and waste.

2.4 Quality Assurance and Testing Frequency for Soil Liners

Each constructed liner sidewall and floor area developed as a separate segment (non-monolithically) must be considered as separately evaluated areas independent of each other for the purpose of calculating dimensions to determine the required number of samples. Those sidewall and floor areas constructed or excavated as a bowl (monolithically) may be added together for the determination of their testing frequency and locations.

All holes dug or created during any sampling and/or testing shall be backfilled with a mixture of at least 20% bentonite-enriched liner soil and compacted by hand tamping or filled with an appropriate bentonite grout.

2.4.1 Constructed Soil Liners

The quality assurance testing and frequency of testing of constructed soil liners is discussed below. Table I provides an easy reference for the types of testing, standard test methods and frequency of testing.

Sidewall liner evaluations for lifts constructed parallel to the surface of the excavation will be evaluated by using the same criteria and rate of testing as for the bottom.

Sidewall liner evaluations for lifts constructed horizontally may be evaluated at a frequency not to exceed 12 inches in thickness (i.e., 2 lifts). Sample locations for field density testing should not exceed 100 linear feet and should be located within the 4 feet closest to the protected wall.

The usual sampling practice for quality assurance laboratory testing of the constructed liner is to retrieve representative samples from the same sampling tube and/or conduct field permeability tests. The location of the sampling/testing is adjacent to a field density/moisture test for comparing field and laboratory results.

2.4.1.1 Field Densities and Moisture Content

All field densities and moisture contents must compare with the limits specified below and to the proper ASTM D 698 or ASTM D 1557 moisture/density curve for the corresponding soil borrow source in order to be considered passing. Passing field specifications for the ASTM D 698 moisture/density compaction relationship are at least 95% of maximum dry density and at or above the optimum moisture content. Passing specifications for the ASTM D 1557 moisture/density compaction relationship are at least 90% of maximum dry density and at or above a moisture content 1% drier than optimum. For both ASTM D 698 and D 1557, the moisture content should not exceed a maximum value which is governed by shear strength requirements and the need to minimize the possibility of rutting under construction equipment or desiccation upon drying.

As an alternative to the above as the acceptance criteria, the "line of optimums" (described by Benson et al [1999]) may be used as the basis in field control. Under this alternate procedure, 80% of the field densities must lie on or above the line of optimums. The line of optimums as described by Benson et al is essentially a line drawn through the points corresponding to the optimum moisture content/maximum dry density on the moisture/density relationship curves for the modified proctor test, the standard proctor test, and a third compaction test using a reduced energy from the standard proctor test. (It has been shown by Benson et al that compacted soil liners that have approximately 80% or more of the field density data points above, or wet, of the line of optimums have a significantly higher probability of achieving the 1×10^{-7} cm/sec permeability standard than liners constructed using the conventional percent compaction basis). If this procedure is used, those field density points that do not lie above the line of optimums must not be concentrated in any specific lift or section of lift.

Sections of compacted soils liner which do not pass both the density and moisture requirements must be reworked and retested until the section in question does pass. All field density test results must be reported in the SLER, whether they indicate passing or failing values. The frequencies of testing differ for the two lift placement methods below:

- Parallel Lifts--one test for each 8,000 square feet of surface area per lift (but no less than 3 density tests per 6 inch lift).
- Horizontal Lifts--one for each 100 linear feet for each 12 inches of thickness.

2.4.1.2 Sieve Analysis

A minimum of one test sample within each 100,000 square feet of surface area per lift, or major fraction thereof, but no less than one per 6-inch lift of parallel liner or one test per 2,000 linear feet per 12 inches of horizontal liner thickness.

2.4.1.3 Atterberg Limits

Use the same frequency of testing as for sieve analysis.

If either the LL or the PI varies by 10 or more points when compared against the appropriate moisture/density curve used for that soil borrow source, the soil is considered as a separate soil borrow source and a new test series including moisture/density, compaction relationship, sieve analysis and coefficient of permeability should be determined and these results used for field construction control.

2.4.1.4 Coefficient of Permeability

Use the same frequency of testing as for sieve analysis for either field or laboratory permeability tests.

2.4.2 Thickness Verification

Thickness of constructed soil liners will be determined by instrument survey methods only. There should be a minimum of one verification point per 5,000 square feet of surface area. If the area under evaluation is less than 5,000 square feet, a minimum of two reference points are required for verification. Reference locations will be noted on a drawing of the area evaluated. All elevation calculations necessary for thickness

determination will be attached as part of the supporting documentation to the SLER including any necessary corrections for true thicknesses measured perpendicularly to sidewalls. Cross-sections at approximately 100 foot spacing showing true liner thickness for sidewall liners that are constructed in horizontal lifts should be provided if appropriate.

2.5 Test Pads

The use of test pads may be considered as an alternative method of construction quality-control testing. It is a method of pre-qualifying the liner construction methods and the resultant coefficient of permeability.

2.5.1 Initial Testing

Initially, the liner source material must be tested in the laboratory for gradation (sieve analysis), Atterberg limits, its moisture/density relationship, and coefficient of permeability to verify its acceptability as a liner source. Upon satisfying all the liner test requirements, a test pad is constructed on site with these soils. A field-moisture/density versus field permeability relationship is established using the same type of compaction equipment and soil that are to be used during liner construction. The compaction equipment weight must be considered when performing the initial laboratory compaction testing so that the lab data reflect construction equipment capability. If the Atterberg limit values vary by 10 or more points from those earlier determined for the source materials, the constructed liner will be subject to all quality control and quality assurance testing in Table I at the specified frequencies in the table.

2.5.2 Field Testing

Select and prepare enough liner soil to cover a test section at least 50 feet long, three compaction equipment widths wide, and 24 inches deep, or deeper as needed depending on the selected field permeability test procedure. For example, the Boutwell Permeameter method requires 36 inches of liner depth to perform the test. Air-entry permeameter tests are performed on each lift. Individual lifts should not exceed approximately 6 inches in depth. Therefore, a minimum of two lifts are required for each one foot of liner construction.

After these compaction parameters have been verified through field-moisture/density testing, a field permeability test is performed by either Sealed Double Ring Infiltrometer (ASTM D 5093), Boutwell Permeameter, or air-entry permeameter.

Once field permeability testing is complete, a full cross-section cut of the test pad should be made to allow inspection to determine if there is complete clod "blending" and intra-lift bonding through the compaction processing of the soils.

After the field permeability, density and moisture content have been determined, the TNRCC may waive additional laboratory or field permeability testing of the constructed liner as long as the Atterberg limits are within 10 points of the test pad soil and all field density and moisture content determinations are within the design parameters.

2.5.3 Construction Requirements

The construction and testing method(s) utilized in the test pad must also be used when constructing the soil liner. Sections 2.3.1, 2.3.2, and 2.4.1 for constructed liners and quality assurance testing must also be followed.

The amount of compaction must be recorded by noting the type and weight of the compactor and the number of total passes completed on the test pad. Once sufficient compaction of the lift is suspected, a field-moisture/density test is performed to determine if the optimum moisture/maximum dry density have been achieved. (This is best undertaken with a nuclear density meter due to the speed with which it can determine these values but the accuracy of these test values should be checked against the test results of either sand cone (ASTM D 1556-90) or water balloon (ASTM D 2167-94) methods of density determination.)

After the test pad is compacted and fully tested, it should be considered as the standard example for the remaining liner construction. As long as the Atterberg limit values indicate that the soil material remains fairly uniform (within 10 points), the soil should achieve the same permeability if compacted in the same manner as the test pad. This relationship is valid only if the soils remain the same, the lift thickness is no thicker than that of the test section, and the same type of equipment is used during liner construction as was used for test-pad construction and with the same number of equipment passes.

2.6 Hydrostatic Considerations - Ballasting

Placement of soil liners below the seasonal high ground-water table or in areas subject to excess hydrostatic head levels shall be in accordance with the criteria given in Section 6.0.

3.0 GEOMEMBRANE LINERS

3.1 General

Geomembrane is used in a standard composite liner under Subtitle D. Geomembrane material may include HDPE (high-density polyethylene) or other materials approved by TNRCC. The City of Brownsville Landfill geomembrane will consist of HDPE. Materials, construction, and QA/QC standards for these geomembrane materials shall follow minimum industry standards and the manufacturer's guidelines.

As indicated in the MSW rules, the geomembrane shall have a minimum thickness of 60 mils for HDPE. The acceptable geomembrane material shall overlie and be in direct contact with an approved subgrade soil or geosynthetic liner material.

3.2 Manufacturing

Geomembrane material must be produced from virgin raw materials. Reground, reworked, or trim materials from the same lot may be acceptable but recycled or reclaimed materials must not be used in the manufacturing process. HDPE material and required welding rods shall contain between 2% and 3% carbon black and may contain no more than 1% other additives.

Geomembrane sheets must be free from pinholes, surface blemishes, scratches, or other defects (e.g., non-uniform color, streaking, roughness, agglomerates of carbon black or other additives or fillers, visibly discernible regrind or rework, etc.).

3.3 Shipping

All HDPE liner material shall be shipped in rolls. Folded or creased sections of panels are not acceptable and shall not be used unless they are a normal part of the manufacturing process.

3.4 Delivery

The GP or his qualified representative should inspect the delivered materials for damage and defects. Pushing, sliding or dragging of rolls or pallets can cause damage and should be avoided.

3.5 Storage

Geomembrane material must be protected from soft or wet ground and rocky or rough ground. HDPE geomembrane must not be stacked more than 5 rolls high (or as recommended by the manufacturer) to avoid crushing the cores of the rolls. A sacrificial cover must be used to protect the geomembrane if stored on site more than 6 months. The rolls shall be stored in such a manner as to avoid shifting, abrasion, or other adverse movements that can damage the geomembrane.

3.6 Installation

Geomembrane installations should follow all of the manufacturer's recommendations. All geomembrane material must overlie and have intimate contact with the constructed subgrade soil or geosynthetic material.

3.6.1 Subgrade Preparation

The surface of the subgrade soil must be free of sharp stones, stones larger than 3/8-inch in size, sticks, or other debris in order to minimize potential damage to the overlying geomembrane. The surface of soil subgrade must be finished by rolling with a flat wheel roller until a smooth uniform surface is achieved.

The soil subgrade must be protected from desiccation and cracking, rutting, erosion, and ponding prior to and during placement of the geomembrane. The condition of the subgrade must be preserved by regular watering and proof rolling or by placing a minimum of 12 inches (30.5 cm) of temporary soil cover which must be removed prior to geomembrane placement and the soil subgrade surface resurveyed.

3.6.2 Geomembrane Deployment

The deployment (including equipment used in the handling of the geomembrane) must not damage the subgrade. In cases where geomembrane material is placed over geosynthetics, construction equipment (other than ATV type vehicles) must not ride directly on the lower geosynthetic material.

3.6.3 Weather

The geomembrane should not be placed during inclement weather such as rain, high winds or freezing temperatures.

3.6.4 Equipment on Geomembrane

No vehicular traffic shall be allowed on the geomembrane prior to the placement of the leachate collection or protective cover layers. Only low-ground-pressure supporting equipment (e.g. golf carts, ATVs or other small rubber tired equipment with a ground pressure less than 5 psi and a total weight less than 750 pounds) may be allowed to traverse the geomembrane. If such supporting equipment is operating on the geomembrane it must be placed on a sacrificial surface or rub sheet in order to help protect the geomembrane. Personnel working on the geomembrane shall not smoke, wear damaging shoes, or engage in any other activity likely to damage the geomembrane.

3.7 Seaming

Field seaming (and repairs) shall be performed in strict accordance with methods approved by the manufacturer. This is usually by fusion welding or extrusion welding when placing HDPE. Strict attention to the details of seam preparation procedures recommended by the manufacturer is crucial in order to produce consistent seams that will not allow fluid leakage and will pass the QA testing.

3.7.1 Placement

Only those geomembrane sheets that are to be placed and seamed in 1 day should be unrolled. Sheets should be positioned with the overlap recommended by the manufacturer, but not less than 3 inches (7.6 cm) for HDPE. The GP or his representative shall visually inspect the placement and overlap of the geomembrane to verify that the material is placed with sufficient overlap.

3.7.2 Wrinkles

Wrinkles shall be walked-out or removed as much as possible prior to field seaming.

3.7.3 Foreign Material

All foreign matter (dirt, water, oil, etc.) shall be removed from the area to be bonded.

3.7.4 Tack Welds

Tack welds (if used) with HDPE geomembrane shall use heat only. No double-sided tape, glue, or other method will be permitted when extrusion or fusion welding is used for bonding.

3.7.5 Seam Joints

Seams on sideslopes (such as slopes steeper than 6H:1V) must be oriented parallel to the sideslope direction. Seams that join the sideslopes and bottom sections should be located at least 5 feet (1.52 meters) from the sideslope and along the floor. In corners and odd-shaped geometric locations, the number of field seams should be minimized.

3.7.6 Temperature

No seaming should be attempted above 104°F (40°C) or below 32°F (0°C) ambient air temperature unless it is demonstrated that the seams will meet the specifications outside this range. Below 32°F (0°C) ambient air temperature, special procedures such as preheating of the geomembrane material should be required.

3.7.7 Folds, Large Wrinkles, Fish Mouths

No folds, large wrinkles, or fish mouths (see Appendix A Glossary) shall be allowed in the seam. Only normal factory-induced creasing from the blown film process may be acceptable. Where wrinkles or folds occur, the material shall be cut, overlapped, and welded. This process should be accomplished in such a manner that constructed seams are not required to carry significant tensile loads. During wrinkle or fold repairs, adjacent geomembrane may not necessarily be required to meet the 3-inch (7.6 cm) minimum overlap if approved by the GP or his representative. All completed seams shall be tightly bonded and sealed.

3.7.8 End Of Each Work Day

At the end of each day or installation segment, all unseamed edges should be anchored by sand bags or other approved device. Staples, U-shaped rods, or other penetrating anchors shall not be used to secure the geomembrane.

3.8 Testing

The testing of raw materials, manufactured materials, and the installation of these materials is essential and required in order to determine their quality and suitability for geomembrane use. All geomembrane material properties must meet the manufacturer's standards and (for HDPE) the minimum values set forth in the Geosynthetic Research Institute (GRI) Standard GM13. Table II titled "Standard Tests on HDPE Geomembrane Material" addresses the applicable test methods and the frequency of testing for these geomembranes. For other types of geomembranes, manufacturer's recommendations and accepted industry practice should be followed.

3.8.1 Manufacturing Quality Control (MQC)

All materials related to the manufacturing of geomembranes must be tested by the geomembrane manufacturer to determine their quality and suitability for use. The tests, methods, and frequency of testing are found in Table II.

3.8.1.1 Resin Feed Stocks

Resin feed stock used in the manufacturing of the geomembranes is purchased by the geomembrane manufacturer. HDPE geomembranes must be tested by the geomembrane manufacturer for density and melt index. The test methods and frequency of testing for these tests are found in Table II.

3.8.1.2 Geomembrane Manufacturer Testing

The geomembrane manufacturer conducts many tests throughout the manufacturing process and after the geomembrane is produced. For HDPE geomembrane the manufacturer's tests may include thickness, density, carbon black content, carbon black dispersion, tensile properties, tear resistance, puncture resistance, oxidation induction time, oven aging, stress crack resistance, and (for textured HDPE) asperity height. The types and frequencies of testing are found in Table II.

3.8.2 Conformance

Prior to acceptance of the geomembrane from the manufacturer, the GP should verify that it meets the required specifications. For HDPE geomembrane the third-party independent laboratory must test thickness,

density, carbon black content, carbon black dispersion, and tensile properties. The test methods and frequencies of testing for HDPE are found in Table II.

3.8.3 Seams

The GP or his representative should observe all test seam procedures and all seam testing. All seam testing of the geomembrane should follow all of the manufacturer's recommended testing procedures.

3.8.3.1 Trial Seam Testing

Each day, prior to commencing field seaming, test seams shall be made on fragment pieces of geomembrane to verify that seaming conditions are adequate.

3.8.3.1.1 Trial Test Seam Criteria

Each trial test seam shall be at least 3 feet (0.91 meter) long by 1 foot (0.30 meter) wide. Four (6 when possible if using dual track fusion welding) adjoining 1-inch wide specimens will be die-cut from the test seam sample. Two specimens will be tested in the field for shear and 2 for peel (4 when possible if testing both inner and outer welds for dual track fusion welding). The extentiometer testing apparatus used for peel and shear tests must have an updated calibration certificate traceable to National Bureau of Standards (NBS).

The failure criteria is the same as that for destructive seam testing described below. If one test seam fails, the trial seam will be repeated. If this trial seam also fails, then two more trial seams must be constructed and tested. This process should continue and no welding can begin for the machine or welder (if applicable) until all test seams are passing.

3.8.3.1.2 Additional Trial Test Seam Criteria

Additional trial seams shall be made for all of the following:

- at the beginning of each seaming period for each seaming apparatus used that day (the beginning of each seaming period is considered to be the morning, and immediately after a break);
- each occurrence of significantly different environmental conditions (such as temperature,

humidity, dust, etc.);

- any time the machine is turned off for more than 30 minutes; and
- when seaming different geomembranes (e.g. tie-ins and smooth to textured).

Both the welder and the machine must be tested for each new trial seam when extrusion welding. Only the machine needs to be tested for each new trial seam when fusion welding since the machine is not as operator dependent. Each individual seamer shall make at least one test seam each day he/she actually performs seaming.

3.8.3.2 Non-Destructive Testing

Continuous, non-destructive testing shall be performed on all seams by the installer. Air-pressure testing on dual-track fusion welds and vacuum-box testing for extrusion welds are the only acceptable methods for HDPE geomembrane seams. All factory seams in addition to field seams should be non-destructively tested. All indicated leaks must be isolated and should be repaired by following the procedures described in Section 3.9 of this handbook.

3.8.3.2.1 Air-Pressure Testing

The ends of the air channel of the dual-track fusion weld must be sealed and pressured to approximately 30 psi for HDPE. The air pump must then be shut off and the air pressure observed after 5 minutes. A loss of less than 4 psi is acceptable if it is determined that the air channel is not blocked between the sealed ends. A loss equal to or greater than 4 psi indicates the presence of a seam leak which must then be isolated and repaired by following the procedures described under Section 3.9. The GP or his representative should observe and record all pressure gauge readings.

3.8.3.2.2 Vacuum-Box Testing

A suction value of approximately 3 to 5 inches (7.62 to 12.7 cm) of gauge vacuum must be applied to all extrusion welded seams that can be tested in this manner. Examples of extrusion welded seams that do not easily lend themselves to vacuum testing would be around boots, appurtenances, etc. The seam must be observed for leaks for at least 10 seconds while subjected to this vacuum. The GP or his representative should observe 100% of this testing.

3.8.3.2.3 Other Testing

Other non-destructive testing must have prior written approval from the TNRCC.

3.8.3.3 Destructive Testing

Destructive test samples shall be taken at a minimum of one stratified location for every 500 linear feet (152.4 meters) of field seam or major fraction thereof. The total footage of individual repairs of leaks of more than 10 feet (3.05 meters) and individual repairs of more than 10 feet (3.05 meters) for failed seams must also be counted and destructively tested using the same frequency of testing described above. At a minimum, a destructive test must be done for each welding machine used for seaming or repairs. A sufficient amount of the seam must be removed in order to conduct field testing, independent laboratory testing, and archiving of enough material in order to retest the seam when necessary. Field testing shall include at least 2 peel test specimens (4 when possible for testing both tracks on dual-track fusion welded seams) and 2 shear test specimens. Independent laboratory testing shall consist of 5 shear test specimens and 5 peel test specimens (10 when possible for both tracks of dual-track fusion welded seams). Destructive seam-testing locations shall be cap-stripped and the cap completely seamed by extrusion welding to the parent geomembrane. Capped sections shall be non-destructively tested. Additional destructive test samples may be taken if deemed necessary by the GP or his representative.

If a destructive test does not pass the criteria given below, additional destructive tests must be conducted at least 10 feet on both sides of the failed destructive test. If either of these destructive tests fail, the sampling and testing process must be repeated until the failed seam is bracketed by passing destructive tests. The failed seam must then be capped between the passing tests. Alternatively, all seams done by the welder/machine within the time period (between passing destructive tests or trial welds) represented by the failed destructive test may be capped.

3.8.3.3.1 Passing Criteria

All field-tested specimens from a destructive-test location must be passing in both shear and peel for the seam to be considered as passing. Field-tested specimens are determined as passing if the specimen tested in peel fails in film tear bond (FTB) and all test specimens meet the criteria listed in this subsection. Independent laboratory testing must confirm these field results.

The minimum passing criteria for independent laboratory testing are all 3 of the following:

- At least 4 of 5 specimens tested in the peel mode must fail in FTB.
- At least 4 of 5 specimens from each peel and shear determination must meet the minimum specified values given in Sections 3.8.3.3.1.1 and 3.8.3.3.1.2 below.
- The average value from all 5 specimens from each peel and shear determination must meet the minimum specified value.

The above criteria must be met by both tracks from each dual-track fusion welded seam before it is considered as passing.

The test methods for geomembrane are found in Table II. It should be noted that geomembrane manufacturers may have differing strength values for their geomembrane sheets and, therefore, the required specific shear and peel values are given in this SLQCP only as percentages. Consequently, the manufacturer's sheet-strength values must be provided in order to determine if the test results are passing.

3.8.3.3.1.1 Shear

The shear strength minimum requirement for HDPE is 95% of manufacturer's parent sheet strength but not less than 120 pounds per inch (ppi).

3.8.3.3.1.2 Peel

The peel strength minimum requirement for HDPE is 62% of manufacturer's parent sheet strength but not less than 78 ppi and exhibit FTB.

3.8.3.3.2 Failure Criteria

If less than 4 of the 5 specimens from each destructive test location pass, or if the average calculated from all 5 specimens is less than that listed above, or if more than one specimen from the group of 5 specimens exhibits a non-FTB failure, the seam has failed.

3.9 Repairs and Retesting

All seam leaks and destructive test locations shall be repaired for a distance of at least 6 inches (15.2 cm) on each side of the faulty spot or area detected. At a minimum, these repairs shall be non-destructively retested and possibly destructively tested (refer to destructive testing criteria for repaired seams as described in Section 3.8.3.3.)

3.10 Anchor Trench and Backfilling

The anchor trench should be completed around all portions of the geomembrane where the leading edge(s) of the geomembrane will not be needed for a tie-in for expansion into the next SLER/GLER area to be lined. The excavated anchor trench shall have rounded corners in order to help protect the geomembrane. No loose soil shall be allowed to underlie the geomembrane in the anchor trench. Excavation of the anchor trench shall not be done too far in advance of geomembrane deployment.

The anchor trench should be backfilled and compacted to at least 90 percent of the density as determined by the moisture/density compaction values detailed in the soils portion of this SLQCP. Care should be used when backfilling and compacting the trench to prevent damage to the geomembrane. The anchor trench shall be backfilled at the earliest practicable time following synthetics deployment. Results of the compaction testing need not be reported.

3.11 Protective Cover and Drainage Materials

3.11.1 Deployment

All soil materials placed over a geomembrane should be placed during the coolest part of the day and deployed in "fingers" along the surface so as to control the amount of slack and minimize wrinkles and folds in the geomembrane. These materials must be deployed only up-slope on sideslopes so that stress imparted to the geomembrane is minimized. Material placed as protective cover must be placed with light equipment (such as dozers with less than 5 psi contact pressure) while maintaining at least 12 inches (30.5 cm) of material between the dozer and the geomembrane. Full-time observation by the GP or his representative is required during deployment of these materials in direct contact with the geosynthetic materials.

3.11.2 Thickness and Material

At least 24 inches (61.0 cm) of protective cover (which may include a granular leachate collection layer) must be placed over the completed geomembrane to prevent damage during operation.

Protective cover placed over the surface of constructed HDPE geomembrane should contain no rock greater than 3/8 inch (.952 cm), vegetation, or other material that may damage the geomembrane. If the protective cover contains material greater than 3/8 inch in size, a layer of protective geotextile must be placed over the HDPE geomembrane's surface.

Protective cover overlying a leachate collection and removal system in general must have permeabilities greater than or equal to 1×10^{-4} cm/sec, or chimney drains or other appropriate passageways must be constructed to allow leachate to drain to the leachate collection and removal system.

4.0 GEOSYNTHETIC CLAY LINERS

4.1 General

The geosynthetic products described in this chapter for the potential use as alternate liner are generally designated as geosynthetic clay liners (GCLs). When hydrated, GCLs typically have very low permeabilities and are very useful in the construction of a liner if a clay source is unavailable on site or the haul distance from a borrow source is so great as to be impractical. The City of Brownsville Municipal Landfill will utilize a GCL as a compacted clay liner alternate. A demonstration has been made that shows a GCL material can be utilized as an equivalent substitute for compacted clay and meet all regulatory requirements of a liner as required in §330.200(a)(1).

4.2 Manufacturing

GCL refers to a factory-manufactured hydraulic barrier consisting of a bentonite layer supported by geotextiles or geomembrane. Depending on the GCL type and the manufacturer, the bentonite may be bonded to geomembrane or between layers of geotextile with chemical adhesives, held between layers of geotextile which are needle punched or stitch bonded together. The layers of geotextile shall include a woven geotextile on one side and a non-woven geotextile on the other side.

The bentonite used in the GCL must be of the sodium montmorillonite variety with a free swell (ASTM D 5890) of at least 24 ml and a fluid loss (ASTM D 5891) no greater than 18 ml. The finished GCL must contain a minimum of 0.8 lbs/ft^2 dry bentonite (oven dried basis) and have a permeability no greater than $1x10^{-9}$ cm/sec. The GCL and its component materials (bentonite, geotextile, geomembrane) must be tested as described in Section 4.5.

GCLs which include needle-punched nonwoven geotextiles must be verified to have been continuously inspected for the presence of broken needles using metal detectors and found to be needle-free. Magnets or other methods must be used during the manufacturing process for removal of broken needles for GCLs in contact with geomembranes.

It is recommended that overlap alignment lines be marked on the top side of the GCL as an installation aid.

GCLs which are to be used on slopes of steeper than 7H:1V should be reinforced (e.g. lock stitched or needle punched) to provide adequate internal shear resistance. Regardless of the type of GCL used, analyses must be conducted (as part of either the SDP, SLQCP, or liner evaluation reports) to verify the stability of the GCL and adjacent slope components on slopes steeper than 7H:1V under hydrated conditions. There should be NO HORIZONTAL SEAMS ON SIDESLOPES.

GCL rolls must be wrapped around cores which are structurally sound such that excessive bending or buckling during handling does not occur. Finished rolls must be covered with a water-proof, tightly fitting, weatherproof wrapping in preparation for shipment. GCL rolls must be stored indoors prior to shipment to the site.

GCL rolls must be labeled with the manufacturer's name, product identification, roll and lot number, roll dimensions, roll weight, and any other information which is necessary to trace the quality assurance documentation.

4.3 Shipping, Delivery and Storage

Throughout the entire process, from manufacture to storage, shipment, unloading and on-site storage, it should be remembered that the integrity of the weatherproof wrapping is the only means of keeping the GCL materials from taking on moisture and partially hydrating. Therefore, if at any time the roll covering is damaged and the outer portions of the GCL becomes wet or partially hydrated, that portion damaged should

be removed and the remainder of the roll once again tightly covered.

Off-loading and on-site delivery, as with geomembrane, may be undertaken by use of a crane or front-end loader fitted with a sling and center rod which is pushed through the core around which the GCL is rolled, with a fork lift with a "stinger", or other equipment which does not damage the GCL rolls. Each roll must be stored on a platform or otherwise elevated off the ground and covered with a tarpaulin in such a fashion to preclude moisture intrusion while awaiting deployment. It is recommended that this storage be in an enclosed building or closed shipping trailer if possible. The rolls must not be stacked higher than recommended by the manufacturer to preclude thinning of the bentonite at contact points.

4.4 Installation

4.4.1 Surface Preparation

GCL must not be placed directly over rough or uneven surfaces, surfaces with protrusions or ruts, or soil with particle sizes greater than 3/4-inch (or as recommended by the manufacturer if less than 3/4-inch). The soil surface on which the GCL is to be placed must be rolled with a flat wheel roller and maintained in a smooth, uniform, and compacted condition prior to GCL placement. Adequate drainage of the soil surface must be maintained until GCL installation is complete.

4.4.2 Placement of Panels

GCL panels must be installed with the woven side down and non-woven side up. Equipment used to deploy GCL over soil must not cause rutting of the subgrade. GCL placed over other geosynthetics must be placed by hand or using light equipment with low contact pressure rubber tires (e.g. smooth-tired ATVs or golf carts). Dragging of the geotextile or bentonite facing of the GCL on the subgrade should be avoided. Deployed GCL panels should contain no folds or excessive slack.

Each panel should be overlapped to the match lines on both edges of the GCL (at least 6 to 12 inches (15.24 to 30.48 cm), depending on the manufacturer). There is no required physical bonding such as sewing or gluing of the panel edges during placement. The needle punch manufactured GCLs, however, do normally require dry granular bentonite placed in the lap-joints between the panel edges to achieve adequate bonding upon exposure to a moisture source. Where bentonite enrichment in the lap-joints is required, the minimum amount must be 1/4-lb.(0.1 kg) dry bentonite per linear foot of lap joint or as recommended by the

manufacturer to produce a joint essentially as impermeable as the GCL itself. Bentonite placed in the lap-joints must be the same type used in the manufacture of the GCL. Other lapping materials should be only used with the prior approval of TNRCC.

Vehicle traffic other than low contact pressure vehicles such as smooth-tired ATVs or golf carts must not be allowed on the deployed GCL. Generators, gasoline or solvent cans, tools, or supplies must not be stored directly on GCL. Installation personnel must not smoke or wear damaging shoes when working on GCL. Deployed GCL must not be used as a work area unless a protective tarpaulin, rub sheet, or sacrificial sheet is placed over the GCL.

Care must be taken during installation to avoid entrapment of stones, trash, or other debris beneath or within the GCL which may cause damage to the GCL or overlying geomembrane, if applicable.

GCL on sideslopes must be unrolled in the direction of the slope. GCLs should be anchored at the top of the slope and then unrolled working down so as to keep the material free of wrinkles and folds. There should be NO HORIZONTAL SEAMS ON SIDESLOPES.

The installed GCL surface must be inspected to ensure that no stones, cutting blades, tools, or other objects which may damage the GCL are present prior to covering.

4.4.3 Weather Considerations

Weather conditions during GCL placement and before completion of the placement of the protective cover should be closely monitored. GCL should not be placed in the rain or at times of impending rain. If the GCL is subjected to high humidity or rainfall such that the bentonite material becomes partially hydrated prior to being covered, it must be removed and replaced with new GCL material. A partially hydrated GCL may lose its bearing capacity to such a degree that any subsequent weight placed on its surface will squeeze the partially hydrated bentonite paste from between the two confining layers resulting in a greatly diminished protective layer of bentonite in the area affected. In this manner, the GCL's ability to impede any fluid flow into or out of the waste is either reduced or completely destroyed.

Deployed GCL should be anchored by sandbags or other appropriate devices to prevent uplift by wind prior to covering. GCL (in particular non-woven GCL which requires that dry bentonite be added in the overlaps) should not be placed during excessive winds.

Deployed GCLs should be covered by geomembrane or other liner system components as required by the design on the same day as deployment to prevent hydration due to weather conditions.

4.4.4 Repairs

Torn or otherwise damaged geosynthetic facing (with no loss of bentonite from the GCL) must be patched with the same type of geosynthetic. The geosynthetic patch must extend at least 12 inches (30.5 cm) beyond the damaged area and must be adhesive or heat bonded to the main GCL to avoid shifting during backfilling. If the GCL damage includes loss of bentonite, the patch must consist of full GCL extending at least 12 inches (30.5 cm) beyond the damaged area. Lapping procedures must be the same as specified for original laps of GCL panels.

4.5 Testing

Quality control testing of GCL products are generally undertaken by the supplier of the various components (bentonite, geotextile, and geomembrane), the GCL manufacturer, and the third-party independent laboratory under the direction of the GP. The QC tests which should be conducted as a minimum are described below and are summarized in Table III. Also included in Table III are the test standards (ASTM or other) and the minimum testing frequencies for the various tests.

4.5.1 Raw Materials

The bentonite, geotextile, and geomembrane used in the manufacture of the GCL product must be tested by the supplier of the component or the GCL manufacturer prior to incorporation into the GCL product. The bentonite must be tested for the free swell and fluid loss criteria given in Section 4.2. Geomembranes must be tested for at least mass/unit area, thickness, and tensile properties. The measured properties of the geotextile and geomembrane must meet the manufacturer's criteria and the geotextile or geomembrane used must be certified as having been used successfully in similar applications in the past.

4.5.2 GCL Manufacturer

The finished GCL product must be tested by the manufacturer for at least clay mass per unit area, bentonite moisture content, grab tensile strength (non-geomembrane backed GCL), and permeability (non-geomembrane backed GCL). All test results must meet the GCL manufacturer's criteria and the values given in Section 4.2.

In addition to the above, the GCL manufacturer must be able to demonstrate by appropriate testing (using a flow box or other suitable device) that the overlap procedure produces a lap joint essentially as impermeable as the GCL itself. The lap joint permeability must be reverified through testing if any of the component materials change (it is recommended that the lap joint permeability be periodically retested to account for any small variations in GCL materials which may occur over time). Alternatively, if lap joint permeability testing on the material used has not been done or is not valid, the lap joint testing must be done as part of the conformance testing (Section 4.5.3).

4.5.3 Third-Party Conformance Testing

Conformance testing by the independent laboratory must include clay mass per unit area, permeability, direct shear (for GCL placed on slopes steeper than 7H:1V), and possibly lap joint permeability testing as determined by the GP or his representative. The measured clay mass per unit area and permeability must meet the criteria given in Section 4.2.

Direct shear testing must be conducted on hydrated GCL (for GCL which is not "sandwiched" between geomembranes) and must include internal shear as well as shear between GCL and underlying or overlying material (such as soil, geomembrane, synthetic drain, etc.). The minimum strength parameters obtained in the direct shear testing must be sufficient to demonstrate adequate stability of the GCL on the constructed slopes. The direct shear testing must be conducted with site-specific materials for the initial liner area and need not be repeated for subsequent areas unless any of the component materials (such as either GCL or adjacent soil or geosynthetic) change. If any of the component materials change, direct shear testing must be repeated with the new materials.

Direct shear testing must be performed by a laboratory experienced in the performance and interpretation of this test, using equipment meeting all requirements of ASTM D 6243. The direct shear test plan should consider all possible sources of instability and it should be specifically tailored to the design under review.

4.6 Cover

Protective cover must be placed as soon as possible after installation of the GCL and any overlying geosynthetic. Protective cover material over the GCL shall consist of the leachate collection layer plus any additional thickness required for minimum protection of the GCL to loads introduced by traffic on its surface. The thickness of the protective cover must not be less than 24 inches (61.0 cm).

Soil cover material placed directly over GCL should be non-calcareous and should contain no rocks greater than 3/4-inch in size (or as recommended by manufacturer) or other material which may damage the GCL or cause subsequent localized thinning of the bentonite component. The cover must be placed with low-ground-pressure dozers or other light equipment in such a way that the GCL is not damaged. Filling must be in the direction of downgradient shingling of the GCL overlaps. Placement on sideslopes must be from the bottom of the slope upward.

5.0 LEACHATE COLLECTION LAYER

5.1 Materials

Soil materials used to construct leachate collection layers should consist of clean granular soil. Unless specified otherwise in the SDP, granular soils in leachate collection layers should have permeabilities no less than approximately 1.7×10^{-3} cm/sec. Material placed in contact with geomembrane or GCL material should have a maximum particle size as indicated in Sections 3.11.2 and 4.6, respectively. Granular materials placed around collection pipes must have grain size compatible with the size of the holes in the collection pipes. Geosynthetic materials (i.e. geocomposite, geonet, and geotextiles) used in leachate collection layers must have the transmissivity and other properties as specified in the SDP.

5.2 Construction

Granular materials should be placed and spread using equipment and methods which minimize generation of fine material. Material placed over geomembrane or GCL (or other geosynthetics) should be placed as described in Sections 3.11.1 and 4.6, respectively. Granular materials should not receive any compaction other than that which is incidental to the placement and spreading process.

5.3 Quality Assurance Testing

Quality assurance testing on granular soils by the independent laboratory should consist of grain size (ASTM D 422) and permeability (ASTM D 2434) analyses conducted at a frequency of 1 per 3,000 yd^3 of material placed. Permeability testing requirements can be waived if it can be shown through correlation with the grain size analyses that the material easily meets the permeability criteria. All tests should be conducted on material after it has been placed to allow for any grain size reduction which may have occurred during the placement process. It is also recommended that the granular material be tested at its source for grain size (and permeability, if necessary) to pre-qualify the material prior to its use.

Granular material used in leachate collection layers must be tested for calcium carbonate content (using J&L Test Method S-105-89 or other appropriate method) by either the supplier or independent laboratory. The measured calcium carbonate content must not exceed 15%.

If chimney drains are not provided through the protective cover to the leachate collection system, permeability tests must also be conducted on the protective cover to verify a permeability no less than 1 x 10^{-4} cm/sec.

The manufacturer's test results for geosynthetic materials should be checked and verified by the GP to meet the minimum requirements for these materials established in the SDP.

The thickness of granular leachate collection and protective cover layers should be verified at a frequency of one verification point per 5,000 ft^2.

6.0 LINERS CONSTRUCTED BELOW THE SEASONAL HIGH WATER TABLE

6.1 General

Excavations below the seasonal high water table may experience bottom or slope instability or excessive groundwater influx which may preclude liner construction. Short-term control of groundwater can be accomplished by temporarily lowering the groundwater level with mechanical dewatering systems or drains, taking advantage of favorable geology, physically cutting off the groundwater seepage, or a combination of these methods. After the liner is placed, it may experience an upward force, or uplift, due to the hydrostatic pressure of the groundwater acting on the bottom of the liner. Long-term resistance to uplift of any

component of the liner system can be achieved by the weight of any overlying portions of the liner system and, if needed, by adding weight to the top of the liner system.

6.2 Analysis, Design, and Construction

6.2.1 General

The construction of liners below the seasonal high water table requires the owner or operator to:

- Analyze the physical conditions at the site to determine if the in situ soils and groundwater conditions do present the possibility that hydrostatic forces could cause subgrade instability or uplift of any components of the liner system;
- Design a system and corresponding procedures involving dewatering and/or employment of ballast in the form of soil or compacted solid waste that will adequately counteract the uplift forces and create a stable condition for the liner system during liner construction, landfill operation, and the closure and post-closure care periods; and
- Construct the system and complete the corresponding construction procedures with an acceptable level of monitoring and testing, and properly document all such activities to clearly show that the integrity of the liner system has been protected at all times during liner construction and will continue to be protected during the operational life and the closure and post-closure periods of the landfill.

6.2.2 Seasonal High Water Table Determination

The initial activity in the analysis process is to determine if the liner extends below the seasonal high water table and is subject to hydrostatic uplift pressures. Site specific stratigraphic and hydrogeologic information, obtained through site specific subsurface stratigraphy studies, was utilized to define groundwater occurrence, the groundwater flow direction, and the seasonal high water table for a specific site.

The seasonal high water table is the highest measured or calculated water level in an aquifer during investigations or monitoring at a site. Groundwater level measurements used for the determination of the seasonal high water table for this permit included documented monitoring events over recent years in existing monitoring wells as well as recently installed piezometers for the investigation presented in Part III-Attachment 4.

A seasonal high water table map is inclued as Figure 10-1. This seasonal high water table map forms the basis for the liner and ballast design specified in the SDP. However, if after the permit is granted, additional data become available which indicates the seasonal high water table is higher than originally determined, the seasonal high water table must be adjusted upward, in accordance with §330.203(j). The seasonal high water table may not be adjusted downward. Additional data which may result in the upward revision of the seasonal high water table could be obtained from water elevation readings from site groundwater monitoring wells, or from groundwater characterization studies performed as a basis of updating the groundwater monitoring system to Subtitle D standards. The re-evaluation of the seasonal high water table should be performed routinely as part of each liner evaluation.

In the Soils and Liner Evaluation Report (SLER) for each new increment of liner construction, the engineer must provide:

- A description of the seasonal high water table established in the SDP or previous SLER, as applicable;
- A summary of the groundwater data collected since the permit application or previous SLER;
- An evaluation of whether the seasonal high water table must be adjusted upward on the basis of this data; and
- An analysis of the changes required in liner design or ballast requirements as a result of the higher water table.

6.3 Overall Excavation Stability

Overall excavation stability was analyzed as part of this permit to demonstrate that the excavation depths proposed can be constructed with an acceptable factor of safety. See Part III-Attachment 10, Appendix D for this demonstration.

6.4 Short-Term Groundwater Control

The successful construction of the liner depends on the ability to maintain a stable excavation and to control groundwater seepage and uplift pressures during the construction period. Paragraphs (a) through (d) of §330.203 require the owner/operator to design a method for preventing uplift of the liner during construction, ensure the liner is stable during the filling of the landfill, and demonstrate that the liner foundation is stable

and suitable for liner construction. All three of these requirements relate to the short-term control of groundwater from the beginning of liner construction to the completion of ballast. The most straightforward method of controlling groundwater is to lower the groundwater level by means of a dewatering system (§330.203(a)(2)). The appropriate method of dewatering is a function of the in situ soil properties and the soil profile, as discussed below.

6.4.1 Characterization of In Situ Soils

The in situ soils on the bottom and sidewalls of the excavation provide the foundation for the liner system. For the purpose of discussing groundwater control and uplift potential the in situ soils at the landfill consist of heterogeneous layering of cohesionless and cohesive soils.

6.4.2 Dewatering Methods

The method used for dewatering will consist of an underdrain geocomposite along the floor of the landfill cells which shall extend up the sidewalls to 1 foot above the seasonal high water table at that area of the landfill. Drains at the toes of slopes and under the leachate collection trench consisting of gravel and pipe encased with geotextile shall direct groundwater to an underdrain sump which will be pumped at a sufficient rate to prevent uplift of the liner system. Additional drains may be necessary depending on the level of groundwater flow encountered. This system is illustrated in Figure 10-2.

Placing the first lift of compacted clay liner on the underdrain may not be easily accomplished. Care shall be taken to not damage the underdrain by the compactive effort.

6.5 Dewatering Design and Performance Documentation

The method proposed to control groundwater by dewatering during liner construction is described in Section 6.4.2 of this SLQCP. If necessary wellpoints or individual well dewatering systems may also be used to control uplift pressures on the liner. Sample calculations for the underdrain system is included in Part III-Attachment 10- Appendix D and includes an estimated seepage rate into the system, and the sizing of trenches, sumps, and pumps capable of removing the seepage at the rate it is accumulated.

Since the liner design requires an underdrain system, the system cannot be deleted without a further permit modification, unless provisions (including a poorly permeable demonstration) are made in the SLQCP for

deletion of the system.

Dewatering/underdrain systems placed for groundwater control must be operated until the liner and ballast are placed, and approval is received from TNRCC that the dewatering is no longer needed. The system must be monitored on a frequent basis to document that the dewatering system performed as required during the placement of ballast. After the liner is placed, the liner itself can accommodate a certain amount of uplift force, as described in the next section. The documentation of dewatering should identify this acceptable level and demonstrate that it was not exceeded.

6.6 Liner and Ballast Design for Long-Term Conditions

After construction of the liner and placement of ballast, the dewatering/underdrain system shall be terminated understanding that the groundwater will eventually rebound to the seasonal high water table. The design shall prevent liner uplift after the full hydrostatic pressure is redeveloped. The long-term uplift resistance proposed will provide sufficient weight to counteract the uplift force. This resistance will be provided by the weight of the leachate collection system components, protective cover, soil ballast if needed, waste ballast and final cover. A diagram of the hydrostatic and gravity pressures on the liner is shown on Figure 10-3.

The hydrostatic force exerted by groundwater on the bottom surface of a landfill liner is defined by a magnitude and a direction. Since no tangential stresses can exist in a fluid, the direction of the resultant hydrostatic force is perpendicular to the liner surface (Daugherty and Franzini, 1965). At a given location, the hydrostatic uplift pressures which will act at any given point on the liner (i.e., bottom of clay, bottom of geomembrane, etc.) can be calculated by multiplying the unit weight of water (γ_{water}) times the pressure head (H_p) at that point. The uplift pressure (PN) is therefore expressed as:

$$PN = \gamma_{water} * H_p \qquad \text{(Eq. 1)}$$

To evaluate the uplift stability at a given point, consider an element of soil and/or waste at that point of width ΔX subject to uplift pressure PN (Figure 10-4) along the base of the element. (In this simplified case, the pressure head H_p is equal to the height of the groundwater surface H above the element.) The uplift force on the element (which acts normal to the bottom surface) is given by:

$$U = PN_{avg} * \Delta X / \cos \beta \qquad \text{(Eq. 2)}$$

where PN_{avg} is the uplift pressure at the center of the bottom surface of the element and β is the angle of the bottom surface with respect to horizontal or the slope angle. The resisting gravity force of the element of the liner system at the given point can be expressed as:

$$RL = \Delta X * \Sigma(\gamma_i * Tv_i) \quad \text{or} \quad RL = \Delta X * (\gamma_L * T_L + \gamma_{PC} * T_{PC} \ldots) \qquad \text{(Eq. 3)}$$

where γ_i = unit weight of each component of the liner system (liner γ_L, protective cover γ_{PC}, etc.)

Tv_i = vertical thickness of each component of the liner system (liner T_L, protective cover T_{PC}, etc.)

Note that with a composite liner system consisting of a geomembrane overlying a constructed clay liner, the unit weight and vertical thickness of the clay liner component is not included and will not be considered as ballast.

When possible, the total unit weight of the liner should be determined from the standard or modified Proctors performed on the soil to be used as liner. For a clay liner compacted to a minimum 95% of maximum dry density (γd_{max}) and at a minimum water content of optimum moisture (ω_{opt}, in decimal form), the minimum total density of the liner is expressed as:

$$\gamma_L = (0.95 * \gamma d_{max}) * (1 + \omega_{opt}) \qquad \text{(Eq. 4)}$$

The total unit weight of the leachate collection system and cover soils should be measured in the field or laboratory when possible.

The following equation which balances the forces normal to the liner surface must be satisfied for the liner system element to be considered adequate to resist the normal uplift force with an adequate factor of safety (FS_U) by itself:

$$FS_U = RL * \cos\beta / U = \Sigma(\gamma_i * Tv_i) * \cos^2\beta / (\gamma_{water} * H) \geq 1.2 \qquad \text{(Eq. 5)}$$

If the above equation is satisfied at all liner locations, then no additional ballast is required for long-term uplift resistance.

If the factor of safety against uplift is less than 1.2 at any point in the liner system, then additional weight, or ballast, must be added to the top of the liner system. The additional weight may be in the form of soil or waste. If soil is used, the resisting gravity force (RS) of the soil ballast is equal to the total unit weight of the soil (γ_S) multiplied by the thickness (T_S) of the soil ballast. Sufficient soil ballast must be added to satisfy the equation:

$$(RL + RS) * \cos\beta / U \geq 1.2 \qquad \text{or} \quad \Sigma(\gamma_i * Tv_i) * \cos^2\beta / (\gamma_{water} * H) \geq 1.2 \qquad \text{(Eq. 6)}$$

where γ_i and Tv_i include γ_S and T_S, respectively. If waste is used as ballast, it must meet the requirements of the rules, which are:

- The first 5 feet or the total thickness of ballast, whichever is less, placed on the liner system shall be free of brush and large bulky items, which would damage the underlying parts of the liner system or which cannot be compacted to the required density.
- The waste shall be compacted to a density of not less than 1000 lb/cy, or 37 pcf.

The resisting gravity force of waste (RW) is equal to the total unit weight of the waste (γ_{waste} = 37 pcf) multiplied by the thickness of the waste (T_{waste}). Sufficient waste must be added to satisfy the equation:

$$(RL + RW) * \cos\beta / U \geq 1.5 \quad \text{or} \quad \Sigma(\gamma_i * Tv_i) * \cos^2\beta / (\gamma_{water} * H) \geq 1.5 \qquad \text{(Eq. 7)}$$

where γ_i and Tv_i include γ_{waste} and T_{waste}, respectively.

The method outlined above and in Figure 10-4 is simplified and conservative, especially as the slope configuration departs from an infinite slope model as ballast is placed. Sample ballast calculations for bottom and sideslope liners is included in Part III-Attachment 10, Appendix D, Appendix 1.

6.7 Slope Stability of Sidewall Liners

The procedures outlined in Section 6.6 was used to evaluate the stability against uplift for bottom and sidewall liners and to determine the minimum depth of ballast required for uplift stability. The procedures outlined in Section 6.6, it should be noted, evaluate the factor of safety against uplift in the direction normal to the slope only. For sideslopes, the normal pressures due to groundwater will decrease the resistance to translational sliding along the liner. For this reason, the stability of sideslope liners subject to hydrostatic

pressures were calculated accounting for the slope angle. Sideslope liner ballast calculations are provided in Part III-Attachment 10, Appendix D, Appendix 1.

7.0 DOCUMENTATION AND REPORTING

7.1 Liner Evaluation Reports

All liner quality assurance/quality control testing must be performed in conformance with the SLQCP as required by the MSWR. The data must be submitted as a Liner Evaluation Report (LER), which may be a Soil and Liner Evaluation Report (SLER), Geosynthetic Clay Liner Evaluation Report (GCLER), or Geomembrane Liner Evaluation Report (GLER), depending on the type of liner construction.

The limits of all constructed liners, including the most recent covered by the current evaluation, must be clearly marked with the placement of red-colored markers. These markers must be readily discernible by site workers and site inspectors, and shall be maintained at all times during the active disposal operations within the area and may be removed as needed to facilitate operations upon approval of subsequent LER areas. The LER markers must be tied into the master site grid system for reference and shall not be placed through the constructed liner.

Each LER submittal must include a clearly legible site map which depicts the grid system on site, graphic scale, north arrow, sectorized fill layout plan, filled area, present active area, and area covered by the current submittal. The site map must show the areas covered by all previous LER submittals. It may be a print from a master drawing which is annotated and updated with each new submittal. In addition, each LER submittal to the TNRCC must include all or parts of the following items as appropriate and depending on the constructed elements of the liner:

- all field and laboratory test documentation for liner soils and test and sample locations plotted on a location plan (SLER);
- all test documentation for leachate collection and protective cover layers (SLER/GCLER/GLER);
- if the liner includes a geomembrane, manufacturer's certifications, documentation of all manufacturer's and independent testing, seaming and repair records, seam tests, and a site map showing locations of panels, repairs, and tests (GLER);
- if the liner includes a geosynthetic clay liner, documentation of all manufacturer's and

independent materials tests, manufacturer's certifications, stability analyses (if required), and a site map showing panel layout (GCLER);

- manufacturer's certification and testing documentation for all geosynthetics (SLER/GCLER/GLER); and
- a survey documentation of the thickness of the soil liner, leachate collection, and protective cover layers (SLER/GCLER/GLER).

All field and laboratory sampling and testing of components of the liner and its construction must be under the direct supervision of a GP as defined in the Glossary or by his qualified representative. Any completed lined area that fails to meet the minimum specified conditions of the required tests must be reworked or reconstructed to achieve the required results. Inability to achieve the required results through reworking shall be cause for rejection of the area in question.. All reworked areas shall be retested to prove adequacy to meet all the applicable requirements.

In accordance with §330.206(b), MSWR, no area may be used for the receipt of solid waste until the TNRCC has given confirmation of its acceptance of the LER or fourteen days from the date(s) of arrival of the LER at the MSW Permits Section, TNRCC, have lapsed.[2] It is strongly recommended that the permittee call the MSW Permits Section prior to use of area in question if confirmation of acceptance has not been received and the permittee believes that the fourteen-day review period has lapsed.

7.2 Interim Status Report

An Interim Status Report (ISR) for all liners should be provided to the TNRCC for portions of the liner that remain uncovered with waste for more than six months from the date that the protective cover was applied, and the area shall be reevaluated by a geotechnical professional as stated in subsection §330.206(e).

7.3 Ballast

Liners constructed below the groundwater table require several elements of evaluation and quality assurance beyond the basic requirements of the LER. Most of these additional documentation and evaluation activities are performed as part of the liner design before construction or during the same time as the monitoring for

[2]The TNRCC staff will make every effort to notify the permittee by telephone or fax of final submittal status if the needed telephone numbers are listed within the signature block of the SLER or GLER.

the clay liner construction. To avoid duplication in reporting requirements, these activities should logically be included in the LER. The documentation and evaluation include the following:

- Summary of soil stratigraphy and properties of soils exposed on the bottom and sidewalls of the area being lined.
- Adjusted seasonal high water table, based on SDP data, groundwater monitoring well data, or other data.
- Calculation of ballast required, and type of ballast to be used (soil or waste).
- Discussion of whether subgrade required an underdrain system or other dewatering method, using criteria established in the SDP and SLQCP.
- Method of controlling uplift forces during construction (low-permeability foundation soil, dewatering, or combination).
- Monitoring of dewatering system to demonstrate that hydrostatic forces did not develop during liner construction.
- Pre-construction and top-of-liner elevations of the liner, and confirmation of liner weight. The survey elevations must be performed at the frequency required in the SLQCP.

7.3.1 Soil as Ballast

If soil is to be used as ballast, it would be placed immediately after liner or leachate collection system construction. If soil ballast is to be placed on the composite liner system, the SLER should include a statement that the ballast will be documented in the GLER, which will document the as-built density and thickness of the soil ballast. The soil ballast thickness should be surveyed at the same frequency required in the SLQCP for the liner.

7.3.2 Waste as Ballast

If waste is used for ballast, the approval of the GLER must first be received from TNRCC. A follow-up report in the form of a Ballast Evaluation Report (BER) must then be prepared. The BER must include the following documentation:

- The weight of the compactor being used to compact the waste is no less than 40,000 pounds, and a certification from the owner that this compactor was utilized during the entire period of placing the waste ballast.

- Certification from the owner of the type of waste placed in the lower 5 feet.
- If a 40,000 pound compactor was not used, calculations to show that the in-place density of waste is not less than 1000 pounds per cubic yard. These calculations must include the following:
  - initial survey of the area to receive waste as ballast;
  - final survey and calculated volume of waste placed as ballast; and
  - weight of waste placed, based on actual measurements of truck weights at the scalehouse.
- Survey of the top of waste to document that the thickness calculated in the LER has been placed.
- Documentation that any dewatering system used to lower the groundwater level during liner construction was in effect throughout the completion of the ballast placement.
- Groundwater level measurements and pneumatic/vibrating wire piezometer measurements to demonstrate that hydrostatic heads did not exceed the allowable values.

A BER should be submitted after sufficient ballast is in place to demonstrate adequate uplift resistance against the long-term seasonal high groundwater level for a given waste cell, sector, or LER area. If the BER for a given liner area is to be submitted more than one year after completion of the LER, interim BERs should be submitted annually. Interim BERs should serve mainly to certify that the underdrain system is and has been in operation through the interim period.

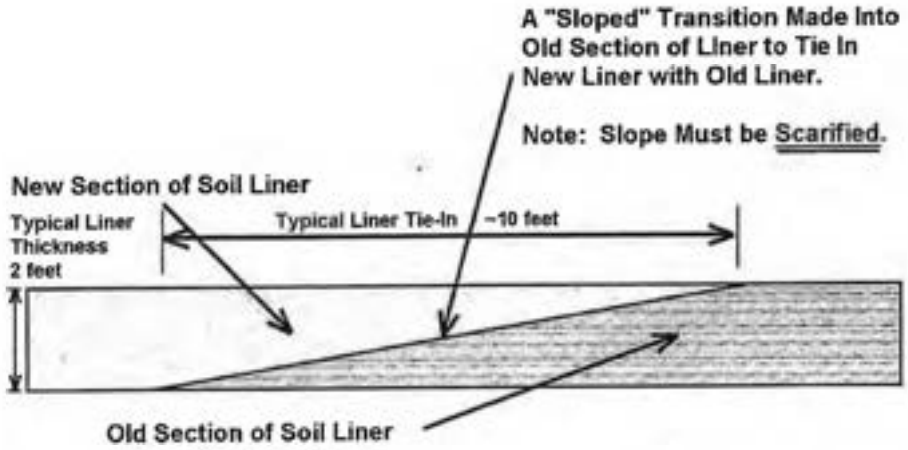


Figure 1. Constructed Soil Liner Tie-In Detail

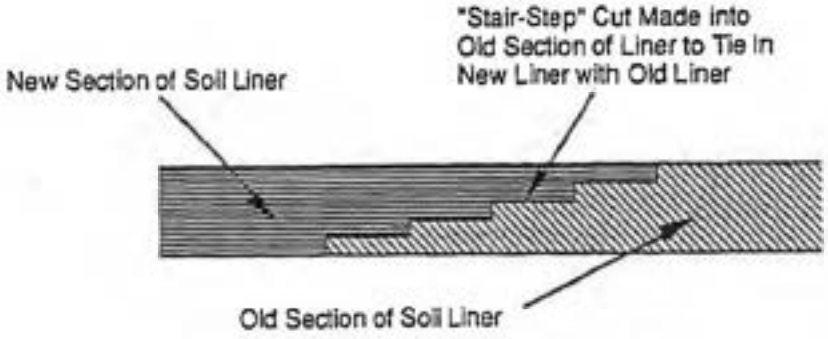
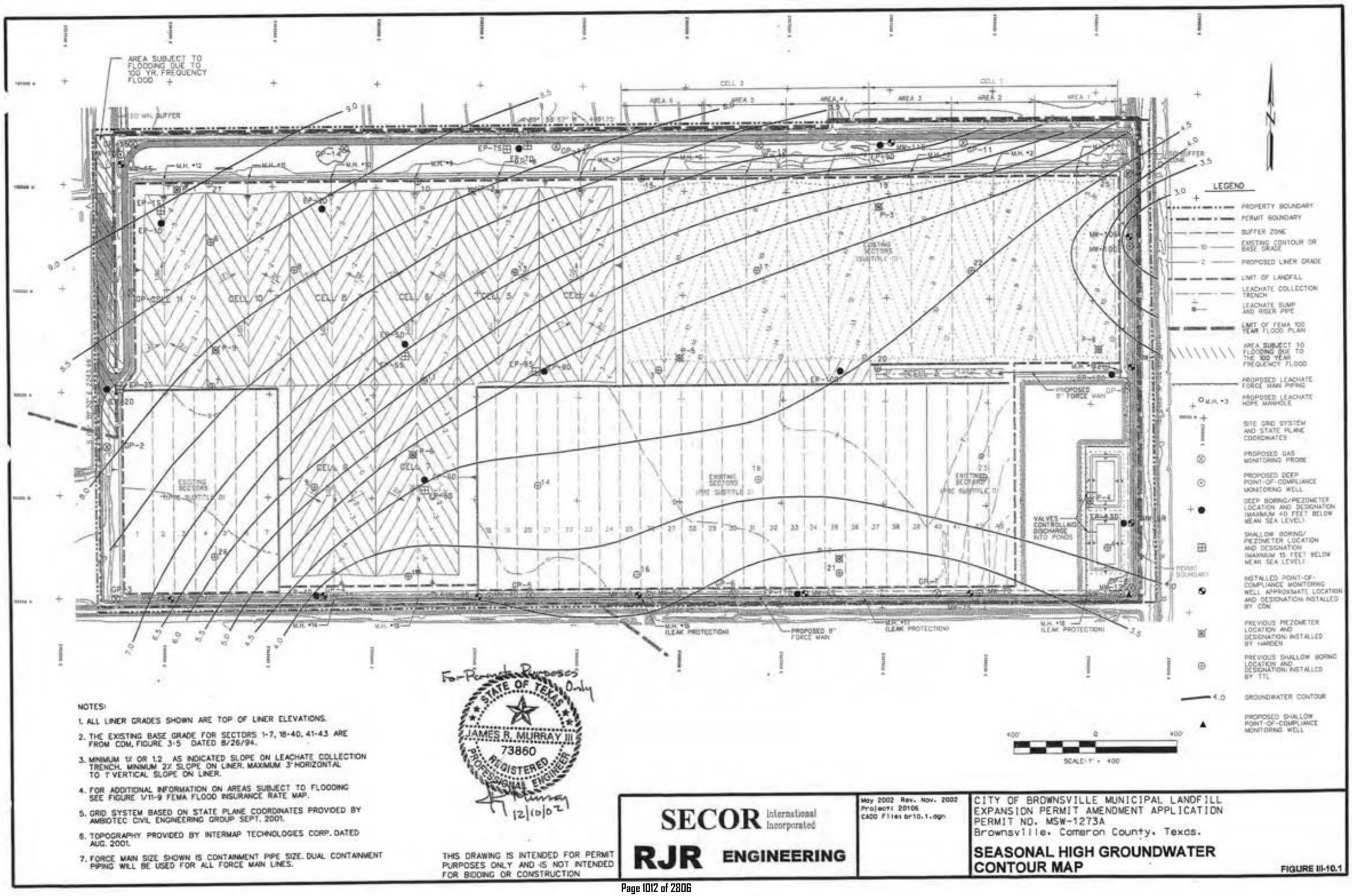


Figure 2. Constructed Soil Liner Tie-In Detail
(Adapted from EPA/600/R-93/182, September 1993 Technical Guidance Document)

(Pages III-A10-43 through III-A10-50 have been intentionally left blank)



NOTES:

1. ALL LINER GRADES SHOWN ARE TOP OF LINER ELEVATIONS.
2. THE EXISTING BASE GRADE FOR SECTORS 1-7, 18-40, 41-43 ARE FROM CDM, FIGURE 3-5 DATED 8/26/94.
3. MINIMUM 1% OR 1.2 AS INDICATED SLOPE ON LEACHATE COLLECTION TRENCH. MINIMUM 2% SLOPE ON LINER. MAXIMUM 3' HORIZONTAL TO 1' VERTICAL SLOPE ON LINER.
4. FOR ADDITIONAL INFORMATION ON AREAS SUBJECT TO FLOODING SEE FIGURE VII-9 FEMA FLOOD INSURANCE RATE MAP.
5. GRID SYSTEM BASED ON STATE PLANE COORDINATES PROVIDED BY AMBIOTEC CIVIL ENGINEERING GROUP SEPT. 2001.
6. TOPOGRAPHY PROVIDED BY INTERMAP TECHNOLOGIES CORP. DATED AUG. 2001.
7. FORCE MAIN SIZE SHOWN IS CONTAINMENT PIPE SIZE. DUAL CONTAINMENT PIPING WILL BE USED FOR ALL FORCE MAIN LINES.

For Permitting Purposes Only
STATE OF TEXAS
JAMES R. MURRAY III
73860
REGISTERED
PROFESSIONAL ENGINEER
12/10/02

THIS DRAWING IS INTENDED FOR PERMIT PURPOSES ONLY AND IS NOT INTENDED FOR BIDDING OR CONSTRUCTION

SECOR International Incorporated

RJR ENGINEERING

May 2002 Rev. Nov. 2002
Project: 20106
CADD Files: br10.1.dgn

CITY OF BROWNSVILLE MUNICIPAL LANDFILL
EXPANSION PERMIT AMENDMENT APPLICATION
PERMIT NO. MSW-1273A
Brownsville, Cameron County, Texas.

SEASONAL HIGH GROUNDWATER CONTOUR MAP

FIGURE III-10.1

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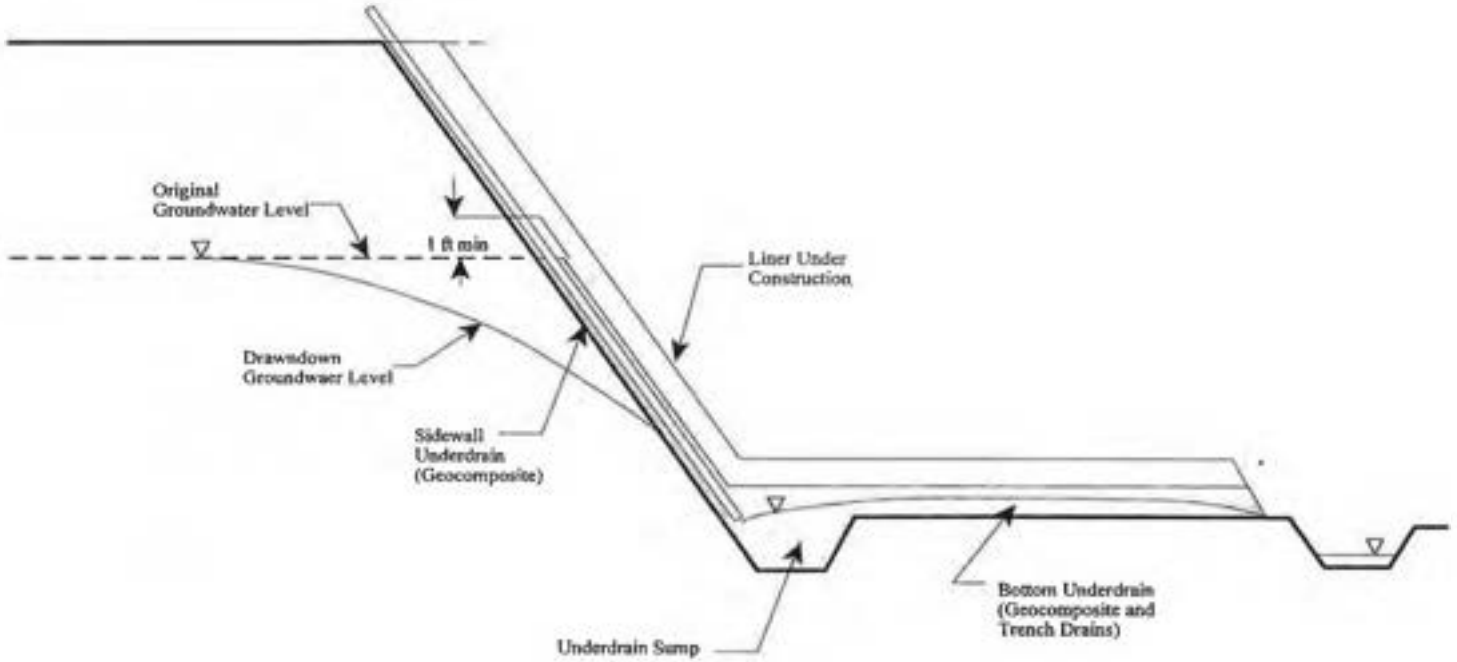


Figure 10-2

Case 3 - Underdrain System Section

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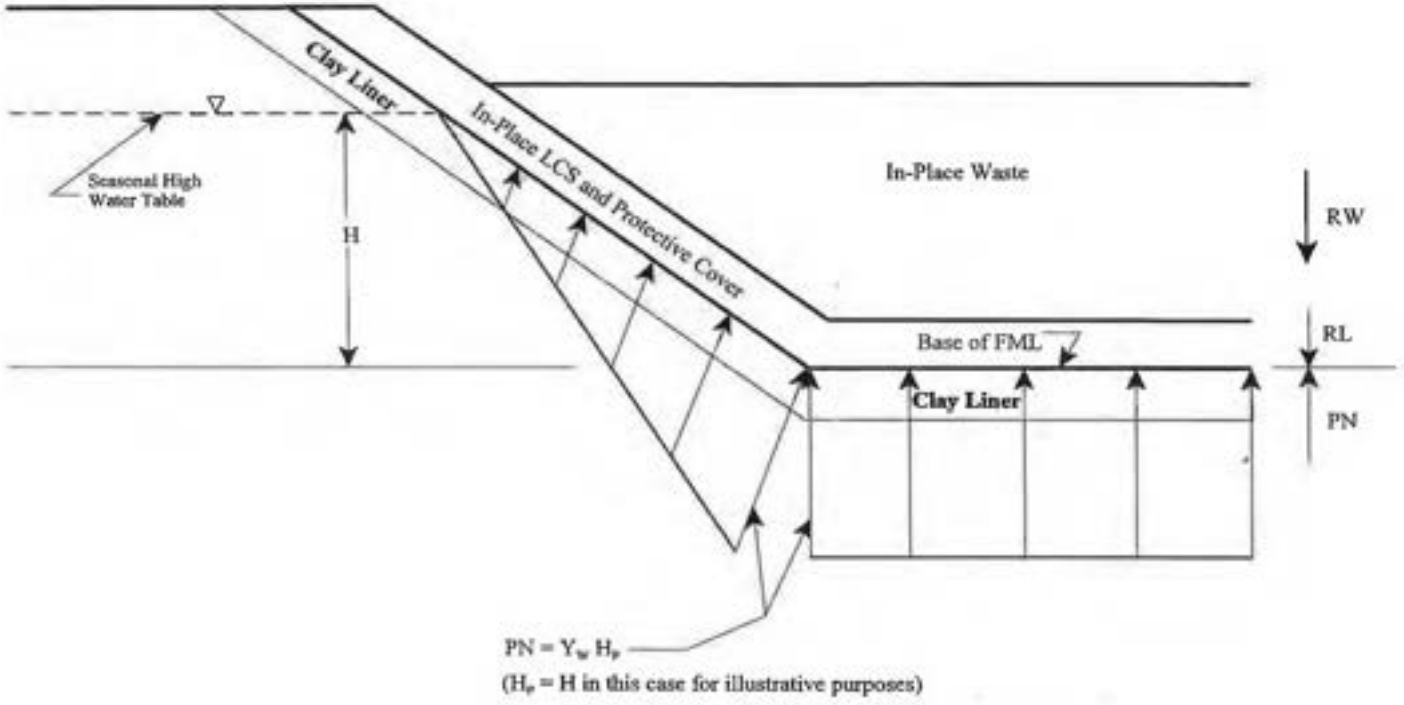


Figure 10-3

Long-Term Uplift Resistance
(Clay Liner With FML)

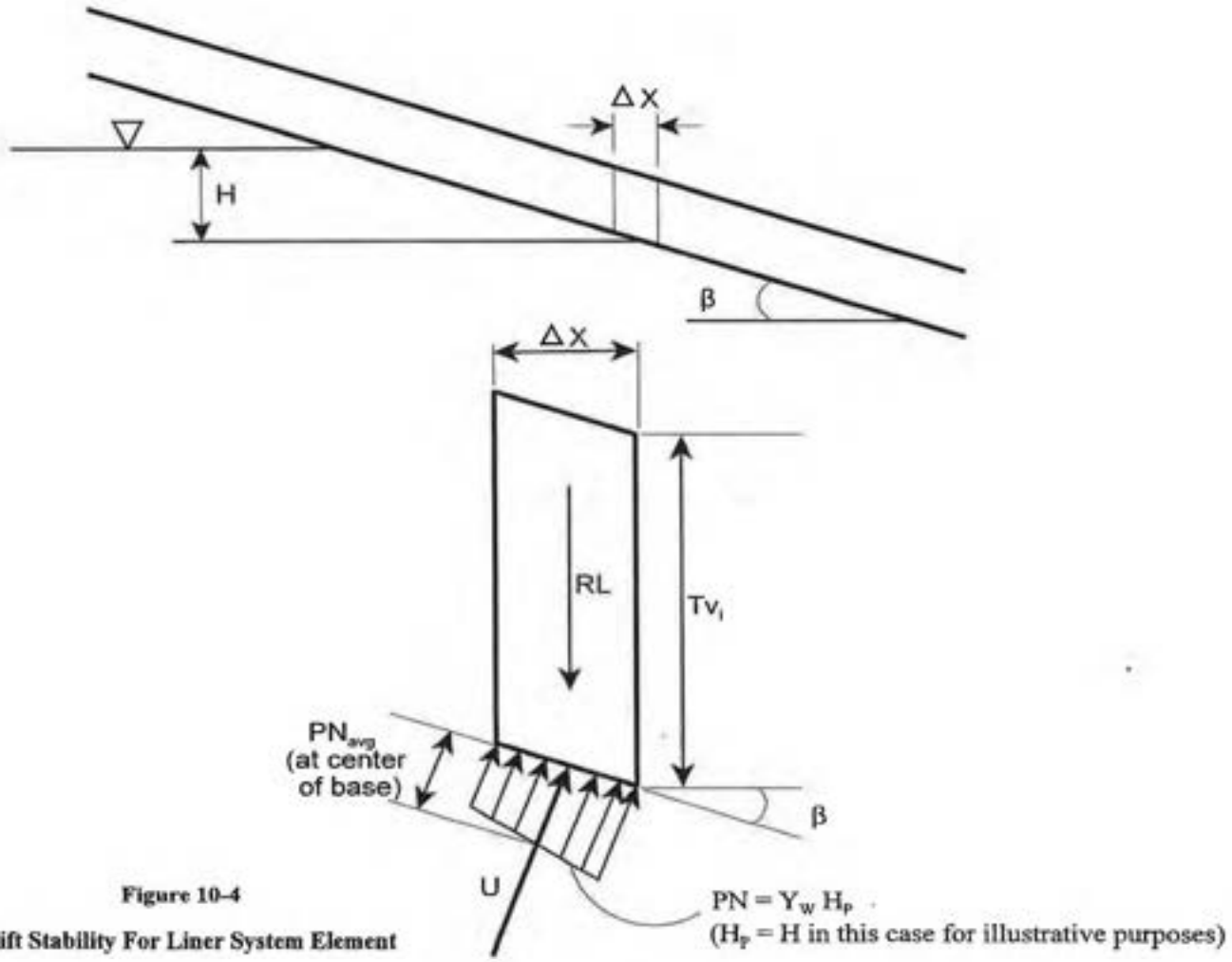


Figure 10-4

Uplift Stability For Liner System Element

Table I - Standard Tests on Soils

SOIL TEST CATEGORY	TYPE OF TEST	STANDARD TEST METHOD	FREQUENCY OFTESTING
Quality Control Testing of Source Borrow Materials	Moisture/Density Relationship	ASTM D 698 or D 1557	Once per soil type
	Sieve (Gradation)	ASTM D 422 or D 1140	
	Atterberg Limits	ASTM D 4318	
	Coefficient of Permeability	ASTM D 5084 or CoE EM1110-2-1906	1/Moisture/Density Relationship
Constructed Soil Liners	Field Density	ASTM D 1556, D 2167, or D 2922	1/8,000 ft² per 6-inch parallel lift^A; 1/100 lineal ft per 12 inches sidewall liner (horizontal lifts)^A
	Sieve (Gradation)	ASTM D 422 or D 1140	1/100,000 ft² per 6-inch parallel lift^A; 1/2000 lineal ft per 12 inches sidewall liner (horizontal lifts)^A
	Atterberg Limits	ASTM D 4318	
	Coefficient of Permeability	ASTM D 5084 or CoE EM1110-2-1906 (laboratory) Air-Entry Permeameter (field)	
	Thickness	Registered Surveyor	1/5,000 ft² (parallel lifts)^A; 50-ft cross-sections (horizontal-lift sidewall liners)^A

Notes:

A - A minimum of one of each of the designated tests must be conducted for each unit thickness of liner as indicated, regardless of liner area or length.

Table II - Standard Tests on HDPE Geomembrane Material

TEST	TYPE OF TEST	STANDARD TEST METHOD	FREQUENCY OF TESTING
Resin	Density	ASTM D 1505	per 100,000 ft² and every resin lot
	Melt Flow Index	ASTM D 1238 (90/2.16 and 190/21.6)	
Manufacturer's Quality Control	Testing per GRI Standard GM13[A]		
Conformance Testing by 3rd Party Independent Laboratory	Thickness	ASTM D 5199 (smooth HDPE) or D 5994 (textured HDPE)	per 100,000 ft² and every resin lot
	Specific Gravity/Density	ASTM D 1505/D 792	per 100,000 ft² and every resin lot
	Carbon Black Content	ASTM D 1603	
	Carbon Black Dispersion	ASTM D 5596	
	Tensile Properties	ASTM D 638[B] Type IV	
Destructive Seam Field Testing	Shear & Peel	ASTM D 4437	varies for field, lab, and archive
Non-destructive Seam Field Testing	Air Pressure	GRI GM6	all dual-track fusion
	Vacuum	ASTM D 4437	all non-air pressure tested seams when possible

Notes:
A - UV Resistance testing not required for HDPE which is to be immediately covered.
B - Break elongation calculated using 2-inch initial gauge length.

Table III - Standard Tests on GCL Material

TESTER	TEST	TYPE OF TEST	STANDARD TEST METHOD	FREQUENCY OF TESTING
Supplier or GCL Manufacturer	Bentonite[A]	Free Swell	ASTM D 5890	per 50 tons and every truck or railcar
		Fluid Loss	ASTM D 5891	
	Geotextile	Mass/Unit Area	ASTM D 5261	per 200,000 ft^2
		Grab Tensile Strength	ASTM D 4632	
	Geomembrane	Mass/Unit Area[G]	ASTM D 5261	per 200,000 ft^2
		Thickness	ASTM D 5199	
		Tensile Properties	ASTM D 638	
GCL Manufacturer	GCL Product	Clay Mass/Unit Area	ASTM D 5993	per 40,000 ft^2
		Bentonite Moisture Content	ASTM D 5993	
		Grab Tensile Strength[B]	ASTM D 4632	per 200,000 ft^2
		Permeability[B]	GRI GCL-2 or ASTM D 5084	per week for each production line[C]
		Lap Joint Permeability	Flow box or other suitable device	per material and lap type[D]
Independent Laboratory (Conformance Testing)	GCL Product	Clay Mass/Unit Area	ASTM D 5993	per 100,000 ft^2
		Permeability[E]	GRI GCL-2 or ASTM D 5084	
		Direct Shear[F]	ASTM D 6243	per GCL/adjoining material type

Notes:
A - Tests to be performed on bentonite before incorporation into GCL.
B - Not applicable for geomembrane-backed GCL. Manufacturer of geomembrane-backed GCL must, however, certify that product will meet required permeability standards based on prior testing.
C - Report last 20 permeability values, ending on production date of supplied GCL.
D - May also be done as conformance testing.
E - Test at confining/consolidating pressures simulating field conditions for ASTM D 5084. Permeability test not applicable for geomembrane-backed GCL which is installed geomembrane side down and covered with second geomembrane. Permeability tests on geomembrane-backed GCL must be done with geomembrane backing removed and may be done at reduced frequency (1 per 200,000 ft^2 to 300,000 ft^2).
F - Not applicable for slopes of 7H:1V or flatter. Testing must be on material in hydrated state unless GCL is to include geomembrane on both sides of GCL, and must use strain rates, confining pressures, and other parameters which simulate field conditions.
G - May be calculated using density and thickness of geomembrane.

APPENDIX A

Glossary

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) - One of the largest, professionally recognized voluntary standards development systems in the world.

ATTERBERG LIMITS - A series of 6 "limits of consistency" of fine-grained soils defined by Swedish soil scientist Albert Atterberg, two of which are frequently used today to establish a soil's physical boundaries dealing with its plasticity characteristics. These soil boundaries or limits used most frequently in geotechnical engineering are based upon the numerical difference of the Liquid Limit and the Plastic Limit as defined below:

Liquid Limit (LL) - The percentage of moisture in a soil, subjected to a prescribed test, that defines the upper point at which the soil's consistency changes from the plastic to the liquid state.

Plastic Limit (PL) - The percentage of moisture in a soil, subjected to a prescribed test, that defines the lower point at which the soil's consistency changes from the plastic to the semi-solid state.

Plasticity Index (PI) - The numerical difference between the LL and the PL of a fine-grained soil that denotes the soils plastic range. The larger the PI the greater a soil's plasticity range and the greater it's plasticity characteristics.

COEFFICIENT OF PERMEABILITY (a.k.a. Hydraulic Conductivity) - The amount of flow per unit of time through soil under unit hydraulic gradient at standard temperature.

COMPACTIVE EFFORT - The amount of compaction energy held constant, and usually transferred into a soil sample with a compaction hammer device, used on soil samples in various laboratory test procedures to establish a soil's density at various moisture contents.

CONSTRUCTED SOIL LINERS - Soils liners constructed from reworked in situ soils, soils from a borrow source, or bentonite-amended soils.

CONSTRUCTION QUALITY ASSURANCE (CQA) - A planned system of activities that provides the owner and permitting agency assurance that the facility was constructed as specified in the design (U.S. EPA, 1993).

CONSTRUCTION QUALITY CONTROL (CQC) - A planned system of inspections that is used to directly monitor and control the quality of a construction project (U.S. EPA, 1993).

FIELD PERMEABILITY TEST - A field test performed on a constructed liner or in situ soils to determine the inplace coefficient of permeability and usually performed as a Sealed Double Ring Infiltrometer Test (SDRI), or series of Boutwell field tests. This type of permeability test method is usually considered to have greater accuracy due to the area tested and the existing field conditions that may be obscured by a laboratory testing environment.

FILM TEAR BOND (FTB) - A failure in the geomembrane sheet material on either side of the seam and not within the seam itself.

FISH MOUTH - A semi-conical opening of the seam that is formed by an edge wrinkle in 1 sheet of the

geomembrane.

FLEXIBLE MEMBRANE LINER (FML) or GEOMEMBRANE LINER - An essentially-impermeable geosynthetic composed of 1 or more synthetic sheets. See HDPE.

FML STRATIFIED SAMPLE - A randomly selected sample location within each 500- linear-foot interval.

GEOMEMBRANE - See FLEXIBLE MEMBRANE LINER.

GEOSYNTHETIC CLAY LINER - A factory manufactured, hydraulic barrier typically consisting of bentonite clay or other very low permeability material, supported by geotextiles and/or geomembranes which are held together by needling, stitching, or chemical adhesives.

GEOSYNTHETIC MATERIALS - Manufactured or man-made materials that include FMLs (geomembranes), geogrids, geofilters, geocomposites, geodrainage nets, and geotextiles.

GEOTECHNICAL PROFESSIONAL (GP) - A professional engineer registered in this state who possesses professional experience in geotechnical engineering and testing. Geologists may evaluate and supervise the quality control testing for constructed soil liners or in situ soil liners only provided the have, knowledge and experience in geotechnical testing and the evaluation of the engineering properties of soils.

NOTE: All references to the Geotechnical Professional, Geotechnical Quality Control/Quality Assurance Professional, Professional of Record, etc., within the context of this handbook and the MSWR are interchangeable and are therefore synonymous.

GRADATION - See SIEVE ANALYSIS

GEOSYNTHETIC RESEARCH INSTITUTE (GRI) - Located at Drexel University, the GRI conducts research with geosynthetic materials and develops industry testing standards for these materials. This institute is supported by many geosynthetic manufacturers, installers, and raw materials suppliers to the industry.

HDPE (HIGH DENSITY POLYETHYLENE) - A polymer prepared by low-pressure polymerization of ethylene as the principal monomer and having the characteristics of ASTM D 1348, Type III and IV polyethylene. Such polymer resins have densities greater than or equal to 0.941 g/cc as noted in ASTM D 1348.

IN SITU LINERS - Soils liners consisting of undisturbed soils that do not exhibit primary or secondary physical features, and meet all physical and quality control testing requirements of the MSWR, and are found acceptable by the TNRCC.

IN SITU SOILS - Undisturbed soils; the term routinely used in describing an in-place- soil liner.

INDEPENDENT TESTING LABORATORY - A laboratory that is independent of ownership or control by the permittee or any party to the construction of the liner or the manufacturer of the liner products used.

MANUFACTURING QUALITY ASSURANCE (MQA) - A planned system of activities that provides

assurance that the raw materials were constructed (manufactured) as specified.

MANUFACTURING QUALITY CONTROL (MQC) - A planned system of inspection that is used to directly monitor and control the manufacture of a material.

MOISTURE/DENSITY (M/D) RELATIONSHIP - A test in which soil samples are compacted in a known volumetric container at various moisture contents at a constant level of compactive effort and their corresponding densities are determined. The test procedures and compactive efforts used are those normally prescribed in ASTM D 698 and D 1557. These tests are frequently designated the Standard Proctor and Modified Proctor compaction tests named after M. M. Proctor, the early developer of these test procedures for the determination of density control on compacted soil fills.

MUNICIPAL SOLID WASTE RULES (MSWR) - The TNRCC rules that govern Municipal Solid Waste Management, as published in the Texas Register.

PERMEABILITY - See COEFFICIENT OF PERMEABILITY

PERMEANT FLUID - Fluid used in a laboratory coefficient of permeability test and limited to tap water or 0.005 Normal solution of $CaSO_4$. Distilled water shall not be used in these test procedures.

NOTE: 0.05 Normal as indicated in MSWR §330.56(d)(5)(B)(ii) is in error and should read 0.005 Normal.

QUALIFIED ENGINEERING TECHNICIAN - A representative of the GP who is NICET-certified in Geotechnical Engineering Technology and Geosynthetic Materials Installation Inspection at level 2 or higher, an engineering technician with a minimum of 4 years of directly-related experience, or a graduate engineer or geologist with 1 year of directly-related experience.

REPRESENTATIVE SAMPLE - A representative sample of geomembrane material consists of 1 or more specimens (commonly referred to as coupons) from the same rectangular portion of geomembrane material, oriented along a seam, that is removed for field or laboratory testing purposes.

SEASONAL HIGH WATER TABLE - The highest measured or calculated water level in an aquifer during investigations for permit application and/or any groundwater characterization studies at a site.

SIEVE ANALYSIS - A laboratory soil test consisting of placing a known weight of soil sample through a series of wire mesh sieves stacked upon each other in successively smaller mesh size and used to determine the percentage size gradation of the sample.

SOIL BORROW SOURCE - Soils in which the Liquid Limit (LL) and Plasticity Index (PI) do not vary by 10 points. A soil that varies by 10 or more points from the originally- established LL or PI is considered as a separate soil source for the purpose of this handbook and requires a separate soils test series.

SOIL TEST SERIES - Tests performed to determine a soil's physical characteristics and to document its ability to satisfy the MSWR soil liner requirements. These tests include sieve analysis (gradation), Atterberg Limits, moisture/density, and coefficient of permeability.

SPECIMEN - (With respect to geomembrane destructive testing) - A specimen is the individual test strip

(sometimes called coupon) from a sample location. A sample location usually consists of many specimens.

WATER TABLE - The upper surface of the zone of saturation at which water pressure is equal to atmospheric pressure, except where that surface is formed by a confining unit.

APPENDIX B

List of References

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ASTM D 751, "Test Methods for Coated Fabrics"

ASTM D 792, "Specific Gravity and Density of Plastics by Displacement"

ASTM D 1004,"Initial Tear Resistance of Plastic Film and Sheeting"

ASTM D 1140, "Amount of Material in Soils Finer than the No. 200 (75-µm) Sieve"

ASTM D 1204, "Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature"

ASTM D 1238, "Flow Rates of Thermoplastics by Extrusion Plastometer"

ASTM D 1505, "Density of Plastics by the Density-Gradient Technique"

ASTM D 1556, "Density and Unit Weight of Soil In Place by Sand-Cone Method"

ASTM D 1557, "Laboratory Compaction Characteristics of Soils Using Modified Effort (56,000 ft-lbs/ft^3 (2,700 Kn-m/m^3))"

ASTM D 1593, "Standard Specification for Nonrigid Vinyl Chloride Plastic Sheeting"

ASTM D 1603, "Carbon Black in Olefin Plastics"

ASTM D 2167, "Density and Unit Weight of Soil In Place by Rubber Balloon Method"

ASTM D 2487, "Classification of Soils for Engineering Purposes (Unified Soil Classification System)"

ASTM D 2922, "Density of Soil and Soil-Aggregate In Place by Nuclear Methods (Shallow Depth)"

ASTM D 3015, "Recommended Practice for Microscopical Examination of Pigment Dispersion in Plastic Compounds"

ASTM D 4318, "Liquid Limit, Plastic Limit, and Plasticity Index of Soils"

ASTM D 4437, "Practice for Determining the Integrity of Field Seams Used in Joining Flexible Polymeric Sheet Geomembranes"

ASTM D 5084, "Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter"

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ENGLISH UNITS

Table 1(a) – High Density Polyethylene (HDPE) Geomembrane -Smooth

Properties	Test Method	Test Value						Testing Frequency (minimum)
		30 mils	40 mils	50 mils	60 mils	80 mils	100 mils	120 mils	
Thickness (min. ave.)	D5199	nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Nom.	Per roll
• lowest individual of 10 values		-10%	-10%	-10%	-10%	-10%	-10%	-10%	
Density min (min.)	D 1505/D 792	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	200,00 lb
Tensile Properties (1) (min. ave.)	D 638 Type IV								20,000 lb
• yield strength		63 lb/in.	84 lb/in.	105 lb/in.	126 lb/in.	168 lb/in.	210 lb/in.	252 lb/in.	
• break strength		114 lb/in.	153 lb/in.	190 lb/in.	228 lb/in.	304 lb/in.	380 lb/in.	456 lb/in.	
• yield elongation		12%	12%	12%	12%	12%	12%	12%	
• break elongation		700%	700%	700%	700%	700%	700%	700%	
Tear Resistance (min. ave.)	D 1004	21 lb	28 lb	35 lb	42 lb	56 lb	70 lb	84 lb	45,000 lb
Puncture Resistance (min. ave.)	D 4833	54 lb	72 lb	90 lb	108 lb	144 lb	180 lb	216 lb	45,000 lb
Stress Crack Resistance (2)	D5397 (App.)	200 hr.	200 hr.	200 hr.	200 hr.	200 hr.	200 hr.	200 hr.	per GRI-GM10
Carbon Black Content (range)	D 1603 (3)	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	20,000 lb
Carbon Black Dispersion	D 5596	note (4)	note (4)	note (4)	note (4)	note (4)	note (4)	note (4)	45,000 lb
Oxidative Induction Time (OIT) (min. ave.) (5)									200,000 lb
(a) Standard OIT	D 3895	100 min.	100 min.	100 min.	100 min.	100 min.	100 min.	100 min.	
—or—									
(b) High Pressure OIT	D 5885	400 min.	400 min.	400 min.	400 min.	400 min.	400 min.	400 min.	
Oven Aging at 85°C (3), (6)	D 5721								per each formulation
(a) Standard OIT (min. ave.) - % retained after 90 days	D 3895	55%	55%	55%	55%	55%	55%	55%	
—or—									
(b) High Pressure OIT (min. ave.) - % retained after 90 days	D 5885	80%	80%	80%	80%	80%	80%	80%	
UV Resistance (7)	GM 11								per each formulation
(a) Standard OIT (min. ave.)	D 3895	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	
—or—									
(b) High Pressure OIT (min. ave.) - % retained after 1600 hrs (9)	D 5885	50%	50%	50%	50%	50%	50%	50%	

(1) Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction.
Yield elongation is calculated using a gage length of 1.3 inches
Break elongation is calculated using a gage length of 2.0 in.

(2) The yield stress used to calculate the applied load for the SP-NCTL test should be the manufacturer's mean value via MQC testing.

(3) Other methods such as D 4218 (muffle furnace) or microwave methods are acceptable if an appropriate correlation to D 1603 (tube furnace) can be established.

(4) Carbon black dispersion (only near spherical agglomerates) for 10 different views:
- 9 in Categories 1 or 2 and 1 in Category 3

(5) The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.

(6) It is also recommended to evaluate samples at 30 and 60 days to compare with the 90 day response.

(7) The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.

(8) Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV exposed samples.

(9) UV resistance is based on percent retained value regardless of the original HP-OIT value.

SI (METRIC) UNITS

Table 1(b) – High Density Polyethylene (HPDE) Geomembrane - Smooth

Properties	Test Method	Test Values						Testing Frequency (minimum)
		0.75 mm	1.00 mm	1.25 mm	1.50 mm	2.00 mm	2.50 mm	3.00 mm	
Thickness - mils (min. ave.)	D5199	nom. (mil) -10%	nom. (mil) -10%	nom. (mil) -10%	nom. (mil) -10%	nom. (mil) -10%	nom. (mil) -10%	nom. (mil) -10%	per roll
• lowest individual of 10 values									
Density (min.)	D 1505/D 792	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	90,000 kg
Tensile Properties (1) (min. ave.)	D 638 Type IV								9,000 kg
• yield strength		11 kN/m	15 kN/m	18 kN/m	22 kN/m	29 kN/m	37 kN/m	44 kN/m	
• break strength		20kN/m	27 kN/m	33 kN/m	40 kN/m	53 kN/m	67 kN/m	80 kN/m	
• yield elongation		12%	12%	12%	12%	700%	700%	12%	
• break elongation		700%	700%	700%	700%			700%	
Tear Resistance (min. ave.)	D 1004	93 N	125 N	156 N	187 N	249 N	311 N	374 N	20,000 kg
Puncture Resistance (min. ave.)	D 4833	240 N	320 N	400 N	480 N	640 N	800 N	960 N	20,000 kg
Stress Crack Resistance (2)	D 5397 (App.)	300 hr.	200 hr.	200 hr.	200 hr.	200 hr.	200 hr.	30	per GRI GM-10
Carbon Black Content - %	D 1603 (3)	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	2.0-3.0%	9,000 kg
Carbon Black Dispersion	D 5596	note (4)	note (4)	note (4)	note (4)	note (4)	note (4)	note (4)	20,000 kg
Oxidative Induction Time (OIT) (min. ave.) (5)									90,000 kg
(a) Standard OIT	D 3895	100 min.	100 min.	100 min.	100 min.	100 min.	100 min.	100 min.	
— or —									
(b) High Pressure OIT	D 5885	400 min.	400 min.	400 min.	400 min.	400 min.	400 min.	400 min.	
Oven Aging at 85°C (5), (6)	D 5721								per each formulation
(a) Standard OIT (min. ave.) - % retained after 90 days	D 3895	55%	55%	55%	55%	55%	55%	55%	
— or —									
(b) High Pressure OIT (min. ave.) - % retained after 90 days	D 5885	80%	80%	80%	80%	80%	80%	80%	
UV Resistance (7)									per each formulation
(a) Standard OIT (min. ave.)	D 3895	N. R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	N.R. (8)	
— or —									
(b) High Pressure OIT (min. ave.) - % retained after 1600 hrs (9)	D 5885	50%	50%	50%	50%	50%	50%	50%	

(1) Machine direction (MD) and cross machine direction (XMD) average values should be on the basis of 5 test specimens each direction
Yield elongation is calculated using a gage length of 33 mm
Break elongation is calculated using a gage length of 50 mm
(2) The yield stress used to calculate the applied load for the SP-NCTL test should be the manufacturer's mean value via MQC testing.
(3) Other methods such as D 4218 (muffle furnace) or microwave methods are acceptable if an appropriate correlation to D 1603 (tube furnace) can be established.
(4) Carbon black dispersion (only near spherical agglomerates) for 10 different views:
• 9 in Categories 1 or 2 and 1 in Category 3
(5) The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.
(6) It is also recommended to evaluate samples at 30 and 60 days to compare with the 90 day response.
(7) The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.
(8) Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV exposed samples.
(9) UV resistance is based on percent retained value regardless of the original HP-OIT value.

ENGLISH UNITS

Table 2(a) – High Density Polyethylene (HDPE) Geomembrane - Textured

Properties	Test Method	Test Value								Testing Frequency (minimum)
		30 mils	40 mils	50 mils	60 mils	80 mils	100 mils	120 mils		
Thickness min. (min. ave.)	D 5994	ave. (-5%)	ave. (-5%)	ave. (-5%)	ave. (-5%)	ave. (-5%)	ave. (-5%)	ave. (-5%)		per roll
• lowest individual for 8 out of 10 values		-10%	-10%	-10%	-10%	-10%	-10%	-10%		
• lowest individual for any of the 10 values		-15%	-15%	-15%	-15%	-15%	-15%	-15%		
Asperity Height min. (min. ave.) (2)	GM 12	10 mil	10 mil	10 mil	10 mil	10 mil	10 mil	10 mil		every 2nd roll (2)
Density (min. ave.)	D 1505/D 792	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc		200,000 lb
Tensile Properties (min. ave.) (3)	D 638									20,000 lb
• yield strength	Type IV	63 lb/in.	84 lb/in.	105 lb/in.	126 lb/in.	168 lb/in.	210 lb/in.	252 lb/in.		
• break strength		45 lb/in.	60 lb/in.	75 lb/in.	90 lb/in.	120 lb/in.	150 lb/in.	180 lb/in.		
• yield elongation		12%	12%	12%	12%	13%	12%	12%		
• break elongation		100%	100%	100%	100%	100%	100%	100%		
Tear Resistance (min. ave.)	D 1004	21 lb	28 lb	35 lb	42 lb	56 lb	70 lb	84 lb		45,000 lb
Puncture Resistance (min. ave.)	D 4833	42 lb	60 lb	75 lb	90 lb	120 lb	150 lb	180 lb		45,000 lb
Stress Crack Resistance (4)	D 5397 (App.)	300 hr.	300 hr.	300 hr.	300 hr.	300 hr.	300 hr.	300 hr.		per GRI GM10
Carbon Black Content (min.)	D 1603 (5)	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %		20,000 lb
Carbon Black Dispersion	D 5596	note (6)	note (6)	note (6)	note (6)	note (6)	note (6)	note (6)		45,000 lb
Oxidative Induction Time (OIT) (min. ave.) (7)										200,000 lb
(a) Standard OIT	D 3895	100 min.	100 min.	100 min.	100 min.	100 min.	100 min.	100 min.		per each formulation
— or —										
(b) High Pressure OIT	D 5885	400 min.	400 min.	400 min.	400 min.	400 min.	400 min.	400 min.		
Oven Aging at 85°C (7) (8)	D 5721	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %		20,000 lb
(a) Standard OIT (min. ave.) - % retained after 90 days	D 3895	55%	55%	55%	55%	55%	55%	55%		45,000 lb
— or —										
(b) High Pressure OIT (min. ave.) - % retained after 90 days	D 5885	80%	80%	80%	80%	80%	80%	80%		per each formulation
UV Resistance (9)	GM11									
(a) Standard OIT (min. ave.)	D 3895	N.R. (10)	N.R. (10)	N.R. (10)	N.R. (10)	N.R. (10)	N.R. (10)	N.R. (10)		per each formulation
— or —										
(b) High Pressure OIT (min. ave.) - % retained after 1600 kJ (11)	D 5885	50%	50%	50%	50%	50%	50%	50%		

(1) Of 10 readings; 8 out of 10 must be ≥ 7 mils, and lowest individual reading must be ≥ 5 mils
(2) Alternate the measurement side for double sided textured sheet
(3) Machine direction (MD) and cross machine direction (CMD) average values should be on the basis of 5 per specimens each direction
Yield elongation is calculated using a gage length of 1.3 inches
Break elongation is calculated using a gage length of 2.0 inches
(4) The SP-NCTL test is not appropriate for testing geomembranes with textured or irregular rough surfaces. Test should be conducted on smooth edges of textured rolls or on smooth sheets aside from the same formulation as being used for the textured sheet materials.
The yield stress used to calculate the applied load for the SP-NCTL test should be the manufacturer's mean value via MQC testing.
(5) Other methods such as D 4218 (muffle furnace) or microwave methods are acceptable if an appropriate correlation to D 1603 (tube furnace) can be established.
(6) Carbon black dispersion (only near spherical agglomerates) for 10 different views:
• 9 in Categories 1 or 2 and 1 in Category 3
(7) The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content in the geomembrane.
It is also recommended to evaluate samples at 30 and 60 days to compare with the 90 day response.
(8) The conditions of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.
(9) Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV exposed sample.
(10) UV resistance is based on percent retained value regardless of the original HP-OIT value.
(11) UV resistance is based on percent retained value regardless of the original HP-OIT value.

GM13 – 9 of 13

rev. 4 – 12/13/00

Table 2(b) – High Density Polyethylene (HDPE) Geomembrane - Textured

SI (METRIC UNITS)

Properties	Test Method	Test Value						Testing Frequency (minimum)
Thickness min. (min. ave.)	D 5994	0.75 mm	1.00 mm	1.25 mm	1.50 mm	2.00 mm	2.50 mm	3.00 mm	per roll
• lowest individual for 8 out of 10 values		min. (-5%) -10%	min. (-5%) -10%	min. (-5%) -10%	min. (-5%) -10%	min. (-5%) -10%	min. (-5%) -10%	min. (-5%) -10%	
• lowest individual for any of the 10 values		-15%	-15%	-15%	-15%	-15%	-15%	-15%	
Asperity Height min. (min. ave.) (1)	GM 17	0.50 mm	0.50 mm	0.50 mm	0.50 mm	0.50 mm	0.50 mm	0.50 mm	every 2nd roll (2)
Density (min. ave.)	D 1505/D 792	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	0.940 g/cc	20,000 kg
Tensile Properties (min. ave.) (3)	D 638 Type IV								5,000 kg
• yield strength		11 kN/m	15 kN/m	19 kN/m	22 kN/m	29 kN/m	37 kN/m	44 kN/m	
• break strength		8 kN/m	11 kN/m	13 kN/m	16 kN/m	24 kN/m	32 kN/m	32 kN/m	
• yield elongation		12%	12%	12%	12%	12%	12%	12%	
• break elongation		100%	100%	100%	100%	100%	100%	100%	
Tear Resistance (min. ave.)	D 1004	31 N	56 N	83 N	111 N	167 N	222 N	278 N	20,000 kg
Puncture Resistance (min. ave.)	D 4833	42 N	60 N	93 N	125 N	187 N	249 N	311 N	20,000 kg
Stress Crack Resistance (4)	D 5397 (App.)	300 hr.	300 hr.	300 hr.	300 hr.	300 hr.	300 hr.	300 hr.	per GRI GM10
Carbon Black Content (range)	D 1603 (7)	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	2.0-3.0 %	5,000 kg
Carbon Black Dispersion	D 5596	note (5)	note (5)	note (5)	note (5)	note (5)	note (5)	note (5)	20,000 kg
Oxidative Induction Time (OIT) (min. ave.) (7)									240,000 kg
(a) Standard OIT	D 3895	100 min.	100 min.	100 min.	100 min.	100 min.	100 min.	100 min.	
— or —									
(b) High Pressure OIT	D 5885	400 min.	400 min.	400 min.	400 min.	400 min.	400 min.	400 min.	
Oven Aging at 85°C (5) (6)	D 5721								
(a) Standard OIT (min. ave.) – % retained after 90 days	D 3895	55%	55%	55%	55%	55%	55%	55%	per resin formulation
— or —									
(b) High Pressure OIT (min. ave.) – % retained after 90 days	D 5885	80%	80%	80%	80%	80%	80%	80%	
UV Resistance (8)	GM11								
(a) Standard OIT (min. ave.)	D 3895	N.R. (10)	N.R. (10)	N.R. (10)	N.R. (10)	N.R. (10)	N.R. (10)	N.R. (10)	per resin formulation
— or —									
(b) High Pressure OIT (min. ave.) – % retained after 1600 hrs (9) (1)	D 5885	50%	50%	50%	50%	50%	50%	50%	

(1) Of 10 readings, 8 out of 10 must be ≥ 0.50 mm, and lowest individual reading must be ≥ 0.13 mm
(2) Alternate the measurements side for double sided textured sheet
(3) Machine direction (MD) and cross machine direction (CMD) average values should be on the basis of 5 test specimens each direction.
Yield elongation is calculated using a gage length of 33 mm
Break elongation is calculated using a gage length of 50 mm
(4) The SP-NCTL test is not appropriate for testing geomembranes with textured or irregular rough surfaces. Test should be conducted on smooth edge of textured rolls or on smooth shave made from the outer wrap of roll.
(5) Carbon black dispersion (only near spherical agglomerates) for 10 different views:
• 8 in Categories 1 or 2 and 2 in Category 3
(6) The manufacturer has the option to select either one of the OIT methods listed to evaluate the antioxidant content of the geomembrane.
(7) Other methods such as D 4218 (muffle furnace) or volumetric methods are acceptable if an appropriate correlation to D 1603 (tube furnace) can be established.
(8) The yield stress used to calculate the applied load for the SP-NCTL test should be the manufacturer's mean value, not MQC testing.
(9) It is also recommended to perform samples at 20 and 60 days in accordance with the 90 day exposure.
(10) The condition of the test should be 20 hr. UV cycle at 75°C followed by 4 hr. condensation at 60°C.
(11) The recommended above the high temperature of the Std-OIT test procedure as amendable result for some of the geosynthetics in the UV exposed samples.
(12) UV resistance is based on percent retained value regardless of the original MP-OIT value.



Groundwater Monitor Well	Historical High Water Level (m.s.l.)	Date
MW-1S	10.43	2/15/2022
MW-1D	10.09	9/17/2007
MW-2S	10.15	3/9/2009
MW-2D	7.33	2/15/2022
MW-5RS	4.46	9/10/2025
MW-5D	5.55	2/25/2026
MW-9R	4.78	6/30/1997
MW-10S	3.25	9/30/2008
MW-10D	4.17	3/19/2008
MW-11S	8.76	2/22/2018
MW-12S	3.28	9/20/2007
MW-12D	3.06	9/20/2007
MW-21S	7.40	2/15/2022
MW-21D	7.22	2/15/2022
MW-22S	8.23	2/15/2022
MW-22D	8.18	8/16/2022
MW-23S	5.96	2/16/2022
MW-23D	6.74	8/7/2024
MW-24S	5.20	2/19/2015

Groundwater Monitor Well	Historical High Water Level (m.s.l.)	Date
MW-24D	4.26	2/11/2025
MW-25S	2.84	5/6/2010
MW-25D	2.34	2/17/2022
MW-26S	4.63	8/7/2024
MW-26D	2.73	2/8/2011
MW-27S	2.71	2/17/2022
MW-27D	2.31	2/17/2022
EP-2S	11.58	2/10/2011
EP-2D	11.43	2/10/2011
EP-7S	11.79	9/17/2007
EP-7D	11.28	3/28/2007
EP-9D	8.70	8/7/2019
EP-12D	6.04	2/12/2023

NOTES:

1. ALL LINER GRADES SHOWN ARE TOP OF LINER ELEVATIONS.
2. THE EXISTING BASE GRADE FOR SECTORS 1-7, 18-40, 41-43 ARE FROM CDM, FIGURE 3-5 DATED 8/26/94.
3. GRID SYSTEM BASED ON STATE PLANE COORDINATES PROVIDED BY AMBIOTEC CIVIL ENGINEERING GROUP SEPT. 2001.
4. EXISTING TOPOGRAPHY OUTSIDE OF LIMIT OF LANDFILL PROVIDED BY I.F. ROOKS & ASSOCIATES, INC. DATED 11/13/2026.

LEGEND

- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- BUFFER ZONE
- EXISTING CONTOUR OR BASE GRADE
- PROPOSED LINER GRADE
- LIMIT OF LANDFILL
- LEACHATE COLLECTION TRENCH
- LEACHATE SUMP AND RISER PIPE
- GAS MONITORING PROBE
- POINT-OF-COMPLIANCE MONITORING WELL
- SHALLOW AND DEEP POINT-OF-COMPLIANCE MONITORING WELL
- UPGRADIENT MONITORING WELL
- GROUNDWATER CONTOUR

400' 0 400'

SCALE: 1" = 400'

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED PROFESSIONAL ENGINEER
06/29/2026

DRAWING TITLE: HISTORICAL HIGH GROUNDWATER MAP

PROJECT TITLE: GROUNDWATER MAP

REV	DATE	DESCRIPTION
6		

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3937

CLIENT: CITY OF BROWNSVILLE MUNICIPAL LANDFILL
PERMIT NO. MSW-1273A
BROWNSVILLE, CAMERON COUNTY, TEXAS

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
12911 BRIAR FOREST, SUITE 225, HOUSTON, TX 77077
PH (281) 597-8757 FAX NO. (281) 293-1976

PROJ. NO. 06222068.08
DES. EP
DRN. EP
CHK. EP
APP. EP
SCALE AS SHOWN

CADD FILE: HISTORICAL HIGH GW MAP-REV 2026

DATE: 06/2026

SCALE: AS SHOWN

DRAWING NO. 1

Groundwater Monitor Well	Current Water Level (m.s.l.)	Date
MW-1S	6.54	2/24/2026
MW-1D	6.49	2/24/2026
MW-2S	1.69	2/24/2026
MW-2D	4.86	2/24/2026
MW-5RS	4.38	2/25/2026
MW-5D	5.55	2/25/2026
MW-9R	0.60	2/26/2026
MW-10S	-1.42	2/26/2026
MW-10D	0.74	2/26/2026
MW-11S	2.45	2/25/2026
MW-12S	0.78	2/26/2026
MW-12D	0.56	2/26/2026
MW-21S	4.62	2/24/2026
MW-21D	4.58	2/25/2026
MW-22S	4.75	2/24/2026
MW-22D	5.01	2/24/2026
MW-23S	5.34	2/24/2026
MW-23D	5.17	2/25/2026
MW-24S	2.13	2/25/2026

Groundwater Monitor Well	Current Water Level (m.s.l.)	Date
MW-24D	1.71	2/25/2026
MW-25S	1.30	2/26/2026
MW-25D	0.95	2/26/2026
MW-26S	3.46	2/25/2026
MW-26D	1.32	2/25/2026
MW-27S	0.87	2/26/2026
MW-27D	0.52	2/26/2026
EP-2S	6.94	2/24/2026
EP-2D	6.78	2/24/2026
EP-7S	4.44	2/25/2026
EP-7D	4.54	2/24/2026
EP-9D	2.77	2/24/2026
EP-12D	0.84	2/26/2026

NOTES:

1. ALL LINER GRADES SHOWN ARE TOP OF LINER ELEVATIONS.
2. THE EXISTING BASE GRADE FOR SECTORS 1-7, 18-40, 41-43 ARE FROM CDM, FIGURE 3-5 DATED 8/26/94.
3. GRID SYSTEM BASED ON STATE PLANE COORDINATES PROVIDED BY AMBIOTEC CIVIL ENGINEERING GROUP SEPT. 2001.
4. EXISTING TOPOGRAPHY OUTSIDE OF LIMIT OF LANDFILL PROVIDED BY I.F. ROOKS & ASSOCIATES, INC. DATED 11/13/2025.

LEGEND

- PROPERTY BOUNDARY
- PERMIT BOUNDARY
- BUFFER ZONE
- EXISTING CONTOUR OR BASE GRADE
- PROPOSED LINER GRADE
- LIMIT OF LANDFILL
- LEACHATE COLLECTION TRENCH
- LEACHATE SUMP AND RISER PIPE
- GAS MONITORING PROBE
- POINT-OF-COMPLIANCE MONITORING WELL
- SHALLOW AND DEEP POINT-OF-COMPLIANCE MONITORING WELL
- UPGRADIENT MONITORING WELL
- GROUNDWATER CONTOUR

400' 0 400'

SCALE: 1" = 400'

STATE OF TEXAS
RICARDO JOSE ESPINOZA MATUTE
159513
LICENSED
PROFESSIONAL ENGINEER
06/29/2026

REV	DATE	DESCRIPTION	BY

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407

DRAWING TITLE: CURRENT GROUNDWATER MAP

PROJECT TITLE: GROUNDWATER MAP

CLIENT: CITY OF BROWNSVILLE MUNICIPAL LANDFILL
PERMIT NO. MSW-1273A
BROWNSVILLE, CAMERON COUNTY, TEXAS

SCS ENGINEERS
STEARNS, CONRAD AND SCHMIDT
CONSULTING ENGINEERS
3900 BRIAR FOREST, SUITE 200, HOUSTON, TX 77027
PH (281) 367-6947 FAX NO. (281) 293-1978

PROJ. NO. 192503.08

DES. BY: JMG

DRN. BY: RJE

CHK. BY: JCM

CADD FILE: CURRENT GROUNDWATER MAP-REV 2026

DATE: 06/2026

SCALE: AS SHOWN

DRAWING NO. 2

6/29/2026 9:44 AM Z:\MSW\Projects\Brownsville\CLOSURE\Plots\Current Groundwater Map-rev 2026

Table 1
GROUNDWATER ELEVATION DATA
City of Brownsville Municipal Landfill — FM 511 and FM 802 — Brownsville, Texas 78550

Location	Date	Top of Casing Elevation (feet)	Depth To Groundwater (feet)	Groundwater Elevation (feet)
MW-1S	6/30/1997	18.94	9.55	9.39
10.43	12/4/1997	18.94	9.57	9.37
	3/10/1998	18.94	10.4	8.54
	6/3/1998	18.94	11.05	7.89
	2/8/1999	18.94	11.05	7.89
	7/13/1999	18.94	10.08	8.86
	10/25/1999	18.94	12.14	6.8
	1/31/2000	18.94	12.25	6.69
	8/10/2000	18.94	15.05	3.89
	3/7/2001	18.94	15.37	3.57
	8/25/2001	18.94	15.22	3.72
	2/28/2002	18.94	15.53	3.41
	8/28/2002	18.94	15.25	3.69
	2/24/2003	18.94	10.84	8.1
	8/25/2003	18.94	13.98	4.96
	2/24/2004	18.94	13.2	5.74
	6/22/2004	18.94	10.05	8.89
	8/30/2004	18.94	12.38	6.56
	1/10/2005	18.94	10.71	8.23
	3/28/2005	18.94	11.88	7.06
	6/13/2005	18.94	14.5	4.44
	9/13/2005	18.94	11.53	7.41
	12/27/2005	18.94	12.4	6.54
	3/16/2006	18.94	10	8.94
	9/5/2006	18.94	12.83	6.11
	3/31/2007	18.94	10.45	8.49
	9/17/2007	18.94	8.85	10.09
	3/19/2008	18.94	11.35	7.59
	9/3/2008	18.94	10.75	8.19
	3/9/2009	18.94	11.65	7.29
	8/4/2009	18.94	14.93	4.01
	5/3/2010	18.94	11.7	7.24
	8/3/2010	18.94	10.86	8.08
	11/10/2010	18.94	10.82	8.12
	2/10/2011	18.94	11.62	7.32
	5/19/2011	18.94	13.01	5.93
	8/17/2011	18.94	12.05	6.89
	11/14/2011	18.94	13.02	5.92
	2/16/2012	18.94	11.28	7.66
	8/9/2012	18.94	12.36	6.58
	2/12/2013	18.94	13.52	5.42
	8/26/2013	18.94	14.27	4.67
	2/18/2014	18.94	13.75	5.19
	8/19/2014	18.94	13.3	5.64
	2/17/2015	18.94	13.7	5.24
	8/3/2015	18.94	11.4	7.54
	2/23/2016	18.94	10.44	8.5
	8/9/2016	18.94	12.46	6.48
	2/14/2017	18.94	12.7	6.24
	8/10/2017	18.94	13.94	5
	2/22/2018	18.94	12.7	6.24
	8/7/2018	18.94	12.62	6.32
	2/12/2019	18.94	11.65	7.29
	8/6/2019	18.94	10.81	8.13
	2/18/2020	18.94	12.18	6.76

	8/10/2020	18.94	17.4	1.54
	2/4/2021	18.94	12.53	6.41
	8/23/2021	18.94	10.15	8.79
	2/15/2022	18.94	8.51	10.43
	8/16/2022	18.94	12.34	6.6
	2/7/2023	18.94	11.19	7.75
	8/15/2023	18.94	12.97	5.97
	02/13/2024	15.66	10.42	5.24
	08/06/2024	15.66	8.46	7.2
	02/10/2025	15.66	7.12	8.54
	09/09/2025	15.66	8.11	7.55
	2/24/2026	15.66	9.12	6.54
MW-1D	2/24/2004	19.09	10.9	8.19
10.09	6/22/2004	19.09	10.48	8.61
	8/30/2004	19.09	12.34	6.75
	1/10/2005	19.09	11.32	7.77
	3/28/2005	19.09	12.22	6.87
	6/13/2005	19.09	14.31	4.78
	9/13/2005	19.09	13.71	5.38
	12/27/2005	19.09	12.5	6.59
	3/16/2006	19.09	12.9	6.19
	9/5/2006	19.09	12.77	6.32
	3/28/2007	19.09	10.45	8.49
	9/17/2007	19.09	8.85	10.09
	3/17/2008	19.09	11.4	7.69
	8/4/2008	19.09	15	4.09
	3/9/2009	19.09	11.86	7.23
	8/4/2009	19.09	15	4.09
	5/3/2010	19.09	11.67	7.42
	8/3/2010	19.09	11.11	7.98
	11/10/2010	19.09	11.03	8.06
	2/10/2011	19.09	11.9	7.19
	5/19/2011	19.09	13.85	5.24
	8/18/2011	19.09	12.3	6.79
	11/14/2011	19.09	13.27	5.82
	2/16/2012	19.09	11.58	7.51
	8/9/2012	19.09	13.45	5.64
	2/12/2013	19.09	13.8	5.29
	8/26/2013	19.09	14.35	4.74
	2/18/2014	19.09	14	5.09
	8/19/2014	19.09	14.65	4.44
	2/17/2015	19.09	10.85	8.24
	8/3/2015	19.09	11.83	7.26
	2/23/2016	19.09	10.23	8.86
	8/9/2016	19.09	17.41	1.68
	2/15/2017	19.09	13.6	5.49
	8/10/2017	19.09	14.1	4.99
	2/22/2018	19.09	13.54	5.55
	8/7/2018	19.09	13	6.09
	2/12/2019	19.09	11.78	7.31
	8/6/2019	19.09	11.13	7.96
	2/18/2020	19.09	12.35	6.74
	8/10/2020	19.09	11.24	7.85
	2/1/2021	19.09	12.73	6.36
	8/23/2021	19.09	10.65	8.44
	2/15/2022	19.09	9.28	9.81
	8/16/2022	19.09	11.87	7.22
	2/7/2023	19.09	11.32	7.77
	8/15/2023	19.09	13.2	5.89
	02/13/2024	16.03	11.54	4.49
	08/06/2024	16.03	8.85	7.18

	02/10/2025	16.03	7.1	8.93
	09/09/2025	16.03	8.42	7.61
	2/24/2026	16.03	9.54	6.49
MW-2S	6/30/1997	20.45	16.16	4.29
10.15	12/4/1997	20.45	16.12	4.33
	3/10/1998	20.45	13.74	6.71
	6/3/1998	20.45	16.5	3.95
	2/8/1999	20.45	16.51	3.94
	7/13/1999	20.45	16.35	4.1
	10/25/1999	20.45	16.7	3.75
	1/31/2000	20.45	16.95	3.5
	8/10/2000	20.45	17.28	3.17
	3/7/2001	20.45	17.6	2.85
	8/25/2001	20.45	17.95	2.5
	2/28/2002	20.45	17.9	2.55
	8/28/2002	20.45	18.2	2.25
	2/24/2003	20.45	16.86	3.59
	8/25/2003	20.45	17.25	3.2
	2/24/2004	20.45	16.2	4.25
	6/22/2004	20.45	15.74	4.71
	8/30/2004	20.45	16.16	4.29
	1/12/2005	20.45	15.15	5.3
	3/28/2005	20.45	15.72	4.73
	6/13/2005	20.45	16.65	3.8
	9/13/2005	20.45	13.85	6.6
	12/27/2005	20.45	16.28	4.17
	3/16/2006	20.45	16.6	3.85
	9/5/2006	20.45	16.19	4.26
	4/13/2007	20.45	15.1	5.35
	9/19/2007	20.45	13.75	6.7
	9/3/2008	20.45	15.15	5.3
	3/9/2009	20.45	10.3	10.15
	8/4/2009	20.45	16.22	4.23
	5/3/2010	20.45	16.17	4.28
	8/4/2010	20.45	14.65	5.8
	11/9/2010	20.45	14.76	5.69
	2/10/2011	20.45	15.28	5.17
	5/19/2011	20.45	15.98	4.47
	8/18/2011	20.45	15.74	4.71
	11/14/2011	20.45	16.4	4.05
	2/16/2012	20.45	15.83	4.62
	8/9/2012	20.45	16.65	3.8
	2/12/2013	20.45	16.86	3.59
	8/26/2013	20.45	17.5	2.95
	2/18/2014	20.45	17.9	2.55
	8/19/2014	20.45	17	3.45
	2/17/2015	20.45	18.1	2.35
	8/4/2015	20.45	15.2	5.25
	2/23/2016	20.45	14.22	6.23
	8/9/2016	20.45	15.31	5.14
	2/14/2017	20.45	15.7	4.75
	8/10/2017	20.45	17	3.45
	2/22/2018	20.45	16.31	4.14
	8/7/2018	20.45	16.25	4.2
	2/12/2019	20.45	15.39	5.06
	8/6/2019	20.45	15.11	5.34
	2/18/2020	19.92	15.51	4.41
	8/10/2020	19.92	14.77	5.15
	2/2/2021	19.92	15.84	4.08
	8/23/2021	19.92	13.92	6
	2/15/2022	19.92	13.01	6.91

	8/16/2022	19.92	14.84	5.08
	2/7/2023	19.92	14.78	5.14
	8/15/2023	19.92	15.75	4.17
	02/13/2024	16.84	14.65	2.19
	08/07/2024	16.84	12.21	4.63
	02/11/2025	16.84	11.53	5.31
	09/09/2025	16.84	11.52	5.32
	2/24/2026	16.84	15.15	1.69
MW-2D	2/27/2004	20.61	16.19	4.42
7.33	6/22/2004	20.61	15.73	4.88
	8/30/2004	20.61	16.35	4.26
	1/13/2005	20.61	15.49	5.12
	3/28/2005	20.61	15.95	4.66
	6/13/2005	20.61	16.52	4.09
	9/13/2005	20.61	14.89	5.72
	12/27/2005	20.61	16.5	4.11
	3/16/2006	20.61	16.75	3.86
	9/5/2006	20.61	16.58	4.03
	3/29/2007	20.61	15.29	5.32
	9/19/2007	20.61	14.02	6.59
	3/17/2008	20.61	15.88	4.73
	9/8/2008	20.61	14.77	5.84
	3/9/2009	20.61	15.28	5.33
	8/4/2009	20.61	16.4	4.21
	5/3/2010	20.61	14.99	5.62
	8/3/2010	20.61	14.66	5.95
	11/10/2010	20.61	14.84	5.77
	2/10/2011	20.61	13.34	7.27
	5/19/2011	20.61	16.06	4.55
	8/18/2011	20.61	15.86	4.75
	11/14/2011	20.61	16.52	4.09
	2/16/2012	20.61	15.91	4.7
	8/9/2012	20.61	16.73	3.88
	2/12/2013	20.61	17.02	3.59
	8/26/2013	20.61	17.64	2.97
	2/18/2014	20.61	18.21	2.4
	8/19/2014	20.61	17.21	3.4
	2/17/2015	20.61	17.7	2.91
	8/4/2015	20.61	15	5.61
	2/23/2016	20.61	14.49	6.12
	8/9/2016	20.61	15.59	5.02
	2/15/2017	20.61	15.98	4.63
	8/10/2017	20.61	17.1	3.51
	2/22/2018	20.61	16.51	4.1
	8/7/2018	20.61	16.59	4.02
	2/12/2019	20.61	15.71	4.9
	8/6/2019	20.61	15.27	5.34
	2/18/2020	20.61	15.97	4.64
	8/10/2020	20.61	15.28	5.33
	2/2/2021	20.61	16.24	4.37
	8/23/2021	20.61	14.22	6.39
	2/15/2022	20.61	13.28	7.33
	8/16/2022	20.61	15.19	5.42
	2/7/2023	20.61	15.16	5.45
	8/15/2023	20.61	16.21	4.4
	02/13/2024	17.85	13.43	4.42
	08/06/2024	17.85	13.11	4.74
	02/11/2025	17.85	12.35	5.5
	09/09/2025	17.85	12.35	5.5
	2/24/2026	17.85	12.99	4.86
MW-6R	6/30/1997	21.7	18.5	3.2

4.46	1/5/1998	21.7	18.75	2.95
	3/10/1998	21.7	17.94	3.76
	6/3/1998	21.7	18.8	2.9
	2/8/1999	21.7	18.66	3.04
	7/13/1999	21.7	18.53	3.17
	10/25/1999	21.7	19.16	2.54
	1/31/2000	21.7	19.02	2.68
	4/27/2000	21.7	19.75	1.95
	8/10/2000	21.7	19.68	2.02
	3/7/2001	21.7	20.02	1.68
	8/25/2001	21.7	20.52	1.18
	2/25/2002	21.7	20.9	0.8
	8/28/2002	21.7	21.15	0.55
	2/24/2003	21.7	18.95	2.75
	8/25/2003	21.7	19.09	2.61
	2/27/2004	21.7	18.53	3.17
	6/30/2004	21.7	18.09	3.61
	8/31/2004	21.7	18.65	3.05
	1/13/2005	21.7	17.93	3.77
	3/29/2005	21.7	18.18	3.52
	6/14/2005	21.7	18.65	3.05
	9/13/2005	21.7	18.25	3.45
	12/27/2005	21.7	18.23	3.47
	3/16/2006	21.7	18.6	3.1
	9/5/2006	21.7	18.86	2.84
	3/31/2007	21.7	18	3.7
	9/19/2007	21.7	17.47	4.23
	3/18/2008	21.7	18.15	3.55
	9/8/2008	21.7	17.5	4.2
	3/10/2009	21.7	17.91	3.79
	8/5/2009	21.7	18.87	2.83
	5/3/2010	21.7	18.62	3.08
	8/4/2010	21.7	17.8	3.9
	11/9/2010	21.7	17.74	3.96
	2/9/2011	21.7	18.02	3.68
	5/18/2011	21.7	18.51	3.19
	8/17/2011	21.7	19.85	1.85
	11/9/2011	21.7	19.24	2.46
	2/15/2012	21.7	18.45	3.25
	8/8/2012	21.7	19.07	2.63
	2/13/2013	21.7	19.82	1.88
	8/27/2013	21.7	20.71	0.99
	2/19/2014	21.7	21.15	0.55
	8/20/2014	21.7	22.91	-1.21
	2/19/2015	21.7	18.41	3.29
	8/4/2015	21.7	18.2	3.5
	2/24/2016	21.7	18.07	3.63
	8/10/2016	21.7	19.1	2.6
	2/16/2017	21.7	19.15	2.55
	8/9/2017	21.7	20	1.7
	2/21/2018	21.7	18.81	2.89
	8/8/2018	21.7	18.6	3.1
	2/14/2019	21.7	18.47	3.23
	8/7/2019	21.7	17.82	3.88
	2/19/2020	21.71	18.24	3.47
	8/12/2020	21.71	18.37	3.34
	2/3/2021	21.71	19.09	2.62
	8/24/2021	21.71	17.97	3.74
	2/16/2022	21.71	17.53	4.18
	8/17/2022	21.71	18.56	3.15
	2/8/2023	21.71	17.87	3.84

	8/16/2023	21.71	18.85	2.86
	02/14/2024	17.96	14.44	3.52
	08/07/2024	17.96	14.81	3.15
	02/11/2025	17.96	14.04	3.92
	09/10/2025	17.96	13.5	4.46
	2/25/2026	17.96	13.58	4.38
MW-5D	2/24/2004	22.83	20.11	2.72
5.55	6/30/2004	22.83	19.72	3.11
	8/31/2004	22.83	20.32	2.51
	1/13/2005	22.83	19.56	3.27
	3/29/2005	22.83	19.79	3.04
	6/14/2005	22.83	20.73	2.1
	9/13/2005	22.83	19.9	2.93
	12/27/2005	22.83	19.97	2.86
	3/16/2006	22.83	20.2	2.63
	9/5/2006	22.83	20.9	1.93
	4/13/2007	22.83	19.74	3.09
	9/19/2007	22.83	19.13	3.7
	3/18/2008	22.83	19.8	3.03
	9/9/2008	22.83	18.99	3.84
	3/10/2009	22.83	19.6	3.23
	8/5/2009	22.83	20.55	2.28
	5/3/2010	22.83	19.58	3.25
	8/4/2010	22.83	19.43	3.4
	11/9/2010	22.83	19.37	3.46
	2/9/2011	22.83	19.5	3.33
	5/18/2011	22.83	21	1.83
	8/17/2011	22.83	21	1.83
	11/9/2011	22.83	20.97	1.86
	2/15/2012	22.83	20.41	2.42
	8/8/2012	22.83	20.95	1.88
	2/13/2013	22.83	21.55	1.28
	8/27/2013	22.83	22.11	0.72
	2/19/2014	22.83	23	-0.17
	8/20/2014	22.84	21.78	1.06
	2/18/2015	22.83	20.35	2.48
	8/4/2015	22.83	20.16	2.67
	2/24/2016	22.83	19.78	3.05
	8/10/2016	22.83	21	1.83
	2/16/2017	22.83	21	1.83
	8/9/2017	22.83	21.62	1.21
	2/20/2018	22.83	20.61	2.22
	8/8/2018	22.83	20.3	2.53
	2/13/2019	22.83	21.1	1.73
	8/8/2019	22.83	20.22	2.61
	2/19/2020	22.83	19.92	2.91
	8/12/2020	22.83	20.19	2.64
	2/3/2021	22.83	20.78	2.05
	8/24/2021	22.83	19.65	3.18
	2/16/2022	22.83	19.22	3.61
	8/17/2022	22.83	20.27	2.56
	2/8/2023	22.83	19.52	3.31
	8/16/2023	22.83	20.76	2.07
	02/14/2024	20.28	17.01	3.27
	08/07/2024	20.28	17.17	3.11
	02/11/2025	20.28	16.85	3.43
	09/10/2025	20.28	16.25	4.03
	2/25/2026	20.28	14.73	5.55
MW-9R	6/30/1997	18.36	13.58	4.78
4.78	1/5/1998	18.36	14.03	4.33
	3/10/1998	18.36	17.44	0.92

6/3/1998	18.36	18	0.36
2/8/1999	18.36	16.58	1.78
7/13/1999	18.36	15.93	2.43
10/25/1999	18.36	16.92	1.44
1/31/2000	18.36	17.85	0.51
4/27/2000	18.36	17.85	0.51
8/10/2000	18.36	18.94	-0.58
3/7/2001	18.36	18.74	-0.38
8/25/2001	18.36	18.63	-0.27
2/28/2002	18.36	19.08	-0.72
8/28/2002	18.36	19.84	-1.48
2/24/2003	18.36	15.5	2.86
8/25/2003	18.36	17.78	0.58
3/1/2004	18.36	17.03	1.33
6/29/2004	18.36	16.33	2.03
8/8/2004	18.36	16.79	1.57
1/13/2005	18.36	16.71	1.65
3/30/2005	18.36	16.55	1.81
6/16/2005	18.36	17.88	0.48
9/15/2005	18.36	16.74	1.62
12/28/2005	18.36	17.27	1.09
3/17/2006	18.36	17.8	0.56
9/6/2006	18.36	17.72	0.64
3/31/2007	18.36	16.3	2.06
9/20/2007	18.36	15.22	3.14
3/19/2008	18.36	17.45	0.91
9/30/2008	18.36	15.24	3.12
3/10/2009	18.36	16.87	1.49
8/6/2009	18.36	18.5	-0.14
5/4/2010	18.36	17.5	0.86
8/5/2010	18.36	16.55	1.81
11/9/2010	18.36	16.8	1.56
2/9/2011	18.36	17.48	0.88
5/17/2011	18.36	18.25	0.11
8/16/2011	18.36	17.8	0.56
11/8/2011	18.36	18.17	0.19
2/14/2012	18.36	16.53	1.83
8/7/2012	18.36	17.46	0.9
2/14/2013	18.36	18.19	0.17
8/28/2013	18.36	18.6	-0.24
2/20/2014	18.36	19.8	-1.44
8/22/2014	18.36	18.37	-0.01
2/18/2015	18.36	17	1.36
8/5/2015	18.36	17.48	0.88
2/25/2016	18.36	17.3	1.06
8/9/2016	18.36	18	0.36
2/15/2017	18.36	17.75	0.61
8/8/2017	18.36	18.2	0.16
2/20/2018	18.36	17.49	0.87
8/9/2018	18.36	17.5	0.86
2/14/2019	18.36	17.34	1.02
8/8/2019	18.36	16.75	1.61
2/20/2020	18.36	17.53	0.83
8/17/2020	18.36	16.58	1.78
2/4/2021	18.36	17.54	0.82
8/25/2021	18.36	16.67	1.69
2/17/2022	18.36	15.69	2.67
8/18/2022	18.36	18.87	-0.51
2/9/2023	18.36	16.96	1.4
8/17/2023	18.36	18.26	0.1
02/15/2024	16.27	15.17	1.1

	08/08/2024	16.27	14.65	1.62
	02/12/2025	16.27	14.6	1.67
	09/11/2025	16.27	14.51	1.76
	2/26/2026	16.27	15.67	0.6
MW-10S	6/30/1997	17.68	15.58	2.1
3.25	12/4/1997	17.68	15.56	2.12
	3/10/1998	17.68	15.2	2.48
	6/3/1998	17.68	16.9	0.78
	2/8/1999	17.68	15.76	1.92
	7/13/1999	17.68	15.32	2.36
	10/25/1999	17.68	16.15	1.53
	1/31/2000	17.68	16.82	0.86
	8/10/2000	17.68	17.79	-0.11
	3/7/2001	17.68	17.58	0.1
	8/25/2001	17.68	17.24	0.44
	2/28/2002	17.68	17.77	-0.09
	8/28/2002	17.68	18.35	-0.67
	2/24/2003	17.68	15.72	1.96
	8/25/2003	17.68	16.86	0.82
	3/1/2004	17.68	16.38	1.3
	6/29/2004	17.68	15.6	2.08
	9/8/2004	17.68	16.03	1.65
	1/13/2005	17.68	16.01	1.67
	3/30/2005	17.68	15.67	2.01
	6/15/2005	17.68	16.99	0.69
	9/15/2005	17.68	15.85	1.83
	12/28/2005	17.68	16.57	1.11
	3/17/2006	17.68	16.8	0.88
	9/6/2006	17.68	16.92	0.76
	4/13/2007	17.68	16.26	1.48
	9/20/2007	17.68	14.67	3.01
	3/19/2008	17.68	16.52	1.16
	9/30/2008	17.68	14.43	3.25
	3/11/2009	17.68	16.31	1.37
	8/6/2009	17.68	17.65	0.03
	5/5/2010	17.68	16.4	1.28
	8/5/2010	17.68	15.82	1.86
	11/8/2010	17.68	16.19	1.49
	2/8/2011	17.68	16.73	0.95
	5/17/2011	17.68	17.22	0.46
	8/16/2011	17.68	16.88	0.8
	11/8/2011	17.68	18.19	-0.51
	2/14/2012	17.68	15.87	1.81
	8/7/2012	17.68	16.5	1.18
	2/14/2013	17.68	17.28	0.4
	8/28/2013	17.68	17.35	0.33
	2/20/2014	17.68	19.1	-1.42
	8/21/2014	17.68	19.84	-2.16
	2/19/2015	17.68	16.4	1.28
	8/5/2015	17.68	16.5	1.18
	2/25/2016	17.68	16.48	1.2
	8/11/2016	17.68	17.06	0.62
	2/15/2017	17.68	16.87	0.81
	8/8/2017	17.68	17.3	0.38
	2/21/2018	17.68	15.2	2.48
	8/8/2018	17.68	16.1	1.58
	2/14/2019	17.68	16.54	1.14
	8/8/2019	17.68	15.77	1.91
	2/20/2020	17.68	16.58	1.1
	8/17/2020	17.68	15.99	1.69
	2/4/2021	17.68	16.7	0.98

	8/24/2021	17.68	15.74	1.94
	2/17/2022	17.68	15.14	2.54
	8/17/2022	17.68	16.66	1.02
	2/9/2023	17.68	18.33	-0.65
	8/17/2023	17.68	19.4	-1.72
	02/15/2024	14.27	14.82	-0.55
	08/08/2024	14.27	14.57	-0.3
	02/12/2025	14.27	14.71	-0.44
	09/11/2025	14.27	14.41	-0.14
	2/26/2026	14.27	15.69	-1.42
MW-10D	3/1/2004	19.77	18.34	1.43
4.17	6/29/2004	19.77	17.7	2.07
	9/8/2004	19.77	18.2	1.57
	1/13/2005	19.77	18.17	1.6
	3/30/2005	19.77	17.78	1.99
	6/16/2005	19.77	19.09	0.68
	9/15/2005	19.77	17.95	1.82
	12/28/2005	19.77	18.63	1.14
	3/17/2006	19.77	19.13	0.64
	9/6/2006	19.77	18.97	0.8
	3/29/2007	19.77	17.58	2.19
	9/20/2007	19.77	16.66	3.11
	3/19/2008	19.77	15.6	4.17
	9/30/2008	19.77	16.64	3.13
	3/11/2009	19.77	18.45	1.32
	8/6/2009	19.77	19.65	0.12
	5/4/2010	19.77	18.44	1.33
	8/5/2010	19.77	18.19	1.58
	11/8/2010	19.77	18.5	1.27
	2/8/2011	19.77	18.79	0.98
	5/17/2011	19.77	19.3	0.47
	8/16/2011	19.77	18.96	0.81
	11/8/2011	19.77	19.31	0.46
	2/14/2012	19.77	17.9	1.87
	8/7/2012	19.77	18.6	1.17
	2/14/2013	19.77	19.25	0.52
	8/28/2013	19.77	19.49	0.28
	2/20/2014	19.77	21.1	-1.33
	8/22/2014	19.77	21.8	-2.03
	2/19/2015	19.77	21.52	-1.75
	8/5/2015	19.77	18.53	1.24
	2/25/2016	19.77	18.6	1.17
	8/11/2016	19.77	20.16	-0.39
	2/16/2017	19.77	19.2	0.57
	8/8/2017	19.77	19.28	0.49
	2/20/2018	19.77	18.33	1.44
	8/8/2018	19.77	18.31	1.46
	2/14/2019	19.77	18.72	1.05
	8/8/2019	19.77	18.08	1.69
	2/20/2020	19.77	18.76	1.01
	8/17/2020	19.77	17.9	1.87
	2/3/2021	19.77	15.67	4.1
	8/23/2021	19.77	17.66	2.11
	2/17/2022	19.77	17.23	2.54
	8/16/2022	19.77	18.54	1.23
	2/8/2023	19.77	18.3	1.47
	8/17/2023	19.77	19.3	0.47
	02/15/2024	17	15.49	1.51
	08/07/2024	17	15.12	1.88
	02/12/2025	17	15.31	1.69
	09/11/2025	17	15.97	1.03

	2/26/2026	17	16.26	0.74
MW-11S	6/30/1997	18.95	13.42	5.53
8.76	12/4/1997	18.95	13.39	5.56
	3/10/1998	18.95	15.96	2.99
	6/3/1998	18.95	15.97	2.98
	2/8/1999	18.95	11.89	7.06
	7/13/1999	18.95	11.98	6.97
	10/25/1999	18.95	14.67	4.28
	1/31/2000	18.95	16.25	2.7
	8/10/2000	18.95	17.37	1.58
	3/7/2001	18.95	17.7	1.25
	8/25/2001	18.95	17.67	0.58
	2/28/2002	18.95	18.19	0.76
	8/28/2002	18.95	18.76	0.19
	2/24/2003	18.95	15.69	3.26
	8/25/2003	18.95	17.21	1.74
	3/1/2004	18.95	15.15	3.8
	6/29/2004	18.95	14.38	4.57
	9/1/2004	18.95	16.09	2.86
	1/10/2005	18.95	15.32	3.63
	3/30/2005	18.95	15.75	3.2
	6/15/2005	18.95	16.65	2.3
	9/15/2005	18.95	15.13	3.82
	12/28/2005	18.95	23.38	-4.43
	3/17/2006	18.95	16.8	2.15
	9/6/2006	18.95	17.17	1.78
	4/13/2007	18.95	16.32	2.63
	9/20/2007	18.95	12.38	6.57
	3/19/2008	18.95	16	2.95
	9/30/2008	18.95	10.94	8.01
	3/9/2009	18.95	15.7	3.25
	8/5/2009	18.95	17.44	1.51
	5/4/2010	18.95	15.92	3.03
	8/4/2010	18.95	13.22	5.73
	11/10/2010	18.95	14.1	4.85
	2/9/2011	18.95	15.43	3.52
	5/18/2011	18.95	16.63	2.32
	8/17/2011	18.95	16.8	2.15
	11/9/2011	18.95	16.73	2.22
	2/15/2012	18.95	14.48	4.47
	8/9/2012	18.95	16.53	2.42
	2/13/2013	18.95	17.66	1.29
	8/27/2013	18.95	18.4	0.55
	2/19/2014	18.95	18.5	0.45
	8/20/2014	18.95	20.05	-1.1
	2/19/2015	18.95	15.25	3.7
	8/4/2015	18.95	13.72	5.23
	2/23/2016	18.95	14.13	4.82
	8/9/2016	18.95	16.21	2.74
	2/15/2017	18.95	16.85	2.1
	8/10/2017	18.95	17.85	1.1
	2/22/2018	18.95	10.19	8.76
	8/7/2018	18.95	12.5	6.45
	2/13/2019	18.95	15.41	3.54
	8/7/2019	18.95	10.52	8.43
	2/18/2020	18.95	16.09	2.86
	8/12/2020	18.95	16.09	2.86
	2/2/2021	18.95	15.47	3.48
	8/24/2021	18.95	14.32	4.63
	2/16/2022	18.95	11.88	7.07
	8/17/2022	18.95	16.09	2.86

	2/8/2023	18.95	15.56	3.39
	8/16/2023	18.95	16.8	2.15
	02/14/2024	15.02	6.41	8.61
	08/06/2024	15.02	9.37	5.65
	02/10/2025	15.02	10.76	4.26
	09/10/2025	15.02	10.27	4.75
	2/25/2026	15.02	12.57	2.45
MW-12S	3/1/2004	12.96	11.25	1.71
3.28	6/30/2004	12.96	10.7	2.26
	8/31/2004	12.96	12.23	0.73
	1/12/2005	12.96	10.82	2.14
	4/1/2005	12.96	10.9	2.06
	6/14/2005	12.96	12.28	0.68
	9/15/2005	12.96	10.87	2.09
	12/28/2005	12.96	11.65	1.31
	3/17/2006	12.96	11.6	1.36
	9/6/2006	12.96	11.9	1.06
	3/28/2007	12.96	10.59	2.37
	9/20/2007	12.96	9.68	3.28
	3/19/2008	12.96	12	0.96
	9/30/2008	12.96	10.01	2.95
	3/11/2009	12.96	11.49	1.47
	8/6/2009	12.96	12.81	0.15
	5/4/2010	12.96	11.54	1.42
	8/5/2010	12.96	11.11	1.85
	11/8/2010	12.96	11.43	1.53
	2/8/2011	12.96	11.91	1.05
	5/17/2011	12.96	12.49	0.47
	8/16/2011	12.96	12.29	0.67
	11/8/2011	12.96	12.68	0.28
	2/14/2012	12.96	11.55	1.41
	8/7/2012	12.96	11.76	1.2
	2/14/2013	12.96	12.62	0.34
	8/28/2013	12.96	12.5	0.46
	2/19/2014	12.96	14.6	-1.64
	8/21/2014	12.96	15.06	-2.1
	2/19/2015	12.96	14.18	-1.22
	8/5/2015	12.96	12.01	0.95
	2/25/2016	12.96	11.82	1.14
	8/11/2016	12.96	12.72	0.24
	2/14/2017	12.96	12.38	0.58
	8/8/2017	12.96	12.5	0.46
	2/20/2018	12.96	12.4	0.56
	8/9/2018	12.96	12.16	0.8
	2/14/2019	12.96	12.1	0.86
	8/8/2019	12.96	11.95	1.01
	2/20/2020	12.96	12.19	0.77
	8/17/2020	12.96	11.74	1.22
	2/8/2021	12.96	12.1	0.86
	8/25/2021	12.96	11.49	1.47
	2/17/2022	12.96	11.05	1.91
	8/18/2022	12.96	12.14	0.82
	2/9/2023	12.96	11.43	1.53
	8/17/2023	12.96	12.48	0.48
	02/15/2024	10.31	9.47	0.84
	08/08/2024	10.31	8.95	1.36
	02/12/2025	10.31	8.69	1.62
	09/11/2025	10.31	8.55	1.76
	2/26/2026	10.31	9.53	0.78
MW-12D	3/1/2004	12.99	10.89	2.1
3.06	6/30/2004	12.99	10.88	2.11

	8/31/2004	12.99	12.08	0.91
	1/12/2005	12.99	10.97	2.02
	4/1/2005	12.99	11.09	1.9
	6/14/2005	12.99	12.92	0.07
	9/15/2005	12.99	11.75	1.24
	12/28/2005	12.99	11.64	1.35
	3/17/2006	12.99	12.4	0.59
	9/6/2006	12.99	12.47	0.52
	3/28/2007	12.99	10.77	2.22
	9/20/2007	12.99	9.93	3.06
	3/19/2008	12.99	12.25	0.74
	9/29/2008	12.99	10.2	2.79
	3/11/2009	12.99	11.18	1.81
	8/6/2009	12.99	12.9	0.09
	5/4/2010	12.99	11.5	1.49
	8/5/2010	12.99	11.32	1.67
	11/8/2010	12.99	11.63	1.36
	2/8/2011	12.99	12.06	0.93
	5/17/2011	12.99	12.71	0.28
	8/16/2011	12.99	12.4	0.59
	11/8/2011	12.99	12.77	0.22
	2/14/2012	12.99	11.71	1.28
	8/7/2012	12.99	11.76	1.23
	2/14/2013	12.99	12.72	0.27
	8/28/2013	12.99	13.43	-0.44
	2/20/2014	12.99	14.45	-1.46
	8/22/2014	12.99	12.75	0.24
	2/18/2015	12.99	12.03	0.96
	8/5/2015	12.99	12.3	0.69
	2/25/2016	12.99	12.03	0.96
	8/11/2016	12.99	12.89	0.1
	2/14/2017	12.99	12.55	0.44
	8/8/2017	12.99	12.61	0.38
	2/20/2018	12.99	13.61	-0.62
	8/9/2018	12.99	12.41	0.58
	2/14/2019	12.99	12.51	0.48
	8/8/2019	12.99	12.22	0.77
	2/20/2020	12.99	12.43	0.56
	8/17/2020	12.99	12.43	0.56
	2/8/2021	12.99	12.41	0.58
	8/25/2021	12.99	11.82	1.17
	2/17/2022	12.99	11.32	1.67
	8/18/2022	12.99	12.25	0.74
	2/9/2023	12.99	11.66	1.33
	8/17/2023	12.99	12.51	0.48
	02/15/2024	10.75	10.16	0.59
	08/08/2024	10.75	9.82	0.93
	02/12/2025	10.75	9.47	1.28
	09/11/2025	10.75	9.24	1.51
	2/26/2026	10.75	10.19	0.56
MW-21S	5/5/2010	19.94	14.85	5.09
7.4	8/3/2010	19.94	14.56	5.38
	11/10/2010	19.94	14.66	5.28
	2/10/2011	19.94	15.03	4.91
	5/19/2011	19.94	15.9	4.04
	8/18/2011	19.94	15.8	4.14
	11/14/2011	19.94	16.39	3.55
	2/16/2012	19.94	15.27	4.67
	8/9/2012	19.94	16.41	3.53
	2/12/2013	19.94	17.04	2.9
	8/26/2013	19.94	17.75	2.19

	2/18/2014	19.94	18.3	1.64
	8/19/2014	19.94	17.21	2.73
	2/17/2015	19.94	15.12	4.82
	8/3/2015	19.94	15.62	4.32
	2/24/2016	19.94	14.77	5.17
	8/10/2016	19.94	15.43	4.51
	2/15/2017	19.94	15.87	4.07
	8/10/2017	19.94	17.25	2.69
	2/22/2018	19.94	16.42	3.52
	8/8/2018	19.94	16.84	3.1
	2/13/2019	19.94	15.9	4.04
	8/6/2019	19.94	15.49	4.45
	2/19/2020	19.94	15.93	4.01
	8/11/2020	19.94	14.8	5.14
	2/2/2021	19.94	16.25	3.69
	8/23/2021	19.94	14.01	5.93
	2/15/2022	19.94	12.54	7.4
	8/16/2022	19.94	14.85	5.09
	2/7/2023	19.94	15.24	4.7
	8/15/2023	19.94	16.29	3.65
	02/14/2024	17.12	13.74	3.38
	08/07/2024	17.12	12.67	4.45
	02/11/2025	17.12	12.38	4.74
	09/09/2025	17.12	12.23	4.89
	2/24/2026	17.12	12.5	4.62
MW-21D	5/5/2010	19.96	14.46	5.5
7.22	8/3/2010	19.96	14.66	5.3
	11/9/2010	19.96	14.73	5.23
	2/10/2011	19.96	15.11	4.85
	5/19/2011	19.96	16	3.96
	8/18/2011	19.96	15.9	4.06
	11/14/2011	19.96	16.5	3.46
	2/16/2012	19.96	15.4	4.56
	8/9/2012	19.96	16.51	3.45
	2/12/2013	19.96	17.17	2.79
	8/26/2013	19.96	17.91	2.05
	2/18/2014	19.96	18.3	1.66
	8/19/2014	19.96	17.35	2.61
	2/17/2015	19.96	17.71	2.25
	8/4/2015	19.96	15	4.96
	2/24/2016	19.96	14.77	5.19
	8/10/2016	19.96	15.55	4.41
	2/15/2017	19.96	16	3.96
	8/9/2017	19.96	17.45	2.51
	2/21/2018	19.96	16.6	3.36
	8/8/2018	19.96	17	2.96
	2/13/2019	19.96	16	3.96
	8/6/2019	19.96	14.72	5.24
	2/19/2020	20.16	16.08	4.08
	8/11/2020	20.16	14.95	5.21
	2/5/2021	20.16	16.48	3.68
	8/25/2021	20.16	14.41	5.75
	2/15/2022	20.16	12.94	7.22
	8/18/2022	20.16	15.34	4.82
	2/7/2023	20.16	15.51	4.65
	8/16/2023	20.2	16.5	3.7
	02/13/2024	17.21	13.46	3.75
	08/07/2024	17.21	12.84	4.37
	02/11/2025	17.21	12.56	4.65
	09/10/2025	17.21	12.45	4.76
	2/25/2026	17.21	12.63	4.58

MW-22S	5/6/2010	20.55	15.51	5.04
8.23	8/4/2010	20.55	15.38	5.17
	11/10/2010	20.55	15.5	5.05
	2/9/2011	20.55	15.78	4.77
	5/19/2011	20.55	16.88	3.67
	8/17/2011	20.55	16.92	3.63
	11/9/2011	20.55	17.43	3.12
	2/15/2012	20.55	16.25	4.3
	8/8/2012	20.55	17.39	3.16
	2/13/2013	20.55	18.26	2.29
	8/27/2013	20.55	18.95	1.6
	2/19/2014	20.55	19.3	1.25
	8/20/2014	20.55	19.3	1.25
	2/18/2015	20.55	15.77	4.78
	8/3/2015	20.55	15.9	4.65
	2/24/2016	20.55	15.55	5
	8/10/2016	20.55	16.54	4.01
	2/15/2017	20.55	16.28	4.27
	8/10/2017	20.55	18.4	2.15
	2/21/2018	20.55	17.3	3.25
	8/8/2018	20.55	17.56	2.99
	2/13/2019	20.55	16.85	3.7
	8/7/2019	20.55	14.5	6.05
	2/18/2020	20.55	16.88	3.67
	8/11/2020	20.55	14.31	6.24
	2/1/2021	20.55	16.99	3.56
	8/24/2021	20.55	13.96	6.59
	2/15/2022	20.55	12.32	8.23
	8/17/2022	20.55	15.87	4.68
	2/8/2023	20.55	15.78	4.77
	8/15/2023	20.55	17.13	3.42
	02/14/2024	17.52	13.74	3.78
	08/06/2024	17.52	12.62	4.9
	02/10/2025	17.52	12.71	4.81
	09/09/2025	17.52	12.1	5.42
	2/24/2026	17.52	12.77	4.75
MW-22D	5/6/2010	20.21	15.1	5.11
8.18	8/3/2010	20.21	14.97	5.24
	11/10/2010	20.21	15.13	5.08
	2/10/2011	20.21	15.57	4.64
	5/19/2011	20.21	16.53	3.68
	8/17/2011	20.21	16.55	3.66
	11/14/2011	20.21	17.11	3.1
	2/15/2012	20.21	15.98	4.23
	8/8/2012	20.21	17	3.21
	2/13/2013	20.21	17.99	2.22
	8/27/2013	20.21	18.71	1.5
	2/19/2014	20.21	19	1.21
	8/20/2014	20.21	17.86	2.35
	2/18/2015	20.21	15.38	4.83
	8/3/2015	20.21	15.31	4.9
	2/24/2016	20.21	14.92	5.29
	8/10/2016	20.21	15.99	4.22
	2/15/2017	20.21	16.5	3.71
	8/9/2017	20.21	17.87	2.34
	2/21/2018	20.21	16.95	3.26
	8/8/2018	20.21	17.29	2.92
	2/13/2019	20.21	16.55	3.66
	8/7/2019	20.21	14.45	5.76
	2/18/2020	20.51	16.59	3.92
	8/11/2020	20.51	16.59	3.92

	2/2/2021	20.51	16.9	3.61
	8/23/2021	20.51	13.62	6.89
	2/15/2022	20.51	12.33	8.18
	8/16/2022	20.51	12.33	8.18
	2/7/2023	20.51	15.08	5.43
	8/15/2023	20.51	16.7	3.81
	02/13/2024	17.39	13.29	4.1
	08/06/2024	17.39	11.6	5.79
	02/10/2025	17.39	12.09	5.3
	09/09/2025	17.39	11.34	6.05
	2/24/2026	17.39	12.38	5.01
MW-23S	5/6/2010	21.82	16.95	4.87
5.96	8/4/2010	21.82	16.7	5.12
	11/9/2010	21.82	17.12	4.7
	2/9/2011	21.82	17.45	4.37
	5/18/2011	21.82	18.27	3.55
	8/18/2011	21.82	17.88	3.94
	11/14/2011	21.82	18.57	3.25
	2/16/2012	21.82	17.4	4.42
	8/8/2012	21.82	18.75	3.07
	2/13/2013	21.82	19.65	2.17
	8/27/2013	21.82	20.13	1.69
	2/19/2014	21.82	20.7	1.12
	8/20/2014	21.82	19.55	2.27
	2/18/2015	21.82	17.54	4.28
	8/3/2015	21.82	16.67	5.15
	2/24/2016	21.82	17.03	4.79
	8/10/2016	21.82	18.25	3.57
	2/16/2017	21.82	18.1	3.72
	8/8/2017	21.82	19.38	2.44
	2/22/2018	21.82	18.65	3.17
	8/9/2018	21.82	18.46	3.36
	2/14/2019	21.82	17.9	3.92
	8/7/2019	21.82	16.71	5.11
	2/19/2020	22.34	18.58	3.76
	8/11/2020	22.34	17.59	4.75
	2/2/2021	22.34	18.66	3.68
	8/23/2021	22.34	16.88	5.46
	2/16/2022	22.34	16.38	5.96
	8/16/2022	22.34	17.57	4.77
	2/7/2023	22.34	17.57	4.77
	8/15/2023	22.34	18.29	4.05
	02/13/2024	19.03	15.02	4.01
	08/06/2024	19.03	14.26	4.77
	02/10/2025	19.03	14.26	4.77
	09/09/2025	19.03	13.82	5.21
	2/24/2026	19.03	13.69	5.34
MW-23D	5/6/2010	21.66	17	4.66
6.74	8/4/2010	21.66	16.93	4.73
	11/9/2010	21.66	16.99	4.67
	2/9/2011	21.66	17.4	4.26
	5/18/2011	21.66	18.05	3.61
	8/18/2011	21.66	18.1	3.56
	11/9/2011	21.66	18.77	2.89
	2/16/2012	21.66	17.38	4.28
	8/8/2012	21.66	18.82	2.84
	2/13/2013	21.66	19.45	2.21
	8/27/2013	21.66	20.2	1.46
	2/19/2014	21.66	20.9	0.76
	8/20/2014	21.66	19.68	1.98
	2/18/2015	21.66	17.77	3.89

	8/4/2015	21.66	17.25	4.41
	2/24/2016	21.66	17.18	4.48
	8/10/2016	21.66	17.81	3.85
	2/15/2017	21.66	18.6	3.06
	8/9/2017	21.66	19.57	2.09
	2/21/2018	21.66	18.8	2.86
	8/8/2018	21.66	18.72	2.94
	2/13/2019	21.66	18.01	3.65
	8/7/2019	21.66	17.02	4.64
	2/19/2020	22.26	18.83	3.43
	8/12/2020	22.26	17.89	4.37
	2/2/2021	22.26	18.81	3.45
	8/24/2021	22.26	17.08	5.18
	2/16/2022	22.26	16.72	5.54
	8/17/2022	22.26	17.8	4.46
	2/8/2023	22.26	17.74	4.52
	8/16/2023	22.26	18.47	3.79
	02/13/2024	18.9	15.17	3.73
	08/07/2024	18.9	12.16	6.74
	02/10/2025	18.9	14.48	4.42
	09/10/2025	18.9	14.14	4.76
	2/25/2026	18.9	13.73	5.17
MW-24S	5/6/2010	21.23	19.31	1.92
5.2	8/5/2010	21.23	18.44	2.79
	11/9/2010	21.23	18.74	2.49
	2/9/2011	21.23	18.9	2.33
	5/18/2011	21.23	19.81	1.42
	8/17/2011	21.23	20.27	0.96
	11/9/2011	21.23	20.17	1.06
	2/15/2012	21.23	19.08	2.15
	8/7/2012	21.23	19.15	2.08
	2/14/2013	21.23	21.82	-0.59
	8/28/2013	21.23	20.7	0.53
	2/20/2014	21.23	20.68	0.55
	8/22/2014	21.23	21.34	-0.11
	2/19/2015	21.23	16.03	5.2
	8/5/2015	21.23	18.72	2.51
	2/25/2016	21.23	18.39	2.84
	8/11/2016	21.23	20	1.23
	2/16/2017	21.23	24.45	-3.22
	8/10/2017	21.23	21.29	-0.06
	2/22/2018	21.23	21	0.23
	8/9/2018	21.23	19.75	1.48
	2/14/2019	21.23	19.12	2.11
	8/8/2019	21.23	19.21	2.02
	2/19/2020	21.74	19.55	2.19
	8/12/2020	21.74	19.66	2.08
	2/3/2021	21.74	21.46	0.28
	8/25/2021	21.74	19.09	2.65
	2/16/2022	21.74	18.46	3.28
	8/18/2022	21.74	20.45	1.29
	2/8/2023	21.74	18.73	3.01
	8/16/2023	21.74	20.59	1.15
	02/14/2024	18.55	15.94	2.61
	08/07/2024	18.55	16.18	2.37
	02/11/2025	18.55	15.48	3.07
	09/10/2025	18.55	15.54	3.01
	2/25/2026	18.55	16.42	2.13
MW-24D	5/6/2010	21.16	18.48	2.68
4.26	8/5/2010	21.16	18.32	2.84
	11/9/2010	21.16	18.47	2.69

	2/9/2011	21.16	19.01	2.15
	5/18/2011	21.16	19.78	1.38
	8/16/2011	21.16	20.27	0.89
	11/8/2011	21.16	20.2	0.96
	2/15/2012	21.16	19.2	1.96
	8/7/2012	21.16	19.05	2.11
	2/14/2013	21.16	20.91	0.25
	8/28/2013	21.16	20.85	0.31
	2/20/2014	21.16	21.85	-0.69
	8/20/2014	21.16	21.41	-0.25
	2/19/2015	21.16	19.11	2.05
	8/4/2015	21.16	19.22	1.94
	2/24/2016	21.16	18.88	2.28
	8/11/2016	21.16	20.81	0.35
	2/16/2017	21.16	20.5	0.66
	8/8/2017	21.16	21.4	-0.24
	2/20/2018	21.16	21.15	0.01
	8/9/2018	21.16	19.24	1.92
	2/14/2019	21.16	19.3	1.86
	8/8/2019	21.16	18.13	3.03
	2/19/2020	21.3	19.31	1.99
	8/13/2020	21.3	19.54	1.76
	2/4/2021	21.3	21.3	0
	8/25/2021	21.3	18.94	2.36
	2/16/2022	21.3	18.31	2.99
	8/18/2022	21.3	20.28	1.02
	2/9/2023	21.3	18.59	2.71
	8/16/2023	21.3	20.46	0.84
	02/14/2024	18.26	15.9	2.38
	08/07/2024	18.26	16.17	2.09
	02/11/2025	18.26	14	4.26
	9/10/2025	18.26	15.66	2.6
	2/25/2026	18.26	16.55	1.71
MW-25S	5/6/2010	19.22	16.38	2.84
2.84	8/4/2010	19.22	16.68	2.54
	11/8/2010	19.22	16.99	2.23
	2/8/2011	19.22	17.01	2.21
	5/18/2011	19.22	17.52	1.7
	8/17/2011	19.22	18.05	1.17
	11/9/2011	19.22	18.22	1
	2/15/2012	19.22	17.11	2.11
	8/8/2012	19.22	17.57	1.65
	2/13/2013	19.22	18.53	0.69
	8/27/2013	19.22	18.97	0.25
	8/21/2014	19.22	22.65	-3.43
	2/19/2015	19.22	16.97	2.25
	8/4/2015	19.22	17.99	1.23
	2/25/2016	19.22	17.39	1.83
	8/10/2016	19.22	19.18	0.04
	2/16/2017	19.22	18.9	0.32
	8/8/2017	19.22	18.25	0.97
	2/21/2018	19.22	18.44	0.78
	8/9/2018	19.22	18.5	0.72
	2/14/2019	19.22	17.26	1.96
	8/7/2019	19.22	16.96	2.26
	2/19/2020	19.34	17.69	1.65
	8/13/2020	19.34	17.86	1.48
	2/8/2021	19.34	18.75	0.59
	8/25/2021	19.34	17.07	2.27
	2/17/2022	19.34	16.78	2.56
	8/18/2022	19.34	18.44	0.9

	2/9/2023	19.34	18.79	0.55
	8/17/2023	19.34	18.63	0.71
	02/14/2024	15.85	14.49	1.36
	08/08/2024	15.85	14.12	1.73
	02/12/2025	15.85	13.28	2.57
	09/11/2025	15.85	13.71	2.14
	2/26/2026	15.85	14.55	1.3
MW-25D	5/6/2010	19	16.85	2.15
2.34	8/5/2010	19	16.68	2.32
	11/8/2010	19	16.94	2.06
	2/8/2011	19	18.28	0.72
	5/17/2011	19	17.52	1.48
	8/17/2011	19	18.08	0.92
	11/8/2011	19	18.18	0.82
	2/14/2012	19	17.03	1.97
	8/8/2012	19	17.43	1.57
	2/13/2013	19	18.58	0.42
	8/28/2013	19	19	0
	2/19/2014	19	20.5	-1.5
	8/22/2014	19	19.19	-0.19
	2/18/2015	19	17.29	1.71
	8/5/2015	19	17.35	1.65
	2/25/2016	19	17.28	1.72
	8/10/2016	19	19.18	-0.18
	2/16/2017	19	17.9	1.1
	8/9/2017	19	18.05	0.95
	2/21/2018	19	18.41	0.59
	8/9/2018	19	18.09	0.91
	2/14/2019	19	16.95	2.05
	8/7/2019	19	17	2
	2/20/2020	19.02	17.77	1.25
	8/13/2020	19.02	17.88	1.14
	2/8/2021	19.02	18.78	0.24
	8/25/2021	19.02	19.02	0
	2/17/2022	19.02	16.68	2.34
	8/18/2022	19.02	18.45	0.57
	2/9/2023	19.02	18.31	0.71
	8/17/2023	19.02	18.76	0.26
	02/15/2024	16.27	15.37	0.9
	08/08/2024	16.27	14.37	1.9
	02/12/2025	16.27	14.05	2.22
	09/11/2025	16.27	14.5	1.77
	2/26/2026	16.27	15.32	0.95
MW-26S	5/7/2010	19.6	18.25	1.87
4.63	8/5/2010	19.6	17.45	2.67
	11/8/2010	19.6	17.82	2.3
	2/8/2011	19.6	18.02	2.1
	5/17/2011	19.6	18.71	1.41
	8/16/2011	19.6	18.91	0.69
	11/8/2011	19.6	19.03	0.57
	2/14/2012	19.6	17.98	1.62
	8/7/2012	19.6	18.53	1.07
	2/14/2013	19.6	19.28	0.32
	8/28/2013	19.6	19.38	0.22
	2/20/2014	19.6	20.95	-1.35
	8/21/2014	19.6	21.93	-2.33
	2/19/2015	19.6	16.32	3.28
	8/4/2015	19.6	18.56	1.04
	2/25/2016	19.6	18.1	1.5
	8/11/2016	19.6	19.55	0.05
	2/16/2017	19.6	18.5	1.1

	8/9/2017	19.6	18.73	0.87
	2/21/2018	19.6	18.88	0.72
	8/8/2018	19.6	18.75	0.85
	2/14/2019	19.6	17.69	1.91
	8/7/2019	19.6	17.45	2.15
	2/19/2020	20.12	18.37	1.75
	8/13/2020	20.12	18.29	1.83
	2/4/2021	20.12	19	1.12
	8/24/2021	20.12	17.53	2.59
	2/16/2022	20.12	17.34	2.78
	8/17/2022	20.12	18.66	1.46
	2/8/2023	20.12	17.45	2.67
	8/16/2023	20.12	19.45	0.67
	02/14/2024	16.97	15.56	1.41
	08/07/2024	16.97	12.34	4.63
	02/11/2025	16.97	14.39	2.58
	09/10/2025	16.97	14.6	2.37
	2/25/2026	16.97	13.51	3.46
MW-26D	5/7/2010	19.79	5	1.39
2.73	8/5/2010	19.79	17.82	1.97
	11/8/2010	19.79	18.09	1.7
	2/8/2011	19.79	17.06	2.73
	5/18/2011	19.79	18.75	1.04
	8/17/2011	19.79	19.12	0.67
	11/8/2011	19.79	19.27	0.52
	2/14/2012	19.79	18.17	1.62
	8/7/2012	19.79	18.28	1.51
	2/14/2013	19.79	19.48	0.31
	8/28/2013	19.79	19.56	0.23
	2/20/2014	19.79	21	-1.21
	8/22/2014	19.79	21.8	-2.01
	2/19/2015	19.79	28	-8.21
	8/5/2015	19.79	18.45	1.34
	2/25/2016	19.79	18.31	1.48
	8/11/2016	19.79	19.89	-0.1
	2/16/2017	19.79	18.8	0.99
	8/8/2017	19.79	18.92	0.87
	2/21/2018	19.79	19.09	0.7
	8/9/2018	19.79	18.92	0.87
	2/14/2019	19.79	17.94	1.85
	8/8/2019	19.79	18	1.79
	2/20/2020	20.3	18.95	1.35
	8/13/2020	20.3	18.47	1.83
	2/4/2021	20.3	19.33	0.97
	8/25/2021	20.3	17.86	2.44
	2/16/2022	20.3	17.61	2.69
	8/17/2022	20.3	19.19	1.11
	2/8/2023	20.3	17.77	2.53
	8/16/2023	20.3	19.78	0.52
	02/15/2024	17.01	15.69	1.32
	08/08/2024	17.01	14.81	2.2
	02/11/2025	17.01	14.62	2.39
	09/11/2025	17.01	14.81	2.2
	2/25/2026	17.01	15.69	1.32
MW-27S	5/7/2010	19.11	18.15	0.96
2.71	8/5/2010	19.11	16.88	2.23
	11/8/2010	19.11	17.56	1.55
	2/8/2011	19.11	17.79	1.32
	5/17/2011	19.11	18.55	0.56
	8/16/2011	19.11	18.13	0.98
	11/9/2011	19.11	18.43	0.68

	2/14/2012	19.11	17.1	2.01
	8/8/2012	19.11	18.4	0.71
	2/14/2013	19.11	18.57	0.54
	8/28/2013	19.11	18.85	0.26
	2/20/2014	19.11	20.65	-1.54
	8/21/2014	19.11	21.13	-2.02
	2/19/2015	19.11	20.9	-1.79
	8/5/2015	19.11	18.55	0.56
	2/25/2016	19.11	17.74	1.37
	8/11/2016	19.11	18.49	0.62
	2/16/2017	19.11	18.25	0.86
	2/20/2018	19.11	18.2	0.91
	8/8/2018	19.11	18.5	0.61
	8/9/2018	19.11	18.12	0.99
	2/14/2019	19.11	17.88	1.23
	8/8/2019	19.11	17.46	1.65
	2/20/2020	19.13	17.67	1.46
	8/13/2020	19.13	16.86	2.27
	2/3/2021	19.13	18.02	1.11
	8/24/2021	19.13	17.06	2.07
	2/17/2022	19.13	16.42	2.71
	8/17/2022	19.13	18.14	0.99
	2/9/2023	19.13	17.29	1.84
	8/17/2023	19.13	18.91	0.22
	02/15/2024	16.1	14.87	1.23
	08/08/2024	16.1	14.24	1.86
	02/12/2025	16.1	14.16	1.94
	09/11/2025	16.1	14.07	2.03
	2/26/2026	16.1	15.23	0.87
MW-27D	5/7/2010	19.04	17.95	1.09
2.31	8/5/2010	19.04	17.37	1.67
	11/8/2010	19.04	17.71	1.33
	2/8/2011	19.04	18.23	0.81
	5/17/2011	19.04	18.98	0.06
	8/16/2011	19.04	18.59	0.45
	11/8/2011	19.04	19	0.04
	2/14/2012	19.04	17.5	1.54
	8/7/2012	19.04	18.18	0.86
	2/14/2013	19.04	19.05	-0.01
	8/28/2013	19.04	19.3	-0.26
	2/20/2014	19.04	20.65	-1.61
	8/22/2014	19.04	22.11	-3.07
	2/19/2015	19.04	17.24	1.8
	8/5/2015	19.04	18.4	0.64
	2/25/2016	19.04	18.06	0.98
	8/11/2016	19.04	19.06	-0.02
	2/16/2017	19.04	18.75	0.29
	8/8/2017	19.04	18.91	0.13
	2/20/2018	19.04	18.68	0.36
	8/9/2018	19.04	18.8	0.24
	2/14/2019	19.04	18.3	0.74
	8/8/2019	19.04	17.97	1.07
	2/20/2020	19.19	18.48	0.71
	8/17/2020	19.19	17.83	1.36
	2/8/2021	19.19	18.36	0.83
	8/25/2021	19.19	17.55	1.64
	2/17/2022	19.19	16.88	2.31
	8/18/2022	19.19	18.67	0.52
	2/9/2023	19.19	17.81	1.38
	8/17/2023	19.19	19.08	0.11
	02/15/2024	17.01	16.22	0.79

	08/08/2024	16.15	14.36	1.79
	02/12/2025	16.15	14.36	1.79
	09/11/2025	16.15	14.51	1.64
	2/26/2026	16.15	15.63	0.52
EP-2S	2/24/2004	18.73	10.65	8.08
11.58	6/22/2004	18.73	10.38	8.35
	8/30/2004	18.73	12.42	6.31
	1/10/2005	18.73	10.85	7.88
	3/28/2005	18.73	11.39	7.34
	6/13/2005	18.73	12.94	5.79
	9/13/2005	18.73	8.04	7.68
	12/27/2005	18.73	11.82	6.91
	3/16/2006	18.73	10.4	8.33
	9/5/2006	18.73	12.31	6.42
	4/11/2007	18.73	10.5	8.23
	9/17/2007	18.73	9.28	9.45
	9/3/2008	18.73	10.55	8.18
	3/9/2009	18.73	10.7	8.03
	8/4/2009	18.73	12.7	6.03
	5/3/2010	18.73	11.25	7.48
	8/3/2010	18.73	10.31	8.42
	11/10/2010	18.73	10.5	8.23
	2/10/2011	18.73	7.15	11.58
	5/19/2011	18.73	12.31	6.42
	8/18/2011	18.73	11.7	7.03
	11/14/2011	18.73	12.61	6.12
	2/16/2012	18.73	10.4	8.33
	8/9/2012	18.73	11.83	6.9
	2/12/2013	18.73	13.18	5.55
	8/26/2013	18.73	14.12	4.61
	2/18/2014	18.73	13.3	5.43
	8/19/2014	18.73	12.74	5.99
	2/17/2015	18.73	15.5	3.23
	8/4/2015	18.73	10.63	8.1
	2/22/2016	18.73	10.2	8.53
	8/9/2016	18.73	11.58	7.15
	2/14/2017	18.73	12.05	6.68
	8/10/2017	18.73	13.83	4.9
	2/22/2018	18.73	12.38	6.35
	8/7/2018	18.73	12.59	6.14
	2/12/2019	18.73	11.1	7.63
	8/6/2019	18.73	11.83	6.9
	2/18/2020	18.28	11.55	6.73
	8/10/2020	18.28	10.54	7.74
	2/1/2021	18.28	11.8	6.48
	8/23/2021	18.28	9.92	8.36
	2/15/2022	18.28	8.83	9.45
	8/16/2022	18.28	10.98	7.3
	2/7/2023	18.28	10.37	7.91
	8/15/2023	18.28	11.77	6.51
	02/13/2024	15.33	8.72	6.61
	08/06/2024	15.33	7.77	7.56
	02/11/2025	15.33	7.21	8.12
	09/09/2025	15.33	7.28	8.05
	2/24/2026	15.33	8.39	6.94
EP-2D	2/24/2004	18.53	9.94	8.59
11.43	6/22/2004	18.53	10.35	8.18
	8/30/2004	18.53	12.43	6.1
	1/10/2005	18.53	10.83	7.7
	3/28/2005	18.53	11.33	7.2
	6/13/2005	18.53	12.93	5.6

	9/13/2005	18.53	11.2	7.33
	12/27/2005	18.53	11.77	6.76
	3/16/2006	18.53	11.2	7.33
	9/5/2006	18.53	12.18	6.35
	3/28/2007	18.53	10.35	8.18
	9/17/2007	18.53	8.9	9.63
	3/17/2008	18.53	11.34	7.19
	9/8/2008	18.53	9.95	8.58
	3/9/2009	18.53	10.4	8.13
	8/4/2009	18.53	12.3	6.23
	5/3/2010	18.53	10.31	8.22
	8/3/2010	18.53	9.75	8.78
	11/10/2010	18.53	10.2	8.33
	2/10/2011	18.53	7.1	11.43
	5/19/2011	18.53	12.23	6.3
	8/18/2011	18.53	11.58	6.95
	11/14/2011	18.53	12.58	5.95
	2/16/2012	18.53	11.5	7.03
	8/9/2012	18.53	11.75	6.78
	2/12/2013	18.53	13.07	5.46
	8/26/2013	18.53	14.02	4.51
	2/18/2014	18.53	13.25	5.28
	8/19/2014	18.53	12.62	5.91
	2/17/2015	18.53	13.28	5.25
	8/3/2015	18.53	10.35	8.18
	2/22/2016	18.53	9.95	8.58
	8/9/2016	18.53	11.34	7.19
	2/14/2017	18.53	12	6.53
	8/10/2017	18.53	13.25	5.28
	2/22/2018	18.53	12.32	6.21
	8/7/2018	18.53	12.39	6.14
	2/12/2019	18.53	11.05	7.48
	8/6/2019	18.53	10.79	7.74
	2/18/2020	18.03	11.57	6.46
	8/10/2020	18.03	10.61	7.42
	2/1/2021	18.03	11.75	6.28
	8/23/2021	18.03	9.83	8.2
	2/15/2022	18.03	8.69	9.34
	8/16/2022	18.03	10.88	7.15
	2/7/2023	18.03	10.28	7.75
	8/15/2023	18.03	12.3	5.73
	02/13/2024	15.25	8.87	6.38
	08/06/2024	15.25	7.96	7.29
	02/10/2025	15.25	7.22	8.03
	09/09/2025	15.25	7.42	7.83
	2/24/2026	15.25	8.47	6.78
EP-7S	2/27/2004	15.21	4.09	11.12
11.79	6/29/2004	15.21	4.26	10.95
	8/31/2004	15.21	7.45	7.76
	1/10/2005	15.21	4.33	10.88
	3/30/2005	15.21	6.59	8.62
	6/15/2005	15.21	8.6	6.61
	9/15/2005	15.21	7.65	7.56
	12/28/2005	15.21	5.22	9.99
	3/17/2006	15.21	5.5	9.71
	9/6/2006	15.21	7.32	7.89
	3/31/2007	15.21	4.1	11.11
	9/17/2007	15.21	3.42	11.79
	3/17/2008	15.21	5.3	9.91
	9/8/2008	15.21	12.25	2.96
	3/11/2009	15.21	6.1	9.11

	8/4/2009	15.21	10.5	4.71
	5/3/2010	15.21	6.6	8.61
	8/3/2010	15.21	5.33	9.88
	11/10/2010	15.21	5.13	10.08
	2/10/2011	15.21	6.31	8.9
	5/19/2011	15.21	7.58	7.63
	8/18/2011	15.21	6.25	8.96
	11/14/2011	15.21	7.17	8.04
	2/16/2012	15.21	4.56	10.65
	8/9/2012	15.21	6.18	9.03
	2/12/2013	15.21	8.64	6.57
	8/26/2013	15.21	9.9	5.31
	2/18/2014	15.21	7.3	7.91
	8/19/2014	15.21	7.6	7.61
	2/17/2015	15.21	7.47	7.74
	8/3/2015	15.21	5.81	9.4
	2/23/2016	15.21	4.13	11.08
	8/9/2016	15.21	7.4	7.81
	2/14/2017	15.21	7.85	7.36
	8/10/2017	15.21	8.46	6.75
	2/22/2018	15.21	9	6.21
	8/7/2018	15.21	7.61	7.6
	2/12/2019	15.21	8.45	6.76
	8/6/2019	15.21	6.4	8.81
	2/18/2020	14.02	9.83	4.19
	8/11/2020	14.02	6.78	7.24
	2/1/2021	14.02	9.65	4.37
	8/23/2021	14.02	4.96	9.06
	2/15/2022	14.02	4.16	9.86
	8/16/2022	14.02	7.62	6.4
	2/7/2023	14.02	6.96	7.06
	8/15/2023	14.02	8.36	5.66
	02/13/2024	11.13	12.09	-0.96
	08/06/2024	11.13	5.65	5.48
	02/10/2025	11.13	2.81	8.32
	09/09/2025	11.13	6.36	4.77
	2/25/2026	11.13	6.69	4.44
EP-7D	2/27/2004	14.96	3.75	11.21
11.28	6/29/2004	14.96	3.94	11.02
	8/31/2004	14.96	7.18	7.78
	1/10/2005	14.96	3.98	10.98
	3/30/2005	14.96	6.31	8.65
	6/15/2005	14.96	8.4	6.56
	9/15/2005	14.96	6.9	8.06
	12/28/2005	14.96	4.99	9.97
	3/17/2006	14.96	6.51	8.45
	9/6/2006	14.96	7.02	7.94
	3/28/2007	14.96	3.68	11.28
	9/17/2007	14.96	3.7	11.26
	3/17/2008	14.96	6	8.96
	9/8/2008	14.96	11.45	3.51
	3/11/2009	14.96	5.78	9.18
	8/4/2009	14.96	10.3	4.66
	5/3/2010	14.96	6.48	8.48
	8/3/2010	14.96	5.11	9.85
	11/10/2010	14.96	4.76	10.2
	2/10/2011	14.96	6	8.96
	5/19/2011	14.96	7.25	7.71
	8/18/2011	14.96	5.9	9.06
	11/14/2011	14.96	6.83	8.13
	2/16/2012	14.96	4.17	10.79

	8/9/2012	14.96	5.81	9.15
	2/12/2013	14.96	8.3	6.66
	8/26/2013	14.96	9.47	5.49
	2/18/2014	14.96	7.3	7.66
	8/19/2014	14.96	7.2	7.76
	2/17/2015	14.96	4.01	10.95
	8/3/2015	14.96	5.4	9.56
	2/23/2016	14.96	3.71	11.25
	8/9/2016	14.96	9.98	3.14
	2/14/2017	14.96	7.5	5.62
	8/10/2017	14.96	8.15	4.97
	2/22/2018	14.96	8.56	4.56
	8/7/2018	14.96	7.14	5.98
	2/12/2019	14.96	8.4	6.56
	8/6/2019	14.96	6.1	8.86
	2/18/2020	13.76	8.46	5.3
	8/10/2020	13.76	6.23	7.53
	2/1/2021	13.76	9.29	4.47
	8/23/2021	13.76	4.81	8.95
	2/15/2022	13.76	3.87	9.89
	8/16/2022	13.76	7.37	6.39
	2/7/2023	13.76	6.82	6.94
	8/15/2023	13.76	8.59	5.17
	02/13/2024	11.1	2.41	8.69
	08/06/2024	11.1	5.66	5.44
	02/10/2025	11.1	2.63	8.47
	09/09/2025	11.1	6.04	5.06
	2/24/2026	11.1	6.56	4.54
EP-9D	3/1/2004	13.12	8.92	4.2
8.7	6/29/2004	13.12	8.15	4.97
	9/1/2004	13.12	9.83	3.29
	1/10/2005	13.12	9.05	4.07
	3/30/2005	13.12	9.45	3.67
	6/15/2005	13.12	10.36	2.86
	9/15/2005	13.12	8.9	4.22
	12/28/2005	13.12	10.18	2.94
	3/17/2006	13.12	11	2.12
	9/6/2006	13.12	10.86	2.26
	3/28/2007	13.12	8.28	4.84
	9/20/2007	13.12	6.28	6.84
	3/19/2008	13.12	9.41	3.71
	9/30/2008	13.12	4.95	8.17
	3/9/2009	13.12	9.35	3.77
	8/5/2009	13.12	11.15	1.97
	5/4/2010	13.12	9.15	3.97
	8/4/2010	13.12	6.95	6.17
	11/10/2010	13.12	7.78	5.34
	2/10/2011	13.12	9.13	3.99
	5/18/2011	13.12	10.27	2.85
	8/17/2011	13.12	9.48	3.64
	11/9/2011	13.12	10.37	2.75
	2/15/2012	13.12	8.12	5
	8/9/2012	13.12	10.15	2.97
	2/13/2013	13.12	11.3	1.82
	8/27/2013	13.12	12	1.12
	2/19/2014	13.12	12.15	0.97
	8/20/2014	13.12	11.28	1.84
	2/18/2015	13.12	8.9	4.22
	8/3/2015	13.12	7.44	5.68
	2/23/2016	13.12	7.82	5.3
	8/9/2016	13.12	9.69	3.43

	2/14/2017	13.12	10.3	2.82
	8/9/2017	13.12	11.37	1.75
	2/21/2018	13.12	9.05	4.07
	8/7/2018	13.12	6.46	6.66
	2/13/2019	13.12	9.2	3.92
	8/7/2019	13.12	4.42	8.7
	2/18/2020	13.12	9.85	3.27
	8/12/2020	13.12	7.47	5.65
	2/1/2021	13.12	10.21	2.91
	8/24/2021	13.12	8.13	4.99
	2/16/2022	13.12	5.97	7.15
	8/17/2022	13.12	9.79	3.33
	2/8/2023	13.12	9.27	3.85
	8/16/2023	13.12	10.45	2.67
	02/14/2024	10.73	2.7	8.03
	08/06/2024	10.73	4.83	5.9
	02/10/2025	10.73	6.1	4.63
	09/10/2025	10.73	5.48	5.25
	2/24/2026	10.73	7.96	2.77
EP-12D	3/1/2004	13.07	10.42	2.65
6.04	6/29/2004	13.07	10.11	2.96
	9/8/2004	13.07	10.93	2.14
	1/13/2005	13.07	10.49	2.58
	3/30/2005	13.07	10.3	2.77
	6/16/2005	13.07	11.69	1.38
	9/15/2005	13.07	10.48	2.59
	12/28/2005	13.07	11.12	1.95
	3/17/2006	13.07	11.65	1.42
	9/6/2006	13.07	11.62	1.45
	3/29/2007	13.07	10.01	3.06
	9/20/2007	13.07	9.11	3.96
	3/19/2008	13.07	11.6	1.47
	9/30/2008	13.07	9.04	4.03
	3/10/2009	13.07	10.94	2.13
	8/6/2009	13.07	12.3	0.77
	5/4/2010	13.07	11	2.07
	8/5/2010	13.07	10.35	2.72
	11/9/2010	13.07	10.75	2.32
	2/9/2011	13.07	11.25	1.82
	5/17/2011	13.07	12.4	0.67
	8/16/2011	13.07	11.6	1.47
	11/9/2011	13.07	11.95	1.12
	2/15/2012	13.07	10.54	2.53
	8/8/2012	13.07	18.9	-5.83
	2/14/2013	13.07	12.16	0.91
	8/27/2013	13.07	12.55	0.52
	2/19/2014	13.07	13.7	-0.63
	8/21/2014	13.07	14.7	-1.63
	2/18/2015	13.07	8.9	4.17
	8/3/2015	13.07	11.25	1.82
	2/24/2016	13.07	10.99	2.08
	8/10/2016	13.07	11.96	1.11
	2/14/2017	13.07	11.67	1.4
	8/9/2017	13.07	12	1.07
	2/20/2018	13.07	11.35	1.72
	8/9/2018	13.07	11.36	1.71
	2/14/2019	13.07	11.25	1.82
	8/8/2019	-	not measured due to well damage	-
(EP-12DR)	2/20/2020	11.54	10.43	1.11
	8/17/2020	11.54	10.00	1.54
	2/8/2021	11.54	8.59	2.95

	8/24/2021	11.54	10.00	1.54
	2/17/2022	11.54	10.00	1.54
	8/18/2022	11.54	10.96	0.58
	2/9/2023	11.54	9.94	1.6
	8/17/2023	11.54	11.25	0.29
	02/15/2024	11.54	10.36	1.18
	08/08/2024	11.54	9.86	1.68
	02/12/2025	11.54	5.5	6.04
	09/09/2025	11.54	9.47	2.07
	2/26/2026	11.54	10.7	0.84

Exhibit H

GENERAL CONDITIONS

ARTICLE 1- DEFINITIONS
Wherever used in these General Conditions or in the other CONTRACT DOCUMENTS the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

ADDENDA- Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents or the CONTRACT DOCUMENTS.

AGREEMENT- The written Agreement between OWNER and CONTRACTOR covering the Work to be performed; other CONTRACT DOCUMENTS are attached to the Agreement and made a part thereof as provided therein.

APPLICATION FOR PAYMENT- The form accepted by the ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the CONTRACT DOCUMENTS.

BID- The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BONDS- Bid, performance and payment bonds and other instruments of security.

CHANGE ORDER- A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revisions in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

CONTRACT DOCUMENTS- The Agreement, Addenda (which pertain to the CONTRACT DOCUMENTS), CONTRACTOR'S Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements issued pursuant to paragraphs 3.4 and 3.5 on or after the Effective Date of the Agreement.

CONTRACT PRICE- The moneys payable by OWNER to CONTRACTOR under the CONTRACT DOCUMENTS as stated in the Agreement.

CONTRACT TIME- The number of days (computed as provided in paragraph 17.2) or the date

stated in the Agreement for the completion of the Work.

CONTRACTOR- The person, firm or corporation with whom OWNER has entered into the Agreement.

DEFECTIVE- An adjective which when modifying the word Work refers to work that is unsatisfactory, faulty or deficient, or does not conform to the CONTRACT DOCUMENTS, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the CONTRACT DOCUMENTS, or has been damaged prior to ENGINEER'S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

DRAWING- The drawings which show the character and Scope of Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the CONTRACT DOCUMENTS.

EFFECTIVE DATE OF THE AGREEMENT- The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

ENGINEER- The person, firm or corporation named as such in the Agreement.

FIELD ORDER- A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Time.

GENERAL REQUIREMENTS- Those described in Pages TS-1 through TS-7 of the Specifications.

LAW AND REGULATIONS; LAW OR REGULATIONS- Laws, rules, regulations, ordinances, codes and/or orders.

NOTICE OF AWARD- The written notice by OWNER or ENGINEER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

NOTICE TO PROCEED- A written notice given by OWNER or ENGINEER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which the CONTRACTOR shall start to perform CONTRACTOR'S obligations under the CONTRACT DOCUMENTS.

OWNER- The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.
PARTIAL UTILIZATION- Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

PROJECT- The total construction of which the Work to be provided under the CONTRACT DOCUMENTS may be the whole, or a part as indicated elsewhere in the CONTRACT DOCUMENTS.

RESIDENT PROJECT REPRESENTATIVE- The authorized representative of ENGINEER, who is assigned to the site or any part thereof.

SHOP DRAWINGS- All drawings, diagrams, illustrations, schedules and other date which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

SPECIFICATIONS- The portions of the CONTRACT DOCUMENTS consisting of written technical description of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

SUB-CONTRACTOR- An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Sub-Contractor for the performance of a part of the Work at the site.

SUBSTANTIAL COMPLETION- The Work (or a specified part thereof) which has progressed to the point where, in the opinion of ENGINEER as evidence by ENGINEER'S definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the CONTRACT DOCUMENTS, so that the Work, (or specified part) can be utilized for the purpose for which it is intended; or if there by no such certificate issued, when final payment is due in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

SUPPLEMENTAL GENERAL CONDITIONS- The part of the CONTRACT DOCUMENTS which amends or supplements these General Conditions.

SUPPLIER- A manufacturer, fabricator, supplier, distributor, material-man or vendor.

UNDERGROUND FACILITIES- All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing

such facilities which have been installed underground to furnish any of the following service or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

UNIT PRICE WORK- Work to be paid for on the basis of unit prices.

WORK- The entire completed construction or the various separately identifiable parts thereof required to be furnished under the CONTRACT DOCUMENTS. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the CONTRACT DOCUMENTS.

WORK DIRECTIVE CHANGE- A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraphs 4.2 and 4.3 or to emergencies under paragraph 6.22. A Work Directive Change may not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or documented by a Work Directive Change will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time as provided in paragraph 10.2.

WRITTEN AMENDMENT- A written amendment of the CONTRACT DOCUMENTS, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly Work-related aspects of the CONTRACT DOCUMENTS.

ARTICLE 2- PRELIMINARY MATTERS DELIVERY OF BONDS:

2.1. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as Contract may be required to furnish in accordance with paragraph 5.1.

COPIES OF DOCUMENTS:

2.2. OWNER shall furnish to CONTRACTOR up to five copies (unless otherwise specified in the Supplementary Conditions) of the CONTRACT DOCUMENTS as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

COMMENCEMENT OF CONTRACT TIME; NOTICE TO PROCEED:

2.3. The Contract Time will commence to run on the thirtieth day after the Effective Date of the Agreement, or if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Day of the Agreement. In no event will the Contract Time commence to run later than the seventy-fifth day after the day of Bid Opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

STARTING THE PROJECT:

2.4 CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract

Time commences to run.

BEFORE STARTING CONSTRUCTION:

2.5 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the CONTRACT DOCUMENTS, unless CONTRACTOR has actual knowledge thereof or should reasonably have known thereof.

2.6 Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER FOR review:

2.6.1 An estimated progress schedule indicating the starting and completion dates of the various stages of the Work;

2.6.2 A preliminary schedule of Shop Drawings submissions; and

2.6.3 A preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis of progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

2.7 Before any Work at the site is started, CONTRACTOR shall deliver to OWNER, with a copy to ENGINEER, certificates (and other evidence of insurance requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with paragraphs 5.3 and 5.4.

PRE-CONSTRUCTION CONFERENCE:

2.8 Within twenty days after the Effective Date of the Agreement, but before CONTRACTOR starts the Work at the site, a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to discuss the schedules referred to in paragraph 2.6, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

FINALIZING SCHEDULES:

2.9 At least ten days before submission of the First Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be

acceptable to ENGINEER as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility therefore. The finalized schedule of Shop Drawing submissions will be acceptable to ENGINEER as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to ENGINEER as to form and substance.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE INTENT:
3.1. The CONTRACT DOCUMENTS comprise the entire Agreement between OWNER and CONTRACTOR concerning the WORK. The CONTRACT DOCUMENTS are complementary; what is called for by one is as binding as if called for by all. The CONTRACT DOCUMENTS will be construed in accordance with the law of the place of the Project.

3.2 It is the intent of the CONTRACT DOCUMENTS to describe a functionally complete Project (or part thereof) to be constructed in accordance with the CONTRACT DOCUMENTS. Any Work, materials or equipment that may reasonably be inferred from the CONTRACT DOCUMENTS as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment such works shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specifications, manual or code (whether or not specifically incorporated by reference in the CONTRACT DOCUMENTS) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the CONTRACT DOCUMENTS, nor shall it be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 9.15 or 9.16. Clarifications and interpretations of the CONTRACT DOCUMENTS shall be issued by ENGINEER as provided in paragraph 9.4.

3.3 If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the CONTRACT DOCUMENTS, CONTRACTOR shall so report to ENGINEER in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from ENGINEER; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy on the CONTRACT DOCUMENTS unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS:

3.4 The CONTRACT DOCUMENTS may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the

following ways:

3.4.1. A formal Written Amendment,

3.4.2. A Change Order (Pursuant to paragraph 10.4), or

3.4.3. A Work Directive Change (Pursuant to paragraph 10.1).

As indicated in paragraphs 11.2 and 12.1, Contract Price and Contract Time may only be changed by a Change Order or Written Amendment.

3.5. In addition, the requirements of the CONTRACT DOCUMENTS may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

3.5.1. A Field Order (Pursuant to paragraph 9.5),

3.5.2. ENGINEER'S approval of a Shop Drawing or sample (pursuant to paragraphs 6.26 and 6.27), or

3.5.3. ENGINEER'S written interpretation or clarification (pursuant to paragraph 9.4).

REUSE OF DOCUMENTS:

3.6 Neither CONTRACTOR nor any Sub-Contractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project of any other project without written consent of the OWNER.

ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

AVAILABILITY OF LANDS:

4.1 OWNER shall furnish, as indicated in the CONTRACT DOCUMENTS, the lands upon which the Work is to be performed, Rights-of-Way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the CONTRACT DOCUMENTS. If CONTRACTOR believes that any delay in OWNER'S furnishing these lands, Rights-of-Way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefore as provided in Article 12. CONTRACTOR shall provide for all additional lands and

access thereto that may be required for temporary construction facilities or storage of materials and equipment.
PHYSICAL CONDITIONS:

4.2.1. Explorations and Reports: Reference is made to the Supplementary conditions for identification of those reports of explorations and tests of sub-surface conditions at the site that have been utilized by ENGINEER in preparation of the CONTRACT DOCUMENTS. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon non-technical data, interpretations for opinions contained therein or for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to sub-surface conditions at the site.

4.2.2. Existing Structures: Reference is made to the Supplementary Conditions for identification of those drawings of physical conditions in or relating to existing surface and sub- surface structures (except Underground Facilities referred to in paragraph 4.3) which are at or contiguous to the site that have been utilized by ENGINEER in preparation of the CONTRACT DOCUMENTS. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.
4.2.3. Report to Differing Conditions: If CONTRACTOR believes that:

4.2.3.1 Any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is inaccurate, or

4.2.3.2. Any physical condition uncovered or revealed at the site differ materially from that indicated, reflected or referred to in the CONTRACT DOCUMENTS,

CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.22), notify OWNER and ENGINEER in writing about the inaccuracy or difference.

4.2.4. ENGINEER'S Review: ENGINEER will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER'S findings and conclusions.

4.2.5. Possible Document Change: If ENGINEER concludes that there is a material error in the CONTRACT DOCUMENTS or that because of newly discovered conditions a change in the CONTRACT DOCUMENTS is required, a Work directive Change or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the inaccuracy or difference.

4.2.6. Possible Price and Time Adjustments: In each such case, an increase or decrease in the

Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extend that they are attributable to any such inaccuracy or difference.

If OWNER and CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made thereof, as provided in Articles 11 and 12.

PHYSICAL CONDITIONS - UNDERGROUND FACILITIES:

4.3.1. Shown or Indicated: The information and data shown or indicated in the CONTRACT DOCUMENTS with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.3.1.1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and,

4.3.1.2. CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the CONTRACT DOCUMENTS, for coordination of the Work with the owners of such Underground Facilities during construction, for safety and protection thereof as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2. Not Shown or Indicated: If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the CONTRACT DOCUMENTS and which CONTRACTOR could not reasonable have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing and Work affected thereby (except in an emergency as permitted by paragraph 6.22), identify the owner of such Underground Facility and give written notice thereof to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility to determine the extent to which the CONTRACT DOCUMENTS should be modified to reflect and document the consequences of the existence of the Underground Facility, and the CONTRACT DOCUMENTS will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the CONTRACT DOCUMENTS and which CONTRACTOR could not reasonably have been expected to be aware of. If the parties are unable to agree as to the amount or length thereof, CONTRACTOR may make a claim thereof as provided in Articles 11 and 12.

REFERENCE POINTS:

4.4. OWNER shall provide engineering surveys to establish reference points for construction

which in ENGINEER'S judgement are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without written approval of OWNER.

CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

ARTICLE 5 - BOND AND INSURANCE PERFORMANCE AND OTHER BONDS:
5.1. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to Contract Price as security for the faithful performance and payment of all CONTRACTOR'S obligations under the CONTRACT DOCUMENTS. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as otherwise provided by Law or Regulations or by the CONTRACT DOCUMENTS. CONTRACTOR shall also furnish such other Bond as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by law or Regulation or by the Contract Documents and be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

5.2 If the surety on any Bond furnished CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within five days thereafter substitute another Bond and Surety, both of which must be acceptable to OWNER.

CONTRACTOR'S LIABILITY INSURANCE:

5.3. CONTRACTOR shall purchase and maintain such comprehensive general liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result form CONTRACTOR'S performance and furnishing of the Work and CONTRACTOR'S other obligations under the CONTRACT DOCUMENTS, whether it is to be performed or furnished by CONTRACTOR, by any Sub-Contractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:
5.3.1. Claims under worker's or workmen's compensation, disability benefits and other similar employee benefit acts;

5.3.2. Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR'S employees;

5.3.3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR'S employees;

5.3.4. Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, (b) by any other person for any other reason;

5.3.5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting there from;
5.3.6. Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and

5.3.7. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of motor vehicle.

The insurance required by this paragraph 5.3 shall include the specific coverages and be written for not less than the limits of liability and coverages provided in the Supplemental General Conditions, or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days' prior to a written notice been given to OWNER and ENGINEER by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective work in accordance with paragraph 13.12. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two years after final payment and furnish OWNER with evidence of continuation of such insurance at final payment and one year thereafter.

CONTRACTUAL LIABILITY INSURANCE:

5.4. The comprehensive general liability insurance required by paragraph 5.3 will include contractual liability insurance applicable to CONTRACTOR'S obligations under paragraphs 6.30 and 6.31.

OWNER'S LIABILITY INSURANCE:

5.5. (Deleted) PROPERTY INSURANCE:
5.6. – 5.10 (Deleted)

WAIVER OF RIGHTS:
5.11.1. CONTRACTOR waives all rights against OWNER for all losses and damages caused by any of the perils covered by the policies of insurance provided under the Supplemental General Conditions and any other property insurance applicable to the Work, and also waives all such rights against the Sub-Contractors, ENGINEER, ENGINEER'S Consultants and all other parties

named as insured in such policies for losses and damages so caused. As required by paragraph 6.11, each sub-contract between CONTRACTOR, and a Sub-Contractor will contain similar waiver provisions by the Sub-Contractor in favor of OWNER, CONTRACTOR, ENGINEER, ENGINEER'S Consultants and all other parties named as insured. None of the above waivers shall extend to the rights that any of the insured parties may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

5.11.2. CONTRACTOR intends that any policies provided under the Supplemental General Conditions shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights or recovery against any of the parties named as insured or additional insured and if the insurers require separate waiver forms to be signed by ENGINEER or ENGINEER'S consultant or any Sub- Contractor, CONTRACTOR will obtain the same.

RECEIPT AND APPLICATION OF PROCEEDS:

5.12. (Delete)

5.13. (Delete)

ACCEPTANCE OF INSURANCE:

5.14. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 5.3 and 5.4 on the basis of its not complying with the CONTRACT DOCUMENTS, OWNER shall notify CONTRACTOR in writing thereof within ten days of the date or delivery of such certificates to OWNER in accordance with paragraph 2.7. CONTRACTOR shall each provide to OWNER, such additional information in respect of insurance provided by each as the OWNER may reasonably request. Failure by OWNER to give such notice of objection within the time provided shall constitute acceptance of such insurance purchased by the CONTRACTOR as complying with the CONTRACT DOCUMENTS.

PARTIAL UTILIZATION- PROPERTY INSURANCE:

5.15 If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10. The insurers of CONTRACTORS providing the property insurance shall consent to such use or occupancy by endorsement on the policy or policies, but the property insurance shall not be canceled or lapse on account of any such partial use or occupancy.

ARTICLE 6- CONTRACTOR'S RESPONSIBILITIES SUPERVISION AND SUPERINTENDENCE:

6.1. CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skill and expertise as may be necessary to perform the Work in accordance with the CONTRACT DOCUMENTS. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection or a specific means, method, technique, sequence or procedure or construction which is indicated in and required by the CONTRACT DOCUMENTS. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the CONTRACT DOCUMENTS.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

LABOR, MATERIALS AND EQUIPMENT:

6.3. CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the CONTRACT DOCUMENTS. CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons of the Work or property at the site or adjacent thereto, and except as otherwise indicated in the CONTRACT DOCUMENTS, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER'S written consent after prior written notice to ENGINEER.

6.4. Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing start-up, and completion of Work.

6.5. All materials and equipment shall be of good quality and new, except, as otherwise provided in the CONTRACT DOCUMENTS. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier, except as otherwise provided in the CONTRACT DOCUMENTS; but no provision of any such instructions will be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.15 or 6.16.

ADJUSTING PROGRESS SCHEDULE:

6.6 CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.9) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

SUBSTITUTES OR "OR-EQUAL" ITEMS:

6.7.1. Whenever materials or equipment are specified or described in the CONTRACT DOCUMENTS by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by ENGINEER if sufficient information is submitted by CONTRACTOR to allow ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by ENGINEER will include the following as supplemented in the General Requirements. Requests for review of substitute items of material and equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of Substantial Completion on time, whether or not acceptance of the substitutes for use in the Work will require a change in any of the CONTRACT DOCUMENTS (or in the provisions of any other direct contract with OWNER for Work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment or any license fee of royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including cost of redesign and claims or other contractors affected by the resulting change, all of which shall be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

6.7.2. If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the CONTRACT DOCUMENTS, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to ENGINEER, if CONTRACTOR submits sufficient information to allow ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the CONTRACT DOCUMENTS. The procedure for review by ENGINEER will be similar to that provided in paragraph 6.7.1, as applied by ENGINEER and as may be supplemented in the

General Requirements.

6.7.3. ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. ENGINEER will be sole judge of acceptability, and no substitute will be ordered, installed or utilized without ENGINEER'S prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute. ENGINEER will record time required by ENGINEER and ENGINEER'S consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the CONTRACT DOCUMENTS occasioned thereby. Whether or not ENGINEER accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER'S consultants for evaluating each proposed substitute.

CONCERNING SUB-CONTRACTORS, SUPPLIERS AND OTHER:

6.8.1. CONTRACTOR shall not employ any Sub-Contractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Sub- Contractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

If the Supplementary Conditions require the identity of certain Sub-Contractors, Suppliers or other persons or organizations (including those who are to furnish the principal items or materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER'S or ENGINEER'S acceptance either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in bidding documents or the CONTRACT DOCUMENTS) of any such Sub-Contractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price will be increased by the difference in the cost occasioned by such substitution and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER or ENGINEER of any such Sub-Contractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

6.9. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Sub-Contractor's, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct and indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR'S own acts and omissions. Nothing in the CONTRACT DOCUMENT shall create any contractual relationship between OWNER or ENGINEER and any such Sub-Contractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of

any moneys due any such Sub-Contractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.10. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Sub-Contractors or Suppliers or delineating the Work to be performed by any specified trade.

6.11 All Work performed for CONTRACTOR by a Sub-Contractor will be pursuant to an appropriate agreement between CONTRACTOR and Sub-Contractor which specifically binds the Sub-Contractor to the applicable terms and conditions of the CONTRACT DOCUMENTS for the benefit of OWNER and ENGINEER and contains waiver provisions as required by paragraph 5.11.

PATENT FEES AND ROYALTIES:

6.12. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the CONTRACT DOCUMENTS for use in the performance of the Work and if to the actual knowledge of OWNER and ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the CONTRACT DOCUMENTS. CONTRACTOR shall indemnify, hold harmless and defend at its cost, OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees and court and arbitration costs) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the CONTRACT DOCUMENTS, and shall defend all such claims in connection with any alleged infringement of such rights.

6.13. Unless otherwise provided in the Supplemental General Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are not Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

LAWS AND REGULATIONS:

6.14.1. CONTRACTOR shall give all notices and comply with all laws and Regulations applicable to furnishing and performing of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for

monitoring CONTRACTOR'S compliance with any Law or Regulations.

6.14.2 If CONTRACTOR observes that the Specification of Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof, any necessary changes will be authorized by one of the methods indicated in paragraph 3.4.

If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR'S primary responsibility to made certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

6.15. CONTRACTOR shall pay all sales, consumer use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

USE OF PREMISES:

6.16. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the CONTRACT DOCUMENTS and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ENGINEER by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by at law. CONTRACTOR shall, to the fullest extend permitted by Law and Regulations, indemnify and hold OWNER and ENGINEER harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of Engineers, Architects, Attorneys and other professional and court and arbitration costs) arising directly, indirectly or consequently out of any action, legal or equitable, brought by any such other party against OWNER or ENGINEER to the extent based on a claim arising out of work done by CONTRACTOR under the CONTRACT DOCUMENTS. It is the expressed intention of the parties hereto, both OWNER and CONTRACTOR, that the indemnity provided for in this paragraph is indemnity by CONTRACTOR to indemnify and protect OWNER from the consequences of OWNER'S own negligence, whether that negligence is the sole or a concurring cause of the injury, death or damage.

6.17. During the progress of the Work, CONTRACTOR shall keep the premises free from such accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for

alteration by the CONTRACT DOCUMENTS.

6.18. CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

DOCUMENTS:

6.19. CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Directive Changes, Field Orders and Written Interpretations and Clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these Record Documents, Samples and Shop Drawings will be delivered to ENGINEER for OWNER.

SAFETY AND PROTECTION:

6.20. CONTRACTOR shall be responsible for initiation, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1. All employees on the Work and other persons and organizations who may be affected thereby;

6.20.2 All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site.

6.20.3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damages, injury or loss to any property referred to in paragraphs 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, and Sub-Contractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omission of

OWNER or ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR). CONTRACTOR'S duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion.

6.21. CONTRACTOR shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR'S superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

EMERGENCIES:

6.22. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER or OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the CONTRACT DOCUMENTS have been caused thereby. If ENGINEER determines that a change in the CONTRACT DOCUMENTS is required because of the action taken in response to any emergency, a Work Directive Change or Change Order will be issued to document the consequences of the changes or variations.

SHOP DRAWINGS AND SAMPLES:

6.23. After checking and verifying all field measurements and complying with applicable procedures specified in the General Requirements, CONTRACTOR shall submit to ENGINEER for review an approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.9), or for other appropriate action if so indicated in the Supplementary Conditions, five copies (unless otherwise specified in General Requirements) of all Shop Drawings, which bear a stamp written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the CONTRACT DOCUMENTS with respect to the review of the submission. All submissions will be identified as ENGINEER may require. The data shown on the Shop Drawings will be completed with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to enable ENGINEER to review the information as required.

6.24. CONTRACTOR shall also submit to ENGINEER for review and approval with such promptness as to cause no delay in Work, all samples required by the CONTRACT DOCUMENTS. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the CONTRACT DOCUMENTS with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

6.25.1. Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the CONTRACT DOCUMENTS.

6.25.2. At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the CONTRACT DOCUMENTS, and in addition, shall cause a specific notation to be made on each Shop Drawing submitted to ENGINEER for review and approval of each such variation.

ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, ENGINEER'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the CONTRACT DOCUMENTS and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the CONTRACT DOCUMENTS) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called by ENGINEER or previous submittals.

6.27. ENGINEER'S review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the CONTRACT DOCUMENTS unless CONTRACTOR has in writing called ENGINEER'S attention to each such variation at the time of submission as required by paragraph 6.25.2 and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.25.1.

6.28. Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to ENGINEER'S review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

CONTINUING THE WORK:

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

INDEMNIFICATION:

6.30. To the fullest extent permitted by Laws and Regulations CONTRACTOR shall indemnify and hold harmless OWNER and ENGINEER and their consultants, agents and employees from and against all claims, damages, losses and expense, direct, indirect or consequential (including but not limited to fees and charges of Engineers, Architects, Attorneys and other professional and court and arbitration costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting there from and (b) is caused in whole or in part by any negligent act or omission of OWNER, CONTRACTOR, and Sub-Contractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a partly indemnified hereunder or arises by or is imposed by Law and Regulations regardless of the negligence of any such party. It is the expressed intention of the parties hereto, both OWNER and CONTRACTOR, that the indemnity provided for in this paragraph is indemnity by CONTRACTOR to indemnify and protect OWNER from the consequences of OWNER'S own negligence, whether that negligence is the sole or concurring cause of the injury, death or damage.

6.31. In any and all claims against OWNER or ENGINEER or any of their consultants, agents or employees by any employee or Contractor, any Sub-Contractor, and person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.30 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any Sub-Contractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.32. The obligations of CONTRACTOR under paragraph 6.30 shall not exceed to the liability of ENGINEER, ENGINEER'S consultants, agents or employees arising out of the preparation or approval or maps, drawings, opinions, reports, surveys, Change Orders, designs or Specifications.

ARTICLE 7-OTHER WORK RELATED WORK AT SITE:

7.1. OWNER may perform other work related to the Project at the site by OWNER'S own forces, have other work performed by utility owners or let other direct contracts therefore which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the CONTRACT DOCUMENTS, written notice thereof will be given to CONTRACTOR prior to starting any such other work; and if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the extent thereof, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

7.2. CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.3. If any part of CONTRACTOR'S Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR'S failure to report will constitute and acceptance of the other work as fit and proper for integration with CONTRACTOR'S work except for latent or non-apparent defects in the other work.

COORDINATION:

7.4. If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Supplementary Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Supplementary Conditions. Unless otherwise provided in the Supplementary Conditions, neither OWNER nor ENGINEER shall have any authority or responsibility in respect of such coordination.

ARTICLE 8-OWNER'S RESPONSIBILITIES

8.1. OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2. In case of termination of the employment or ENGINEER, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under the CONTRACT DOCUMENTS shall be that of the former ENGINEER. Any dispute in connection with such appointment shall be subject to arbitration.

OWNER shall furnish the data required of OWNER under the CONTRACT DOCUMENTS promptly and shall make payments to CONTRACTOR promptly after they are due as provided

in paragraphs 14.4 and 14.14.

8.4. OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of sub-surface conditions at the site and existing structures which have been utilized by ENGINEER in preparing the Drawings and Specifications.

8.5. (Delete)

8.6 OWNER is obliged to execute Change Orders as indicated in paragraph 10.4.

8.7. OWNER'S responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8. In connection with OWNER'S right to stop Work or suspend Work, see paragraph 13.10 and 15.1. Paragraph 15.2 deals with OWNER'S right to terminate services on CONTRACTOR under certain circumstances

ARTICLE 9-ENGINEER'S STATUS DURING CONSTRUCTION OWNER'S REPRESENTATIVE:

9.1. ENGINEER will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER'S representative during construction are set forth in the CONTRACT DOCUMENTS and shall not be extended without written consent of OWNER and ENGINEER.

VISITS TO SITE:

9.2. ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the CONTRACT DOCUMENTS. ENGINEER will not be required to made exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the complete Work will conform to the CONTRACT DOCUMENTS. On the basis of such visits and on-site observations as an experienced and qualified design professional, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

PROJECT REPRESENTATION:

9.3. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in observing the performance of the Work. The duties, responsibilities and limitations of authority of any such Resident Project Representative and assistants will be as provided in the Supplemental Conditions. If OWNER designates another

agent to represent OWNER at the site who is not the ENGINEER'S agent or employee, the duties, responsibilities and limitations of authority of such other person will be provided in Supplemental Conditions.

CLARIFICATIONS AND INTERPRETATIONS:

9.4. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the CONTRACT DOCUMENTS (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the CONTRACT DOCUMENTS. If CONTRACTOR believes that a written clarification or interpretation justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Article 11 or Article 12.

AUTHORIZED VARIATIONS IN WORK:

9.5. ENGINEER may authorize minor variations in the Work from the requirements of the CONTRACT DOCUMENTS which do not involve an adjustment in the Contract Price of the Contract Time and are consistent with the overall intent of the CONTRACT DOCUMENTS. These may be accomplished by a Field Order and will be binding on OWNER, and also on CONTRACTOR who shall perform the Work involved promptly. If CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree as to the amount thereof, CONTRACTOR may make a claim therefor as provided in Article 11 or 12.

REJECTING DEFECTIVE WORK:

9.6. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or complete.

SHOP DRAWINGS, CHANGE ORDERS AND PAYMENTS:

9.7. In connection with ENGINEER'S responsibility for Shop Drawings and samples, see paragraphs 6.23 through 6.29 inclusive.

9.8. In connection with ENGINEER'S responsibility as to Change Orders, see Articles 10,11, and 12.

9.9. In connection with ENGINEER'S responsibility in respect of Applications for Payment, etc, see Article 14.

DETERMINATIONS FOR UNIT PRICES:

9.10. (Delete)

DECISIONS ON DISPUTES:

9.11. ENGINEER will be the initial interpreter of the requirements of the CONTRACT DOCUMENTS and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the CONTRACT DOCUMENTS pertaining to the performance and furnishing of the Work and claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered by the claimant to ENGINEER and the other party to the Agreement promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within sixty days after such occurrence unless ENGINEER allows and additional period of time to ascertain more accurate data in support of the claim.

9.12. When functioning as interpreter and judge under paragraphs 9.10 and 9.11, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. Then rendering of a decision by ENGINEER pursuant to paragraphs 9.10 and 9.11 with respect to any such claim, dispute or other matter (except and which have been waived by the making or acceptance of final payments as provided in paragraph 14.16) will be a condition precedent to any exercise by OWNER or CONTRACTOR or such rights or remedies as either may otherwise have under the CONTRACT DOCUMENTS or by Laws or Regulations in respect of any such claim, dispute or other matter.

LIMITATIONS ON ENGINEER'S RESPONSIBILITIES:

9.13 Neither ENGINEER'S authority to act under this Article 9 or elsewhere in the CONTRACT DOCUMENTS nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Sub-Contractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

9.14. Whenever in the CONTRACT DOCUMENTS the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives of the effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction review or judgment will be solely to evaluate the Work for compliance with the CONTRACT DOCUMENTS (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or

performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 9.15 and 6.16.

9.15. ENGINEER will not be responsible for CONTRACTOR'S means, methods, technique, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR'S failure to perform or furnish the Work in accordance with the CONTRACT DOCUMENTS.

9.16. ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR or of any Sub-Contractor, any Supplier or any other person or organization performing or furnishing any of the Work.

ARTICLE 10-CHANGES IN THE WORK

Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized, be a written amendment, a Change Order or a Work Directive Change. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the CONTRACT DOCUMENTS (except as otherwise specifically indicated).

10.2. If OWNER and CONTRACTOR are unable to agree as to the extent if any of an increase or decrease in the Contract Price or an extension of shortening of the Contract Time that should be allowed as a result of a work directive change, a claim may be made therefore as provided in Article 11 or Article 12.

10.3. CONTRACTOR shall not be entitled to any increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the CONTRACT DOCUMENTS as amended modified and supplemented as provided in paragraphs 3.4 and 3.5, except in the case of any emergency as provided in paragraph 6.22 and except in the case of uncovering Work as provided in paragraph 13.9.

10.4. OWNER and CONTRACTOR shall execute appropriate Change Orders (or Written Amendments) covering:

10.4.1. Changes in the Work that are ordered by OWNER pursuant to paragraph 10.1, are required because of acceptance of defective Work under paragraph 13.13 or correcting defective Work under paragraph 13.14, or are agreed to by the parties;

10.4.2. Changes in the Contract Price or Contract Time which are agreed to by the parties; and

10.4.3. Changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11, provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance

with the provisions of the CONTRACT DOCUMENTS and applicable laws and regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5. If notice of any change affecting the general scope of the Work of the provisions of the CONTRACT DOCUMENTS (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 11-CHANGE OR CONTRACT PRICE

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3. The value of any Work covered by a Change Order of any claim for an increase or decrease in the Contract Price shall be determined in of the following ways:

11.3.1. (Delete)

11.3.2. By mutual acceptance of a lump sum, which at the discretion of OWNER may be based in whole or in part on the same unit costs outlined in the Bid included in the CONTRACT DOCUMENTS which may include an allowance for overhead and profit.

ARTICLE 12-CHANGE OF CONTRACT TIME

12.1. The Contract Time may only be changed by a Change Order or a Written Amendment. Any Claim for an extension or shortening of the Contract Time shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in

no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event.

All claims for adjustment in the Contract Time shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2. The Contract Time will be extended in an amount to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefore as provided in paragraph 1.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 7, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

12.3. All time limits stated in the CONTRACT DOCUMENTS are of the essence of the Agreement. The provisions of this Article 12 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) for delay by either party.

ARTICLE 13 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTIONS, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

WARRANTY AND GUARANTEE:

13.1. CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all Work will be in accordance with the CONTRACT DOCUMENTS and will not be defective. Prompt notice of all defects shall be given to CONTRACTOR. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 13.

ACCESS TO WORK:

13.2. ENGINEER and ENGINEER'S representatives, other representatives of OWNER, testing agencies an governmental agencies with jurisdictional interests will have access to the work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

TESTS AND INSPECTION:

13.3. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

13.4. If laws and Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefore, pay all costs in connection therewith and furnish ENGINEER the required certificates of inspection, testing or approval.

CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with OWNER'S or ENGINEER'S acceptance of a supplier or materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to CONTRACTOR'S purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals other than those which are required by the CONTRACT DOCUMENTS shall be paid by OWNER (unless otherwise specified).

13.5. All inspections, tests or approvals other than those required by Laws or regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR (or by ENGINEER if so specified).

13.6. If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR'S expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR'S intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.7. Neither observations by ENGINEER nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR'S obligations to perform the Work in accordance with the CONTRACT DOCUMENTS.

UNCOVERING WORK:

13.8. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER'S observation and replaced at CONTRACTOR'S EXPENSE.

13.9. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, a ENGINEER'S request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals), and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim thereof, may make a claim therefore as provided in Article 11. If, however, such work is not found to be defective, CONTRACTOR shall be allowed to increase in the Contract Price or an extension of the contract time, or both, directly attributable to

such uncovering, exposure, observation, inspection, testing and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

OWNER MAY STOP THE WORK:

13.10. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the CONTRACT DOCUMENTS, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this rights for the benefit of CONTRACTOR or any other party.

CORRECTION OR REMOVAL OF DEFECTIVE WORK:

13.11. If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct al defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by Engineer, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

ONE-YEAR CORRECTION PERIOD:

13.12. If within one year after the date of issue of the Certificate of Acceptance or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the CONTRACT DOCUMENTS or by any specific provision of the CONTRACT DOCUMENTS, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected pr the rejected work removed and replaced, and all direct, indirect and consequential costs and replacement (including but not limited to fees and charges of engineers, architect, attorneys, and other professionals) will be paid by CONTRACTOR.

ACCEPTANCE OF DEFECTIVE WORK:

13.13. If, instead of requiring correction of removal and replacement of defective Work, OWNER (and, prior to ENGINEER'S recommendation of final payment, also ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER's evaluation of and determination to accept such defective Work (such cost to be approved by ENGINEER as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals).

If any such acceptance occurs prior to ENGINEER'S recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the CONTRACT DOCUMENTS with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

OWNER MAY CORRECT DEFECTIVE WORK:

13.14. If COCNTRACTOR fails within a reasonable time after written notice of ENGINEER to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11, or if CONTRACTOR fails to perform the Work in accordance with the CONTRACT DOCUMENTS, or if CONTRACTOR fails to comply with any other provision of the CONTRACT DOCUMENTS, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR'S services related thereto, take possession of CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER'S representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in Exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and a Change Order will be issued incorporating the necessary revisions in the CONTRACT DOCUMENTS with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. Such direct, indirect and OWNER consequential costs will include but not be limited to fees and charges of engineers, architects, and other professionals, all court and arbitration costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR'S defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies hereunder.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION SCHEDULE OF VALUES:

14.1 The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and will be incorporated into a form of Application of Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

APPLICATION FOR PROGRESS PAYMENT:

14.2 At least twenty days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the CONTRACT DOCUMENTS. If Payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be 10% (ten percent). The retainage shall be held by the owner until all the work has been satisfactorily completed and accepted in writing. At that time the retainage may be released and included in the Final Payment.

CONTRACTOR'S WARRANTY OF TITLE:

14.3. CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT:

14.4 ENGINEER will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing ENGINEER'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and re-submit the Application twenty (20) days after the presentation of the Application for Payment with ENGINEER'S recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by OWNER to CONTRACTOR.

14.5 ENGINEER'S recommendation of any payment requested in an application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional and on ENGINEER'S review of the Application for Payment and the accompanying data and schedules that the work has progressed to the point indicated that to the best of the ENGINEER'S knowledge, information and belief, the quality of the Work is in accordance with the CONTRACT DOCUMENTS (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent test called for in the CONTRACT DOCUMENTS, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10, and to any other qualifications stated the recommendation); and that CONTRACTOR is entitled to payment of the amount recommended.

However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that exhaustive or continuous on-site inspection have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to ENGINEER in the CONTRACT DOCUMENTS or that there may be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or OWNER to withhold payment to CONTRACTOR.

14.6 ENGINEER'S recommendation of final payment will constitute an additional representation by ENGINEER to OWNER that the conditions precedent to CONTRACTOR'S being entitled to final payment as set forth in paragraph 14.13 have been fulfilled.

14.7. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER'S opinion, it would be incorrect to make such representation to OWNER. ENGINEER may also refuse to recommend any such payment, or because of tests, nullify any such payments previously recommended, to such extent as may be necessary in ENGINEER'S opinion to protect OWNER from loss because:

14.7.1 The Work is defective, or completed Work has been damaged requiring correction or replacement;

14.7.2. The Contract Price has been reduced by Written Amendment or Change Order,

14.7.3. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.14.

14.7.4. ENGINEER'S actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.9 inclusive.

OWNER may refuse to make payment of the full amount recommended by ENGINEER because claims have been made against OWNER on account of CONTRACTOR'S performance of furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling OWNER to a set-off against the amount recommended, but OWNER must give CONTRACTOR immediate written Notice (with a copy to ENGINEER) stating the reasons for such action.

SUBSTANTIAL COMPLETION:

14.8 When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and ENGINEER shall make an inspection of the

Work to determine the status of completion. If ENGINEER considers The Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion.

There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If, after consideration of OWNER'S objections, ENGINEER considers the Work substantially complete, ENGINEER will within said fourteen days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties. Unless OWNER and CONTRACTOR agree otherwise in writing and to inform ENGINEER prior to ENGINEER'S issuing the definitive certificate of Substantial completion, ENGINEER'S aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

PARTIAL UTILIZATION:

14.10. Use by OWNER of any finished part of the Work, which has specifically been identified in the CONTRACT DOCUMENTS, or which OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER without significant interference with CONTRACTOR'S performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER and ENGINEER that said part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of

the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.10.2 OWNER at any time may request CONTRACTOR in writing to permit OWNER to take over operation of any such part of the Work although it is not substantially complete. A copy of such request will be sent to ENGINEER and within a reasonable time thereafter OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If CONTRACTOR does not object in writing to OWNER and ENGINEER that such part of the Work is not ready for separate operation by OWNER, ENGINEER will finalize the list of items to be completed or corrected and will deliver such list to OWNER and CONTRACTOR together with written recommendation as to the division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the Work which will become binding upon OWNER and CONTRACTOR at the time when OWNER takes over such operation (unless they shall have otherwise agreed in writing and so informed ENGINEER). During such operation and prior to Substantial Completion of such part of the Work, OWNER shall allow CONTRACTOR reasonable access to complete or correct items on said list and to complete other related Work.

14.10.3 No occupancy or separate operation of part of the Work will be accomplished prior to
compliance with the requirements of paragraph 5.15 in respect of property insurance. FINAL INSPECTION:

14.11 Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

FINAL APPLICATION FOR PAYMENT:

14.12 After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents-all as required by the CONTRACT DOCUMENTS, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 14.16), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the CONTRACT DOCUMENTS, together with complete and legally effective releases or

waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Sub-Contractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

FINAL PAYMENT AND ACCEPTANCE:

If, on the basis of ENGINEER'S observation of the Work during construction and final inspection, and ENGINEER'S review of the final Application for Payment and accompanying documentation, all required by the CONTRACT DOCUMENTS, ENGINEER is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the CONTRACT DOCUMENTS have been fulfilled, ENGINEER will, within ten days after receipt of final Application for Payment, indicate in writing ENGINEER'S recommendation of payment and present the Application to OWNER for payment.

Thereupon ENGINEER will give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.16. otherwise, the ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and re-submit the Application. Thirty days after presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance, and with ENGINEER'S recommendation and notice of acceptability the amount recommended by ENGINEER will become due and will be paid by OWNER to CONTRACTOR.

14.14 If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR'S final Application for payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

CONTRACTOR'S CONTINUING OBLIGATION:

14.15. CONTRACTOR'S obligation to perform and complete the Work in accordance with the CONTRACT DOCUMENTS shall be absolute. Neither recommendation of any progress or final

payment by ENGINEER, nor the issuance of a certificate of Substantial Completion, nor any payment by OWNER to CONTRACTOR under the CONTRACT DOCUMENTS, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the CONTRACT DOCUMENTS or release of CONTRACTOR'S obligation to perform the Work in accordance with the CONTRACT DOCUMENTS.

WAIVER OF CLAIMS:

14.16. The making and acceptance of final payment will constitute:

14.16.1 A waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.11 or from failure to comply with the CONTRACT DOCUMENTS or the terms of any special guarantees specified therein; however it will constitute a waiver by OWNER of any rights in respect of CONTRACTOR'S continuing obligations under the CONTRACT DOCUMENTS; and

14.16.2 A waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15- SUSPENSION OF WORK AND TERMINATION OWNER MAY SUSPEND WORK:

15.1 OWNER may at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefore as provided in Articles 11 and 12.

OWNER MAY TERMINATE:

15.2 Upon the occurrence of any one or more of the following events:

15.2.1. If CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filling, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other Federal or State law in effect at the time relating to bankruptcy or insolvency;

15.2.2. If a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other Federal or State law in

effect at the time relating to bankruptcy or insolvency;

15.2.3. If CONTRACTOR makes a general assignment for the benefit of creditors;

15.2.4. If a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose or enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR'S creditors;

15.2.5. If CONTRACTOR admits in writing as inability to pay its debts generally as they become due;

15.2.6. If CONTRACTOR persistently fails to perform the work in accordance with the CONTRACT DOCUMENTS (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment of failure to supply sufficient skilled workers or suitable materials or equipment of failure to adhere to the progress schedule established under paragraph 2.9 as revised from time to time);

15.2.7. If CONTRACTOR disregards Law or Regulations of any public body having jurisdiction;

15.2.8. If CONTRACTOR disregards the authority of ENGINEER; or

15.2.9. If CONTRACTOR otherwise violates in any substantial way any provisions of the CONTRACT DOCUMENTS; OWNER (and the surety, if there be one) seven days written the extent notice and to permitted by Laws and Regulations, terminate the CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion) incorporated in the Work all materials and equipment stored elsewhere and finish the Work as Owner may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs), such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights to remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3 Where CONTRACTOR'S services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter occur. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven days' written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expense, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs.

CONTRACTOR MAY STOP WORK OR TERMINATE:

15.5. If, through no act or fault of CONTRACTOR, the Work is suspended for a period or more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty days after it is submitted, or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to OWNER and ENGINEER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 6.29 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

ARTICLE 16 - ARBITRATION
Deleted

ARTICLE 17 - MISCELLANEOUS GIVING NOTICE:
17.1 Whenever any provision of the CONTRACT DOCUMENTS requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address know to the giver of the notice.

17.2.1. When any period of time is referred to in the CONTRACT DOCUMENTS by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.2.2. A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

GENERAL:

17.3. Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees

or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provision of this paragraph 17.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

17.4. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligation imposed upon CONTRACTOR by paragraphs 6.30, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws and Regulations, by special warranty or guarantee or by other provisions of the CONTRACT DOCUMENTS, and the provisions of this paragraph will be as effective as if repeated specifically in the CONTRACT DOCUMENTS in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the CONTRACT DOCUMENTS will survive final payment and termination or completion of the Agreement.

17.5 STANDARD WORK HOURS: The standard work hours for the OWNER is 8:00 am to 5:00 pm, Monday through Friday. Should the Contractor elect to work on Saturday, Sundays or holidays, he shall be responsible for paying overtime charges for the OWNERS personnel involved. These charges will be at cost and will be calculated either at time and a half or double time, as applicable to the particular day being worked. Pre-approval shall be obtained from the Engineer or Engineer's representative by completing and signing a OWNER'S Form entitled "CONSTRUCTION INSPECTORS OVERTIME COMPENSATION AUTHORIZATION", prior to commencing any overtime work.

Any work done outside the standard workday, without prior authorization, shall be considered under unauthorized work. The Contractor is required to pay the overtime wages of the OWNER Inspectors that work overtime Mondays through Fridays at time in a half. The Contractor is responsible for the overtime wages of the ONWER inspectors that work Holidays at double time. Minimum hours will be billed to contractor for callouts or for insufficient notice of two (2) hours.

17.6 INDEMNIFICATION

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER, ENGINEER, ENGINEER'S SUBCONSULTANTS AND THE OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AND OTHER CONSULTANTS OF EACH AND ANY OF THEM FROM AND AGAINST ALL CLAIMS, COSTS, LOSSES, AND DAMAGES (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OR ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS AND ALL COURT OR ARBITRATION OR OTHER DISPUTE RESOLUTION COSTS) CAUSED BY, ARISING OUT OF, OR RESULTING FROM, THE PERFORMANCE OF THE WORK, PROVIDED THAT ANY SUCH CLAIM, COST, LOSS OR DAMAGE: (i) IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS,

DISEASE, OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY (OTHER THAN THE WORK ITSELF), INCLUDING THE LOSS OF USE RESULTING THEREFROM, AND
(ii) IS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION OF CONTRACTOR, ANY SUBCONTRACTOR, ANY SUPPLIER, ANY PERSON, OR ORGANIZATION DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM TO PERFORM OR FURNISH ANY OF THE WORK, OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT CAUSED IN PART BY ANY NEGLIGENCE OR OMISSION OF A PERSON OR ENTITY INDEMNIFIED HEREUNDER OR WHETHER LIABILITY IS IMPOSED UPON SUCH INDEMNIFIED PARTY BY LAWS AND REGULATIONS REGARDLESS OF THE NEGLIGENCE OF ANY SUCH PERSON OR ENTITY. CLAIMS, COSTS, LOSSES, DAMAGES, SUITS AND CAUSES OF ACTION, AND ANY AND ALL LIABILITY, COSTS, EXPENSES, SETTLEMENTS, DAMAGES, AND JUDGEMENTS INCURRED IN CONNECTION THEREWITH (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OF ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS, AND ALL COURT OR ARBITRATION OR OTHER DISPUTES RESOLUTION COSTS) WHETHER ARISING IN EQUITY, AT COMMON LAW, OR BY STATUTE, INCLUDING THE TEXAS DECEPTIVE TRADE PRACTICES ACTOR SIMILAR STATUTE OF OTHER JURISDICTIONS, OR UNDER THE LAW OF CONTRACTS, TORTS (INCLUDING WITHOUT LIMITATION, NEGLIGENCE AND STRICT LIABILITY WITHOUT REGARD TO FAULT) OR PROPERTY, OF EVERY KIND OR CHARACTER… (iii) IS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION, OTHER FAULT, BREACH OF CONTRACT OR WARRANTY, VIOLATION OF THE TEXAS DECEPTIVE TRADE PRACTICES ACT, OR STRICT LIABILITY WITHOUT REGARD TO FAULT OF CONTRACTOR…. REGARDLESS OF WHETHER OR NOT CAUSED IN PART BY ANY NEGLIGENCE OR OMISSION, OTHER FAULT, BREACH OF CONTRACT OR WARRANTY, VIOLATION OF THE TEXAS DECEPTIVE TRADE PRACTICES ACT, OR STRICT LIABILITY WITHOUT REGARD TO FAULT OF A PERSON OR ENTITY INDEMNIFIED HEREUNDER…. CONTRACTOR'S OBLIGATIONS OF INDEMNIFICATION UNDER THIS PARAGRAPH 6.20.1 SHALL NOT BE LIMITED BY THE AMOUNT OF ANY INSURANCE.

VIDEOTAPING: The Contractor shall videotape the entire job site, including access to the job site, prior to commencing work. A copy of the videotape shall be provided to the City at the Pre-Construction Conference. The videotape will be held for historical purposes and for resolving complaints/claims from affected property owners. Failure to provide such a tape shall render the contractor liable for claims. Acceptable format is standard VHS tape. Beta format is not acceptable.

Monthly videotaping by the contractor during construction is recommended to protect the contractor's interest against claims and as a basis for extras.

Exhibit I

SPECIAL CONDITIONS

1. COMPLETION TIME AND LIQUIDATED DAMAGES

The project as indicated in the Plans and Specifications shall be completed within the number of consecutive calendar days stated in the Contract beginning the date of the notice to commence work. Contractors shall submit a monthly request for time extensions, and such requests shall include justification in conformance with the Contract. The time set forth in the Proposal for the completion of the work is an essential element of the contract. The Contractor and Owner understand and agree that a breach of this Contract as to completion on time will cause damage to the Owner. The parties agree that for each and every calendar day the work or an portion thereof shall remain uncompleted after the expiration of the time limits, the amount per day given in the following schedule will be deducted from the money due or to become due the Contractor, not as penalty, but as liquidated damages and added expense of engineering and overhead.

The Contractor shall within the (10) days from the beginning of any delay notify the Engineer, in writing, of the causes of delay. The Engineer shall ascertain the facts, and the extent of delay and his findings of the facts thereon shall be final and conclusive.

2. CONTRACT DRAWINGS

The Contractor will be furnished three (3) complete sets of drawings by the Engineer for use during construction of the project. Only Plans and Specifications marked "Approved for Construction" and bearing signature of the Engineer on said mark shall be used as construction drawings. Any additional set of construction plans can be provided to contractor upon payment of $100.00.

3. DISPOSAL OF RUBBISH

It shall be the responsibility of the Contractor to dispose of all rubbish, brush, fencing, trees or

other objectionable materials by burning, removal form the site or whatever means necessary to effect such disposal.

4. UTILITY SERVICES FOR CONSTRUCTION

Contractor will be responsible for furnishing water or any other utility services required for construction of project.

5. TESTING, INSPECTION AND CONTROL

Testing and inspection of materials required by these specifications shall be by a commercial testing laboratory. The laboratory shall be selected by the Owner and laboratory services and field testing required by the Technical Specifications for control of work, such as testing of concrete cylinders made on the job shall be paid for by the Contractor. Additional laboratory services as dictated below shall be paid for y the Contractor:

A. The cost of laboratory services required to establish mix design for Portland Cement Concrete and Asphaltic concrete mixture, testing of aggregates, fixing gradations, the preparations and testing of design cylinders or specimens and other such services required to establish mix design, or to redesign the mix when required due to change in source of materials.

B. The Contractor shall furnish all materials and test specifications for testing as selected by the Testing Agency.

C. Mills test will be required for reinforcing steel, and cement, and mill certificates will be acceptable when it is definite that the test sheets apply to the material being supplied.

D. Any tests or inspections performed exclusively for the Contractor's convenience and for retests caused by initial nonconformance of the materials with the Contract Documents.

The testing mentioned in this section will be performed at a frequency required by the specification or at a frequency determined by the Engineer or the Engineer's representative. The Engineer shall require sufficient testing to ensure that the requirements of the specifications are met by the Contractor.

6. LICENSE, FEES AND PERMITS

It shall be the Contractor's responsibility to make necessary applications and obtain all permits required by all agencies, including, but not limited to, the City, County, State, and Federal government for this project.

7. TRAFFIC

It shall be the responsibility of the Contractor to provide for the safety and convenience of traffic

so as to comply with all existing traffic regulations and ordinances as may apply.

8. UNDERGROUND OBSTACLES

Pipelines and other existing underground installations and structures in the vicinity of the work are shown on the drawings according o the best information available to the Owner. The Owner does not guarantee the accuracy of such information. The Contractor shall make every effort to locate all underground pipelines, conduits and structures by contacting owners of underground utilities an by prospecting in advance of trench excavation. The repair of existing utilities cut by the Contractor shall be made at the expense of the Contractor, and shall be scheduled so as to cause the least possible inconvenience to the public. Any delay or extra cost to the Contractor caused by pipelines or other underground structures or obstructions not shown by the Plans, or found in location of different from those indicated, shall not constitute a claim for extra work, additional payment or damages.

9. RECORD DRAWINGS

Upon completion of the project and before final payment is made to the Contractor, the Contractor shall deliver one (1) complete set of record drawings and said drawings shall be neat, accurate and orderly and produced to the satisfaction of the Engineer.

10. OTHER CONTRACTS

Other contracts may be underway concurrently in this area. Contractor shall afford other contractors and utility companies reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.

11. MATERIALS AND WORKSHIP

When materials are specified by a trade or brand name, it is not the intention of the Owner to discriminate against an equal product of another manufacturer, but to set a definite standard of quality or performance and to establish an equal basis for the evaluation of bids.

12. REPAIR TO ROADS

The Contractor shall be responsible for repairing any damage to City or County Roads and road owned by the Owner which are used by the Contractor in connection with operations under this Contract. Said repair work shall be at the Contractor's expense. Any debris, mud and related sources caused by contractor will need to be hauled off and cleaned.

13. PUBLIC UTILITIES

A. All poles, wires, cables, conduits, pipelines, or other structures within the work area, belonging to municipalities or public utility corporations, shall be protected by the Contractor.
B. The Contractor will conduct the work along any section of this project which is crossed by, or adjacent to, a public utility such as high lines, sewer lines, etc., in a manner so that no damages result to these utilities. The Contractor will be held solely responsible for damages to such utilities as a result of careless or negligent operations.

14. PRE-CONSTRUCTION CONFERENCE

Upon award of a Contract to the successful bidder, the Contractor shall meet with the Engineer at a designated location and at a time set by the Engineer. A schedule of procedure for a sequence of construction shall be agreed upon at this conference.

15. LINES AND GRADES

Special attention is directed to Part 2, Paragraph 2.6, Page GC-5, of the General Conditions of Agreement. Special care should be taken by the Contractor to avoid disturbance of Engineer's horizontal and vertical control points. The protection of construction stakes (horizontal and vertical control points), is the Contractor's responsibility and re-staking or re-establishment of these points or stakes will be done by the Engineer at the Contractor's expense. Survey Party time for re-staking will be charged at hourly rates in accordance with the Engineer's schedule of hourly rates which is in effect at the time of the re-staking. (Refer to SG5 Notification)

16. STAKING FOR CONSTRUCTION General

The staking services that the Engineer will furnish and the responsibility of the Contractor respecting the uses of and maintenance of all stakes is outlined under this section. (Refer to Notification section on this document)

No stakes will be furnished until the right-of-way or easements are acceptable condition other than clearing stakes.

Notification

The Contractor shall notify the Engineer, in writing, at least three (3) full working days in advance of the date when specific staking services are desired, giving the specific location and/or limiting stations. The Contractor shall notify the Engineer five (5) days prior to start-up so as to allow the Engineer to set his control. The Engineer shall be notified of any change of sequence which is established at pre-construction conferences. Construction stakeout is the Contractor's responsibility. (non-pay item).

Control Stakes

Stakes which constitute reference points for all construction work will be conspicuously marked with flagging tape in accordance with the code in these Specifications. It will be the responsibility of the Contractor to inform his employees and his subcontractors of their importance, and the necessity for their preservation. The cost of replacing such controls, should it become necessary for any reason whatsoever, shall be at the Contractor's expense. If the removal of a control stake is required by the construction operations of the Contractor or his subcontractors, advance notice in writing, of at least three (3) full working days shall be given to the Engineer, who will reference and remove said stake or stakes at no cost to the Contractor.

The Contractor shall employ competent grade setters to control the grading operations from the information provided on the reference stakes.

No additional stakes will be furnished, except as requested in writing by the Contractor and paid for by him. This applies to all re-staking for whatever reason, as well as for additional staking which the Contractor may request. Charges for the additional staking will be deducted from next progress payment that is issued to the Owner by the Engineer.

17. INSURANCE REQUIREMENTS

The Contractor, at his expense, shall take out and keep in force throughout the term of this Contract, the following insurance coverage in the amounts specified below to cover all of his operations in connection with the work to be performed under the Technical Specifications. The insurance certificates shall be submitted to the Owner for acceptance prior to move-in and beginning work

MINIMUM INSURANCE REQUIRMENTS

INSURANCE TYPE
Workman's Compensation General Liability
Comprehensive Form
Premises-Operations Products/Completed Operations Hazard Contractual Insurance Independent Contractors Personal Injury

Automobile Liability Comprehensive Owned
Hired
Non-owned

Excess Liability
Umbrella Form

LIMITS OF LIABILITY

As provided by Texas Workman's Compensation Act.

Bodily Injury
$300,000/Person
$500,000/Occurance Property Damage
$100,000/Occurance
$300,00/Aggregate Personal Injury
$500,000

Bodily Injury
$300,000/Person
$500,000/Occurance Property Damage
$300,000/Occurance

$100,000

The remaining term of all policies shall extend at least to the least to the completion date of this Contract; if the expiration date shall occur prior to final completion of all operations hereunder, Contractor shall, not less than fifteen (15) days prior to expiration date, furnish evidence of renewal of or extension of such insurance. All such evidence of insurance shall provide for ten (10) days prior notice to be given to Owner in the event of cancellations.

The Contractor agrees to indemnify and to hold the Owner and the Engineer harmless from and against any and all damages, claims, demands, suits, judgments and costs including attorney's fees and expenses for or on account of damage to property of any person, firm corporation, or Government agency, or death of or injury to any person or persons (including property and employees of the Owner, the Contractor, and employees of the Contractor) directly or indirectly arising out of, or caused by or in connection with the performance of or failure to perform any work provided for hereunder by the Contractor, his subcontractors, or their or the Contractor's agents, servants, or employees.
The Contractor will be held accountable for all insurance coverage's including those of sub-contractors, and provide that all the above mentioned policies will be with insurance carriers.
18. UNBALINCING OF BIDS AND USAGE OF SPECIAL ITEMS
The Contractor's attention is directed to the fact that unbalancing of unit bid prices for any reason shall be considered justification for rejection of the bid. The Contractor may not decrease these bid prices, however, he may increase the bid prices as he may see fit. In instances where subsurface seepage of water above trench bottom requires the drying up of trench bottom, the use of washed gravelor shell in trench bottom will be permitted.

19. ARBITRATION

Arbitration under this agreement shall be subject to the provisions of the Texas General Arbitration Act, Articles 224 to 238-6, V.A.C.S. To any extend that the provisions of Section 16 of the General Conditions are in conflict with or inconsistent with any provision of such Act, the provisions of such Act shall control. Both the Owner and Contractor shall concur on Arbitration as a method of settling any particular dispute.

20. PARTIAL PAYMENTS

Article 14.2 APPLICATION FOR PROGRESS PAYMENT (Standard General Conditions of the Construction Contract) is hereby supplemented with the following:

On or before the last Monday of each month, the CONTRACTOR shall prepare and submit to the Engineer for approval or modification a statement showing as completely as practicable the total value of the work done by the Contractor up to and including the last day of the preceding month; said statement shall also include the value of all sound materials delivered on the site of the work that are to be fabricated into the work.

The OWNER shall then pay the CONTRACTOR on or before the 2nd Monday of the following month the total amount of the approved statement, less 10 percent of the amount thereof, which 10 percent shall be retained until final payment, and further less all previous payments and all further sums that may be retained by the OWNER under the terms of this Agreement. It is understood, however, that in case the whole work be near the completion and some unexpected and unusual delay occurs due to not fault or neglect on the part of the CONTRACTOR, the OWNER may-upon written recommendation of the ENGINEER- pay a reasonable and equitable portion of the retained percentage to the CONTRACTOR, or the CONTRACTOR at the OWNER'S option, may be relieved of the obligation to fully complete the work and, thereupon, the CONTRACTOR shall receive payment of the balance due him under the contract subject only to the conditions stated under "Final Payment".

Exhibit "J"

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 8/3/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Swingle, Collins & Associates 13760 Noel Road, Suite 600 Dallas TX 75240	CONTACT NAME: Service Department PHONE (A/C, No, Ext): 972-387-3000 FAX (A/C, No): 972-387-3808 E-MAIL ADDRESS: services@swinglecollins.com
INSURED 13964 4X Construction Group, LLC 99 Regency Parkway, Suite 303 Mansfield TX 76063	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Trumbull Insurance Company — 27120 INSURER B : Hartford Casualty Insurance Co — 29424 INSURER C : Hartford Underwriters Ins Co — 30104 INSURER D : Westchester Surplus Lines Ins — 10172 INSURER E : Hartford Insurance Co — 34690 INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 883386318 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
C	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [X] LOC OTHER:	Y	Y	46UEAAY6WFA	1/1/2026	1/1/2027	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 300,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY	Y	Y	46UEABH4T6L	1/1/2026	1/1/2027	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $ $
B	UMBRELLA LIAB [X] OCCUR X EXCESS LIAB [ ] CLAIMS-MADE DED [X] RETENTION $ 10,000			46HHABA0GNV	1/1/2026	1/1/2027	EACH OCCURRENCE AGGREGATE	$ 10,000,000 $ 10,000,000 $
E	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N [ ] N / A If yes, describe under DESCRIPTION OF OPERATIONS below		Y	46WEAAJ4TX1	1/1/2026	1/1/2027	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
D	Pollution			G28337462 006	1/1/2026	1/1/2027	Limit	$5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Project: City of Brownsville Municipal Landfill – Disposal Cell 6 and Associated Site Improvements Construction, Brownsville, TX

CERTIFICATE HOLDER

City of Brownsville
1001 E Elizabeth St.
Brownsville TX 78520

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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INVITATION FOR BIDS FOR: Landfill Cell #6 Construction & Associated Improvements

IFB#: 296-26-EPW-IFB

IFB CLOSING DATE: Tuesday, August 4, 2026
IFB CLOSING TIME: 2:00 P.M CT

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1 General Information

1.1 Procurement Authority and Method

This Invitation for Bids is issued pursuant to Texas Local Government Code Chapter 252 and applicable City procurement policies. Award will be made to the lowest responsive and responsible bidder, unless otherwise authorized by law and stated in this solicitation.

1.2 Invitation Summary

The City of Brownsville Procurement Department appreciates your interest in this solicitation. This Invitation for Bids (IFB) includes all requirements, specifications, and forms necessary for submission. All dates and times referenced in this IFB are Central Standard Time (CST).

Bidders are responsible for ensuring their response is complete and submitted electronically through the City's Bonfire portal at https://brownsvilletx.bonfirehub.com by the deadline stated in this solicitation. Late responses will not be accepted.

For questions or assistance, please contact the designated Buyer listed in Section 1.5 (Point of Contact).

1.3 Legal Advertisement Notice

* B/P/Q (Bid/Proposal/Qualifications)

Description	NUMBER	Pre-Bid Meeting	SITE VISIT Mandatory	OPENING
INVITATION FOR BIDS FOR LANDFILL CELL #6 CONSTRUCTION & ASSOCIATED IMPROVEMENTS	***B 296-26-EPW-IFB**	**Tuesday, July 14, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING**	**Tuesday, July 14, 2026 @ 2:00 P.M CT**	**Tuesday, August 4, 2026 @ 2:00 P.M CT TEAMS VIRTUAL MEETING**

Sealed, bids/proposals will be received by the City of Brownsville's Electronic Portal at City of Brownsville (bonfirehub.com)

Copies of the bid documents consisting of detailed specifications, general requirements or other information may be obtained at

http://www.brownsvilletx.gov City of Brownsville (bonfirehub.com)

Interested Bidders/Proposers are invited to attend the Pre-Bid meeting and the Bid/Proposal opening Virtually on the dates specified. Presence is not mandatory. Specifications may also be viewed and downloaded at: City of Brownsville (bonfirehub.com)

1.4 Calendar of Events

Release Date	Saturday, July 4, 2026
Pre-Bid Meeting (Optional)	Tuesday, July 14, 2026 at 10:00 A.M. The Pre-Bid meeting is open to the public. Pre-Bid meeting participants may attend via Microsoft Teams (link below). Microsoft Teams Link: https://teams.microsoft.com/meet/218944227115467?p=OU17ZiOZKGMvdewxiF Meeting ID: 218 944 227 115 467 Passcode: rr97H5VN
Site Visit **(In Person Mandatory)**	Tuesday, July 14, 2026 at 2:00 P.M **Address:** City of Brownsville Landfill 9000 Ruben M Torres Brownsville, TX 78521
Questions Due Date	Monday, July 20, 2026 at 3:00 P.M
Addenda Issue Date	Friday, July 24, 2026 at 5:00 P.M
Bid Closing Date (Bid Due Date)	Tuesday, August 4, 2026 at 2:00 P.M
Bid Opening Meeting	Tuesday, August 4, 2026 at 2:00 P.M The Bid Opening meeting is open to the public. Bid Opening meeting participants may attend via Microsoft Teams (link below). Microsoft Teams Link: https://teams.microsoft.com/meet/276645246973831?p=xY7cggi9XdrrXYuKPC Meeting ID: 276 645 246 973 831 Passcode: LQ6nT2DZ

1.5 Project Overview

It is the intent of the City of Brownsville, Texas to solicit sealed competitive bids for the City of Brownsville Landfill Cell 6 and Associated Site Improvements Construction. The project consists of landfill infrastructure improvements, including excavation, structural fill placement, compacted cohesive soil barrier layer placement, underdrain and leachate collection system installation, protective soil layer placement, manhole, concrete headwall and forcemain construction, and other associated site improvements at the City of Brownsville Landfill.

1.6 Contract Term

The initial term of the agreement resulting from this IFB shall commence upon approval by the City Commission or its designee and shall remain in effect for 150 consecutive calendar days, unless terminated earlier in accordance with the contract provisions.

The City reserves the right to make a single award, multiple awards, or no award, as determined to provide the best value to the City and consistent with the evaluation criteria in this IFB.

1.7 Point of Contact

For information regarding bidding procedures contact Jaydy Valdez, Buyer or Damian Espinoza, Procurement Director, via Bonfire or email at purchasing@brownsvilletx.gov

1.8 Unauthorized Communication

Any oral communications are considered unofficial and non-binding with regard to this IFB. After the release of this solicitation, Bidder(s) are prohibited from contacting or communicating with any City officer, employee, or representative regarding this IFB other than (i) the point of contact designated herein. No officer, employee, agent, or representative of the Proposer(s) shall, directly or indirectly through others, have any contact or discussion, oral or written, with any members of the City Commission; members of the IFB evaluation, interview, or selection panels; City staff or City's consultants, or seek to influence any City Commission Member, IFB evaluator, City staff, or City's consultants regarding any matters pertaining to this solicitation, except as expressly provided herein. **IF A REPRESENTATIVE OF ANY BIDDING COMPANY VIOLATES THE FOREGOING PROHIBITION BY CONTACTING ANY OF THE ABOVE-LISTED PARTIES WITH WHOM CONTACT IS NOT AUTHORIZED, SUCH CONTACT MAY RESULT IN THE PROPOSER BEING DISQUALIFIED FROM THE IFB/RFP/RFQ/ OR ANY OTHER PROCUREMENT RELATED PROCESS.**

1.9 Submission of Clarifications or Changes

All requests for clarifications must be submitted in Bonfire no later than the date specified in the Calendar of Events.

1.10 Submission of Bids

Respondent is responsible to ensure that their IFB response is received in a timely manner and that it contains all elements of the IFB including all required forms and any addendums issued. IFB responses received after the deadline will not be opened and therefore not evaluated or considered for award, regardless of whether or not the delay was outside the control of the submitting provider. The City of Brownsville reserves the right to negotiate with any and all service providers submitting timely responses, and to reject any and all bids.

1.11 Budget Information

The City of Brownsville will not be disclosing budget information for this project. Bidders are expected to submit their most competitive pricing in response to this IFB.

1.12 Funding Notice

Local funds will be used and shall comply with all applicable local procurement laws, regulations, and policies.

STANDALONE EQUAL EMPLOYMENT SECTION

The City of Brownsville is an Affirmative Action/Equal Opportunity Employer. Minority Business Enterprises, Small Business Enterprises, Women Business Enterprises, and Labor Surplus Area firms are encouraged to submit proposals.

2 Scope of Work / Technical Specifications

It is the intent of the City of Brownsville, Texas to solicit sealed competitive bids for the City of Brownsville Landfill Cell 6 and Associated Site Improvements Construction. The project consists of landfill infrastructure improvements, including excavation, structural fill placement, compacted cohesive soil barrier layer placement, underdrain and leachate collection system installation, protective soil layer placement, manhole, concrete headwall and forcemain construction, and other associated site improvements at the City of Brownsville Landfill.

2.1 Minimum Qualifications

In order to be considered a responsible bidder, the following minimum qualifications must be met. These requirements are subject to verification by the City. Failure to demonstrate compliance will result in the bid being deemed non-responsive or non-responsible.

- **Business Experience**
    - Bidder must have been in continuous operation providing goods or services similar in scope to this solicitation for a minimum of five (5) years.
    - Bidder must provide at least three (3) references from projects of similar size and scope completed within the past five (5) years.

- **Financial and Legal Standing**
    - Bidder must not be currently debarred, suspended, or otherwise ineligible to contract with any federal, state, or local government entity.
    - Bidder must not be in arrears on any existing contract or have defaulted on a previous contract with the City.
    - The City reserves the right to review financial stability, including bonding capacity (if applicable), to ensure the bidder can perform.

- **Attendance of Mandatory Site Visit**
    - The Site visit is Mandatory. Vendors who do not attend will be automatically disqualified, and their submissions will not be accepted.

- **Licenses and Certifications**
    - Bidder must hold all licenses, certifications, and registrations required by federal, state, and local law to perform the scope of work described in this solicitation.
    - For construction projects, bidder must maintain all professional and trade licenses as required by Texas law.

- **Insurance and Bonding (if applicable)**
    - Bidder must be able to provide insurance coverage meeting the requirements outlined in Section 5 (Terms and Conditions).

- For construction projects, the successful bidder must provide Bid Bond, Payment Bond, and Performance Bond in accordance with Texas Government Code Chapter 2253.

If a Proposer cannot meet one or more of the minimum requirements, the Proposer may provide supporting evidence demonstrating its ability to successfully complete the services, including the experience of management staff on similar contracts.

2.2 Performance Requirements

The successful bidder must comply with the following performance requirements, as applicable to the project:

- Timely delivery of goods or completion of services/construction within the project schedule.
- Compliance with all applicable federal, state, and local codes, standards, and regulations.
- Quality assurance and warranty provisions as specified.
- Coordination with City staff and other contractors as necessary.
- Safety compliance with OSHA and City standards.

2.3 Reference to Technical Documents

The following technical documents are incorporated by reference and provided as separate files in the City's Bonfire procurement portal at https://brownsvilletx.bonfirehub.com. Bidders are responsible for reviewing these documents in their entirety prior to submission. Failure to acknowledge or comply with the requirements set forth in these documents may result in disqualification.

- Cell 6 Construction Specifications
- Cell 6 Construction Plans

3 Bid Submission Requirements

3.1 City Required Forms

All City-required forms that need to be completed will be found on Bonfire as a separate attachment from the solicitation package. It is the vendor's responsibility to obtain and submit these required forms with their response package.

Once submitted, bids become the property of the City. Invitation for Bids must be signed by a duly authorized official of the Firm's/Contractor's organization.

- Telegraphic bids will not be considered.
- Bids may not be withdrawn after the bid opening.
- The City of Brownsville reserves the right to reject any and all bids.
- At the sole discretion of the City, events listed are subject to scheduling changes and cancellation. The City will make public any changes to the stated schedule.

In addition to the narrative requested in the IFB, the following documents are to be completed and returned with the Respondent's response package:

- Form 1 – Proposal Acknowledgment & Authorized Contact Info
- Form 2 - Statement Of Conflicts Of Interest
- Form 3 - Texas Ethics Commission Certificate of Interested Parties (Form 1295)
- Form 4 – Respondent's Statement of Organization
- Form 5 – Non-Collusion Affidavit
- Form 6 – Litigation Disclosure
- Form 7 – Disclosure of Interest
- Form 8 - References
- Form 9 – Proposed Deviations
- Form 10- Bid Price Form
- Addenda Acknowledgement Form - This form will be issued out by the City when an addendum is issued out.

3.2 Vendor Produced Forms

In addition to the City forms, vendors are responsible for providing certain documents that are not prepared or issued by the City. These must be completed by the vendor and uploaded in Bonfire with the bid response.

- Certificate of Insurance
- Bid Bond (construction projects, 5% of bid)
- Payment and Performance Bond Capacity Letter (construction projects)
- Financial Statements or Proof of Financial Capacity (if requested)

3.3 Confidentiality / Texas Public Information Act

All documents submitted in response to this solicitation are subject to the Texas Public Information Act (Texas Government Code Chapter 552). Vendors must clearly mark any portion of their submission that they consider confidential, proprietary, or trade secret.

The City will make reasonable efforts to protect such information but makes no guarantee that it will be exempt from disclosure. Final determinations are made by the Texas Attorney General or a court of competent jurisdiction.

4 Evaluation and Award

4.1 Evaluation Process Overview

All bids will be reviewed by the City for responsiveness, responsibility, and price. The City of Brownsville reserves the right to reject any bid that fails to meet the requirements of this IFB.

The evaluation will proceed in the following steps:

- **Compliance Review (Responsiveness):** Verify that all required forms, documents, and addenda acknowledgements were submitted correctly through the City's bidding platform.
- **Responsibility Review:** Confirm that the bidder has the capacity to perform, including licenses, insurance, financial standing, references, and bonding capacity (if applicable).
- **Price Review:** Among responsive and responsible bidders, award will be made to the lowest bidder based on total evaluated price.

4.2 Responsiveness (Pass/Fail)

A bid may be deemed non-responsive and disqualified if it fails to:

- Submit all required City forms (see Section 3.1).
- Submit all required vendor-produced documents (see Section 3.2).
- Meet submission deadlines and procedures as outlined in Section 1.8.
- Acknowledge all issued addenda.

4.3 Responsibility (Pass/Fail)

A bidder may be deemed non-responsible if they:

- Lack the financial stability, bonding capacity, or insurance coverage required.
- Have failed to perform satisfactorily on previous City contracts.
- Are debarred, suspended, or otherwise ineligible to contract with government entities.
- Cannot provide valid references demonstrating capability to perform the scope of work.

4.4 Pricing (Lowest Bidder)

Award will be made to the lowest responsive and responsible bidder in accordance with Texas Local Government Code Chapter 252 and other applicable laws and regulations.

Evaluation of price may include:

- Lump Sum Contracts: The total bid amount for the entire project.
- Unit Price Contracts: The extended totals for estimated quantities multiplied by unit prices.

- Alternate or Deductive Items (if requested): The City may consider alternates or deductive items in determining the lowest bid, as specified in the bid documents.
- Federal or State Funding Requirements: When federal or state funds are involved, award shall be made in compliance with all applicable statutes, regulations, and funding agency guidelines (e.g., Davis-Bacon Act, Buy America/Buy American provisions, Uniform Guidance under 2 CFR Part 200).

4.5 Basis of Award

The City may award a contract on an "all-or-nothing" basis, by line item, or by groupings of items, as stated in the solicitation. In the event of a tie bid, the City will follow the procedures outlined in Texas Local Government Code §271.901 and applicable federal or state requirements.

4.6 Single Bid

In the event a single bid is received, the City may, at its option, conduct a price analysis and negotiate the award, or reject the bid and re-advertise.

5 Terms and Conditions

5.1 Standard Terms and Conditions Reference (Exhibit A)

The City of Brownsville's Standard Purchasing Terms and Conditions (Exhibit A) are incorporated herein by reference and shall govern all resulting contracts unless expressly modified by this solicitation. By submitting a bid, the bidder acknowledges receipt and acceptance of Exhibit A.

5.2 Bid Pricing Period

All bid prices shall remain firm and irrevocable for ninety (90) calendar days from the date of the bid opening, unless otherwise stated in this IFB or extended by mutual written agreement.

5.3 Withdrawal of Bid

Bids may not be withdrawn or cancelled by the Bidder after the submission deadline. By submitting a bid, the Bidder acknowledges and agrees that its bid shall remain valid and enforceable for the full Bid Pricing Period identified in Section 5.2

5.4 Bid Price Revisions (If Applicable)

Bid prices shall remain firm for the entire term of the awarded contract. Revisions to unit prices during the contract period may only occur if such revisions are the result of documented price increases in the Gulf Coast area. Any request for revision must:

- Be submitted in writing to the City before the revised prices go into effect; and
- Include detailed documentation supporting the revision.

Such revisions must also be supported by continuing written notices for each thirty (30) day period that the revised prices remain in effect.

Discounts, delivery, and services accepted as part of this bid are not subject to revision.

5.5 Availability of Funds / Non-Appropriation

This procurement is subject to the availability of funding. The City's obligation hereunder is contingent upon the availability of appropriated funds from which payment for the Contract purposes can be made. No legal liability on the part of the City for any payment shall arise until funds are made available to the Contracting Officer for this Contract and until the Contractor receives notice of such availability, to be confirmed in writing by the Contracting Officer. Any award of Contract hereunder will be conditioned upon said availability of funds for the Contract. In the event sufficient appropriation, grants, and monies are not made available to City to pay these services for any fiscal year, this Agreement shall terminate without further obligation of City. In such event, the City Manager of City shall certify to contractor that sufficient funds have not been made available to City to meet the obligations of this Agreement; such certification shall be conclusive upon parties.

5.6 Termination by the City

The City may terminate the contract, in whole or in part, for convenience or cause by providing thirty (30) days' written notice to the Contractor. If terminated for cause due to the Contractor's default, the City may pursue all remedies available under law or equity, including procurement of substitute services at the Contractor's expense.

5.7 Indemnification

BIDDER covenants and agrees to FULLY INDEMNIFY, DEFEND and HOLD HARMLESS, the CITY and the elected officials, employees, officers, directors, volunteers and representatives of the CITY, individually and collectively, from and against any and all costs, claims, liens, damages, losses, expenses, fees, fines, penalties, proceedings, actions, demands, causes of action, liability and suits of any kind and nature, including but not limited to, personal or bodily injury, death and property damage, made upon the CITY directly or indirectly arising out of, resulting from or related to BIDDER'S activities under this contract, including any acts or omissions of BIDDER, any agent, officer, director, representative, employee, consultant or subcontractor of BIDDER, and their respective officers, agents employees, directors and representatives while in the exercise of the rights or performance of the duties under this contract. The indemnity provided for in this paragraph shall not apply to any liability resulting from the negligence of CITY, its officers or employees, in instances where such negligence causes personal injury, death, or property damage. IN THE EVENT BIDDER AND CITY ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY SHALL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS FOR THE STATE OF TEXAS, WITHOUT, HOWEVER, WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE CITY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.

The provisions of this INDEMNITY are solely for the benefit of the parties hereto and not intended to create or grant any rights, contractual or otherwise, to any other person or entity. BIDDER shall advise the CITY in writing within 24 hours of any claim or demand against the CITY or BIDDER known to BIDDER related to or arising out of BIDDER's activities under this contract, and shall see to the investigation and defense of such claim or demand at BIDDER's cost. The CITY shall have the right, at its option and at its own expense, to participate in such defense without relieving BIDDER of any of its obligations under this paragraph.

5.8 Insurance Requirements

The Contractor shall, at its own expense, maintain insurance coverage meeting or exceeding the following requirements for the duration of the contract:

- Workers' Compensation: Statutory, with Employer's Liability limits of not less than $500,000 each accident/disease. If Contractor is not legally required to carry Workers' Compensation, Contractor shall provide alternative coverage acceptable to the City.
- Commercial General Liability (CGL): $1,000,000 per occurrence / $2,000,000 aggregate, including premises, operations, independent contractors, products/completed operations, personal injury, and contractual liability coverage.

- Automobile Liability: $1,000,000 combined single limit, covering all owned, hired, and non-owned vehicles.
- Umbrella/Excess Liability: $1,000,000 per occurrence and aggregate.
- Additional Coverages (as applicable): Professional Liability/Errors & Omissions ($1,000,000 minimum); Cyber Liability ($1,000,000 minimum).

Required Endorsements:

- The City of Brownsville shall be named as Additional Insured on the CGL and Auto policies.
- Policies shall include a Waiver of Subrogation in favor of the City.
- Coverage shall be primary and non-contributory to any insurance carried by the City.

Certificates of Insurance:
Contractor shall provide valid certificates of insurance prior to contract execution and upon renewal. Each certificate must state that coverage shall not be canceled, materially changed, or non-renewed without thirty (30) days' prior written notice to the City.

5.9 Protest Procedures

The City of Brownsville maintains a formal protest procedure in accordance with its Procurement Policy.

Prior to Bid/Proposal Due Date:

- If a prospective bidder/proposer becomes aware of a deficiency in the solicitation or solicitation process before the due date, the bidder/proposer must notify the **City Attorney's Office in writing** no later than **five (5) calendar days** before the due date. This allows the City to address the situation prior to the closing date.

After Bid/Proposal Due Date:

- A bidder/proposer may protest the solicitation process or recommended award by:
    1. Filing a written **notice of intent to protest** within **five (5) calendar days** of the date the bidder/proposer knew or should have known of the facts giving rise to the protest. Failure to file this notice waives the right to protest.
    2. Filing a **formal written protest** within **seven (7) calendar days** after the notice of intent is filed.

The protest must include:

- Name, address, telephone, and email of the protestor;
- The solicitation number;
- A detailed statement of the factual grounds for the protest with supporting documents;
- Signature of the protestor or authorized representative;

- The form of relief requested; and
- A concise and logical presentation of facts.

Review and Hearing:

- Upon receipt of a timely protest, the **City Attorney** will determine whether the grounds are sufficient.
- If sufficient, the Procurement Office will schedule an informal hearing (not subject to the Open Meetings Act) usually within five (5) working days.
- A written decision will typically be issued within **fifteen (15) calendar days** after the hearing.

Exceptions; Restrictions:

- The City will generally not make an award until a protest is resolved.
- However, the City Manager may authorize award without delay if:
  - The City urgently requires the goods or services, or
  - Failure to award promptly will unduly delay delivery or performance.

Federal Agency Review:

- Protestors must exhaust all administrative remedies with the City before appealing to a federal agency.
- Federal review is limited to:
  - Violations of federal law/regulations, or
  - Violations of the City's Protest Procedures for failure to review a complaint.
- Any protest sent to a federal agency outside these grounds will be referred back to the City.

5.10 Restrictions on Lobbying & Political Contributions

A vendor/contractor or their agent is **prohibited** from lobbying activities with City officials, including elected officials, and employees regarding a proposed contract from the time a solicitation (RFP, RFQ, IFB, or other procurement) has been released until the contract is posted as a City Commission agenda item. If contact is required, such contact shall be made only in accordance with the procedures set forth in **Section 1.5 (Authorized Contact)** of this IFB. Violation of this provision by respondents or their agents, including lobbyists, may result in disqualification of the respondent's offer. A parallel no-contact provision applies to lobbyists and their agents.

Further, the following restrictions apply to all vendors, contractors, and their agents/representatives:

1. **No Personal Obligation**
   A lobbyist or a vendor/contractor, or any of their agents, may not do any act or refrain from any act for the purpose of placing any City official under personal obligation to them.

2. **False Statements**
   No lobbyist, vendor/contractor, or their agents/representatives may knowingly make any false or misleading statement of fact to a City official, or provide a document with false information without notifying the official in writing of the truth. If a registrant learns that a statement made in a registration form or activity report within the previous three (3) years was false, they must correct that statement within thirty (30) days by written notification to the City Secretary.

3. **Use of False Identification**
   No lobbyist, vendor/contractor, or their agents/representatives may communicate with a City official using the name of any fictitious person or the name of a real person without that person's consent.

4. **Improper Influence**
   No lobbyist, vendor/contractor, or their agents/representatives may cause or influence the introduction of any ordinance, resolution, appeal, application, petition, nomination, or amendment for the purpose of later being employed to secure its granting, denial, confirmation, rejection, passage, or defeat.

Additionally, in accordance with **City Code Sec. 40-7**, contractors are prohibited from making political contributions to City officials or candidates during the contract award period. It shall be unlawful for any contractor to contribute or offer any contribution to a candidate, or for any candidate to solicit or accept any contribution from a contractor during a contract award period.

- **City Code Sec. 40-7:** In the event that a candidate unknowingly accepts a contribution in contravention of this provision, it shall be the duty of the candidate to return the contribution within ten days after he/she becomes aware of the violation.

  Each request for proposal or other document, notice, or advertisement for a contract shall contain a notice regarding this section in a form approved by the city attorney. Each contractor shall be required to submit with any proposal or other submission for the award of any contract a complete list of the persons included in the term "contractor" as defined in this chapter in a form prescribed by the city attorney. It shall be the duty of each city department director to immediately forward each contractor list received to the city secretary, who shall compile and maintain a log of persons who are required to be reported. In addition, the city secretary shall compile, maintain, and post online, by the 14th day after a city commission meeting, a list of contracts awarded at such commission meeting by city commission, including on such list, the date of the initial posting of the request for commission action relative to each specific contract, the name of the contractor, a short description of the contract and the date occurring 180 days after the award of the contract or the determination by city commission or the mayor that the contract would not be awarded to a contractor.

  As used in this section, the term contractor shall not include a subcontractor.

5.11 Conflict of Interest Disclosures

In compliance with Chapter 176 of the Texas Local Government Code, any vendor or person seeking to contract with the City of Brownsville must file a completed **Conflict of Interest Questionnaire (Form CIQ)** with the Office of the City Secretary.

The questionnaire must be filed no later than **seven (7) days** after the earlier of the following:

1. The vendor begins contract discussions or negotiations with the City; or
2. The vendor submits an application, bid, proposal, correspondence, or other writing related to a potential agreement with the City.

The questionnaire requires disclosure of certain business or employment relationships with City Commissioners, the Mayor, and the City Manager. The **Texas Ethics Commission (TEC)** is responsible for drafting the questionnaire, and the most current form is available on the TEC website, with a link posted on the City's ethics webpage.

Failure to comply with Chapter 176 is a violation of Texas law and may result in a **Class C misdemeanor**. Vendors are encouraged to consult their own legal counsel regarding compliance with this statute.

5.12 State and Federal Certifications

The Contractor certifies the following:

- **Texas Family Code Compliance:** As per Section 14.52 of the Texas Family Code, added by S.B. 84, Acts, 73rd Legislature, R.S. (1993), all bidders must complete and submit with the bid the following affidavit: I, the undersigned vendor, do hereby acknowledge that NO sole proprietor, partner, majority shareholder of a corporation, or an owner of 10% or more of another business entity is 30 days or more delinquent in paying child support under a court order or a written repayment agreement. I understand that under this provision, a sole proprietorship, partnership, corporation or other entity in which a sole proprietor, partner, majority shareholder or a corporation, or an owner of 10% or more of another entity is 30 days or more delinquent in paying child support under a court order or a written repayment agreement is NOT eligible to bid or receive a state contract.
- **HB 89 & HB 793 Certifications:** Vendor certifies that is in compliance with all applicable provisions of the House Bill 89. Purchases made in accordance under the provisions of Subtitle F, Title 10, Government Code Chapter 2270 must comply with the following: 1. Does not boycott Israel currently; and 2. Will not boycott Israel during the term of the contract the above-named Company, business or individual with the City of Brownsville.

  Pursuant to Section 2270.002 of the Texas Government Code, Respondent certifies that either (i) it meets an exemption criterion under Section 2270.002; or (ii) it does not boycott Israel and will not boycott Israel during the term of the contract resulting from this solicitation. Respondent shall state any facts that make it exempt from the boycott certification in its Response..
- **Debarment and Suspension:** For contracts funded in whole or in part with federal funds, the Contractor certifies that it is not debarred, suspended, or otherwise excluded from participation in federal assistance programs under 2 CFR Part 180. Contractor must maintain an active registration in the System for Award Management (SAM.gov) throughout the term of the contract. Proof of current SAM registration may be required at the time of contract execution.

5.13 Public Information Act & Confidentiality

All materials submitted to the City of Brownsville pursuant to this Invitation for Bid/Request for Proposals/Statement of Qualifications become subject to the mandates of the Texas Open Records Act, Government Code, Chapter 552, Subchapter A, §§552.009; Subchapter D, §§552.205; and Subchapter F, §§552.261 through 552.274.

The purpose of this Act is to ensure and facilitate the public's right of access to and review of government records so they may efficiently and intelligently exercise their inherent political power. Almost all "records," as that term is defined in the Act, may be disclosed to the public upon request. Except where specific state or federal statues create a confidential privilege, persons who submit information to public bodies have no right to keep this information from public access or reasonable expectation that this information will be kept from public access.

If you believe that any of the information you have submitted to the City pursuant to this Invitation for Bids is confidential under a specific state or federal statute and therefore not subject to the public access, you must comply with the following:

A. Upload said documents/records to Bonfire marked "Confidential" DO NOT label your entire response to the Invitation for Bid as "Confidential" – label only those portions of the response that you feel are made confidential by state or federal law as "Confidential." If only a portion of a document is confidential, please identify specifically the portions of the document you are claiming are confidential. Under the State of Texas Open Records Act, the City is obligated to produce documents for public inspection even if the documents contain a portion which is confidential, but can redact the confidential parts.
B. For each such document for which you are claiming a confidential privilege, identify the federal and/or state law that creates said privilege, e.g., for trade secrets. Should an Open Records request be presented to the City requesting information you have identified as "Confidential," you will be responsible for defending your position in the Court where the proceeding is filed, if needed.

If you fail to identify any records submitted as part of your Proposal as "Confidential" by placing them in the "Confidential" envelope AND you fail to identify the specific state or federal law creating said privilege, you are irrefutably agreeing that said records are not confidential and are subject to public access.

5.14 Governing Law & Venue

This contract shall be governed by and construed in accordance with the laws of the State of Texas. Venue for any legal action shall lie exclusively in Cameron County, Texas.

5.15 Independent Contractor Status

The Contractor is an independent contractor and not an employee, agent, or representative of the City. Nothing in this contract shall create an employment relationship, joint venture, or partnership.

5.16 Reservation of Rights

The City reserves the right to reject any or all bids, to waive informalities or irregularities, to cancel the solicitation, and to accept the bid deemed most advantageous to the City.

5.17 Drug-Free Workplace

The Contractor shall maintain a workplace free of unlawful manufacture, distribution, dispensation, possession, or use of controlled substances during the performance of any City contract. The Contractor shall inform its employees in writing of its drug-free workplace policy and the consequences of any violation occurring in the workplace. If the Contractor receives notice of any employee conviction under a criminal drug statute for a violation occurring in the workplace while performing under this contract, the Contractor shall notify the City's Procurement Department within five (5) business days. When this contract is funded in whole or in part with federal funds, the Contractor shall comply with all requirements of the Drug-Free Workplace Act of 1988 (41 U.S.C. §8101 et seq.) and applicable implementing regulations. Failure to comply with this provision shall be considered a material breach of contract and may result in termination, suspension, or debarment from future City contracting opportunities.

5.18 Construction Only Terms and Conditions (If Applicable)

The following provisions apply only when the scope of this IFB involves construction, construction-rehabilitation, or other public works projects subject to Texas Local Government Code Chapter 252 and Texas Government Code Chapter 2253. These clauses do not apply to non-construction procurements.

5.18.1 Bid Bond (Construction Only)

Each bid must be accompanied by an **original Bid Bond** issued by a corporate surety company licensed to do business in the State of Texas and acceptable to the City of Brownsville. The bond shall be in an amount not less than five percent (5%) of the greatest total amount of the bid proposal and shall serve as a guarantee that, if awarded the contract, the successful bidder will promptly execute the contract and furnish required payment and performance bonds.

All bid bonds must be issued by a surety company that:

- Is authorized to do business in the State of Texas, and
- Appears on the U.S. Department of the Treasury's Listing of Approved Sureties (Circular 570).

Electronic bid bonds submitted through the City's Bonfire portal will be accepted if issued by an approved surety provider.

Cash, certified checks, or cashier's checks will **not** be accepted as bid security.

5.18.2 Payment and Performance Bond Requirements (Construction Only) (Exhibit B)

Sec. 252.044. CONTRACTOR'S BOND. (a) If the contract is for the construction of public works, the bidder to whom the contract is awarded must execute a good and sufficient bond. The bond must be:

1. In the full amount of the contract price;
2. Conditioned that the contractor will faithfully perform the contract; and
3. Executed, in accordance with Chapter 2253 (Exhibit B), Government Code, by a surety company authorized to do business in the state.
4. Repealed by Acts 1993, 73rd Leg., ch. 865, Sec. 2, eff. Sept. 1, 1993.

5. The governing body of a home-rule municipality by ordinance may adopt the provisions of this section and Chapter 2253, Government Code, relating to contractors' surety bonds, regardless of a conflicting provision in the municipality's charter.

Acts 1987, 70th Leg., ch. 149, Sec. 1, eff. Sept. 1, 1987. Amended by Acts 1993, 73rd Leg., ch. 865, Sec. 2, eff. Sept. 1, 1993; Acts 1995, 74th Leg., ch. 76, Sec. 5.95(17), eff. Sept. 1, 1995.

A Payment & Performance Bond (Only applies to Construction/Construction-Rehabilitation), in an amount of not less than one hundred percent (100%) of the Contract Price, conditioned upon the faithful performance of the Contract; a Payment Bond, as required by Chapter §2253 of the Texas Government Code, guaranteeing the payment of all persons supplying labor and furnishing materials; and an Extended Warranty Bond, either by separate instrument or incorporated in the foregoing bonds, will be required. Payment and performance bonds provided to the City of Brownsville for these purposes are required to conform with Article 7.19-1 of the Texas Insurance Code. To that end, all bonds provided (i) must be executed by a surety company holding a certificate of authority from the United States secretary of the treasury to qualify on obligations permitted or required under federal law–or- (ii) must be provided by a surety company that is covered by reinsurance for any liability in excess of $100,000.00 from a reinsurer authorized and admitted as a reinsurer in Texas holding a certificate of authority from the United States secretary of the treasury to qualify on obligations permitted or required under federal law. (See Chapter 2253 – Performance and Payment Bond)

A. A listing on the Department of the Treasury Listing of Approved Sureties on the date of bond issuance shall be sufficient proof of the previously mentioned certificate of authority.
B. A copy of the reinsurance contract(s) with accompanying cover letter with original signature shall be sufficient proof of the previously mentioned reinsurance.

Contractor shall provide either a copy of the list as described in “A.” above, or the contract(s) and letter described in “B.” above, together with the payment and performance bonds.

Bid Bonds, Performance Bonds, Payment Bonds, and Extended Warranty Bonds issued by a corporate surety company not licensed to do business in the State of Texas will not be accepted.

Submittal of Payment and Performance Bonds is not required at the time of bid submission. A Payment and Performance Bonding Capacity Letter may be required at the time of bid submission to demonstrate bonding capability. The successful contractor will be notified after City Commission approval of award and must furnish the required Payment and Performance Bonds within the timeframe specified by the City.

5.18.3 Liquidated Damages (Construction Only)

The undersigned BIDDER further agrees to complete the project and achieve substantial completion/delivery within 150 consecutive calendar days submittal from the date of Commencement/shipment, unless such time is extended by the City of Brownsville and that one thousand dollars ($1,000.00) per each consecutive calendar day will be the measure of liquidated damages assessed the undersigned for each calendar day in excess required to complete work and/or delivery under the contract for each portion of the project.

5.18.4 Application for Progress Payment; Retainage (Construction/Renovation Only)

Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the CONTRACT DOCUMENTS. If Payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. Retainage withholding will conform to Texas Government Code § 2252.032 as follows:

- For public works contracts with a total value less than $5,000,000, the City may withhold up to ten percent (10%) of the contract price as retainage.
- For public works contracts with a total value of $5,000,000 or more, the City may withhold up to five percent (5%) of the contract price.
- Retainage shall be released upon substantial completion and acceptance of the work, provided all contractual requirements (including lien waivers, inspections, and closeout documentation) are satisfied.

The retainage shall be held by the owner until all the work has been satisfactorily completed and accepted in writing. At that time the retainage may be released and included in the Final Payment.

5.18.5 Contractor's Warranty of Title (Construction Only)

The Contractor warrants and guarantees that title to all work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to the City at the time of payment, free and clear of all liens, claims, security interests, or encumbrances.

5.18.6 Change Orders

For construction contracts, all change orders must comply with Texas Local Government Code §252.048, which limits increases in contract price and scope unless approved by the City Commission.

5.18.7 Materials Testing and Compliance (Construction Only; or Goods/Materials, If Applicable)

The City may, at its option and expense, test materials at any time to ensure compliance with the specifications.

If any test fails to show compliance:

- The Contractor's payment shall be reduced by the full cost of the testing;
- The non-compliant materials shall be removed from the stockpile or roadbed at the Contractor's expense; and
- No payment shall be made for the non-compliant materials.

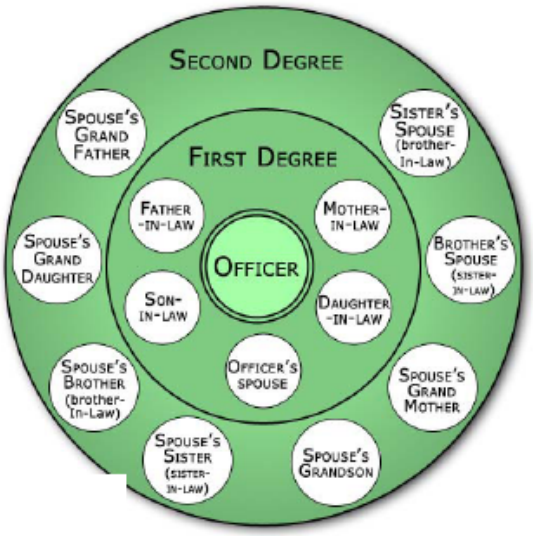
The quantity of such non-compliant material shall be determined by the City's Public Works Director, whose decision shall be final.

NEPOTISM CHART

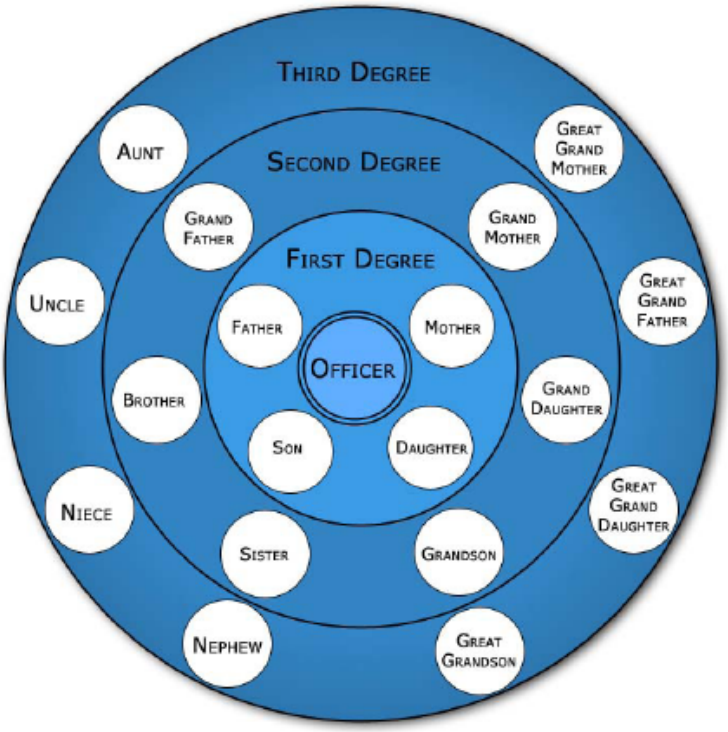
The chart below shows

- **Affinity Kinship** (relationship by marriage)
- **Consanguinity Kinship** (relationship by blood) for purposes of interpreting nepotism as defined in VTCA Government Code, Chapter 573, §§573.021 - .025

AFFINITY KINSHIP
Relationship by Marriage



CONSANGUINITY KINSHIP
Relationship by Blood



6 EXHIBIT "A" - Standard Purchasing Terms and Conditions

By acceptance of a purchase order or agreement, or response to a solicitation, the successful proposer agrees that the following terms and conditions, without modification, will govern:

DEFINITION OF BUYER

The City of Brownsville, its officers, agents, servants, authorized employees, vendors, and subvendors who act on behalf of various City departments, bodies or agencies.

DEFINITION OF SELLER

The consultant, contractor(s), supplier, contractor(s) or other providers of goods and/or services, its officers, agents, servants, employees, vendors and sub vendors who act on behalf of the entity under a contract with the City of Brownsville.

PUBLIC INFORMATION

Any information submitted to the City of Brownsville (the "City") may be requested by a member of the public under the Texas Public Information Act. *See* TEX. GOV'T CODE ANN. §§ 552.002, 552.128(c) (West Supp. 2006). If the City receives a request for a Seller's proprietary information, the Seller listed in the request will be notified and given an opportunity to make arguments to the Texas Attorney General's Office (the "AG") regarding reasons the Seller believes that its information may not lawfully be released. If Seller does not make arguments or the AG rejects the arguments Seller makes, Seller's information will be released without penalty to the City.

PROHIBITION AGAINST PERSONAL INTEREST IN CONTRACTS

No officer or employee of Buyer shall have a financial interest, direct or indirect, in any contract with Buyer or be financially interested, directly or indirectly, in the sale to Buyer of any land, materials, supplies or services, except on behalf of Buyer as an officer or employee. Any willful violation of this section shall constitute malfeasance in office, and any officer or employee found guilty thereof shall thereby forfeit his office or position. Any violation of this section with the knowledge, expressed or implied, of the person or corporation contracting with the City Commission shall render the contract invalid by the City Manager or the City Commission. (Chapter XXVII, Section 16, City of Brownsville Charter)

ORDERS

No employees of the Buyer or its officers, agents, servants, vendors or sub vendors who act on behalf of various City departments, bodies or agencies are authorized to place orders for goods and/or services without providing approved contract numbers, purchase order numbers, or release numbers issued by the Buyer. The only exceptions are Purchasing Card orders and emergencies pursuant to Texas Local Government Code Section 252.022(a)(1), (2), or (3). In the case of emergencies, the Buyer's Purchasing Division will place such orders.

Acceptance of an order and delivery on the part of the Seller without an approved contract number, purchase order number, or release number issued by the Buyer may result in rejection of delivery, return of goods at the Seller's cost and/or non-payment.

SELLER TO PACKAGE GOODS

Seller will package goods in accordance with good commercial practice. Each shipping container shall be clearly and permanently marked as follows: (a) Seller's name and address: (b) Consignee's name, address and purchase order or purchase change order number; (c) Container number and total number of containers, e.g., box 1 of 4 boxes; and (d) Number of the container bearing the packing slip. Seller shall bear the cost of packaging unless otherwise provided.

Goods shall be suitably packed to secure lowest transportation costs and to conform to requirements of common carriers and any applicable specifications. Buyer's count or weight shall be final and conclusive on shipments not accompanied by packing lists.

SHIPMENT UNDER RESERVATION PROHIBITED

Seller is not authorized to ship the goods under reservation, and no tender of a bill of lading will operate as a tender of goods.

TITLE AND RISK OF LOSS

The title and risk of loss of the goods shall not pass to Buyer until Buyer actually receives and takes possession of the goods at the point or points of delivery after inspection and acceptance of the goods.

DELIVERY TERMS AND TRANSPORTATION CHARGES

Freight terms shall be F.O.B. Destination, Freight Prepaid and Allowed, unless delivery terms are specified otherwise in Seller's proposals. Buyer agrees to reimburse Seller for transportation costs in the amount specified in Seller's proposals or actual costs, whichever is lower, if the quoted delivery terms do not include transportation costs; provided, Buyer shall have the right to designate what method of transportation shall be used to ship the goods.

PLACE OF DELIVERY

The place of delivery shall be set forth in the "Ship to" block of the purchase order, purchase change order, or release order.

RIGHT OF INSPECTION

Buyer shall have the right to inspect the goods upon delivery before accepting them. Seller shall be responsible for all charges for the return to Seller of any goods rejected as being nonconforming under the specifications.

INVOICES

Seller shall submit separate invoices in duplicate, on each purchase order or purchase change order after each delivery. Invoices shall indicate the purchase order or purchase change order number. Invoices shall be itemized and transportation charges, if any, shall be listed separately. A copy of the bill of lading and the freight waybill, when applicable, should be attached to the invoice. Seller shall mail or deliver invoices to Buyer’s Department and address as set forth in the block of the purchase order, purchase change order or release order entitled "Ship to." Payment shall not be made until the above instruments have been submitted after delivery and acceptance of the goods and/or services.

Seller shall not include Federal Excise, State or City Sales Tax in its invoices. The Buyer shall furnish a tax exemption certificate upon Seller’s request.

PRICE WARRANTY

The price to be paid by Buyer shall be that contained in Seller's proposals which Seller warrants to be no higher than Seller's current prices on orders by others for products and services of the kind and specification covered by this agreement for similar quantities under like conditions and methods of purchase. In the event Seller breaches this warranty, the prices of the items shall be reduced to the prices contained in Seller’s proposals, or in the alternative upon Buyer's option, Buyer shall have the right to cancel this contract without any liability to Seller for breach or for Seller's actual expense. Such remedies are in addition to and not in lieu of any other remedies which Buyer may have in law or equity.

Seller warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for commission, percentage, brokerage or contingent fee, excepting employees of an established commercial or selling agency that is maintained by Seller for the purpose of securing business. For breach or violation of this warranty, Buyer shall have the right, in addition to any other right or rights arising pursuant to said purchase(s), to cancel this contract without liability and to deduct from the contract price such commission percentage, brokerage or contingent fee, or otherwise to recover the full amount thereof.

PRODUCT WARRANTY

Seller shall not limit or exclude any express or implied warranties and any attempt to do so shall render this contract voidable at the option of Buyer. Seller warrants that the goods furnished will conform to Buyer's

specifications, drawings and descriptions listed in the proposal invitation, and the sample(s) furnished by Seller, if any. In the event of a conflict between Buyer's specifications, drawings, and descriptions, Buyer's specifications shall govern.

SAFETY WARRANTY

Seller warrants that the product sold to Buyer shall conform to the standards promulgated by the U.S. Department of Labor under the Occupational Safety and Health Act (OSHA) of 1970, as amended. In the event the product does not conform to OSHA standards, Buyer may return the product for correction or replacement at Seller's expense. In the event Seller fails to make appropriate correction within a reasonable time, any correction made by Buyer will be at Seller's expense. Where no correction is or can be made, Seller shall refund all monies received for such goods within thirty (30) days after request is made by Buyer in writing and received by Seller. Notice is considered to have been received upon hand delivery, or otherwise in accordance with Section 29.0 of these terms and conditions. Failure to make such refund shall constitute breach and cause this contract to terminate immediately.

SOFTWARE LICENSE TO SELLER

If this purchase is for the license of software products and/or services, and unless otherwise agreed, Seller hereby grants to Buyer, a perpetual, irrevocable, non-exclusive, nontransferable, royalty free license to use the software. This software is "proprietary" to Seller, and is licensed and provided to the Buyer for its sole use for purposes under this Agreement and any attached work orders or invoices. The City may not use or share this software without permission of the Seller; however Buyer may make copies of the software expressly for backup purposes.

WARRANTY AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY

The SELLER warrants that all Deliverables, or any part thereof, furnished hereunder, including but not limited to: programs, documentation, software, analyses, applications, methods, ways, and processes (in this Section each individually referred to as a "Deliverable" and collectively as the "Deliverables,") do not infringe upon or violate any patent, copyrights, trademarks, service marks, trade secrets, or any intellectual property rights or other third party proprietary rights, in the performance of services under this Agreement.

SELLER shall be liable and responsible for any and all claims made against the City for infringement of any patent, copyright, trademark, service mark, trade secret, or other intellectual property rights by the use of or supplying of any Deliverable(s) in the course of performance or completion of, or in any way connected with providing the services, or the City's continued use of the Deliverable(s) hereunder.

SELLER agrees to indemnify, defend, settle, or pay, at its own cost and expense, including the payment of attorney's fees, any claim or action against the City for infringement of any patent, copyright, trade mark, service mark, trade secret, or other intellectual property right arising from City's use of the Deliverable(s), or any part thereof, in accordance with this Agreement, it being understood that this agreement to indemnify, defend, settle or pay shall not apply if the City modifies or misuses the Deliverable(s). So long as SELLER bears the cost and expense of payment for claims or actions against the City pursuant to this section 8, SELLER shall have the right to conduct the defense of any such claim or action and all negotiations for its settlement or compromise and to settle or compromise any such claim; however, City shall have the right to fully participate in any and all such settlement, negotiations, or lawsuit as necessary to protect the City's interest, and City agrees to cooperate with SELLER in doing so. In the event City, for whatever reason, assumes the responsibility for payment of costs and expenses for any claim or action brought against the City for infringement arising under this Agreement, the City shall have the sole right to conduct the defense of any such claim or action and all negotiations for its settlement or compromise and to settle or compromise any such claim; however, SELLER shall fully participate and cooperate with the City in defense of such claim or action. City agrees to give SELLER timely written notice of any such

claim or action, with copies of all papers City may receive relating thereto. Notwithstanding the foregoing, the City's assumption of payment of costs or expenses shall not eliminate SELLER's duty to indemnify the City under this Agreement. If the Deliverable(s), or any part thereof, is held to infringe and the use thereof is enjoined or restrained or, if as a result of a settlement or compromise, such use is materially adversely restricted, SELLER shall, at its own expense and as City's sole remedy, either: (a) procure for City the right to continue to use the Deliverable(s); or (b) modify the Deliverable(s) to make them/it non-infringing, provided that such modification does not materially adversely affect City's authorized use of the Deliverable(s); or (c) replace the Deliverable(s) with equally suitable, compatible, and functionally equivalent non-infringing Deliverable(s) at no additional charge to City; or (d) if none of the foregoing alternatives is reasonably available to SELLER, terminate this Agreement, and refund all amounts paid to SELLER by the City, subsequent to which termination City may seek any and all remedies available to City under law.

OWNERSHIP OF WORK PRODUCT

Seller agrees that any and all analyses, evaluations, reports, memoranda, letters, ideas, processes, methods, programs, and manuals that were developed, prepared, conceived, made or suggested by the Seller for the City pursuant to a Work Order, including all such developments as are originated or conceived during the term of the Contract and that are completed or reduced to writing thereafter (the "Work Product") and Seller acknowledges that such Work Product may be considered "work(s) made for hire" and will be and remain the exclusive property of the City. To the extent that the Work Product, under applicable law, may not be considered work(s) made for hire, Seller hereby agrees that this Agreement effectively transfers, grants, conveys, and assigns exclusively to Buyer, all rights, title and ownership interests, including copyright, which Seller may have in any Work Product or any tangible media embodying such Work Product, without the necessity of any further consideration, and Buyer shall be entitled to obtain and hold in its own name, all Intellectual Property rights in and to the Work Product. Seller for itself and on behalf of its vendors hereby waives any property interest in such Work Product.

NETWORK ACCESS

The City owns and operates a computing environment and network (collectively the "Network"). If Seller requires access, whether onsite or remote, to the City's network to provide services hereunder, and the Seller is required to utilize the Internet, Intranet, email, City database, or other network application, Seller shall separately execute the City's Network Access Agreement prior to providing such services. A copy of the City's standard Network Access Agreement can be provided upon request.

CANCELLATION

Buyer shall have the right to cancel this contract immediately for default on all or any part of the undelivered portion of this order if Seller breaches any of the terms hereof, including warranties of Seller. Such right of cancellation is in addition to and not in lieu of any other remedies, which Buyer may have in law or equity.

TERMINATION

The performance of work or purchase of goods under this order may be terminated in whole or in part by Buyer, with or without cause, at any time upon the delivery to Seller of a written "Notice of Termination" specifying the extent to which performance of work or the goods to be purchased under the order is terminated and the date upon which such termination becomes effective. Such right of termination is in addition to and not in lieu of any other termination rights of Buyer as set forth herein.

ASSIGNMENT / DELEGATION

No interest, obligation or right of Seller, including the right to receive payment, under this contract shall be assigned or delegated to another entity without the express written consent of Buyer. Any attempted assignment or delegation of Seller shall be wholly void and totally ineffective for all purposes unless made in conformity with this paragraph. Prior to Buyer giving its consent, Seller agrees that Seller shall provide, at no additional cost to Buyer, all documents, as determined by Buyer, that are reasonable and necessary to verify Seller's legal status

and transfer of rights, interests, or obligations to another entity. The documents that may be requested include, but are not limited to, Articles of Incorporation and related amendments, Certificate of Merger, IRS Form W-9 to verify tax identification number, etc. Buyer reserves the right to withhold all payments to any entity other than Seller, if Seller is not in compliance with this provision. If Seller fails to provide necessary information in accordance with this section, Buyer shall not be liable for any penalties, fees or interest resulting therefrom.

WAIVER

No claim or right arising out of a breach of this contract can be discharged in whole or in part by a waiver or renunciation of the claim or right unless the waiver or renunciation is supported by consideration in writing and is signed by the aggrieved party.

MODIFICATIONS

This contract can be modified or rescinded only by a written agreement signed by both parties.

THE AGREEMENT

In the absence of an otherwise negotiated contract, or unless stated otherwise, the Agreement between Buyer and Seller shall consist of these Standard Terms and Conditions together with any applicable proposal documents published by the Buyer and Seller's Response to such proposal (the "contract documents"). This Agreement is intended by the parties as a final expression of their agreement and is intended also as a complete and exclusive statement of the terms of their agreement. No course of prior dealings between the parties and no usage of trade shall be relevant to supplement or explain any term used in this Agreement. Acceptance of or acquiescence in a course of performance under this Agreement shall not be relevant to determine the meaning of this Agreement even though the accepting or acquiescing party has knowledge of the performance and opportunity for objection. Whenever a term defined by the Uniform Commercial Code (UCC) is used in this Agreement, the definition contained in the UCC shall control. In the event of a conflict between the contract documents, the order of precedence shall be these Standard Terms and Conditions, the Buyer's published proposal documents and the Seller's response. If Buyer and Seller have otherwise negotiated a contract, this Agreement shall not apply.

APPLICABLE LAW / VENUE

This agreement shall be governed by the Uniform Commercial Code wherever the term "Uniform Commercial Code" or "UCC" is used. It shall be construed as meaning the Uniform Commercial Code as adopted and amended in the State of Texas. Both parties agree that venue for any litigation arising from this contract shall be in Brownsville, Cameron County, Texas. This contract shall be governed, construed and enforced under the laws of the State of Texas.

INDEPENDENT CONTRACTOR(S)

Seller shall operate hereunder as an Independent Contractor(s) and not as an officer, agent, servant or employee of Buyer. Seller shall have exclusive control of, and the exclusive right to control, the details of its operations hereunder, and all persons performing same, and shall be solely responsible for the acts and omissions of its officers, agents, employees, vendors and sub- vendors. The doctrine of respondent superior shall not apply as between Buyer and Seller, its officers, agents, employees, vendors and sub vendors. Nothing herein shall be construed as creating a partnership or joint enterprise between Buyer and Seller, its officers, agents, employees, vendors and sub vendors.

LIABILITY AND INDEMNIFICATION.

LIABILITY - SELLER SHALL BE LIABLE AND RESPONSIBLE FOR ANY AND ALL PROPERTY LOSS, PROPERTY DAMAGE AND/OR PERSONAL INJURY, INCLUDING DEATH, TO ANY AND ALL PERSONS, OF ANY KIND OR CHARACTER, WHETHER REAL OR ASSERTED, TO THE EXTENT CAUSED BY THE NEGLIGENT ACT(S) OR OMISSION(S), MALFEASANCE OR INTENTIONAL MISCONDUCT OF SELLER, ITS OFFICERS, AGENTS, SERVANTS OR EMPLOYEES.

INDEMNIFICATION - SELLER HEREBY COVENANTS AND AGREES TO INDEMNIFY, HOLD HARMLESS AND DEFEND THE CITY (ALSO REFERRED TO AS BUYER), ITS OFFICERS, AGENTS, SERVANTS AND EMPLOYEES, FROM AND AGAINST ANY AND ALL CLAIMS OR LAWSUITS OF ANY KIND OR CHARACTER, WHETHER REAL OR ASSERTED, FOR EITHER PROPERTY DAMAGE OR LOSS (INCLUDING ALLEGED DAMAGE OR LOSS TO SELLER'S BUSINESS, AND ANY RESULTING LOST PROFITS) PERSONAL INJURY, INCLUDING DEATH, TO ANY AND ALL PERSONS, AND DAMAGES FOR CLAIMS OF INTELLECTUAL PROPERTY INFRINGEMENT, ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT, TO THE EXTENT CAUSED BY THE ACTS OR OMISSIONS OF SELLER, ITS OFFICERS, AGENTS, SUBCONTRACTORS, SERVANTS OR EMPLOYEES.

SEVERABILITY

In case any one or more of the provisions contained in this agreement shall for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this agreement, which agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

FISCAL FUNDING LIMITATION

In the event no funds or insufficient funds are appropriated and budgeted in any fiscal period for payments due under this contract, then Buyer will immediately notify Seller of such occurrence and this contract shall be terminated on the last day of the fiscal period for which funds have been appropriated without penalty or expense to Buyer of any kind whatsoever, except to the portions of annual payments herein agreed upon for which funds shall have been appropriated and budgeted or are otherwise available.

NOTICES TO PARTIES

Notices addressed to Buyer pursuant to the provisions hereof shall be conclusively determined to have been delivered three (3) business days following the day such notice is deposited in the United States mail, in a sealed envelope with sufficient postage attached, addressed to Procurement Director, City of Brownsville, Procurement Department, 1001 East Elizabeth Street, Brownsville, Texas 78520. Notices to Seller shall be conclusively determined to have been delivered three (3) business days following the day such notice is deposited in the United States mail, in a sealed envelope with sufficient postage attached, addressed to the address given by Seller in its response to Buyer's invitation to proposals. Or if sent via express courier or hand delivery, notice is considered received upon delivery.

NON-DISCRIMINATION

This contract is made and entered into with reference specifically to Chapter 17, Article III, Division 3 ("Employment Practices"), of the City Code of the City of Brownsville (1986), as amended, and Seller hereby covenants and agrees that Seller, its employees, officers, agents, vendors or subvendors, have fully complied with all provisions of same and that no employee, participant, applicant, contractor(s)or subcontractor(s)has been discriminated against according to the terms of such Ordinance by Seller, its employees, officers, agents, contractor(s)or subvendors herein.

IMMIGRATION NATIONALITY ACT

City actively supports the Immigration & Nationality Act (INA) which includes provisions addressing employment eligibility, employment verification, and nondiscrimination. Vendor shall verify the identity and employment eligibility of all employees who perform work under this Agreement. Vendor shall complete the Employment Eligibility Verification Form (I-9), maintain photocopies of all supporting employment eligibility and identity documentation for all employees, and upon request, provide City with copies of all I-9 forms and supporting eligibility documentation for each employee who performs work under this Agreement. Vendor shall establish appropriate procedures and controls so that no services will be performed by any employee who is not legally eligible to perform such services. Vendor shall provide City with a certification letter that it has complied

with the verification requirements required by this Agreement. Vendor shall indemnify City from any penalties or liabilities due to violations of this provision. City shall have the right to immediately terminate this Agreement for violations of this provision by Vendor.

HEALTH, SAFETY, AND ENVIRONMENTAL REQUIREMENTS

Services, products, materials, and supplies provided by the Seller must meet or exceed all applicable health, safety, and the environmental laws, requirements, and standards. In addition, Seller agrees to obtain and pay, at its own expense, for all licenses, permits, certificates, and inspections necessary to provide the products or to perform the services hereunder. Seller shall indemnify Buyer from any penalties or liabilities due to violations of this provision. Buyer shall have the right to immediately terminate this Agreement for violations of this provision by Seller.

RIGHT TO AUDIT

Seller agrees that the Buyer, or Buyer's authorized representative, shall, until the expiration of three (3) years after final payment under this contract, and at no additional cost to Buyer, have access to and the right to examine and copy any directly pertinent books, computer disks, digital files, documents, papers and records of the Seller involving transactions relating to this contract, including any and all records maintained pursuant to Section 31 of this Agreement. Seller agrees that the Buyer shall have access, during normal working hours, to all necessary Seller facilities, and shall be provided adequate and appropriate workspace, in order to conduct audits in compliance with the provisions of this section. Buyer shall pay Seller for reasonable costs of any copying in accordance with the standards set forth in the Texas Administrative Code. The Buyer shall give Seller reasonable advance written notice of intended audits, but no less than ten (10) business days.

DISABILITY

In accordance with the provisions of the Americans With Disabilities Act of 1990 (ADA), Seller warrants that it and any and all of its subvendors will not unlawfully discriminate on the basis of disability in the provision of services to general public, nor in the availability, terms and/or conditions of employment for applicants for employment with, or employees of Seller or any of its subvendors. Seller warrants it will fully comply with ADA's provisions and any other applicable federal, state and local laws concerning disability and will defend, indemnify and hold Buyer harmless against any claims or allegations asserted by third parties or subvendors against Buyer arising out of Seller's and/or its subvendor's alleged failure to comply with the above-referenced laws concerning disability discrimination in the performance of this agreement.

DISPUTE RESOLUTION

If either Buyer or Seller has a claim, dispute, or other matter in question for breach of duty, obligations, services rendered or any warranty that arises under this Agreement, the parties shall first attempt to resolve the matter through this dispute resolution process. The disputing party shall notify the other party in writing as soon as practicable after discovering the claim, dispute, or breach. The notice shall state the nature of the dispute and list the party's specific reasons for such dispute. Within ten (10) business days of receipt of the notice, both parties shall make a good faith effort, either through email, mail, phone conference, in-person meetings, or other reasonable means to resolve any claim, dispute, breach or other matter in question that may arise out of, or in connection with this Agreement. If the parties fail to resolve the dispute within sixty (60) days of the date of receipt of the notice of the dispute, then the parties may submit the matter to non-binding mediation upon written consent of authorized representatives of both parties in accordance with the Industry Arbitration Rules of the American Arbitration Association or other applicable rules governing mediation then in effect. If the parties cannot resolve the dispute through mediation, then either party shall have the right to exercise any and all remedies available under law regarding the dispute.

PROHIBITION ON CONTRACTING WITH COMPANIES THAT BOYCOTT ISRAEL

Seller acknowledges that in accordance with Chapter 2270 of the Texas Government Code, the City is prohibited from entering into a contract with a company for goods or services unless the contract contains a written

verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract. The terms "boycott Israel" and "company" shall have the meanings ascribed to those terms in Section 808.001 of the Texas Government Code. **By signing this contract, Seller certifies that Seller's signature provides written verification to the City that Seller: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract.**

Revised May 18, 2023

7 EXHIBIT "B" - CHAPTER 2253. PUBLIC WORK PERFORMANCE AND PAYMENT BOND

SUBCHAPTER A. GENERAL PROVISIONS

GOVERNMENT CODE

TITLE 10. GENERAL GOVERNMENT

SUBTITLE F. STATE AND LOCAL CONTRACTS AND FUND MANAGEMENT

CHAPTER 2253. **PUBLIC WORK PERFORMANCE AND PAYMENT BONDS**

SUBCHAPTER A. GENERAL PROVISIONS

Sec. 2253.001. DEFINITIONS. In this chapter:

(1) "Governmental entity" means a governmental or quasi-governmental authority authorized by state law to make a public work contract, including:

(A) the state, a county, or a municipality;

(B) a department, board, or agency of the state, a county, or a municipality; and

(C) a school district or a subdivision of a school district.

(2) "Payment bond beneficiary" means a person for whose protection and use this chapter requires a payment bond.

(3) "Prime contractor" means a person, firm, or corporation that makes a public work contract with a governmental entity.

(4) "Public work contract" means a contract for constructing, altering, or repairing a public building or carrying out or completing any public work.

(5) "Public work labor" means labor used directly to carry out a public work.

(6) "Public work material" means:

(A) material used, or ordered and delivered for use, directly to carry out a public work;

(B) specially fabricated material;

(C) reasonable rental and actual running repair costs for construction equipment used, or reasonably required and delivered for use, directly to carry out work at the project site; or

(D) power, water, fuel, and lubricants used, or ordered and delivered for use, directly to carry out a public work.

(7) "Retainage" means the part of the payments under a public work contract that are not required to be paid within the month after the month in which the public work labor is performed or public work material is delivered under the contract.

(8) "Specially fabricated material" means material ordered by a prime contractor or subcontractor that is:

(A) specially fabricated for use in a public work; and

(B) reasonably unsuitable for another use.

(9) "Subcontractor" means a person, firm, or corporation that provides public work labor or material to fulfill an obligation to a prime contractor or to a subcontractor for the performance and installation of any of the work required by a public work contract.

Added by Acts 1993, 73rd Leg., Ch. 268, Sec. 1, eff. Sept. 1, 1993.
Amended by Acts 1999, 76th Leg., Ch. 62, Sec. 8.20, eff. Sept. 1, 1999.

Sec. 2253.002. EXEMPTION. This chapter does not apply to a public work contract entered into by a state agency relating to an action taken under Subchapter F or I, Chapter 361, Health and Safety Code, or Subchapter I, Chapter 26, Water Code.

Added by Acts 1997, 75th Leg., Ch. 793, Sec. 18, eff. Sept. 1, 1997.

SUBCHAPTER B. GENERAL REQUIREMENTS; LIABILITY

Sec. 2253.021. **PERFORMANCE AND PAYMENT BONDS REQUIRED**. (a) A governmental entity that makes a public work contract with a prime contractor shall require the contractor, before beginning the work, to execute to the governmental entity:

(1) a performance bond if the contract is in excess of $100,000; and

(2) a payment bond if:

(A) the contract is in excess of $25,000, and the governmental entity is not a municipality or a joint board created under Subchapter D, Chapter 22, Transportation Code; or

(B) the contract is in excess of $50,000, and the governmental entity is a municipality or a joint board created under Subchapter D, Chapter 22, Transportation Code.

(b) The performance bond is:

(1) solely for the protection of the state or governmental entity awarding the public work contract;

(2) in the amount of the contract; and

(3) conditioned on the faithful performance of the work in accordance with the plans, specifications, and contract documents.

(c) The payment bond is:

(1) solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the prime contractor or a subcontractor to supply public work labor or material; and

(2) in the amount of the contract.

(d) A bond required by this section must be executed by a corporate surety in accordance with Section 1, Chapter 87, Acts of the 56th Legislature, Regular Session, 1959 (Article 7.19-1, Vernon's Texas Insurance Code).

(e) A bond executed for a public work contract with the state or a department, board, or agency of the state must be payable to the state and its form must be approved by the

attorney general. A bond executed for a public work contract with another governmental entity must be payable to and its form must be approved by the awarding governmental entity.

(f) A bond required under this section must clearly and prominently display on the bond or on an attachment to the bond:

(1) the name, mailing address, physical address, and telephone number, including the area code, of the surety company to which any notice of claim should be sent; or

(2) the toll-free telephone number maintained by the Texas Department of Insurance under Subchapter B, Chapter 521, Insurance Code, and a statement that the address of the surety company to which any notice of claim should be sent may be obtained from the Texas Department of Insurance by calling the toll-free telephone number.

(g) A governmental entity may not require a contractor for any public building or other construction contract to obtain a surety bond from any specific insurance or surety company, agent, or broker.

(h) A reverse auction procedure may not be used to obtain services related to a public work contract for which a bond is required under this section. In this subsection, "reverse auction procedure" has the meaning assigned by Section 2155.062 or a procedure similar to that described by Section 2155.062.

Added by Acts 1993, 73rd Leg., Ch. 268, Sec. 1, eff. Sept. 1, 1993. Amended by Acts 1995, 74th Leg., Ch. 76, Sec. 5.43(a), eff. Sept. 1, 1995; Acts 2001, 77th Leg., Ch. 380, Sec. 1, eff. Sept. 1, 2001; Acts 2001, 77th Leg., Ch. 614, Sec. 2, eff. Sept. 1, 2001; Acts 2003, 78th Leg., Ch. 1275, Sec. 2(86), eff. Sept. 1, 2003.

Amended by:

Acts 2005, 79th Leg., Ch. 728 (H.B. 2018), Sec. 11.122, eff. September 1, 2005.

Acts 2009, 81st Leg., R.S., Ch. 1304 (H.B. 2515), Sec. 1, eff. September 1, 2009.

Acts 2011, 82nd Leg., R.S., Ch. 1129 (H.B. 628), Sec. 1.01, eff. September 1, 2011.

Sec. 2253.022. PERFORMANCE AND PAYMENT BONDS; INSURED LOSS. (a) A governmental entity shall ensure that an insurance company that is fulfilling its obligation under a contract of insurance by arranging for the replacement of a loss, rather than by making a cash payment directly to the governmental entity, furnishes or has furnished by a contractor, in accordance with this chapter:

(1) a performance bond as described by Section 2253.021(b) for the benefit of the governmental entity; and

(2) a payment bond as described in Section 2253.021(c) for the benefit of the beneficiaries described by that subsection.

(b) The bonds required to be furnished under Subsection (a) must be furnished before the contractor begins work.

(c) It is an implied obligation under a contract of insurance for the insurance company to furnish the bonds required by this section.

(d) To recover in a suit with respect to which the insurance company has furnished or caused to be furnished a payment bond, the only notice required of a payment bond beneficiary is the notice given to the surety in accordance with Subchapter C.

(e) This section does not apply to a governmental entity when a surety company is complying with an obligation under a bond that had been issued for the benefit of the governmental entity.

(f) If the payment bond required by Subsection (a) is not furnished, the governmental entity is subject to the same liability that a surety would have if the surety had issued the payment bond and the governmental entity had required the bond to be provided. To recover in a suit under this subsection, the only notice required of a payment bond beneficiary is

a notice given to the governmental entity, as if the governmental entity were the surety, in accordance with Subchapter C. Added by Acts

1997, 75th Leg., Ch. 1132, Sec. 3, eff. Sept. 1, 1997.

Sec. 2253.023. ATTEMPTED COMPLIANCE. (a) A bond furnished by a prime contractor in an attempt to comply with this chapter shall be construed to comply with this chapter regarding the rights created, limitations on those rights, and remedies provided.

(b) A provision in a bond furnished by a prime contractor in an attempt to comply with this chapter that expands or restricts a right or liability under this chapter shall be disregarded, and this chapter shall apply to that bond.

Added by Acts 1993, 73rd Leg., Ch. 268, Sec. 1, eff. Sept. 1, 1993.

Sec. 2253.024. INFORMATION FROM CONTRACTOR OR SUBCONTRACTOR. (a) A prime contractor, on the written request of a person who provides public work labor or material and when required by Subsection (c), shall provide to the person:

(1) the name and last known address of the governmental entity with whom the prime contractor contracted for the public work;

(2) a copy of the payment and performance bonds for the public work, including bonds furnished by or to the prime contractor; and

(3) the name of the surety issuing the payment bond and the performance bond and the toll-free telephone number maintained by the Texas Department of Insurance under Subchapter B, Chapter 521, Insurance Code, for obtaining information concerning licensed insurance companies.

(b) A subcontractor, on the written request of a governmental entity, the prime contractor, a surety on a bond that covers the public work contract, or a person providing work under the subcontract and when

required by Subsection (c), shall provide to the person requesting the information:

(1) the name and last known address of each person from whom the subcontractor purchased public work labor or material, other than public work material from the

subcontractor's inventory;

(2) the name and last known address of each person to whom the subcontractor provided public work labor or material;

(3) a statement of whether the subcontractor furnished a bond for the benefit of its subcontractors and materialmen;

(4) the name and last known address of the surety on the bond the subcontractor furnished; and

(5) a copy of that bond.

(c) Information requested shall be provided within a reasonable time but not later than the 10th day after the receipt of the written request for the information.

(d) A person from whom information is requested may require payment of the actual cost, not to exceed $25, for providing the requested information if the person does not have a direct contractual relationship with the person requesting information that relates to the public work.

(e) A person who fails to provide information required by this section is liable to the requesting person for that person's reasonable and necessary costs incurred in getting the requested information.

Added by Acts 1993, 73rd Leg., Ch. 268, Sec. 1, eff. Sept. 1, 1993. Amended by Acts 2001, 77th Leg., Ch. 380, Sec. 2, eff. Sept. 1, 2001.

Amended by:

Acts 2005, 79th Leg., Ch. 728 (H.B. 2018), Sec. 11.123, eff. September 1, 2005.

Sec. 2253.025. INFORMATION FROM PAYMENT BOND BENEFICIARY. (a) A payment bond beneficiary, not later than the 30th day after the date the beneficiary receives a written request from the prime contractor or a surety on a bond on which a claim is made, shall provide to the contractor or surety:

(1) a copy of any applicable written agreement or purchase order; and

(2) any statement or payment request of the beneficiary that shows the amount claimed and the work performed by the beneficiary for which the claim is made.

(b) If requested, the payment bond beneficiary shall provide the estimated amount due for each calendar month in which the beneficiary performed public work labor or provided public work material.

Added by Acts 1993, 73rd Leg., Ch. 268, Sec. 1, eff. Sept. 1, 1993.

Sec. 2253.026. COPY OF PAYMENT BOND AND CONTRACT. (a) A governmental entity shall furnish the information required by Subsection (d) to any person who applies for the information and who submits an affidavit that the person:

(1) has supplied public work labor or material for which the person has not been paid;

(2) has contracted for specially fabricated material for which the person has not been paid; or

(3) is being sued on a payment bond.

(b) The copy of the payment bond or public work contract is prima facie evidence of the content, execution, and delivery of the original.

(c) An applicant under this section shall pay any reasonable fee set by the governmental entity for the actual cost of preparation of the copies.

(d) A governmental entity shall furnish the following information to a person who makes a request under Subsection (a):

(1) a certified copy of a payment bond and any attachment to the bond;

(2) the public work contract for which the bond was given; and

(3) the toll-free telephone number maintained by the Texas Department of Insurance under Subchapter B, Chapter 521, Insurance Code, for obtaining information concerning licensed insurance companies.

Added by Acts 1993, 73rd Leg., Ch. 268, Sec. 1, eff. Sept. 1, 1993. Amended by Acts 2001, 77th Leg., Ch. 380, Sec. 3, eff. Sept. 1, 2001.

Amended by:

Acts 2005, 79th Leg., Ch. 728 (H.B. 2018), Sec. 11.124, eff. September 1, 2005.

Sec. 2253.027. LIABILITY OF GOVERNMENTAL ENTITY. (a) If a governmental entity fails to obtain from a prime contractor a payment bond as required by Section 2253.021:

(1) the entity is subject to the same liability that a surety would have if the surety had issued a payment bond and if the entity had obtained the bond; and

(2) a payment bond beneficiary is entitled to a lien on money due to the prime contractor in the same manner and to the same extent as if the public work contract were subject to Subchapter J, Chapter 53, Property Code.

(b) To recover in a suit under Subsection (a), the only notice a payment bond beneficiary is required to provide to the governmental entity

is a notice provided in the same manner as described by Subchapter C. The notice must be provided as if the governmental entity were a surety.

Added by Acts 1993, 73rd Leg., Ch. 268, Sec. 1, eff. Sept. 1, 1993.
Amended by Acts 2003, 78th Leg., Ch. 515, Sec. 1, eff. Sept. 1, 2003.

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Carlos Lastra, City Engineer
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to Authorize a Contract with Austin Traffic Signal Construction CO LLC in the amount of $4,405,513.30 for Contract No #146-26-EPW-IFB, for a term of 720 Consecutive Calendar Days for the International Blvd Traffic Signal Improvements Project. (Engineering and Public Works Department)

Summary:
The Engineering and Public Works Department recommends consideration and action to approve and authorize the execution of Contract No. 146-26-EPW-IFB with Austin Traffic Signal Construction Co., LLC, for $4,404,513.30, for the construction of the International Boulevard Traffic Signal Improvements Project, CSJ 0039-11-002.

The contract term shall be 720 calendar days, commencing upon issuance of the Notice to Proceed.

Project Scope and Analysis:
The International Boulevard Traffic Signal Improvements Project consists of the comprehensive modernization and replacement of aging and obsolete traffic signal infrastructure at eight (8) signalized intersections along International Boulevard, with associated improvements extending to E. Elizabeth Street/W. University Boulevard and IH 69 as applicable.

The existing traffic signal infrastructure was last substantially upgraded in 1994 and has exceeded its anticipated service life. The project will modernize traffic signal equipment and supporting infrastructure to improve traffic operations, safety, accessibility, system reliability, and long-term maintainability.

Improvements are proposed at the following intersections along International Boulevard:

1. E. Elizabeth St. / W. University Blvd.

2. E. Washington St.

3. E. Adams St.

4. E. Jefferson St.

5. E. Monroe St. / Ridgley Rd.

6. E. Jackson St.

7. E. Taylor St.

8. E. Polk St.

All construction activities shall comply with applicable Texas Department of Transportation (TxDOT) Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges, approved project plans and specifications, and applicable federal, state, and City requirements.

Funding Source: 812-81129825-11

Total Grant Award $5,454,249.00

TxDOT Funding (80%) $4,363,399.00

Required Local Match (20%) $1,090,850.00

Contract Amount $4,404,513.30

Remaining Grant Allocation* $1,049,735.70

The remaining grant allocation represents the difference between the total grant award and the proposed construction contract amount. It does not necessarily represent unobligated or available funds, as other eligible project costs and commitments may apply.

The project is funded through the RGV Metropolitan Planning Organization (RGV MPO), with 80% participation from TxDOT and a required 20% local match from the City of Brownsville.

Funding:

Source: 812-8112-9825-11 Traffic Signals International Blvd

Amount: $4,404,513.30

Local Contribution if Applicable: $41,114.30

Recommendation:

The Engineering and Public Works Department recommends approval and authorization to execute Contract No. 146-26-EPW-IFB with Austin Traffic Signal Construction Co., LLC, in the amount of $4,404,513.30, for the International Boulevard Traffic Signal Improvements Project, CSJ 0039-11-002.

Commission Pillar:
Infrastructure

Attachments:
1. CSJ 0039-11-002 Concurrence to Award Letter
2. KBH Bid Award Recomendation City of Brownsville Solicitation No. 146-26-EPW-IFB
3. Procurement Analysis 146-26-EPW-IFB
4. 146-26-EPW-IFB International Blvd (Legal)

Docusign Envelope ID: F12C2DFD-5E0C-8BCE-81A9-64E10A50B59F

600 W. Interstate 2 | Pharr, Texas 78577
956.702.6100
txdot.gov

August 20, 2026

The Honorable Mayor John Cowen, Jr.
City of Brownsville
1001 E. Elizabeth Street
Brownsville, TX, 78522-0911

RE: Concurrence to Award
International Blvd. Traffic Signal Improvement
CSJ: 0039-11-002

Dear Mayor Cowen,

We have completed our review of the bid package and analysis that was included with the City of Brownsville letter dated July 23, 2026, and do concur with awarding the contract to Austin Traffic Signal Construction CO. with their low bid amount of $4,404,513.30. The City of Brownsville may now award the contract and move forward with construction operations.

Mr. Isaac Lucio out of the San Benito Area Office will serve as the construction project manager and will be your point of contact from this point forward. Please work directly with him to ensure all requirements are met for you to receive the federal/state funding participation outlined in the Advance Funding Agreement. In addition, and as a reminder, the local government construction procedures that the City of Brownsville will need to follow can be found at https://www.txdot.gov/business/resources/lgp/toolkit.html

Docusign Envelope ID: F12C2DFD-5E0C-8BCE-81A9-64E10A50B59F

If you have any questions, feel free to call me or our Traffic Section Engineering Supervisor Ms. Nayely Parra, P.E. at (956) 702-6152.

Sincerely,

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...

Pedro R. Alvarez, P.E.
Pharr District Engineer

Cc: Alan Guard, ICMA-CM, CGFO, City Manager, City of Brownsville
Doroteo Garcia Jr., P.E., Assistant City Manager, City of Brownsville
Carlos Lastra, P.E., City Engineer, City of Brownsville
Lucio S. Gutierrez, P.E., Traffic Manager, City of Brownsville, RPIC City of Brownsville
Rex A. Costley, P.E., Pharr Deputy District Engineer
Norma Y. Garza, P.E., Pharr District Director of Transportation Planning & Development
Gabriel I. Garcia, P.E., Pharr District Director of Transportation Operations
Andres Espinoza, P.E., San Benito Area Engineer
Beethoven Garcia, P.E., Pharr District Advanced Project Delivery Supervisor
Nayely Parra, P.E., Pharr District Traffic Section Supervisor
Gabriel Villarreal, P.E., San Benito Assistant Area Engineer
Eligio Alvarez, P.E., TxDOT Project Manager, Pharr District Traffic Section
Isaac Lucio, TxDOT Project Manager, San Benito Area Office

KBH TRAFFIC ENGINEERING, LLC
1127 Eldridge Pkwy, #300-203, Houston, TX 77077
Tel 832-250-1861 Fax 281-597-9354
keti@kbhtraffic.com
www.kbhtraffic.com

July 22, 2026

Eduardo Torres, MBA, CTCD
Buyer-City of Brownsville
City of Brownsville | Procurement Division
1001 E. Elizabeth St
Brownsville, Texas 78520

RE: INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

Solicitation No. 146-26-EPW-IFB

BID RECOMMENDATION LETTER

Dear Mr. Torres

KBH Traffic Engineering, LLC (KBH) is in receipt of the bid tabulation in accordance with Article 2.14 “Tabulation for Bids” of TxDOT’s Standard Specifications for the above-mentioned project and offers the following Bid Analysis. A total of three (3) bids were received.

KBH developed the Bid Analysis spreadsheet for the project and populated it with item descriptions, units, estimated quantities, unit prices, and total costs. The total cost for each item was obtained by multiplying the estimated quantity by the unit price. The project's total cost was obtained by summing the costs of all items.

The official bid amounts, summarized below, ranged from -9.61%% to 16.26%% above the engineer’s estimate from March 2026.

We prepared a detailed bid summary and analysis in accordance with FHWA’s “Guidelines on Preparing Engineer’s Estimate, Bid Review, and Evaluation” and the TxDOT Local Government Manual.

1. Bid Results:

No mathematical errors and/or irregularities appear to exist within the Bid Forms submitted by all bidders.

Based on our Bid Tabulation and comparison, the ranking of bidders is listed below:

	Bidder Name	Submitted Bid
Bidder #1	Austin Traffic Signal Construction CO., LLC	$4,404,513.30
Bidder #2	The Levy Company, LLC	$4,976,093.60
Bidder #3	Traf-Tex, Inc.	$5,665,121.05

2. Analyzing the Bids

- Number of Bids – 3 bids
- Difference between the low bid and the engineer's estimate;

Engineer's Estimate - $4,872,593.79

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	Austin Traffic Signal Construction CO., LLC	$4,404,513.30	-9.61%
Bidder #2	The Levy Company, LLC	$4,976,093.60	2.12%
Bidder #3	Traf-Tex, Inc.	$5,665,121.05	16.26%

- Difference between the low bid and other bidders:

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	Austin Traffic Signal Construction CO., LLC	$4,404,513.30	
Bidder #2	The Levy Company, LLC	$4,976,093.60	12.98%
Bidder #3	Traf-Tex, Inc.	$5,665,121.05	28.62%

- Review for Unbalanced Items; In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 8 items: 6018-0002, 6027-7001, 6027-7002, 6027-7005, 6027-7007, 6027-7009, 6036-7001, & 6061-001were identified as significantly unbalanced.

Unbalanced Items for Austin Traffic Signal Construction CO., LLC

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	Engineer's Estimate	Low Bid - Bidder # 1	% Diff	Reason
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 30,800.00	-51.88%	
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 2,650.00	76.67%	Low Quantity
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 19,720.00	132.00%	Subcontracted
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 77,000.00	511.11%	Subcontracted
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 84,000.00	600.00%	Subcontracted
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 77,600.00	870.00%	Subcontracted
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 5,200.00	-56.67%	
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 4,400.00	-81.67%	Eng. Est. to High

Unbalanced Items for The Levy Company, LLC

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	Engineer's Estimate	Bidder #2	% Diff	Reason
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 8.00	-99.99%	Eng. Est. to High
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 12,000.00	700.00%	Low Quantity
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 13,940.00	64.00%	Subcontracted
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 14,000.00	11.11%	Low Quantity
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 8,000.00	-33.33%	Low Quantity
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 16,000.00	100.00%	Subcontracted
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 48,000.00	300.00%	Eng. Est. to High
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 3,040.00	-87.33%	Eng. Est. to High

Unbalanced Items for Traf-Tex, Inc.

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	Engineer's Estimate	Bidder #3	% Diff	Reasson
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 51,312.00	-19.83%	
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 4,025.00	168.33%	Subcontracted
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 21,080.00	148.00%	Subcontracted
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 6,725.60	-46.62%	
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 6,266.00	-47.78%	
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 14,544.00	81.80%	Subcontracted
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 44,696.00	272.47%	Eng. Est. to High
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 14,944.00	-37.73%	

- TxDOT Prequalified under the Confidential Questionnaire

Since this project has portions within State ROW and federal funds are being utilized, it must follow the TxDOT requirements for TxDOT Prequalification. This project requires a TxDOT Confidential Questionnaire Prequalification since the project cost is above $300,000, and as outlined on TxDOT's website (https://www.txdot.gov/business/road-bridge-maintenance/contract-letting/contractor-prequalification.html).

All three (3) Bidders have met the TxDOT's Prequalification requirements.

RECOMMENDATION

The bid analysis shows that Austin Traffic Signal Construction CO., LLC is the responsive and responsible lower bidder at $4,404,513.30. The bid was reviewed for completeness, and we found five (5) unbalanced Items that are low in quantities or due to use of Subcontractor, and will not affect negatively completion of the project.

Austin Traffic Signal Construction CO., LLC is the responsive and responsible lower bidder and has demonstrated the ability to perform quality work on previous projects.

Based on the submitted bids and our corresponding analysis, we recommend that Bidder #1 (Austin Traffic Signal Construction CO., LLC) be awarded the contract not to exceed $4,404,513.30.

Thank you for the opportunity to assist you with this project and should you have any questions or concerns, please feel free to contact me via email at keti@kbhtraffic.com or via phone at 832.250.1861

Sincerely,

Keti Hristova, P.E., PTOE
Principal, KBH Traffic Engineering, LLC

Encl:

1. Bid Tabulation – City of Brownsville – INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS Solicitation No. 146-26-EPW-IFB
2. Bid Comparison vs. Engineer's Estimate - City of Brownsville – INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS Solicitation No. 146-26-EPW-IFB

INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

Solicitation No. 146-26-EPW-IFB

BID TABULATION

BASIC UNIT BID ITEMS

					Engineers Estimate		Austin Traffic Signal Construction CO.LLC		The Levy Company, LLC		Traf-Tex, Inc.	
ITEM	**CODE**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE**	**TOTAL PRICE**	**UNTI PRICE**	**TOTAL PRICE**	**UNTI PRICE**	**TOTAL PRICE**	**UNTI PRICE**	**TOTAL PRICE**
500	7001	MOBILIZATION	LS	1.00	$429,872.16	$429,872.16	$ 225,800.00	$ 225,800.00	$497,600.00	$ 497,600.00	$414,065.00	$ 414,065.00
502	7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	18.00	$8,000.00	$144,000.00	$ 4,250.00	$ 76,500.00	$ 11,100.00	$ 199,800.00	$ 4,215.00	$ 75,870.00
Total Bid Unit Items MISCELLANEOUS CONSTRUCTION:						**$573,872.16**		**$ 302,300.00**		**$ 697,400.00**		**$ 489,935.00**
104	7013	REMOV CONC (SIDEWALK, RAMP OR SUP)	SY	485.00	$40.00	$19,400.00	$ 50.00	$ 24,250.00	$ 19.00	$ 9,215.00	$ 23.00	$ 11,155.00
104	7018	REMOV CONC (CURB OR CURB & GUTTER)	LF	1070.00	$17.58	$18,810.60	$ 35.00	$ 37,450.00	$ 15.00	$ 16,050.00	$ 13.70	$ 14,659.00
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	275.00	$527.00	$144,925.00	$ 345.00	$ 94,875.00	$ 530.00	$ 145,750.00	$ 961.20	$ 264,330.00
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	176.00	$822.00	$144,672.00	$ 940.00	$ 165,440.00	$ 1,100.00	$ 193,600.00	$ 1,210.00	$ 212,960.00
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	800.00	$8.99	$7,192.00	$ 12.00	$ 9,600.00	$ 5.05	$ 4,040.00	$ 11.80	$ 9,440.00
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	800.00	$2.19	$1,752.00	$ 2.00	$ 1,600.00	$ 1.85	$ 1,480.00	$ 4.80	$ 3,840.00
528	7003	REMOVE AND RELAY PAVERS	SY	125.00	$353.51	$44,188.75	$ 115.00	$ 14,375.00	$ 55.00	$ 6,875.00	$ 49.00	$ 6,125.00
531	7005	CURB RAMPS (TY 1)	EA	7.00	$3,065.28	$21,456.96	$ 4,200.00	$ 29,400.00	$ 3,400.00	$ 23,800.00	$ 2,983.00	$ 20,881.00
531	7008	CURB RAMPS (TY 5)	EA	25.00	$4,651.61	$116,290.25	$ 4,965.00	$ 124,125.00	$ 4,000.00	$ 100,000.00	$ 3,472.00	$ 86,800.00
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	505.00	$38.50	$19,442.50	$ 32.00	$ 16,160.00	$ 36.00	$ 18,180.00	$ 76.95	$ 38,859.75
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	1210.00	$40.20	$48,642.00	$ 40.00	$ 48,400.00	$ 39.00	$ 47,190.00	$ 73.15	$ 88,511.50
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	7545.00	$55.60	$419,502.00	$ 45.00	$ 339,525.00	$ 49.00	$ 369,705.00	$ 159.60	$ 1,204,182.00
620	7009	ELEC CONDR (NO.6) BARE	LF	6165.00	$13.48	$83,104.20	$ 2.10	$ 12,946.50	$ 2.35	$ 14,487.75	$ 2.40	$ 14,796.00
620	7010	ELEC CONDR (NO.6) INSULATED	LF	1045.00	$8.50	$8,882.50	$ 2.20	$ 2,299.00	$ 2.75	$ 2,873.75	$ 2.50	$ 2,612.50
623	7018	ITS GND BOX (POLY) TY 1 (243648)W/APRN	EA	2.00	3,500.00	$ 7,000.00	$ 3,550.00	$ 7,100.00	$ 5,200.00	$ 10,400.00	$ 3,379.00	$ 6,758.00
623	7024	ITS GND BOX (POLY) TY 2 (366048)W/APRN	EA	9.00	5,200.00	$ 46,800.00	$ 5,800.00	$ 52,200.00	$ 9,300.00	$ 83,700.00	$ 6,085.00	$ 54,765.00
624	7008	GROUND BOX TY D (162922)W/APRON	EA	45.00	$3,682.00	$165,690.00	$ 1,800.00	$ 81,000.00	$ 1,700.00	$ 76,500.00	$ 1,719.00	$ 77,355.00
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	8.00	$12,494.00	$99,952.00	$ 5,200.00	$ 41,600.00	$ 22,200.00	$ 177,600.00	$ 10,161.00	$ 81,288.00
636	7001	ALUMINUM SIGNS (TY A)	SF	415.00	$45.16	$18,741.40	$ 44.00	$ 18,260.00	$ 35.00	$ 14,525.00	$ 39.50	$ 16,392.50
644	7067	RELOCATE SM RD SN SUP&AM TY S80	EA	3.00	$866.00	$2,598.00	$ 750.00	$ 2,250.00	$ 1,400.00	$ 4,200.00	$ 1,958.00	$ 5,874.00
666	7024	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	2010.00	$1.16	$2,331.60	$ 3.20	$ 6,432.00	$ 2.55	$ 5,125.50	$ 2.25	$ 4,522.50
666	7030	REFL PAV MRK TY I (W)12"(SLD)(100MIL)	LF	560.00	$3.59	$2,010.40	$ 9.00	$ 5,040.00	$ 3.80	$ 2,128.00	$ 3.33	$ 1,864.80
666	7036	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	3200.00	$8.72	$27,904.00	$ 11.00	$ 35,200.00	$ 7.60	$ 24,320.00	$ 6.70	$ 21,440.00
666	7123	REFL PAV MRK TY I (Y)24"(SLD)(100MIL)	LF	220.00	$7.94	$1,746.80	$ 15.00	$ 3,300.00	$ 7.60	$ 1,672.00	$ 6.70	$ 1,474.00
666	7220	RE PM TY II (Y) (MED NOSE)	EA	1.00	$204.72	$204.72	$ 436.00	$ 436.00	$ 370.00	$ 370.00	$ 328.00	$ 328.00
666	7402	REFL PAV MRK TY I (W)4"(BRK)(100MIL)	LF	7700.00	$0.44	$3,388.00	$ 1.10	$ 8,470.00	$ 1.15	$ 8,855.00	$ 1.00	$ 7,700.00
666	7405	REFL PAV MRK TY I (W)4"(SLD)(100MIL)	LF	260.00	$2.65	$689.00	$ 2.00	$ 520.00	$ 1.15	$ 299.00	$ 1.00	$ 260.00
666	7408	REFL PAV MRK TY I (W)6"(BRK)(100MIL)	LF	1160.00	$0.82	$951.20	$ 1.70	$ 1,972.00	$ 1.70	$ 1,972.00	$ 1.50	$ 1,740.00

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE
666	7411	REFL PAV MRK TY I (W)6"(SLD)(100MIL)	LF	7050.00	$0.75	$5,287.50	$ 1.60	$ 11,280.00	$ 1.70	$ 11,985.00	$ 1.50	$ 10,575.00
666	7420	REFL PAV MRK TY I (Y)6"(BRK)(100MIL)	LF	2630.00	$1.09	$2,866.70	$ 1.60	$ 4,208.00	$ 1.70	$ 4,471.00	$ 1.50	$ 3,945.00
666	7423	REFL PAV MRK TY I (Y)6"(SLD)(100MIL)	LF	9950.00	$0.67	$6,666.50	$ 1.20	$ 11,940.00	$ 1.70	$ 16,915.00	$ 1.50	$ 14,925.00
668	7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	7.00	$1,000.00	$7,000.00	$ 300.00	$ 2,100.00	$ 230.00	$ 1,610.00	$ 200.00	$ 1,400.00
668	7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	7.00	$1,000.00	$7,000.00	$ 300.00	$ 2,100.00	$ 130.00	$ 910.00	$ 111.00	$ 777.00
668	7091	PREFAB PM TY C (W)(ARROW)	EA	32.00	$222.00	$7,104.00	$ 300.00	$ 9,600.00	$ 180.00	$ 5,760.00	$ 156.00	$ 4,992.00
668	7093	PREFAB PM TY C (W)(DBL ARROW)	EA	13.00	$357.41	$4,646.33	$ 450.00	$ 5,850.00	$ 340.00	$ 4,420.00	$ 294.00	$ 3,822.00
668	7103	PREFAB PM TY C (W)(WORD)	EA	22.00	$278.00	$6,116.00	$ 300.00	$ 6,600.00	$ 270.00	$ 5,940.00	$ 239.00	$ 5,258.00
672	7002	REFL PAV MRKR TY I-C	EA	266.00	$6.73	$1,790.18	$ 8.00	$ 2,128.00	$ 6.35	$ 1,689.10	$ 5.60	$ 1,489.60
672	7004	REFL PAV MRKR TY II-A-A	EA	236.00	$4.78	$1,128.08	$ 8.00	$ 1,888.00	$ 6.35	$ 1,498.60	$ 5.60	$ 1,321.60
677	7001	ELIM EXT PM & MRKS (4")	LF	7820.00	$0.44	$3,440.80	$ 0.70	$ 5,474.00	$ 1.10	$ 8,602.00	$ 1.00	$ 7,820.00
677	7002	ELIM EXT PM & MRKS (6")	LF	19170.00	$0.67	$12,843.90	$ 0.80	$ 15,336.00	$ 1.50	$ 28,755.00	$ 1.35	$ 25,879.50
677	7004	ELIM EXT PM & MRKS (8")	LF	1640.00	$0.91	$1,492.40	$ 1.80	$ 2,952.00	$ 2.15	$ 3,526.00	$ 1.90	$ 3,116.00
677	7006	ELIM EXT PM & MRKS (12")	LF	3590.00	$1.84	$6,605.60	$ 3.50	$ 12,565.00	$ 3.25	$ 11,667.50	$ 2.85	$ 10,231.50
677	7008	ELIM EXT PM & MRKS (24")	LF	1680.00	$4.54	$7,627.20	$ 8.00	$ 13,440.00	$ 6.45	$ 10,836.00	$ 5.70	$ 9,576.00
677	7009	ELIM EXT PM & MRKS (ARROW)	EA	33.00	$72.90	$2,405.70	$ 70.00	$ 2,310.00	$ 100.00	$ 3,300.00	$ 89.00	$ 2,937.00
677	7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	13.00	$115.80	$1,505.40	$ 130.00	$ 1,690.00	$ 200.00	$ 2,600.00	$ 178.00	$ 2,314.00
677	7015	ELIM EXT PM & MRKS (WORD)	EA	21.00	$78.84	$1,655.64	$ 70.00	$ 1,470.00	$ 150.00	$ 3,150.00	$ 133.00	$ 2,793.00
677	7025	ELIM EXT PM & MARKS (BIKE ARROW)	EA	7.00	$70.00	$490.00	$ 70.00	$ 490.00	$ 100.00	$ 700.00	$ 89.00	$ 623.00
677	7027	ELIM EXT PM & MARKS (BIKE SYMBOL)	EA	7.00	$60.87	$426.09	$ 80.00	$ 560.00	$ 100.00	$ 700.00	$ 89.00	$ 623.00
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	8.00	$45,000.00	$360,000.00	$ 68,500.00	$ 548,000.00	$ 76,200.00	$ 609,600.00	$ 88,825.00	$ 710,600.00
680	7004	REMOVING TRAFFIC SIGNALS	EA	8.00	$9,887.00	$79,096.00	$ 3,850.00	$ 30,800.00	$ 8,600.00	$ 68,800.00	$ 11,757.00	$ 94,056.00
682	7001	VEH SIG SEC (12")LED(GRN)	EA	60.00	$435.00	$26,100.00	$ 370.00	$ 22,200.00	$ 320.00	$ 19,200.00	$ 314.00	$ 18,840.00
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	16.00	$420.00	$6,720.00	$ 370.00	$ 5,920.00	$ 320.00	$ 5,120.00	$ 332.00	$ 5,312.00
682	7003	VEH SIG SEC (12")LED(YEL)	EA	60.00	$436.00	$26,160.00	$ 370.00	$ 22,200.00	$ 320.00	$ 19,200.00	$ 320.00	$ 19,200.00
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	23.00	$404.31	$9,299.13	$ 370.00	$ 8,510.00	$ 320.00	$ 7,360.00	$ 326.00	$ 7,498.00
682	7005	VEH SIG SEC (12")LED(RED)	EA	60.00	$450.00	$27,000.00	$ 370.00	$ 22,200.00	$ 320.00	$ 19,200.00	$ 314.00	$ 18,840.00
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	12.00	$445.00	$5,340.00	$ 370.00	$ 4,440.00	$ 320.00	$ 3,840.00	$ 322.00	$ 3,864.00
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	58.00	$1,250.00	$72,500.00	$ 610.00	$ 35,380.00	$ 790.00	$ 45,820.00	$ 882.00	$ 51,156.00
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	57.00	$248.00	$14,136.00	$ 125.00	$ 7,125.00	$ 170.00	$ 9,690.00	$ 304.00	$ 17,328.00
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	15.00	$284.00	$4,260.00	$ 185.00	$ 2,775.00	$ 250.00	$ 3,750.00	$ 486.00	$ 7,290.00
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	5540.00	$3.66	$20,276.40	$ 1.30	$ 7,202.00	$ 1.95	$ 10,803.00	$ 1.95	$ 10,803.00
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	4130.00	$4.50	$18,585.00	$ 1.60	$ 6,608.00	$ 2.50	$ 10,325.00	$ 2.45	$ 10,118.50
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	8208.00	$2.28	$18,714.24	$ 1.10	$ 9,028.80	$ 1.50	$ 12,312.00	$ 1.50	$ 12,312.00
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	5540.00	$3.56	$19,722.40	$ 1.30	$ 7,202.00	$ 2.25	$ 12,465.00	$ 2.25	$ 12,465.00
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	8248.00	$4.25	$35,054.00	$ 1.50	$ 12,372.00	$ 2.55	$ 21,032.40	$ 2.40	$ 19,795.20
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	7550.00	$4.55	$34,352.50	$ 1.80	$ 13,590.00	$ 3.40	$ 25,670.00	$ 2.90	$ 21,895.00
686	7024	INS TRF SIG PL AM(S)1 ARM(20')LUM&ILSN	EA	1.00	$16,550.00	$16,550.00	$ 16,850.00	$ 16,850.00	$ 14,800.00	$ 14,800.00	$ 12,778.00	$ 12,778.00
686	7028	INS TRF SIG PL AM(S)1 ARM(24')LUM&ILSN	EA	3.00	$16,400.00	$49,200.00	$ 18,100.00	$ 54,300.00	$ 15,500.00	$ 46,500.00	$ 13,655.00	$ 40,965.00
686	7032	INS TRF SIG PL AM(S)1 ARM(28')LUM&ILSN	EA	2.00	$18,378.00	$36,756.00	$ 18,150.00	$ 36,300.00	$ 15,900.00	$ 31,800.00	$ 14,117.00	$ 28,234.00

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE
686	7036	INS TRF SIG PL AM(S)1 ARM(32')LUM&ILSN	EA	1.00	$18,896.00	$18,896.00	$ 18,950.00	$ 18,950.00	$ 18,100.00	$ 18,100.00	$ 14,999.00	$ 14,999.00
686	7040	INS TRF SIG PL AM(S)1 ARM(36')LUM&ILSN	EA	3.00	$19,619.00	$58,857.00	$ 19,400.00	$ 58,200.00	$ 18,700.00	$ 56,100.00	$ 15,728.00	$ 47,184.00
686	7044	INS TRF SIG PL AM(S)1 ARM(40')LUM&ILSN	EA	1.00	$23,496.00	$23,496.00	$ 21,050.00	$ 21,050.00	$ 20,400.00	$ 20,400.00	$ 17,451.00	$ 17,451.00
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	6.00	$26,026.00	$156,156.00	$ 21,460.00	$ 128,760.00	$ 21,400.00	$ 128,400.00	$ 18,189.00	$ 109,134.00
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	6.00	$42,275.00	$253,650.00	$ 46,230.00	$ 277,380.00	$ 42,800.00	$ 256,800.00	$ 29,981.00	$ 179,886.00
686	7176	IN TRF SG PL AM(S)2ARM(50-24')LUM&ILSN	EA	1.00	$52,500.00	$52,500.00	$ 56,540.00	$ 56,540.00	$ 47,800.00	$ 47,800.00	$ 38,306.00	$ 38,306.00
686	7188	IN TRF SG PL AM(S)2ARM(50-36')LUM&ILSN	EA	1.00	$50,700.00	$50,700.00	$ 54,700.00	$ 54,700.00	$ 48,600.00	$ 48,600.00	$ 39,881.00	$ 39,881.00
687	7001	PED POLE ASSEMBLY	EA	9.00	$5,000.00	$45,000.00	$ 2,150.00	$ 19,350.00	$ 3,300.00	$ 29,700.00	$ 5,976.00	$ 53,784.00
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	24.00	$4,500.00	$108,000.00	$ 1,550.00	$ 37,200.00	$ 3,000.00	$ 72,000.00	$ 4,628.00	$ 111,072.00
688	7001	PED DETECT PUSH BUTTON (APS)	EA	57.00	$1,230.00	$70,110.00	$ 950.00	$ 54,150.00	$ 1,000.00	$ 57,000.00	$ 1,080.00	$ 61,560.00
688	7003	PED DETECTOR CONTROLLER UNIT	EA	8.00	$4,602.40	$36,819.20	$ 3,850.00	$ 30,800.00	$ 3,900.00	$ 31,200.00	$ 4,464.00	$ 35,712.00
5047	7001	RELOCATE FIRE HYDRANT	EA	1.00	$8,875.00	$8,875.00	$ 2,850.00	$ 2,850.00	$ 16,000.00	$ 16,000.00	$ 14,063.00	$ 14,063.00
6001	7002	ILSN (6 D)	EA	8.00	$3,788.67	$30,309.36	$ 4,500.00	$ 36,000.00	$ 3,600.00	$ 28,800.00	$ 4,502.00	$ 36,016.00
6001	7004	ILSN (8D)	EA	7.00	$4,755.12	$33,285.84	$ 4,850.00	$ 33,950.00	$ 3,800.00	$ 26,600.00	$ 5,092.00	$ 35,644.00
6001	7006	ILSN (10D)	EA	13.00	$4,437.62	$57,689.06	$ 5,100.00	$ 66,300.00	$ 3,900.00	$ 50,700.00	$ 5,885.00	$ 76,505.00
6005	7001	ITS COM CBL (ETHERNET)	LF	980.00	$6.25	$6,125.00	$ 2.30	$ 2,254.00	$ 1.50	$ 1,470.00	$ 2.35	$ 2,303.00
6007	7001	BBU SYSTEM (EXTERNAL BATTERY CABINET)	EA	8.00	$10,745.00	$85,960.00	$ 9,500.00	$ 76,000.00	$ 9,500.00	$ 76,000.00	$ 11,226.00	$ 89,808.00
6008	0001	RVDS (PRESENCE DETECTION ONLY)	EA	28.00	$9,121.20	$255,393.60	$ 12,800.00	$ 358,400.00	$ 13,200.00	$ 369,600.00	$ 9,890.00	$ 276,920.00
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	28.00	$10,300.00	$288,400.00	$ 9,500.00	$ 266,000.00	$ 9,900.00	$ 277,200.00	$ 7,419.00	$ 207,732.00
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	8.00	$8,714.00	$69,712.00	$ 3,850.00	$ 30,800.00	$ 7,500.00	$ 60,000.00	$ 6,869.00	$ 54,952.00
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$8,000.00	$64,000.00	$ 3,850.00	$ 30,800.00	$ 1.00	$ 8.00	$ 6,414.00	$ 51,312.00
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$3.00	$1,500.00	$ 5.30	$ 2,650.00	$ 24.00	$ 12,000.00	$ 8.05	$ 4,025.00
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$2.50	$8,500.00	$ 5.80	$ 19,720.00	$ 4.10	$ 13,940.00	$ 6.20	$ 21,080.00
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$900.00	$12,600.00	$ 5,500.00	$ 77,000.00	$ 1,000.00	$ 14,000.00	$ 480.40	$ 6,725.60
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$1,500.00	$12,000.00	$ 10,500.00	$ 84,000.00	$ 1,000.00	$ 8,000.00	$ 783.25	$ 6,266.00
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$500.00	$8,000.00	$ 4,850.00	$ 77,600.00	$ 1,000.00	$ 16,000.00	$ 909.00	$ 14,544.00
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$1,500.00	$12,000.00	$ 650.00	$ 5,200.00	$ 6,000.00	$ 48,000.00	$ 5,587.00	$ 44,696.00
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$3,000.00	$24,000.00	$ 550.00	$ 4,400.00	$ 380.00	$ 3,040.00	$ 1,868.00	$ 14,944.00
Total Bid Unit Items TRAFFIC SIGNALS:						**$4,298,721.63**		**$ 4,102,213.30**		**$ 4,278,693.60**		**$ 5,165,186.05**
TOTAL BID PRICE:						**$4,872,593.79**		**$ 4,404,513.30**		**$ 4,976,093.60**		**$ 5,655,121.05**

END OF DOCUMENT

TERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

Solicitation No. 146-26-EPW-IFB

BID COMPARISON ALL BIDDERS VS. ENGINEER'S ESTIMATE

BASIC UNIT BID ITEMS

					Engineer's Estimate	Low Bidder - Bidder #1		Bidder #2		Bidder #3	
ITEM	**CODE**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**TOTAL PRICE**	**TOTAL PRICE**	**% Diff.**	**TOTAL PRICE**	**%Diff.**	**TOTAL PRICE**	**% Diff.**
500	7001	MOBILIZATION	LS	1.00	$429,872.16	$ 225,800.00	-47.47%	$ 497,600.00	15.76%	$ 414,065.00	-3.68%
502	7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	18.00	$144,000.00	$ 76,500.00	-46.88%	$ 199,800.00	38.75%	$ 75,870.00	-47.31%
Total Bid Unit Items MISCELLANEOUS CONSTRUCTION:					**$573,872.16**	**$ 302,300.00**		**$ 697,400.00**		**$ 489,935.00**	
104	7013	REMOV CONC (SIDEWALK, RAMP OR SUP)	SY	485.00	$19,400.00	$ 24,250.00	25.00%	$ 9,215.00	-52.50%	$ 11,155.00	-42.50%
104	7018	REMOV CONC (CURB OR CURB & GUTTER)	LF	1070.00	$18,810.60	$ 37,450.00	99.09%	$ 16,050.00	-14.68%	$ 14,659.00	-22.07%
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	275.00	$144,925.00	$ 94,875.00	-34.54%	$ 145,750.00	0.57%	$ 264,330.00	82.39%
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	176.00	$144,672.00	$ 165,440.00	14.36%	$ 193,600.00	33.82%	$ 212,960.00	47.20%
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	800.00	$7,192.00	$ 9,600.00	33.48%	$ 4,040.00	-43.83%	$ 9,440.00	31.26%
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	800.00	$1,752.00	$ 1,600.00	-8.68%	$ 1,480.00	-15.53%	$ 3,840.00	119.18%
528	7003	REMOVE AND RELAY PAVERS	SY	125.00	$44,188.75	$ 14,375.00	-67.47%	$ 6,875.00	-84.44%	$ 6,125.00	-86.14%
531	7005	CURB RAMPS (TY 1)	EA	7.00	$21,456.96	$ 29,400.00	37.02%	$ 23,800.00	10.92%	$ 20,881.00	-2.68%
531	7008	CURB RAMPS (TY 5)	EA	25.00	$116,290.25	$ 124,125.00	6.74%	$ 100,000.00	-14.01%	$ 86,800.00	-25.36%
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	505.00	$19,442.50	$ 16,160.00	-16.88%	$ 18,180.00	-6.49%	$ 38,859.75	99.87%
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	1210.00	$48,642.00	$ 48,400.00	-0.50%	$ 47,190.00	-2.99%	$ 88,511.50	81.97%
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	7545.00	$419,502.00	$ 339,525.00	-19.06%	$ 369,705.00	-11.87%	$ 1,204,182.00	187.05%
620	7009	ELEC CONDR (NO.6) BARE	LF	6165.00	$83,104.20	$ 12,946.50	-84.42%	$ 14,487.75	-82.57%	$ 14,796.00	-82.20%
620	7010	ELEC CONDR (NO.6) INSULATED	LF	1045.00	$8,882.50	$ 2,299.00	-74.12%	$ 2,873.75	-67.65%	$ 2,612.50	-70.59%
623	7018	ITS GND BOX (POLY) TY 1 (243648)W/APRN	EA	2.00	$ 7,000.00	$ 7,100.00	1.43%	$ 10,400.00	48.57%	$ 6,758.00	-3.46%
623	7024	ITS GND BOX (POLY) TY 2 (366048)W/APRN	EA	9.00	$ 46,800.00	$ 52,200.00	11.54%	$ 83,700.00	78.85%	$ 54,765.00	17.02%
624	7008	GROUND BOX TY D (162922)W/APRON	EA	45.00	$165,690.00	$ 81,000.00	-51.11%	$ 76,500.00	-53.83%	$ 77,355.00	-53.31%
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	8.00	$99,952.00	$ 41,600.00	-58.38%	$ 177,600.00	77.69%	$ 81,288.00	-18.67%
636	7001	ALUMINUM SIGNS (TY A)	SF	415.00	$18,741.40	$ 18,260.00	-2.57%	$ 14,525.00	-22.50%	$ 16,392.50	-12.53%
644	7067	RELOCATE SM RD SN SUP&AM TY S80	EA	3.00	$2,598.00	$ 2,250.00	-13.39%	$ 4,200.00	61.66%	$ 5,874.00	126.10%
666	7024	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	2010.00	$2,331.60	$ 6,432.00	175.86%	$ 5,125.50	119.83%	$ 4,522.50	93.97%
666	7030	REFL PAV MRK TY I (W)12"(SLD)(100MIL)	LF	560.00	$2,010.40	$ 5,040.00	150.70%	$ 2,128.00	5.85%	$ 1,864.80	-7.24%
666	7036	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	3200.00	$27,904.00	$ 35,200.00	26.15%	$ 24,320.00	-12.84%	$ 21,440.00	-23.17%
666	7123	REFL PAV MRK TY I (Y)24"(SLD)(100MIL)	LF	220.00	$1,746.80	$ 3,300.00	88.92%	$ 1,672.00	-4.28%	$ 1,474.00	-15.62%
666	7220	RE PM TY II (Y) (MED NOSE)	EA	1.00	$204.72	$ 436.00	112.97%	$ 370.00	80.73%	$ 328.00	60.22%
666	7402	REFL PAV MRK TY I (W)4"(BRK)(100MIL)	LF	7700.00	$3,388.00	$ 8,470.00	150.00%	$ 8,855.00	161.36%	$ 7,700.00	127.27%
666	7405	REFL PAV MRK TY I (W)4"(SLD)(100MIL)	LF	260.00	$689.00	$ 520.00	-24.53%	$ 299.00	-56.60%	$ 260.00	-62.26%

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	TOTAL PRICE	TOTAL PRICE	% Diff.	TOTAL PRICE	%Diff.	TOTAL PRICE	% Diff.
666	7408	REFL PAV MRK TY I (W)6"(BRK)(100MIL)	LF	1160.00	$951.20	$ 1,972.00	107.32%	$ 1,972.00	107.32%	$ 1,740.00	82.93%
666	7411	REFL PAV MRK TY I (W)6"(SLD)(100MIL)	LF	7050.00	$5,287.50	$ 11,280.00	113.33%	$ 11,985.00	126.67%	$ 10,575.00	100.00%
666	7420	REFL PAV MRK TY I (Y)6"(BRK)(100MIL)	LF	2630.00	$2,866.70	$ 4,208.00	46.79%	$ 4,471.00	55.96%	$ 3,945.00	37.61%
666	7423	REFL PAV MRK TY I (Y)6"(SLD)(100MIL)	LF	9950.00	$6,666.50	$ 11,940.00	79.10%	$ 16,915.00	153.73%	$ 14,925.00	123.88%
668	7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	7.00	$7,000.00	$ 2,100.00	-70.00%	$ 1,610.00	-77.00%	$ 1,400.00	-80.00%
668	7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	7.00	$7,000.00	$ 2,100.00	-70.00%	$ 910.00	-87.00%	$ 777.00	-88.90%
668	7091	PREFAB PM TY C (W)(ARROW)	EA	32.00	$7,104.00	$ 9,600.00	35.14%	$ 5,760.00	-18.92%	$ 4,992.00	-29.73%
668	7093	PREFAB PM TY C (W)(DBL ARROW)	EA	13.00	$4,646.33	$ 5,850.00	25.91%	$ 4,420.00	-4.87%	$ 3,822.00	-17.74%
668	7103	PREFAB PM TY C (W)(WORD)	EA	22.00	$6,116.00	$ 6,600.00	7.91%	$ 5,940.00	-2.88%	$ 5,258.00	-14.03%
672	7002	REFL PAV MRKR TY I-C	EA	266.00	$1,790.18	$ 2,128.00	18.87%	$ 1,689.10	-5.65%	$ 1,489.60	-16.79%
672	7004	REFL PAV MRKR TY II-A-A	EA	236.00	$1,128.08	$ 1,888.00	67.36%	$ 1,498.60	32.85%	$ 1,321.60	17.15%
677	7001	ELIM EXT PM & MRKS (4")	LF	7820.00	$3,440.80	$ 5,474.00	59.09%	$ 8,602.00	150.00%	$ 7,820.00	127.27%
677	7002	ELIM EXT PM & MRKS (6")	LF	19170.00	$12,843.90	$ 15,336.00	19.40%	$ 28,755.00	123.88%	$ 25,879.50	101.49%
677	7004	ELIM EXT PM & MRKS (8")	LF	1640.00	$1,492.40	$ 2,952.00	97.80%	$ 3,526.00	136.26%	$ 3,116.00	108.79%
677	7006	ELIM EXT PM & MRKS (12")	LF	3590.00	$6,605.60	$ 12,565.00	90.22%	$ 11,667.50	76.63%	$ 10,231.50	54.89%
677	7008	ELIM EXT PM & MRKS (24")	LF	1680.00	$7,627.20	$ 13,440.00	76.21%	$ 10,836.00	42.07%	$ 9,576.00	25.55%
677	7009	ELIM EXT PM & MRKS (ARROW)	EA	33.00	$2,405.70	$ 2,310.00	-3.98%	$ 3,300.00	37.17%	$ 2,937.00	22.09%
677	7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	13.00	$1,505.40	$ 1,690.00	12.26%	$ 2,600.00	72.71%	$ 2,314.00	53.71%
677	7015	ELIM EXT PM & MRKS (WORD)	EA	21.00	$1,655.64	$ 1,470.00	-11.21%	$ 3,150.00	90.26%	$ 2,793.00	68.70%
677	7025	ELIM EXT PM & MARKS (BIKE ARROW)	EA	7.00	$490.00	$ 490.00	0.00%	$ 700.00	42.86%	$ 623.00	27.14%
677	7027	ELIM EXT PM & MARKS (BIKE SYMBOL)	EA	7.00	$426.09	$ 560.00	31.43%	$ 700.00	64.28%	$ 623.00	46.21%
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	8.00	$360,000.00	$ 548,000.00	52.22%	$ 609,600.00	69.33%	$ 710,600.00	97.39%
680	7004	REMOVING TRAFFIC SIGNALS	EA	8.00	$79,096.00	$ 30,800.00	-61.06%	$ 68,800.00	-13.02%	$ 94,056.00	18.91%
682	7001	VEH SIG SEC (12")LED(GRN)	EA	60.00	$26,100.00	$ 22,200.00	-14.94%	$ 19,200.00	-26.44%	$ 18,840.00	-27.82%
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	16.00	$6,720.00	$ 5,920.00	-11.90%	$ 5,120.00	-23.81%	$ 5,312.00	-20.95%
682	7003	VEH SIG SEC (12")LED(YEL)	EA	60.00	$26,160.00	$ 22,200.00	-15.14%	$ 19,200.00	-26.61%	$ 19,200.00	-26.61%
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	23.00	$9,299.13	$ 8,510.00	-8.49%	$ 7,360.00	-20.85%	$ 7,498.00	-19.37%
682	7005	VEH SIG SEC (12")LED(RED)	EA	60.00	$27,000.00	$ 22,200.00	-17.78%	$ 19,200.00	-28.89%	$ 18,840.00	-30.22%
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	12.00	$5,340.00	$ 4,440.00	-16.85%	$ 3,840.00	-28.09%	$ 3,864.00	-27.64%
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	58.00	$72,500.00	$ 35,380.00	-51.20%	$ 45,820.00	-36.80%	$ 51,156.00	-29.44%
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	57.00	$14,136.00	$ 7,125.00	-49.60%	$ 9,690.00	-31.45%	$ 17,328.00	22.58%
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	15.00	$4,260.00	$ 2,775.00	-34.86%	$ 3,750.00	-11.97%	$ 7,290.00	71.13%
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	5540.00	$20,276.40	$ 7,202.00	-64.48%	$ 10,803.00	-46.72%	$ 10,803.00	-46.72%
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	4130.00	$18,585.00	$ 6,608.00	-64.44%	$ 10,325.00	-44.44%	$ 10,118.50	-45.56%
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	8208.00	$18,714.24	$ 9,028.80	-51.75%	$ 12,312.00	-34.21%	$ 12,312.00	-34.21%
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	5540.00	$19,722.40	$ 7,202.00	-63.48%	$ 12,465.00	-36.80%	$ 12,465.00	-36.80%
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	8248.00	$35,054.00	$ 12,372.00	-64.71%	$ 21,032.40	-40.00%	$ 19,795.20	-43.53%
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	7550.00	$34,352.50	$ 13,590.00	-60.44%	$ 25,670.00	-25.27%	$ 21,895.00	-36.26%
686	7024	INS TRF SIG PL AM(S)1 ARM(20')LUM&ILSN	EA	1.00	$16,550.00	$ 16,850.00	1.81%	$ 14,800.00	-10.57%	$ 12,778.00	-22.79%

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	TOTAL PRICE	TOTAL PRICE	% Diff.	TOTAL PRICE	%Diff.	TOTAL PRICE	% Diff.
686	7028	INS TRF SIG PL AM(S)1 ARM(24')LUM&ILSN	EA	3.00	$49,200.00	$ 54,300.00	10.37%	$ 46,500.00	-5.49%	$ 40,965.00	-16.74%
686	7032	INS TRF SIG PL AM(S)1 ARM(28')LUM&ILSN	EA	2.00	$36,756.00	$ 36,300.00	-1.24%	$ 31,800.00	-13.48%	$ 28,234.00	-23.19%
686	7036	INS TRF SIG PL AM(S)1 ARM(32')LUM&ILSN	EA	1.00	$18,896.00	$ 18,950.00	0.29%	$ 18,100.00	-4.21%	$ 14,999.00	-20.62%
686	7040	INS TRF SIG PL AM(S)1 ARM(36')LUM&ILSN	EA	3.00	$58,857.00	$ 58,200.00	-1.12%	$ 56,100.00	-4.68%	$ 47,184.00	-19.83%
686	7044	INS TRF SIG PL AM(S)1 ARM(40')LUM&ILSN	EA	1.00	$23,496.00	$ 21,050.00	-10.41%	$ 20,400.00	-13.18%	$ 17,451.00	-25.73%
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	6.00	$156,156.00	$ 128,760.00	-17.54%	$ 128,400.00	-17.77%	$ 109,134.00	-30.11%
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	6.00	$253,650.00	$ 277,380.00	9.36%	$ 256,800.00	1.24%	$ 179,886.00	-29.08%
686	7176	IN TRF SG PL AM(S)2ARM(50-24')LUM&ILSN	EA	1.00	$52,500.00	$ 56,540.00	7.70%	$ 47,800.00	-8.95%	$ 38,306.00	-27.04%
686	7188	IN TRF SG PL AM(S)2ARM(50-36')LUM&ILSN	EA	1.00	$50,700.00	$ 54,700.00	7.89%	$ 48,600.00	-4.14%	$ 39,881.00	-21.34%
687	7001	PED POLE ASSEMBLY	EA	9.00	$45,000.00	$ 19,350.00	-57.00%	$ 29,700.00	-34.00%	$ 53,784.00	19.52%
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	24.00	$108,000.00	$ 37,200.00	-65.56%	$ 72,000.00	-33.33%	$ 111,072.00	2.84%
688	7001	PED DETECT PUSH BUTTON (APS)	EA	57.00	$70,110.00	$ 54,150.00	-22.76%	$ 57,000.00	-18.70%	$ 61,560.00	-12.20%
688	7003	PED DETECTOR CONTROLLER UNIT	EA	8.00	$36,819.20	$ 30,800.00	-16.35%	$ 31,200.00	-15.26%	$ 35,712.00	-3.01%
5047	7001	RELOCATE FIRE HYDRANT	EA	1.00	$8,875.00	$ 2,850.00	-67.89%	$ 16,000.00	80.28%	$ 14,063.00	58.46%
6001	7002	ILSN (6 D)	EA	8.00	$30,309.36	$ 36,000.00	18.78%	$ 28,800.00	-4.98%	$ 36,016.00	18.83%
6001	7004	ILSN (8D)	EA	7.00	$33,285.84	$ 33,950.00	2.00%	$ 26,600.00	-20.09%	$ 35,644.00	7.08%
6001	7006	ILSN (10D)	EA	13.00	$57,689.06	$ 66,300.00	14.93%	$ 50,700.00	-12.12%	$ 76,505.00	32.62%
6005	7001	ITS COM CBL (ETHERNET)	LF	980.00	$6,125.00	$ 2,254.00	-63.20%	$ 1,470.00	-76.00%	$ 2,303.00	-62.40%
6007	7001	BBU SYSTEM (EXTERNAL BATTERY CABINET)	EA	8.00	$85,960.00	$ 76,000.00	-11.59%	$ 76,000.00	-11.59%	$ 89,808.00	4.48%
6008	0001	RVDS (PRESENCE DETECTION ONLY)	EA	28.00	$255,393.60	$ 358,400.00	40.33%	$ 369,600.00	44.72%	$ 276,920.00	8.43%
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	28.00	$288,400.00	$ 266,000.00	-7.77%	$ 277,200.00	-3.88%	$ 207,732.00	-27.97%
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	8.00	$69,712.00	$ 30,800.00	-55.82%	$ 60,000.00	-13.93%	$ 54,952.00	-21.17%
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 30,800.00	-51.88%	$ 8.00	-99.99%	$ 51,312.00	-19.83%
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 2,650.00	76.67%	$ 12,000.00	700.00%	$ 4,025.00	168.33%
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 19,720.00	132.00%	$ 13,940.00	64.00%	$ 21,080.00	148.00%
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 77,000.00	511.11%	$ 14,000.00	11.11%	$ 6,725.60	-46.62%
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 84,000.00	600.00%	$ 8,000.00	-33.33%	$ 6,266.00	-47.78%
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 77,600.00	870.00%	$ 16,000.00	100.00%	$ 14,544.00	81.80%
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 5,200.00	-56.67%	$ 48,000.00	300.00%	$ 44,696.00	272.47%
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 4,400.00	-81.67%	$ 3,040.00	-87.33%	$ 14,944.00	-37.73%
Total Bid Unit Items TRAFFIC SIGNALS:					**$4,298,721.63**	**$ 4,102,213.30**		**$ 4,278,693.60**		**$ 5,165,186.05**	
TOTAL BID PRICE:					**$4,872,593.79**	**$ 4,404,513.30**		**$ 4,976,093.60**		**$ 5,655,121.05**	

END OF DOCUMENT

PROCUREMENT ANALYSIS

Date: Wednesday, September 23, 2026
To: Mr. John Cowen Jr., City Mayor
From: Mr. Alan Guard, City Manager
CC: Mr. Damian Espinoza, Procurement Director
Mrs. Maribel Guerrero, Engineering & Public Works Director

Agenda Title:
Agenda Item for the City Commission meeting of Tuesday, October 6, 2026.
"Consideration and Action to Authorize a Contract with Austin Traffic Signal Construction CO. LLC in the amount of $4,404,513.30 for Contract No. 146-26-EPW-IFB, for a term of 720 Consecutive Calendar Days for the International Blvd. Traffic Signal Improvements Project (Engineering and Public Works Department)."

Executive Summary:

- Department: Engineering and Public Works Department
- Procurement Method: IFB
- Submittals Received: Four (4)
- Contract Number: 146-26-EPW-IFB
- Vendor: Austin Traffic Signal Construction CO. LLC.
- Contract Amount: $4,404,513.30
- Term: 720 Consecutive Calendar Days

Background:
The Engineering and Public Works Department is seeking improvements to the traffic signal infrastructure along International Boulevard. The project includes the replacement and installation of traffic signals, pedestrian signal equipment, vehicle detection systems, CCTV equipment, fiber optic communications, pavement markings, and other associated infrastructure to improve traffic operations and connectivity along the corridor.

Procurement Process:
The Procurement Department issued an IFB in compliance with the Texas Local Government Code. The solicitation was advertised in the local newspaper and posted on the City's electronic bidding platform. Three (3) Bids were received.

This procurement is governed by the following statute:

- **IFB (Competitive Sealed Bidding): Texas Local Government Code Chapter 252, Subchapter C – Competitive Sealed Bidding (§252.041).**

Results:
A total of 3 bids were received. After review, Austin Traffic Signal Construction CO. LLC submitted the lowest responsive and responsible bid at $4,404,513.30. The bid tabulation is provided as Exhibit A.

Vendor Information:
Austin Traffic Signal Construction CO. LLC
4615 Priem Lane, Pflugerville, TX 78660
Point of Contact: Stephen Rutledge, Area Manager, V.P.
Phone/Email: (956) 239-1615 | stever@atscc.com

Exhibits & Supporting Documents:
- IFB: Exhibit A – Bid Tab (lowest responsive/responsible bidder).
- All Methods: 1295, other relevant documentation.

Recommendation:
The Procurement Department recommends that the City Commission authorize a contract with Austin Traffic Signal Construction CO., LLC under formal Solicitation IFB, in a total amount not to exceed $4,404,513.30, for a base term of 720 Consecutive Calendar Days.

Approval of this agenda item will authorize the full contract value.

KBH TRAFFIC ENGINEERING, LLC
1127 Eldridge Pkwy, #300-203, Houston, TX 77077
Tel 832-250-1861 Fax 281-597-9354
keti@kbhtraffic.com
www.kbhtraffic.com

July 22, 2026

Eduardo Torres, MBA, CTCD
Buyer-City of Brownsville
City of Brownsville | Procurement Division
1001 E. Elizabeth St
Brownsville, Texas 78520

RE: INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

Solicitation No. 146-26-EPW-IFB

BID RECOMMENDATION LETTER

Dear Mr. Torres

KBH Traffic Engineering, LLC (KBH) is in receipt of the bid tabulation in accordance with Article 2.14 “Tabulation for Bids” of TxDOT’s Standard Specifications for the above-mentioned project and offers the following Bid Analysis. A total of three (3) bids were received.

KBH developed the Bid Analysis spreadsheet for the project and populated it with item descriptions, units, estimated quantities, unit prices, and total costs. The total cost for each item was obtained by multiplying the estimated quantity by the unit price. The project's total cost was obtained by summing the costs of all items.

The official bid amounts, summarized below, ranged from -9.61%% to 16.26%% above the engineer’s estimate from March 2026.

We prepared a detailed bid summary and analysis in accordance with FHWA’s “Guidelines on Preparing Engineer’s Estimate, Bid Review, and Evaluation” and the TxDOT Local Government Manual.

1. Bid Results:

No mathematical errors and/or irregularities appear to exist within the Bid Forms submitted by all bidders.

Based on our Bid Tabulation and comparison, the ranking of bidders is listed below:

	Bidder Name	Submitted Bid
Bidder #1	Austin Traffic Signal Construction CO., LLC	$4,404,513.30
Bidder #2	The Levy Company, LLC	$4,976,093.60
Bidder #3	Traf-Tex, Inc.	$5,665,121.05

2. Analyzing the Bids

- Number of Bids – 3 bids
- Difference between the low bid and the engineer's estimate;

Engineer's Estimate - $4,872,593.79

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	Austin Traffic Signal Construction CO., LLC	$4,404,513.30	-9.61%
Bidder #2	The Levy Company, LLC	$4,976,093.60	2.12%
Bidder #3	Traf-Tex, Inc.	$5,665,121.05	16.26%

- Difference between the low bid and other bidders:

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	Austin Traffic Signal Construction CO., LLC	$4,404,513.30	
Bidder #2	The Levy Company, LLC	$4,976,093.60	12.98%
Bidder #3	Traf-Tex, Inc.	$5,665,121.05	28.62%

- Review for Unbalanced Items; In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 8 items: 6018-0002, 6027-7001, 6027-7002, 6027-7005, 6027-7007, 6027-7009, 6036-7001, & 6061-001were identified as significantly unbalanced.

Unbalanced Items for Austin Traffic Signal Construction CO., LLC

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	Engineer's Estimate	Low Bid - Bidder # 1	% Diff	Reason
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 30,800.00	-51.88%	
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 2,650.00	76.67%	Low Quantity
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 19,720.00	132.00%	Subcontracted
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 77,000.00	511.11%	Subcontracted
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 84,000.00	600.00%	Subcontracted
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 77,600.00	870.00%	Subcontracted
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 5,200.00	-56.67%	
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 4,400.00	-81.67%	Eng. Est. to High

Unbalanced Items for The Levy Company, LLC

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	Engineer's Estimate	Bidder #2	% Diff	Reason
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 8.00	-99.99%	Eng. Est. to High
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 12,000.00	700.00%	Low Quantity
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 13,940.00	64.00%	Subcontracted
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 14,000.00	11.11%	Low Quantity
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 8,000.00	-33.33%	Low Quantity
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 16,000.00	100.00%	Subcontracted
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 48,000.00	300.00%	Eng. Est. to High
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 3,040.00	-87.33%	Eng. Est. to High

Unbalanced Items for Traf-Tex, Inc.

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	Engineer's Estimate	Bidder #3	% Diff	Reasson
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 51,312.00	-19.83%	
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 4,025.00	168.33%	Subcontracted
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 21,080.00	148.00%	Subcontracted
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 6,725.60	-46.62%	
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 6,266.00	-47.78%	
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 14,544.00	81.80%	Subcontracted
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 44,696.00	272.47%	Eng. Est. to High
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 14,944.00	-37.73%	

- TxDOT Prequalified under the Confidential Questionnaire

Since this project has portions within State ROW and federal funds are being utilized, it must follow the TxDOT requirements for TxDOT Prequalification. This project requires a TxDOT Confidential Questionnaire Prequalification since the project cost is above $300,000, and as outlined on TxDOT's website (https://www.txdot.gov/business/road-bridge-maintenance/contract-letting/contractor-prequalification.html).

All three (3) Bidders have met the TxDOT's Prequalification requirements.

RECOMMENDATION

The bid analysis shows that Austin Traffic Signal Construction CO., LLC is the responsive and responsible lower bidder at $4,404,513.30. The bid was reviewed for completeness, and we found five (5) unbalanced Items that are low in quantities or due to use of Subcontractor, and will not affect negatively completion of the project.

Austin Traffic Signal Construction CO., LLC is the responsive and responsible lower bidder and has demonstrated the ability to perform quality work on previous projects.

Based on the submitted bids and our corresponding analysis, we recommend that Bidder #1 (Austin Traffic Signal Construction CO., LLC) be awarded the contract not to exceed $4,404,513.30.

Thank you for the opportunity to assist you with this project and should you have any questions or concerns, please feel free to contact me via email at keti@kbhtraffic.com or via phone at 832.250.1861

Sincerely,

Keti Hristova, P.E., PTOE
Principal, KBH Traffic Engineering, LLC

Encl:

1. Bid Tabulation – City of Brownsville – INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS Solicitation No. 146-26-EPW-IFB
2. Bid Comparison vs. Engineer's Estimate - City of Brownsville – INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS Solicitation No. 146-26-EPW-IFB

INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

Solicitation No. 146-26-EPW-IFB

BID TABULATION

BASIC UNIT BID ITEMS

					Engineers Estimate		Austin Traffic Signal Construction CO.LLC		The Levy Company, LLC		Traf-Tex, Inc.	
ITEM	**CODE**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE**	**TOTAL PRICE**	**UNTI PRICE**	**TOTAL PRICE**	**UNTI PRICE**	**TOTAL PRICE**	**UNTI PRICE**	**TOTAL PRICE**
500	7001	MOBILIZATION	LS	1.00	$429,872.16	$429,872.16	$ 225,800.00	$ 225,800.00	$497,600.00	$ 497,600.00	$414,065.00	$ 414,065.00
502	7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	18.00	$8,000.00	$144,000.00	$ 4,250.00	$ 76,500.00	$ 11,100.00	$ 199,800.00	$ 4,215.00	$ 75,870.00
Total Bid Unit Items MISCELLANEOUS CONSTRUCTION:						**$573,872.16**		**$ 302,300.00**		**$ 697,400.00**		**$ 489,935.00**
104	7013	REMOV CONC (SIDEWALK, RAMP OR SUP)	SY	485.00	$40.00	$19,400.00	$ 50.00	$ 24,250.00	$ 19.00	$ 9,215.00	$ 23.00	$ 11,155.00
104	7018	REMOV CONC (CURB OR CURB & GUTTER)	LF	1070.00	$17.58	$18,810.60	$ 35.00	$ 37,450.00	$ 15.00	$ 16,050.00	$ 13.70	$ 14,659.00
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	275.00	$527.00	$144,925.00	$ 345.00	$ 94,875.00	$ 530.00	$ 145,750.00	$ 961.20	$ 264,330.00
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	176.00	$822.00	$144,672.00	$ 940.00	$ 165,440.00	$ 1,100.00	$ 193,600.00	$ 1,210.00	$ 212,960.00
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	800.00	$8.99	$7,192.00	$ 12.00	$ 9,600.00	$ 5.05	$ 4,040.00	$ 11.80	$ 9,440.00
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	800.00	$2.19	$1,752.00	$ 2.00	$ 1,600.00	$ 1.85	$ 1,480.00	$ 4.80	$ 3,840.00
528	7003	REMOVE AND RELAY PAVERS	SY	125.00	$353.51	$44,188.75	$ 115.00	$ 14,375.00	$ 55.00	$ 6,875.00	$ 49.00	$ 6,125.00
531	7005	CURB RAMPS (TY 1)	EA	7.00	$3,065.28	$21,456.96	$ 4,200.00	$ 29,400.00	$ 3,400.00	$ 23,800.00	$ 2,983.00	$ 20,881.00
531	7008	CURB RAMPS (TY 5)	EA	25.00	$4,651.61	$116,290.25	$ 4,965.00	$ 124,125.00	$ 4,000.00	$ 100,000.00	$ 3,472.00	$ 86,800.00
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	505.00	$38.50	$19,442.50	$ 32.00	$ 16,160.00	$ 36.00	$ 18,180.00	$ 76.95	$ 38,859.75
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	1210.00	$40.20	$48,642.00	$ 40.00	$ 48,400.00	$ 39.00	$ 47,190.00	$ 73.15	$ 88,511.50
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	7545.00	$55.60	$419,502.00	$ 45.00	$ 339,525.00	$ 49.00	$ 369,705.00	$ 159.60	$ 1,204,182.00
620	7009	ELEC CONDR (NO.6) BARE	LF	6165.00	$13.48	$83,104.20	$ 2.10	$ 12,946.50	$ 2.35	$ 14,487.75	$ 2.40	$ 14,796.00
620	7010	ELEC CONDR (NO.6) INSULATED	LF	1045.00	$8.50	$8,882.50	$ 2.20	$ 2,299.00	$ 2.75	$ 2,873.75	$ 2.50	$ 2,612.50
623	7018	ITS GND BOX (POLY) TY 1 (243648)W/APRN	EA	2.00	3,500.00	$ 7,000.00	$ 3,550.00	$ 7,100.00	$ 5,200.00	$ 10,400.00	$ 3,379.00	$ 6,758.00
623	7024	ITS GND BOX (POLY) TY 2 (366048)W/APRN	EA	9.00	5,200.00	$ 46,800.00	$ 5,800.00	$ 52,200.00	$ 9,300.00	$ 83,700.00	$ 6,085.00	$ 54,765.00
624	7008	GROUND BOX TY D (162922)W/APRON	EA	45.00	$3,682.00	$165,690.00	$ 1,800.00	$ 81,000.00	$ 1,700.00	$ 76,500.00	$ 1,719.00	$ 77,355.00
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	8.00	$12,494.00	$99,952.00	$ 5,200.00	$ 41,600.00	$ 22,200.00	$ 177,600.00	$ 10,161.00	$ 81,288.00
636	7001	ALUMINUM SIGNS (TY A)	SF	415.00	$45.16	$18,741.40	$ 44.00	$ 18,260.00	$ 35.00	$ 14,525.00	$ 39.50	$ 16,392.50
644	7067	RELOCATE SM RD SN SUP&AM TY S80	EA	3.00	$866.00	$2,598.00	$ 750.00	$ 2,250.00	$ 1,400.00	$ 4,200.00	$ 1,958.00	$ 5,874.00
666	7024	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	2010.00	$1.16	$2,331.60	$ 3.20	$ 6,432.00	$ 2.55	$ 5,125.50	$ 2.25	$ 4,522.50
666	7030	REFL PAV MRK TY I (W)12"(SLD)(100MIL)	LF	560.00	$3.59	$2,010.40	$ 9.00	$ 5,040.00	$ 3.80	$ 2,128.00	$ 3.33	$ 1,864.80
666	7036	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	3200.00	$8.72	$27,904.00	$ 11.00	$ 35,200.00	$ 7.60	$ 24,320.00	$ 6.70	$ 21,440.00
666	7123	REFL PAV MRK TY I (Y)24"(SLD)(100MIL)	LF	220.00	$7.94	$1,746.80	$ 15.00	$ 3,300.00	$ 7.60	$ 1,672.00	$ 6.70	$ 1,474.00
666	7220	RE PM TY II (Y) (MED NOSE)	EA	1.00	$204.72	$204.72	$ 436.00	$ 436.00	$ 370.00	$ 370.00	$ 328.00	$ 328.00
666	7402	REFL PAV MRK TY I (W)4"(BRK)(100MIL)	LF	7700.00	$0.44	$3,388.00	$ 1.10	$ 8,470.00	$ 1.15	$ 8,855.00	$ 1.00	$ 7,700.00
666	7405	REFL PAV MRK TY I (W)4"(SLD)(100MIL)	LF	260.00	$2.65	$689.00	$ 2.00	$ 520.00	$ 1.15	$ 299.00	$ 1.00	$ 260.00
666	7408	REFL PAV MRK TY I (W)6"(BRK)(100MIL)	LF	1160.00	$0.82	$951.20	$ 1.70	$ 1,972.00	$ 1.70	$ 1,972.00	$ 1.50	$ 1,740.00

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE
666	7411	REFL PAV MRK TY I (W)6"(SLD)(100MIL)	LF	7050.00	$0.75	$5,287.50	$ 1.60	$ 11,280.00	$ 1.70	$ 11,985.00	$ 1.50	$ 10,575.00
666	7420	REFL PAV MRK TY I (Y)6"(BRK)(100MIL)	LF	2630.00	$1.09	$2,866.70	$ 1.60	$ 4,208.00	$ 1.70	$ 4,471.00	$ 1.50	$ 3,945.00
666	7423	REFL PAV MRK TY I (Y)6"(SLD)(100MIL)	LF	9950.00	$0.67	$6,666.50	$ 1.20	$ 11,940.00	$ 1.70	$ 16,915.00	$ 1.50	$ 14,925.00
668	7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	7.00	$1,000.00	$7,000.00	$ 300.00	$ 2,100.00	$ 230.00	$ 1,610.00	$ 200.00	$ 1,400.00
668	7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	7.00	$1,000.00	$7,000.00	$ 300.00	$ 2,100.00	$ 130.00	$ 910.00	$ 111.00	$ 777.00
668	7091	PREFAB PM TY C (W)(ARROW)	EA	32.00	$222.00	$7,104.00	$ 300.00	$ 9,600.00	$ 180.00	$ 5,760.00	$ 156.00	$ 4,992.00
668	7093	PREFAB PM TY C (W)(DBL ARROW)	EA	13.00	$357.41	$4,646.33	$ 450.00	$ 5,850.00	$ 340.00	$ 4,420.00	$ 294.00	$ 3,822.00
668	7103	PREFAB PM TY C (W)(WORD)	EA	22.00	$278.00	$6,116.00	$ 300.00	$ 6,600.00	$ 270.00	$ 5,940.00	$ 239.00	$ 5,258.00
672	7002	REFL PAV MRKR TY I-C	EA	266.00	$6.73	$1,790.18	$ 8.00	$ 2,128.00	$ 6.35	$ 1,689.10	$ 5.60	$ 1,489.60
672	7004	REFL PAV MRKR TY II-A-A	EA	236.00	$4.78	$1,128.08	$ 8.00	$ 1,888.00	$ 6.35	$ 1,498.60	$ 5.60	$ 1,321.60
677	7001	ELIM EXT PM & MRKS (4")	LF	7820.00	$0.44	$3,440.80	$ 0.70	$ 5,474.00	$ 1.10	$ 8,602.00	$ 1.00	$ 7,820.00
677	7002	ELIM EXT PM & MRKS (6")	LF	19170.00	$0.67	$12,843.90	$ 0.80	$ 15,336.00	$ 1.50	$ 28,755.00	$ 1.35	$ 25,879.50
677	7004	ELIM EXT PM & MRKS (8")	LF	1640.00	$0.91	$1,492.40	$ 1.80	$ 2,952.00	$ 2.15	$ 3,526.00	$ 1.90	$ 3,116.00
677	7006	ELIM EXT PM & MRKS (12")	LF	3590.00	$1.84	$6,605.60	$ 3.50	$ 12,565.00	$ 3.25	$ 11,667.50	$ 2.85	$ 10,231.50
677	7008	ELIM EXT PM & MRKS (24")	LF	1680.00	$4.54	$7,627.20	$ 8.00	$ 13,440.00	$ 6.45	$ 10,836.00	$ 5.70	$ 9,576.00
677	7009	ELIM EXT PM & MRKS (ARROW)	EA	33.00	$72.90	$2,405.70	$ 70.00	$ 2,310.00	$ 100.00	$ 3,300.00	$ 89.00	$ 2,937.00
677	7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	13.00	$115.80	$1,505.40	$ 130.00	$ 1,690.00	$ 200.00	$ 2,600.00	$ 178.00	$ 2,314.00
677	7015	ELIM EXT PM & MRKS (WORD)	EA	21.00	$78.84	$1,655.64	$ 70.00	$ 1,470.00	$ 150.00	$ 3,150.00	$ 133.00	$ 2,793.00
677	7025	ELIM EXT PM & MARKS (BIKE ARROW)	EA	7.00	$70.00	$490.00	$ 70.00	$ 490.00	$ 100.00	$ 700.00	$ 89.00	$ 623.00
677	7027	ELIM EXT PM & MARKS (BIKE SYMBOL)	EA	7.00	$60.87	$426.09	$ 80.00	$ 560.00	$ 100.00	$ 700.00	$ 89.00	$ 623.00
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	8.00	$45,000.00	$360,000.00	$ 68,500.00	$ 548,000.00	$ 76,200.00	$ 609,600.00	$ 88,825.00	$ 710,600.00
680	7004	REMOVING TRAFFIC SIGNALS	EA	8.00	$9,887.00	$79,096.00	$ 3,850.00	$ 30,800.00	$ 8,600.00	$ 68,800.00	$ 11,757.00	$ 94,056.00
682	7001	VEH SIG SEC (12")LED(GRN)	EA	60.00	$435.00	$26,100.00	$ 370.00	$ 22,200.00	$ 320.00	$ 19,200.00	$ 314.00	$ 18,840.00
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	16.00	$420.00	$6,720.00	$ 370.00	$ 5,920.00	$ 320.00	$ 5,120.00	$ 332.00	$ 5,312.00
682	7003	VEH SIG SEC (12")LED(YEL)	EA	60.00	$436.00	$26,160.00	$ 370.00	$ 22,200.00	$ 320.00	$ 19,200.00	$ 320.00	$ 19,200.00
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	23.00	$404.31	$9,299.13	$ 370.00	$ 8,510.00	$ 320.00	$ 7,360.00	$ 326.00	$ 7,498.00
682	7005	VEH SIG SEC (12")LED(RED)	EA	60.00	$450.00	$27,000.00	$ 370.00	$ 22,200.00	$ 320.00	$ 19,200.00	$ 314.00	$ 18,840.00
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	12.00	$445.00	$5,340.00	$ 370.00	$ 4,440.00	$ 320.00	$ 3,840.00	$ 322.00	$ 3,864.00
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	58.00	$1,250.00	$72,500.00	$ 610.00	$ 35,380.00	$ 790.00	$ 45,820.00	$ 882.00	$ 51,156.00
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	57.00	$248.00	$14,136.00	$ 125.00	$ 7,125.00	$ 170.00	$ 9,690.00	$ 304.00	$ 17,328.00
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	15.00	$284.00	$4,260.00	$ 185.00	$ 2,775.00	$ 250.00	$ 3,750.00	$ 486.00	$ 7,290.00
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	5540.00	$3.66	$20,276.40	$ 1.30	$ 7,202.00	$ 1.95	$ 10,803.00	$ 1.95	$ 10,803.00
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	4130.00	$4.50	$18,585.00	$ 1.60	$ 6,608.00	$ 2.50	$ 10,325.00	$ 2.45	$ 10,118.50
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	8208.00	$2.28	$18,714.24	$ 1.10	$ 9,028.80	$ 1.50	$ 12,312.00	$ 1.50	$ 12,312.00
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	5540.00	$3.56	$19,722.40	$ 1.30	$ 7,202.00	$ 2.25	$ 12,465.00	$ 2.25	$ 12,465.00
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	8248.00	$4.25	$35,054.00	$ 1.50	$ 12,372.00	$ 2.55	$ 21,032.40	$ 2.40	$ 19,795.20
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	7550.00	$4.55	$34,352.50	$ 1.80	$ 13,590.00	$ 3.40	$ 25,670.00	$ 2.90	$ 21,895.00
686	7024	INS TRF SIG PL AM(S)1 ARM(20')LUM&ILSN	EA	1.00	$16,550.00	$16,550.00	$ 16,850.00	$ 16,850.00	$ 14,800.00	$ 14,800.00	$ 12,778.00	$ 12,778.00
686	7028	INS TRF SIG PL AM(S)1 ARM(24')LUM&ILSN	EA	3.00	$16,400.00	$49,200.00	$ 18,100.00	$ 54,300.00	$ 15,500.00	$ 46,500.00	$ 13,655.00	$ 40,965.00
686	7032	INS TRF SIG PL AM(S)1 ARM(28')LUM&ILSN	EA	2.00	$18,378.00	$36,756.00	$ 18,150.00	$ 36,300.00	$ 15,900.00	$ 31,800.00	$ 14,117.00	$ 28,234.00

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE
686	7036	INS TRF SIG PL AM(S)1 ARM(32')LUM&ILSN	EA	1.00	$18,896.00	$18,896.00	$ 18,950.00	$ 18,950.00	$ 18,100.00	$ 18,100.00	$ 14,999.00	$ 14,999.00
686	7040	INS TRF SIG PL AM(S)1 ARM(36')LUM&ILSN	EA	3.00	$19,619.00	$58,857.00	$ 19,400.00	$ 58,200.00	$ 18,700.00	$ 56,100.00	$ 15,728.00	$ 47,184.00
686	7044	INS TRF SIG PL AM(S)1 ARM(40')LUM&ILSN	EA	1.00	$23,496.00	$23,496.00	$ 21,050.00	$ 21,050.00	$ 20,400.00	$ 20,400.00	$ 17,451.00	$ 17,451.00
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	6.00	$26,026.00	$156,156.00	$ 21,460.00	$ 128,760.00	$ 21,400.00	$ 128,400.00	$ 18,189.00	$ 109,134.00
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	6.00	$42,275.00	$253,650.00	$ 46,230.00	$ 277,380.00	$ 42,800.00	$ 256,800.00	$ 29,981.00	$ 179,886.00
686	7176	IN TRF SG PL AM(S)2ARM(50-24')LUM&ILSN	EA	1.00	$52,500.00	$52,500.00	$ 56,540.00	$ 56,540.00	$ 47,800.00	$ 47,800.00	$ 38,306.00	$ 38,306.00
686	7188	IN TRF SG PL AM(S)2ARM(50-36')LUM&ILSN	EA	1.00	$50,700.00	$50,700.00	$ 54,700.00	$ 54,700.00	$ 48,600.00	$ 48,600.00	$ 39,881.00	$ 39,881.00
687	7001	PED POLE ASSEMBLY	EA	9.00	$5,000.00	$45,000.00	$ 2,150.00	$ 19,350.00	$ 3,300.00	$ 29,700.00	$ 5,976.00	$ 53,784.00
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	24.00	$4,500.00	$108,000.00	$ 1,550.00	$ 37,200.00	$ 3,000.00	$ 72,000.00	$ 4,628.00	$ 111,072.00
688	7001	PED DETECT PUSH BUTTON (APS)	EA	57.00	$1,230.00	$70,110.00	$ 950.00	$ 54,150.00	$ 1,000.00	$ 57,000.00	$ 1,080.00	$ 61,560.00
688	7003	PED DETECTOR CONTROLLER UNIT	EA	8.00	$4,602.40	$36,819.20	$ 3,850.00	$ 30,800.00	$ 3,900.00	$ 31,200.00	$ 4,464.00	$ 35,712.00
5047	7001	RELOCATE FIRE HYDRANT	EA	1.00	$8,875.00	$8,875.00	$ 2,850.00	$ 2,850.00	$ 16,000.00	$ 16,000.00	$ 14,063.00	$ 14,063.00
6001	7002	ILSN (6 D)	EA	8.00	$3,788.67	$30,309.36	$ 4,500.00	$ 36,000.00	$ 3,600.00	$ 28,800.00	$ 4,502.00	$ 36,016.00
6001	7004	ILSN (8D)	EA	7.00	$4,755.12	$33,285.84	$ 4,850.00	$ 33,950.00	$ 3,800.00	$ 26,600.00	$ 5,092.00	$ 35,644.00
6001	7006	ILSN (10D)	EA	13.00	$4,437.62	$57,689.06	$ 5,100.00	$ 66,300.00	$ 3,900.00	$ 50,700.00	$ 5,885.00	$ 76,505.00
6005	7001	ITS COM CBL (ETHERNET)	LF	980.00	$6.25	$6,125.00	$ 2.30	$ 2,254.00	$ 1.50	$ 1,470.00	$ 2.35	$ 2,303.00
6007	7001	BBU SYSTEM (EXTERNAL BATTERY CABINET)	EA	8.00	$10,745.00	$85,960.00	$ 9,500.00	$ 76,000.00	$ 9,500.00	$ 76,000.00	$ 11,226.00	$ 89,808.00
6008	0001	RVDS (PRESENCE DETECTION ONLY)	EA	28.00	$9,121.20	$255,393.60	$ 12,800.00	$ 358,400.00	$ 13,200.00	$ 369,600.00	$ 9,890.00	$ 276,920.00
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	28.00	$10,300.00	$288,400.00	$ 9,500.00	$ 266,000.00	$ 9,900.00	$ 277,200.00	$ 7,419.00	$ 207,732.00
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	8.00	$8,714.00	$69,712.00	$ 3,850.00	$ 30,800.00	$ 7,500.00	$ 60,000.00	$ 6,869.00	$ 54,952.00
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$8,000.00	$64,000.00	$ 3,850.00	$ 30,800.00	$ 1.00	$ 8.00	$ 6,414.00	$ 51,312.00
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$3.00	$1,500.00	$ 5.30	$ 2,650.00	$ 24.00	$ 12,000.00	$ 8.05	$ 4,025.00
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$2.50	$8,500.00	$ 5.80	$ 19,720.00	$ 4.10	$ 13,940.00	$ 6.20	$ 21,080.00
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$900.00	$12,600.00	$ 5,500.00	$ 77,000.00	$ 1,000.00	$ 14,000.00	$ 480.40	$ 6,725.60
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$1,500.00	$12,000.00	$ 10,500.00	$ 84,000.00	$ 1,000.00	$ 8,000.00	$ 783.25	$ 6,266.00
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$500.00	$8,000.00	$ 4,850.00	$ 77,600.00	$ 1,000.00	$ 16,000.00	$ 909.00	$ 14,544.00
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$1,500.00	$12,000.00	$ 650.00	$ 5,200.00	$ 6,000.00	$ 48,000.00	$ 5,587.00	$ 44,696.00
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$3,000.00	$24,000.00	$ 550.00	$ 4,400.00	$ 380.00	$ 3,040.00	$ 1,868.00	$ 14,944.00
Total Bid Unit Items TRAFFIC SIGNALS:						**$4,298,721.63**		**$ 4,102,213.30**		**$ 4,278,693.60**		**$ 5,165,186.05**
TOTAL BID PRICE:						**$4,872,593.79**		**$ 4,404,513.30**		**$ 4,976,093.60**		**$ 5,655,121.05**

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TERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

Solicitation No. 146-26-EPW-IFB

BID COMPARISON ALL BIDDERS VS. ENGINEER'S ESTIMATE

BASIC UNIT BID ITEMS

					Engineer's Estimate	Low Bidder - Bidder #1		Bidder #2		Bidder #3	
ITEM	**CODE**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**TOTAL PRICE**	**TOTAL PRICE**	**% Diff.**	**TOTAL PRICE**	**%Diff.**	**TOTAL PRICE**	**% Diff.**
500	7001	MOBILIZATION	LS	1.00	$429,872.16	$ 225,800.00	-47.47%	$ 497,600.00	15.76%	$ 414,065.00	-3.68%
502	7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	18.00	$144,000.00	$ 76,500.00	-46.88%	$ 199,800.00	38.75%	$ 75,870.00	-47.31%
Total Bid Unit Items MISCELLANEOUS CONSTRUCTION:					**$573,872.16**	**$ 302,300.00**		**$ 697,400.00**		**$ 489,935.00**	
104	7013	REMOV CONC (SIDEWALK, RAMP OR SUP)	SY	485.00	$19,400.00	$ 24,250.00	25.00%	$ 9,215.00	-52.50%	$ 11,155.00	-42.50%
104	7018	REMOV CONC (CURB OR CURB & GUTTER)	LF	1070.00	$18,810.60	$ 37,450.00	99.09%	$ 16,050.00	-14.68%	$ 14,659.00	-22.07%
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	275.00	$144,925.00	$ 94,875.00	-34.54%	$ 145,750.00	0.57%	$ 264,330.00	82.39%
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	176.00	$144,672.00	$ 165,440.00	14.36%	$ 193,600.00	33.82%	$ 212,960.00	47.20%
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	800.00	$7,192.00	$ 9,600.00	33.48%	$ 4,040.00	-43.83%	$ 9,440.00	31.26%
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	800.00	$1,752.00	$ 1,600.00	-8.68%	$ 1,480.00	-15.53%	$ 3,840.00	119.18%
528	7003	REMOVE AND RELAY PAVERS	SY	125.00	$44,188.75	$ 14,375.00	-67.47%	$ 6,875.00	-84.44%	$ 6,125.00	-86.14%
531	7005	CURB RAMPS (TY 1)	EA	7.00	$21,456.96	$ 29,400.00	37.02%	$ 23,800.00	10.92%	$ 20,881.00	-2.68%
531	7008	CURB RAMPS (TY 5)	EA	25.00	$116,290.25	$ 124,125.00	6.74%	$ 100,000.00	-14.01%	$ 86,800.00	-25.36%
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	505.00	$19,442.50	$ 16,160.00	-16.88%	$ 18,180.00	-6.49%	$ 38,859.75	99.87%
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	1210.00	$48,642.00	$ 48,400.00	-0.50%	$ 47,190.00	-2.99%	$ 88,511.50	81.97%
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	7545.00	$419,502.00	$ 339,525.00	-19.06%	$ 369,705.00	-11.87%	$ 1,204,182.00	187.05%
620	7009	ELEC CONDR (NO.6) BARE	LF	6165.00	$83,104.20	$ 12,946.50	-84.42%	$ 14,487.75	-82.57%	$ 14,796.00	-82.20%
620	7010	ELEC CONDR (NO.6) INSULATED	LF	1045.00	$8,882.50	$ 2,299.00	-74.12%	$ 2,873.75	-67.65%	$ 2,612.50	-70.59%
623	7018	ITS GND BOX (POLY) TY 1 (243648)W/APRN	EA	2.00	$ 7,000.00	$ 7,100.00	1.43%	$ 10,400.00	48.57%	$ 6,758.00	-3.46%
623	7024	ITS GND BOX (POLY) TY 2 (366048)W/APRN	EA	9.00	$ 46,800.00	$ 52,200.00	11.54%	$ 83,700.00	78.85%	$ 54,765.00	17.02%
624	7008	GROUND BOX TY D (162922)W/APRON	EA	45.00	$165,690.00	$ 81,000.00	-51.11%	$ 76,500.00	-53.83%	$ 77,355.00	-53.31%
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	8.00	$99,952.00	$ 41,600.00	-58.38%	$ 177,600.00	77.69%	$ 81,288.00	-18.67%
636	7001	ALUMINUM SIGNS (TY A)	SF	415.00	$18,741.40	$ 18,260.00	-2.57%	$ 14,525.00	-22.50%	$ 16,392.50	-12.53%
644	7067	RELOCATE SM RD SN SUP&AM TY S80	EA	3.00	$2,598.00	$ 2,250.00	-13.39%	$ 4,200.00	61.66%	$ 5,874.00	126.10%
666	7024	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	2010.00	$2,331.60	$ 6,432.00	175.86%	$ 5,125.50	119.83%	$ 4,522.50	93.97%
666	7030	REFL PAV MRK TY I (W)12"(SLD)(100MIL)	LF	560.00	$2,010.40	$ 5,040.00	150.70%	$ 2,128.00	5.85%	$ 1,864.80	-7.24%
666	7036	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	3200.00	$27,904.00	$ 35,200.00	26.15%	$ 24,320.00	-12.84%	$ 21,440.00	-23.17%
666	7123	REFL PAV MRK TY I (Y)24"(SLD)(100MIL)	LF	220.00	$1,746.80	$ 3,300.00	88.92%	$ 1,672.00	-4.28%	$ 1,474.00	-15.62%
666	7220	RE PM TY II (Y) (MED NOSE)	EA	1.00	$204.72	$ 436.00	112.97%	$ 370.00	80.73%	$ 328.00	60.22%
666	7402	REFL PAV MRK TY I (W)4"(BRK)(100MIL)	LF	7700.00	$3,388.00	$ 8,470.00	150.00%	$ 8,855.00	161.36%	$ 7,700.00	127.27%
666	7405	REFL PAV MRK TY I (W)4"(SLD)(100MIL)	LF	260.00	$689.00	$ 520.00	-24.53%	$ 299.00	-56.60%	$ 260.00	-62.26%

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	TOTAL PRICE	TOTAL PRICE	% Diff.	TOTAL PRICE	%Diff.	TOTAL PRICE	% Diff.
666	7408	REFL PAV MRK TY I (W)6"(BRK)(100MIL)	LF	1160.00	$951.20	$ 1,972.00	107.32%	$ 1,972.00	107.32%	$ 1,740.00	82.93%
666	7411	REFL PAV MRK TY I (W)6"(SLD)(100MIL)	LF	7050.00	$5,287.50	$ 11,280.00	113.33%	$ 11,985.00	126.67%	$ 10,575.00	100.00%
666	7420	REFL PAV MRK TY I (Y)6"(BRK)(100MIL)	LF	2630.00	$2,866.70	$ 4,208.00	46.79%	$ 4,471.00	55.96%	$ 3,945.00	37.61%
666	7423	REFL PAV MRK TY I (Y)6"(SLD)(100MIL)	LF	9950.00	$6,666.50	$ 11,940.00	79.10%	$ 16,915.00	153.73%	$ 14,925.00	123.88%
668	7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	7.00	$7,000.00	$ 2,100.00	-70.00%	$ 1,610.00	-77.00%	$ 1,400.00	-80.00%
668	7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	7.00	$7,000.00	$ 2,100.00	-70.00%	$ 910.00	-87.00%	$ 777.00	-88.90%
668	7091	PREFAB PM TY C (W)(ARROW)	EA	32.00	$7,104.00	$ 9,600.00	35.14%	$ 5,760.00	-18.92%	$ 4,992.00	-29.73%
668	7093	PREFAB PM TY C (W)(DBL ARROW)	EA	13.00	$4,646.33	$ 5,850.00	25.91%	$ 4,420.00	-4.87%	$ 3,822.00	-17.74%
668	7103	PREFAB PM TY C (W)(WORD)	EA	22.00	$6,116.00	$ 6,600.00	7.91%	$ 5,940.00	-2.88%	$ 5,258.00	-14.03%
672	7002	REFL PAV MRKR TY I-C	EA	266.00	$1,790.18	$ 2,128.00	18.87%	$ 1,689.10	-5.65%	$ 1,489.60	-16.79%
672	7004	REFL PAV MRKR TY II-A-A	EA	236.00	$1,128.08	$ 1,888.00	67.36%	$ 1,498.60	32.85%	$ 1,321.60	17.15%
677	7001	ELIM EXT PM & MRKS (4")	LF	7820.00	$3,440.80	$ 5,474.00	59.09%	$ 8,602.00	150.00%	$ 7,820.00	127.27%
677	7002	ELIM EXT PM & MRKS (6")	LF	19170.00	$12,843.90	$ 15,336.00	19.40%	$ 28,755.00	123.88%	$ 25,879.50	101.49%
677	7004	ELIM EXT PM & MRKS (8")	LF	1640.00	$1,492.40	$ 2,952.00	97.80%	$ 3,526.00	136.26%	$ 3,116.00	108.79%
677	7006	ELIM EXT PM & MRKS (12")	LF	3590.00	$6,605.60	$ 12,565.00	90.22%	$ 11,667.50	76.63%	$ 10,231.50	54.89%
677	7008	ELIM EXT PM & MRKS (24")	LF	1680.00	$7,627.20	$ 13,440.00	76.21%	$ 10,836.00	42.07%	$ 9,576.00	25.55%
677	7009	ELIM EXT PM & MRKS (ARROW)	EA	33.00	$2,405.70	$ 2,310.00	-3.98%	$ 3,300.00	37.17%	$ 2,937.00	22.09%
677	7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	13.00	$1,505.40	$ 1,690.00	12.26%	$ 2,600.00	72.71%	$ 2,314.00	53.71%
677	7015	ELIM EXT PM & MRKS (WORD)	EA	21.00	$1,655.64	$ 1,470.00	-11.21%	$ 3,150.00	90.26%	$ 2,793.00	68.70%
677	7025	ELIM EXT PM & MARKS (BIKE ARROW)	EA	7.00	$490.00	$ 490.00	0.00%	$ 700.00	42.86%	$ 623.00	27.14%
677	7027	ELIM EXT PM & MARKS (BIKE SYMBOL)	EA	7.00	$426.09	$ 560.00	31.43%	$ 700.00	64.28%	$ 623.00	46.21%
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	8.00	$360,000.00	$ 548,000.00	52.22%	$ 609,600.00	69.33%	$ 710,600.00	97.39%
680	7004	REMOVING TRAFFIC SIGNALS	EA	8.00	$79,096.00	$ 30,800.00	-61.06%	$ 68,800.00	-13.02%	$ 94,056.00	18.91%
682	7001	VEH SIG SEC (12")LED(GRN)	EA	60.00	$26,100.00	$ 22,200.00	-14.94%	$ 19,200.00	-26.44%	$ 18,840.00	-27.82%
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	16.00	$6,720.00	$ 5,920.00	-11.90%	$ 5,120.00	-23.81%	$ 5,312.00	-20.95%
682	7003	VEH SIG SEC (12")LED(YEL)	EA	60.00	$26,160.00	$ 22,200.00	-15.14%	$ 19,200.00	-26.61%	$ 19,200.00	-26.61%
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	23.00	$9,299.13	$ 8,510.00	-8.49%	$ 7,360.00	-20.85%	$ 7,498.00	-19.37%
682	7005	VEH SIG SEC (12")LED(RED)	EA	60.00	$27,000.00	$ 22,200.00	-17.78%	$ 19,200.00	-28.89%	$ 18,840.00	-30.22%
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	12.00	$5,340.00	$ 4,440.00	-16.85%	$ 3,840.00	-28.09%	$ 3,864.00	-27.64%
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	58.00	$72,500.00	$ 35,380.00	-51.20%	$ 45,820.00	-36.80%	$ 51,156.00	-29.44%
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	57.00	$14,136.00	$ 7,125.00	-49.60%	$ 9,690.00	-31.45%	$ 17,328.00	22.58%
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	15.00	$4,260.00	$ 2,775.00	-34.86%	$ 3,750.00	-11.97%	$ 7,290.00	71.13%
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	5540.00	$20,276.40	$ 7,202.00	-64.48%	$ 10,803.00	-46.72%	$ 10,803.00	-46.72%
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	4130.00	$18,585.00	$ 6,608.00	-64.44%	$ 10,325.00	-44.44%	$ 10,118.50	-45.56%
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	8208.00	$18,714.24	$ 9,028.80	-51.75%	$ 12,312.00	-34.21%	$ 12,312.00	-34.21%
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	5540.00	$19,722.40	$ 7,202.00	-63.48%	$ 12,465.00	-36.80%	$ 12,465.00	-36.80%
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	8248.00	$35,054.00	$ 12,372.00	-64.71%	$ 21,032.40	-40.00%	$ 19,795.20	-43.53%
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	7550.00	$34,352.50	$ 13,590.00	-60.44%	$ 25,670.00	-25.27%	$ 21,895.00	-36.26%
686	7024	INS TRF SIG PL AM(S)1 ARM(20')LUM&ILSN	EA	1.00	$16,550.00	$ 16,850.00	1.81%	$ 14,800.00	-10.57%	$ 12,778.00	-22.79%

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	TOTAL PRICE	TOTAL PRICE	% Diff.	TOTAL PRICE	%Diff.	TOTAL PRICE	% Diff.
686	7028	INS TRF SIG PL AM(S)1 ARM(24')LUM&ILSN	EA	3.00	$49,200.00	$ 54,300.00	10.37%	$ 46,500.00	-5.49%	$ 40,965.00	-16.74%
686	7032	INS TRF SIG PL AM(S)1 ARM(28')LUM&ILSN	EA	2.00	$36,756.00	$ 36,300.00	-1.24%	$ 31,800.00	-13.48%	$ 28,234.00	-23.19%
686	7036	INS TRF SIG PL AM(S)1 ARM(32')LUM&ILSN	EA	1.00	$18,896.00	$ 18,950.00	0.29%	$ 18,100.00	-4.21%	$ 14,999.00	-20.62%
686	7040	INS TRF SIG PL AM(S)1 ARM(36')LUM&ILSN	EA	3.00	$58,857.00	$ 58,200.00	-1.12%	$ 56,100.00	-4.68%	$ 47,184.00	-19.83%
686	7044	INS TRF SIG PL AM(S)1 ARM(40')LUM&ILSN	EA	1.00	$23,496.00	$ 21,050.00	-10.41%	$ 20,400.00	-13.18%	$ 17,451.00	-25.73%
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	6.00	$156,156.00	$ 128,760.00	-17.54%	$ 128,400.00	-17.77%	$ 109,134.00	-30.11%
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	6.00	$253,650.00	$ 277,380.00	9.36%	$ 256,800.00	1.24%	$ 179,886.00	-29.08%
686	7176	IN TRF SG PL AM(S)2ARM(50-24')LUM&ILSN	EA	1.00	$52,500.00	$ 56,540.00	7.70%	$ 47,800.00	-8.95%	$ 38,306.00	-27.04%
686	7188	IN TRF SG PL AM(S)2ARM(50-36')LUM&ILSN	EA	1.00	$50,700.00	$ 54,700.00	7.89%	$ 48,600.00	-4.14%	$ 39,881.00	-21.34%
687	7001	PED POLE ASSEMBLY	EA	9.00	$45,000.00	$ 19,350.00	-57.00%	$ 29,700.00	-34.00%	$ 53,784.00	19.52%
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	24.00	$108,000.00	$ 37,200.00	-65.56%	$ 72,000.00	-33.33%	$ 111,072.00	2.84%
688	7001	PED DETECT PUSH BUTTON (APS)	EA	57.00	$70,110.00	$ 54,150.00	-22.76%	$ 57,000.00	-18.70%	$ 61,560.00	-12.20%
688	7003	PED DETECTOR CONTROLLER UNIT	EA	8.00	$36,819.20	$ 30,800.00	-16.35%	$ 31,200.00	-15.26%	$ 35,712.00	-3.01%
5047	7001	RELOCATE FIRE HYDRANT	EA	1.00	$8,875.00	$ 2,850.00	-67.89%	$ 16,000.00	80.28%	$ 14,063.00	58.46%
6001	7002	ILSN (6 D)	EA	8.00	$30,309.36	$ 36,000.00	18.78%	$ 28,800.00	-4.98%	$ 36,016.00	18.83%
6001	7004	ILSN (8D)	EA	7.00	$33,285.84	$ 33,950.00	2.00%	$ 26,600.00	-20.09%	$ 35,644.00	7.08%
6001	7006	ILSN (10D)	EA	13.00	$57,689.06	$ 66,300.00	14.93%	$ 50,700.00	-12.12%	$ 76,505.00	32.62%
6005	7001	ITS COM CBL (ETHERNET)	LF	980.00	$6,125.00	$ 2,254.00	-63.20%	$ 1,470.00	-76.00%	$ 2,303.00	-62.40%
6007	7001	BBU SYSTEM (EXTERNAL BATTERY CABINET)	EA	8.00	$85,960.00	$ 76,000.00	-11.59%	$ 76,000.00	-11.59%	$ 89,808.00	4.48%
6008	0001	RVDS (PRESENCE DETECTION ONLY)	EA	28.00	$255,393.60	$ 358,400.00	40.33%	$ 369,600.00	44.72%	$ 276,920.00	8.43%
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	28.00	$288,400.00	$ 266,000.00	-7.77%	$ 277,200.00	-3.88%	$ 207,732.00	-27.97%
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	8.00	$69,712.00	$ 30,800.00	-55.82%	$ 60,000.00	-13.93%	$ 54,952.00	-21.17%
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 30,800.00	-51.88%	$ 8.00	-99.99%	$ 51,312.00	-19.83%
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 2,650.00	76.67%	$ 12,000.00	700.00%	$ 4,025.00	168.33%
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 19,720.00	132.00%	$ 13,940.00	64.00%	$ 21,080.00	148.00%
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 77,000.00	511.11%	$ 14,000.00	11.11%	$ 6,725.60	-46.62%
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 84,000.00	600.00%	$ 8,000.00	-33.33%	$ 6,266.00	-47.78%
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 77,600.00	870.00%	$ 16,000.00	100.00%	$ 14,544.00	81.80%
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 5,200.00	-56.67%	$ 48,000.00	300.00%	$ 44,696.00	272.47%
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 4,400.00	-81.67%	$ 3,040.00	-87.33%	$ 14,944.00	-37.73%
Total Bid Unit Items TRAFFIC SIGNALS:					**$4,298,721.63**	**$ 4,102,213.30**		**$ 4,278,693.60**		**$ 5,165,186.05**	
TOTAL BID PRICE:					**$4,872,593.79**	**$ 4,404,513.30**		**$ 4,976,093.60**		**$ 5,655,121.05**	

END OF DOCUMENT

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1520131

Date Filed:
09/23/2026

Date Acknowledged:
09/23/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO., LLC
ROUND ROCK TX. 78680, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

CITY OF BROWNSVILLE TEXAS

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

146-26-EPW-IFB
INTERNATIONAL BLVD. TRAFFIC SIGNAL IMPROVEMENTS

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
FOSTER, PAUL	EL PASO, TX United States	X	
KELL, WILLIAM	EL PASO, TX United States	X	
WOODY, DARREN	EL PASO, TX United States	X	
RAINES, ROY	EL PASO, TX United States	X	
GOODRICH, JOHN	EL PASO, TX United States	X	
WHITENIGHT, GEORGIAN	EL PASO, TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

Docusign Envelope ID: F12C2DFD-5E0C-8BCE-81A9-64E10A50B59F

600 W. Interstate 2 | Pharr, Texas 78577
956.702.6100
txdot.gov

August 20, 2026

The Honorable Mayor John Cowen, Jr.
City of Brownsville
1001 E. Elizabeth Street
Brownsville, TX, 78522-0911

RE: Concurrence to Award
International Blvd. Traffic Signal Improvement
CSJ: 0039-11-002

Dear Mayor Cowen,

We have completed our review of the bid package and analysis that was included with the City of Brownsville letter dated July 23, 2026, and do concur with awarding the contract to Austin Traffic Signal Construction CO. with their low bid amount of $4,404,513.30. The City of Brownsville may now award the contract and move forward with construction operations.

Mr. Isaac Lucio out of the San Benito Area Office will serve as the construction project manager and will be your point of contact from this point forward. Please work directly with him to ensure all requirements are met for you to receive the federal/state funding participation outlined in the Advance Funding Agreement. In addition, and as a reminder, the local government construction procedures that the City of Brownsville will need to follow can be found at https://www.txdot.gov/business/resources/lgp/toolkit.html

Docusign Envelope ID: F12C2DFD-5E0C-8BCE-81A9-64E10A50B59F

If you have any questions, feel free to call me or our Traffic Section Engineering Supervisor Ms. Nayely Parra, P.E. at (956) 702-6152.

Sincerely,

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...

Pedro R. Alvarez, P.E.
Pharr District Engineer

Cc: Alan Guard, ICMA-CM, CGFO, City Manager, City of Brownsville
Doroteo Garcia Jr., P.E., Assistant City Manager, City of Brownsville
Carlos Lastra, P.E., City Engineer, City of Brownsville
Lucio S. Gutierrez, P.E., Traffic Manager, City of Brownsville, RPIC City of Brownsville
Rex A. Costley, P.E., Pharr Deputy District Engineer
Norma Y. Garza, P.E., Pharr District Director of Transportation Planning & Development
Gabriel I. Garcia, P.E., Pharr District Director of Transportation Operations
Andres Espinoza, P.E., San Benito Area Engineer
Beethoven Garcia, P.E., Pharr District Advanced Project Delivery Supervisor
Nayely Parra, P.E., Pharr District Traffic Section Supervisor
Gabriel Villarreal, P.E., San Benito Assistant Area Engineer
Eligio Alvarez, P.E., TxDOT Project Manager, Pharr District Traffic Section
Isaac Lucio, TxDOT Project Manager, San Benito Area Office

Contract Summary Form
Contract Number: 146-26-EPW-IFB

Procurement Info	
Procurement Method:	**IFB, RFP, RFQ**
New Contract:	**Yes ☒ No ☐**
Advertisement Dates, if any:	**May 2, 2026 and May 9, 2026**
Award Date:	
Contractor	
Vendor Name:	Austin Traffic Signal Construction CO. LLC
Address:	4615 Priem Lane, Pflugerville, Texas, 78660
Point of Contact / Project Manager*:	Stephen Rutledge- Area Manager, V.P.
Email Address:	stever@atscc.com
City Contact Information	
Department:	**Engineering and Public Works**
Point of Contact / Project Manager:	Lucio Gutierrez
Email Address:	Lucio.Gutierrez@brownsvilletx.gov
Contract Term	
Contract Amount:	$4,404,513.30
Contract Base/Primary Term:	720 Consecutive Calendar Days
Renewal Periods (if any):	NA
Total Term of Contract:	720 Consecutive Calendar Days
City Internal Use	
Signature Sections	**Page: 13**
State or Federal Funds:	**Yes ☒ No ☐**
GL Account:	

CONTRACT FOR:
INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

A. AGREEMENT

This Agreement is made by and between:

the Owner ("Owner" or "City"):	The City of Brownsville 1001 E. Elizabeth St., P.O. Box 911 Brownsville, Texas 78520
and the Contractor ("Contractor"):	Austin Traffic Signal Construction CO. LLC 4615 Priem Lane Pflugerville, Texas, 78660

for the following Project ("Project"): IFB #: 146-26-EPW-IFB
International Blvd

Each individually referred to as a "Party" and collectively referred to as the "Parties". Owner and Contractor, in consideration of the covenants contained herein, and for the mutual benefits to be obtained hereby, the parties hereto agree as follows:

B. CONTRACT DOCUMENTS

The Contractor shall complete the Work described in the Contract Documents for the project. The Contract Documents consist of the following Exhibits:

A. This Agreement;
B. Notice of Award;
C. Invitation for Bids (IFB);146-26-EPW-IFB
D. Addenda, as indicated in the IFB;
E. Original Proposal submittal;
F. Bid Tabulation;
G. Plans;
H. Specifications and Special Provisions;
I. General Conditions;
J. Supplementary Conditions;
K. Special Conditions;
L. Certificates of Insurance;
M. Form 2 – Statement of Conflict of Interest
N. Form 3 – Texas Ethics Commission Certificate of Interested Parties
O. Form 14 – SAM Record
P. Form 12 – State of Texas Child Support Business Ownership Form
Q. Confirmation Vendor is Pre-Qualified TxDOT Vendor
R. Payment Bond; (Added after City Commission Approval)
S. Performance Bond; (Added after City Commission Approval)

T. Written Change Orders issued after execution of this Agreement,
U. Federal Clauses
V. Davis-Bacon Prevailing Wage Determination
W. TXDOT Letter of Concurrence

which are attached hereto and incorporated herein, and made a part of this Agreement for all purposes. The Contract Documents represent the entire and integrated agreement between the Owner and the Contractor and supersede all prior negotiations, representations, or agreements, either oral or written. This Agreement may be amended only by written instrument signed by both the Owner and the Contractor. In the event of an inconsistency or conflict in any of the provisions of the Contract Documents, then the inconsistency or conflict shall be resolved by giving precedence first to this Agreement then to the Contract Documents in the order in which they are listed above.

C. WORK

Contractor shall complete all Work as specified or indicated in the Contract Documents for the Project identified herein.

Approved Products and Substitutions. Contractor shall provide products and equipment that meet the specifications and requirements established by the City for the Project. Any proposed substitution shall be submitted to the City's Project Manager for review and approval prior to purchase or installation. Contractor shall demonstrate and guarantee in writing that any proposed substitute is compatible with the City's existing systems and infrastructure. If the City determines that a proposed substitute is not compatible with the City's existing systems or infrastructure, the substitution will not be approved, and Contractor shall remain responsible for providing compliant products at no additional cost to the City.

D. PROJECT

The Project is the total construction for which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors, and is generally defined as IFB #: 146-26-EPW-IFB

E. CONTRACT PRICE; PAYMENT TERMS

Owner agrees to pay Contractor for performance of the Work in accordance with the Contract Documents the guaranteed maximum price of **PROJECT COST ($4,404,513.30)** (hereinafter "Guaranteed Maximum Price" or "GMP"). Guaranteed Maximum Price includes all costs incurred by Contractor, including but not limited to Costs of Work (including among others, labor, equipment, materials, fees, inspections, and permits), construction contingency amount, and Contractor's overhead, all bond financing, profit, price escalation and market price variations. Nothing contained in this Agreement shall require the Owner to pay Contractor an aggregate amount that exceeds the Guaranteed Maximum Price or to make any payment if, in the Owner's belief, the cost to complete the Work would exceed the Guaranteed Maximum Price. Change orders may be approved in

writing by Owner for increased costs needed for refinement, development and completion of the Project. However, the maximum allowable amount of change orders payable to the Project shall not exceed twenty-five percent (25%) of the Guaranteed Maximum Price for the Project.

The Owner shall pay within ***thirty (30) days*** for completed work in monthly draws, less 10% retainage, upon receipt of an acceptable invoice. Invoices shall be in standard form, Application and Certificate for Payment, and shall be accompanied by signed Conditional Release of Liens forms from each applicable subcontractor and supplier.

Retainage shall be paid within thirty (30) days of receipt of an acceptable Final Invoice. The final Application for Payment shall be accompanied by signed Final Release and Waiver of Liens forms from all subcontractors and suppliers.

F. CONTRACT TIME

The Contract Time will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 14 days after the Effective Date of the Agreement. Contractor shall substantially complete the Work within 720 consecutive calendar days as identified in the Bid package.

G. LIQUIDATED DAMAGES

Contractor recognizes that time is of the essence for completion of the Work, and to achieve Final Acceptance of the Work, and City will suffer financial loss if the Work is not completed within the time(s) specified herein. The Contractor also recognizes the delays, expense and difficulties involved in proving in a legal proceeding, the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, Contractor agrees that as liquidated damages for delay (but not as a penalty), Contractor shall pay City **One Thousand Dollars ($1000.00)** for each day that expires after the time specified in Paragraph F above, for Final Acceptance until the City issues the Final Letter of Acceptance.

H. INSPECTION AND FINAL ACCEPTANCE

The City's inspection and acceptance of contractual compliance will be accomplished by an engineering Inspector of the engineering Department. The City reserves the right to reject unsatisfactory work within a 24-hour period. Contractors have 48 hours to correct unacceptable work. (To be corrected during regular working days, holidays or weekends.)

Prior to beginning work, the Contractor shall provide to the City a Schedule of Values related to the Work, which shall be used for purposes of periodic payments.

The Contract Sum shall include all materials, supplies, tools, equipment, permits, perimeter

fencing, portable restrooms, construction debris container(s), supervision and labor necessary for the proper prosecution and completion of the Work.

The Contractor warrants that the completed Project shall be adequate for the purposes intended.

I. **INDEMNIFICATION**

(a) **CONTRACTOR COVENANTS AND AGREES TO FULLY INDEMNIFY, DEFEND AND HOLD HARMLESS, THE CITY AND THE ELECTED OFFICIALS, EMPLOYEES, OFFICERS, DIRECTORS, VOLUNTEERS AND REPRESENTATIVES OF THE CITY, INDIVIDUALLY AND COLLECTIVELY, FROM AND AGAINST ANY AND ALL COSTS, CLAIMS, LIENS, DAMAGES, LOSSES, EXPENSES, FEES, FINES, PENALTIES, PROCEEDINGS, ACTIONS, DEMANDS, CAUSES OF ACTION, LIABILITY AND SUITS OF ANY KIND AND NATURE, INCLUDING BUT NOT LIMITED TO, PERSONAL OR BODILY INJURY, DEATH AND PROPERTY DAMAGE, MADE UPON THE CITY DIRECTLY OR INDIRECTLY ARISING OUT OF, RESULTING FROM OR RELATED TO CONTRACTOR'S ACTIVITIES UNDER THIS AGREEMENT, INCLUDING ANY ACTS OR OMISSIONS OF CONTRACTOR, ANY AGENT, OFFICER, DIRECTOR, REPRESENTATIVE, EMPLOYEE, CONSULTANT OR SUBCONTRACTOR OF CONTRACTOR, AND THEIR RESPECTIVE OFFICERS, AGENTS EMPLOYEES, DIRECTORS AND REPRESENTATIVES WHILE IN THE EXERCISE OF THE RIGHTS OR PERFORMANCE OF THE DUTIES UNDER THIS AGREEMENT. THIS INDEMNIFICATION PROVISION IS SPECIFICALLY INTENDED TO OPERATE AND BE EFFECTIVE EVEN IF IT IS ALLEGED OR PROVEN THAT ALL OR SOME OF THE DAMAGES BEING SOUGHT WERE CAUSED, IN WHOLE OR IN PART, BY ANY ACT, OMISSION OR NEGLIGENCE OF THE CITY. THIS INDEMNITY PROVISION IS INTENDED TO INCLUDE, WITHOUT LIMITATION, INDEMNITY FOR COSTS, EXPENSES AND LEGAL FEES INCURRED BY THE CITY IN DEFENDING AGAINST SUCH CLAIMS AND CAUSES OF ACTIONS. IN THE EVENT CONTRACTOR AND CITY ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY SHALL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS FOR THE STATE OF TEXAS, WITHOUT, HOWEVER, WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE CITY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.**

(b) **THE PROVISIONS OF THIS INDEMNITY ARE SOLELY FOR THE BENEFIT OF THE PARTIES HERETO AND NOT INTENDED TO CREATE OR GRANT ANY RIGHTS, CONTRACTUAL OR OTHERWISE, TO ANY OTHER PERSON OR ENTITY. CONTRACTOR SHALL ADVISE THE CITY IN WRITING WITHIN 24 HOURS OF ANY CLAIM OR DEMAND AGAINST THE CITY OR**

CONTRACTOR KNOWN TO CONTRACTOR RELATED TO OR ARISING OUT OF CONTRACTOR'S ACTIVITIES UNDER THIS AGREEMENT, AND SHALL SEE TO THE INVESTIGATION AND DEFENSE OF SUCH CLAIM OR DEMAND AT CONTRACTOR'S COST. THE CITY SHALL HAVE THE RIGHT, AT ITS OPTION AND AT ITS OWN EXPENSE, TO PARTICIPATE IN SUCH DEFENSE WITHOUT RELIEVING CONTRACTOR OF ANY OF ITS OBLIGATIONS UNDER THIS PARAGRAPH.

(c) This Indemnification provision shall survive termination or expiration of the Agreement.

J. **INDEPENDENT CONTRACTOR; PERSONNEL**

(a) Contractor enters into this Agreement as, and shall continue to be, an independent contractor. All Services shall be performed only by Contractor and Contractor's employees. Specifically, Contractor must perform within its own organization, work equivalent to at least thirty-five (35) percent of the Contract Price, unless otherwise approved by the City. Subject to and in accordance with the conditions and provisions of this Agreement, Contractor shall have the exclusive right to control the details of its operations and activities and be solely responsible for the acts and omissions of its officers, agents, servants, employees, consultants and subcontractors. Under no circumstances shall Contractor, or any of Contractor's employees, look to City as his/her employer, or as a partner, agent or principal. Neither Contractor, nor any of Contractor's employees, shall be entitled to any benefits accorded to City's employees, including without limitation worker's compensation, disability insurance, vacation or sick pay. Contractor shall be responsible for providing, at Contractor's expense, and in Contractor's name, unemployment, disability, worker's compensation and other insurance, as well as any and all licenses and permits usual or necessary for conducting the Services. Contractor shall be responsible for paying all applicable local, state and federal taxes.

(b) Contractor represents and warrants to City that its employees performing Work hereunder will have sufficient expertise, training, licensure (if applicable) and experience to accomplish the Work for the Project.

(c) Contractor shall not subcontract any portion of the work required by this Agreement, except as provided in the Contract Documents. City may terminate this Agreement, effective immediately, if there is any assignment, or attempted assignment, transfer, or encumbrance, by Contractor of this Agreement or any right or interest herein without City's written consent. In the event Contractor engages any subcontractor in the performance of this Agreement, Contractor shall ensure that all of Contractor's subcontractors perform in accordance with the terms and conditions of this Agreement. Contractor shall be fully responsible for all of Contractor's subcontractors' performance, and liable for any of Contractor's subcontractors' non-performance and all of Contractor's subcontractors' acts and omissions.

K. **INSURANCE**

(a) The Contractor shall furnish proof of insurance requirements as indicated below. The coverage is to remain in force at all times during the contract period. The following minimum insurance coverage is required. The commercial general liability insurance policy shall name the City of Brownsville, Texas, as an "additional insured." This MUST be written in the description section of the insurance certificate, even if there is a check-off box on the insurance certificate. Any costs for adding the City as "additional insured" shall be at the Contractor's expense.

(b) The City of Brownsville shall be given notice ten (10) days prior to cancellation or modification of any required insurance. The insurance provided shall be endorsed or amended to comply with this notice requirement. In the event that the insurer is unable to accommodate, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested and addressed to the Purchasing & Contract Services Department located at City Hall, 1001 E. Elizabeth St. 1st Floor Suite 101.

(c) The Contractor's insurance must be provided by an A.M. Best's "A-"rated or better insurance company authorized to issue insurance policies in the State of Texas, subject to approval by the City of Brownsville Department of Safety and Risk Management. Any exclusions or provisions in the insurance maintained by the Contractor that excludes coverage for work contemplated in this solicitation shall be deemed unacceptable, and shall be considered breach of contract.

i. Workers' Compensation and Employers' Liability Insurance

Contractor shall purchase and maintain such insurance coverage with limits consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Texas Labor Code, Ch. 406, as amended), and minimum limits for Employers' Liability as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of I Contractor' s employees. Any firm performing work for or on behalf of the City of Brownsville must provide Workers' Compensation insurance.

ii. General Liability Insurance

Covering premises-operations, products-completed operations, independent contractors and contractual liability.

Limits: Combined single limit bodily injury/property damage $1,000,000.

This coverage must include, but not limited to:

1. Coverage for the liability assumed by the Contractor under the indemnity provision of the contract.
2. Coverage for Premises/Operations
3. Products/Completed Operations
4. Broad Form Contractual Liability
5. Independent Contractors

iii. Commercial Automobile Liability Insurance

Covering all owned, hired and non-owned automobile equipment.

Limits: Bodily injury	$250,000 each person, $500,000 each occurrence
Property damage	$100,000 each occurrence

This insurance shall be kept in force until the work under this Agreement has been completed and accepted by the City. The City shall be listed as Additional Insured under the policy.

L. **TERMINATION**

(a) *Termination for Cause.* The aggrieved party may terminate this Agreement for cause if the party in breach has not corrected the breach within ten (10) days after written notice from the aggrieved party identifying the breach. The City Manager may also terminate this Agreement upon such notice as the City Manager deems appropriate under the circumstances in the event the City Manager determines that termination is necessary to protect the public health or safety. The parties agree that if the City erroneously, improperly or unjustifiably terminates for cause, such termination shall be deemed a termination for convenience, which shall be effective thirty (30) days after such notice of termination for cause is provided.

This Agreement may be terminated for cause for reasons including, but not limited to, Contractor's repeated (whether negligent or intentional) submission for payment of false or incorrect bills or invoices, failure to perform the Work to the City's satisfaction; or failure to continuously perform the work in a manner calculated to meet or accomplish the objectives as set forth in this Agreement.

(b) *Termination for Convenience.* The City reserves the right, in its best interest as determined by the City, to cancel this Agreement for convenience by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. In the event this Agreement is terminated for convenience, Contractor shall be paid for any services performed to the City's satisfaction pursuant to the Agreement through the termination date specified in the written notice of termination. Contractor acknowledges and agrees that he/she/it has received good, valuable and sufficient consideration from City, the receipt and adequacy of which are hereby acknowledged by Contractor, for City's right to terminate this Agreement for convenience.

(c) *Cancellation for Non-appropriated Funds.* The City reserves the right, in its best interest as determined by the City, to cancel this Agreement for non-appropriated funds or

unavailability of funds by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise provided by law.

(d) *Force Majeure.* The City and Contractor will be excused from the performance of their respective obligations under this Agreement when and to the extent that their performance is delayed or prevented by any circumstances beyond their control including, fire, flood, explosion, strikes or other labor disputes, act of God or public emergency, war, riot, civil commotion, malicious damage, act or omission of any governmental authority, delay or failure or shortage of any type of transportation, equipment, or service from a public utility needed for their performance, provided that:

i. The non performing party gives the other party prompt written notice describing the particulars of the Force Majeure including, but not limited to, the nature of the occurrence and its expected duration, and continues to furnish timely reports with respect thereto during the period of the Force Majeure;

ii. The excuse of performance is of no greater scope and of no longer duration than is reasonably necessary when considered in light of the Force Majeure;

iii. No obligations of either party that arose before the Force Majeure causing the excuse of performance are excused as a result of the Force Majeure; and

iv. The non-performing party uses its best efforts to remedy its inability to perform.

v. Notwithstanding the above, performance shall not be excused under this Section for a period in excess of sixty (60) days, provided that in extenuating circumstances, the City may excuse performance for a longer term. Economic hardship of the Contractor will not constitute Force Majeure. The term of the agreement shall be extended by a period equal to that during which either party's performance is suspended under this Section.

M. WARRANTIES

The Contractor warrants to the Owner that materials and equipment furnished under the Agreement will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

N. **MISCELLANEOUS PROVISIONS**

(a) *Successors and Assigns.* All of the provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto, and their partners, assigns, successors, subcontractors, executors, heirs, officers, agents, employees, representatives, and administrators.

(b) *Choice of Law.* The laws of the state of Texas shall govern the validity of this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties hereto.

(c) *No Waiver of Governmental Immunity.* NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED TO WAIVE CITY'S GOVERNMENTAL IMMUNITY FROM LAWSUIT, WHICH IMMUNITY IS EXPRESSLY RETAINED TO THE EXTENT IT IS NOT CLEARLY AND UNAMBIGUOUSLY WAIVED BY STATE LAW.

(d) *Assignment.* Contractor shall not assign any of Contractor's rights under this Agreement, or delegate the performance of any of Contractor's duties hereunder, without the prior written consent of the City.

(e) *Modification or Amendment.* No amendment, change or modification of this Agreement shall be valid unless in writing signed by the parties hereto.

(f) *Venue.* This Agreement and any and all matters arising directly or indirectly herefrom shall be governed by and construed and enforced in accordance with the Laws of the State of Texas, with the Federal and State Courts of **Cameron County**, Texas having jurisdiction. If at any time there is a dispute between or among the Parties with respect to any matter arising directly or indirectly from this Agreement (an "Agreement Matter"), the Parties agree that, prior to seeking judicial remedy, they will engage in face-to-face negotiations in an attempt to resolve such dispute and shall, upon failing to negotiate a mutually-satisfactory resolution, choose a mutually agreeable neutral third party to mediate such dispute. Mediation shall be non-binding and shall be confidential.

(g) *Execution and Consideration.* This Agreement is executed by the parties hereto without coercion or duress for any substantial consideration, the sufficiency of which is forever confessed

(h) *Notices.* Any and all notices, demands, or other communications required or desired to be given hereunder by any party shall be in writing and shall be validly given or made to another party if personally served, or if deposited in the United States mail, certified or registered, postage prepaid, return receipt requested. If such notice or demand is served personally, notice shall be deemed constructively made at the time of such personal service. If such notice, demand or other communication is given by mail, such notice shall be conclusively deemed given five days after deposit thereof in the United States mail addressed to the party to whom such notice, demand or other communication is to be given as follows:

If to Contractor:	Austin Traffic Signal Construction CO. LLC Attn: Stephen Rutledge 4615 Priem Lane Pflugerville, TX 78660
If to City:	City of Brownsville Attn: City Manager 1001 E Elizabeth St. Brownsville, TX 78520
With Copy to:	City of Brownsville Attn: City Attorney 1001 E Elizabeth St. Brownsville, TX 78520

Any party hereto may change its address for purposes of this paragraph by written notice given in the manner provided above.

(i) *Cumulative Remedies*. All rights and remedies of the Parties under this Agreement shall be cumulative, and none shall exclude any other right or remedy provided by law, or by any other provisions of the Agreement. All such rights and remedies may be exercised and enforced concurrently and whenever, and as often, as occasion for their exercise arises.

(j) *Waiver of Breach*. A waiver by either Party of a breach of the Agreement by the other Party does not constitute a continuing waiver or a waiver of any subsequent breach of the Agreement.

(k) *No Third Party Beneficiaries*. Nothing in this Agreement shall be construed to create any right in any third party not a signatory to this Agreement, and the Parties do not intend to create any third party beneficiaries by entering into this Agreement.

(l) *Entire Understanding*. This document and any exhibit attached hereto, constitute the entire understanding and agreement of the parties, and any and all prior agreements, understandings, and representations are hereby terminated and canceled in their entirety and are of no further force and effect.

(m) *Counterparts*. This Agreement may be executed in a number of identical counterparts, each of which shall be deemed an original for all purposes. A facsimile signature will also be

deemed to constitute an original if properly executed.

(n) *Miscellaneous Drafting Provisions.* This Agreement shall be deemed drafted equally by the Parties hereto. The language of all parts of this Agreement shall be construed as a whole according to its fair meaning, and any presumption or principle that the language herein is to be construed against any Party shall not apply. Headings in this Agreement are for the convenience of the Parties and are not intended to be used in construing this document.

(o) *Authority to Execute.* The individuals executing this Agreement on behalf of the respective Parties below represent to each other and to others that all appropriate and necessary action has been taken to authorize the individual who is executing this Agreement to do so for and on behalf of the Party for which his or her signature appears, that there are no other parties or entities required to execute this Agreement in order for the same to be an authorized and binding agreement on the Party for whom the individual is signing this Agreement and that each individual affixing his or her signature hereto is authorized to do so, and such authorization is valid and effective on the date hereof.

(p) *Savings/Severability.* In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision hereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

(q) *Prohibition On Contracts With Companies Boycotting Israel.* Contractor acknowledges that in accordance with Chapter 2270 of the Texas Government Code, the City is prohibited from entering into a contract with a company for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract.

The terms " boycott Israel" and" company" shall have the meanings ascribed to those terms in Section 808.001 of the Texas Government Code. ***By signing this* Agreement, *Contractor certifies that Contractor' s signature provides written verification to the City that Contractor: (1) does not boycott Israel, and (2) will not boycott Israel during the term of the Agreement.***

(r) Immigration Nationality Act. As required by law, Contractor shall verify the identify and employment eligibility of its employees who perform work under this Agreement, including completing the Employment Eligibility Verification Form (I-9). Upon request by the City, Contractor shall provide City with copies of all I-9 forms and supporting eligibility documentation for each employee who performs work under this Agreement. Contractor shall adhere to all Federal and State laws as well as establish appropriate procedures and controls so that no services will be performed by any Contractor employee who is not legally eligible to perform such services. **CONTRACTOR SHALL INDEMNIFY CITY AND HOLD CITY HARMLESS FROM ANY PENALTIES,**

LIABILITIES, OR LOSSES DUE TO VIOLATIONS OF THIS PARAGRAPH BY CONTRACTOR, CONTRACTOR'S EMPLOYEES, SUBCONTRACTORS, AGENTS, OR LICENSEES. City, upon written notice to Contractor, shall have the right to immediately terminate this Agreement for violation of this provision by Contractor.

(s) *Representations*. Each signatory represents this Agreement has been read by the Party for which this Agreement is executed and that such Party has had an opportunity to confer with its legal counsel.

IN WITNESS WHEREOF the undersigned have executed this Agreement as of the day and year first written above.

NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESSED OR IMPLIED, TO AMEND THIS AGREEMENT, EXCEPT SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE CITY COMMISSION OF THE CITY OF BROWNSVILLE.

EXECUTED THIS _____ DAY OF _____, 2026.

OWNER:

_____
(Signature)

_____
Print Name:
City of Brownsville

CONTRACTOR:

_____
(Signature)
Stephen Ruthardt

_____
Print Name:

Approved as to Form:

_____
Alyssa J. Castillon
Assistant City Attorney FOR:
City Attorney

Exhibit B

NOTIFICATION OF INTENT TO AWARD

To:	Austin Traffic Signal Construction CO. LLC 4615 Priem Lane Pflugerville, Texas, 78660
Date:	9/10/2026
Attn:	Stephen Rutledge
Project Title	International Blvd Traffic Signal Improvements
Project Location	International Blvd
Project Number	146-26-EPW-IFB

Dear Mr. Stephen Rutledge,

On behalf of the City of Brownsville, I am pleased to announce that your company, Austin Traffic Signal Construction CO. LLC, will be submitted for approval to City Commission for the above-referenced project on October 6, 2026.

This Notice of Intent to Award is subject to execution of a written contract and, as a result, this Notice does NOT constitute the formation of a contract between the City of Brownsville and Austin Traffic Signal Construction CO. LLC. Austin Traffic Signal Construction CO. LLC shall not acquire any legal or equitable rights relative to the contract services until a contract containing terms and conditions acceptable to the City of Brownsville is executed.

The City of Brownsville further reserves the right to cancel this Notice of Intent to Award at any time, with or without cause, prior to the execution of a written contract.

Congratulations and we look forward to working with your company on this project.

Thank you,

Alexandra Guajardo

Alexandra Guajardo
Contract Administrator
Procurement Department
City of Brownsville, Texas

The Brownsville Herald

PUBLISHER'S AFFIDAVIT
STATE OF TEXAS
COUNTY OF CAMERON

I, Sally Rodriguez, being duly sworn on her oath states that she is the Legal Representative of the BROWNSVILLE HERALD a semi-weekly newspaper in Cameron County and that the attached notice did print in the following issues:

Date: May 02, 2026
Acct: City Of Bro. Purchasing L Acct #30004791
IO: #30280129 (Inv to Bid/Propose/Qualif)

Subscribed and sworn to before me on this the 2nd day of June 2026.

Notary Public for the State of Texas

Cristal Amada Trevino
My Commission Expires
4/1/2029
Notary ID 135508080

The Brownsville Herald

PUBLISHER'S AFFIDAVIT
STATE OF TEXAS
COUNTY OF CAMERON

I, Sally Rodriguez, being duly sworn on her oath states that she is the Legal Representative of the BROWNSVILLE HERALD a semi-weekly newspaper in Cameron County and that the attached notice did print in the following issues:

Date: May 09, 2026
Acct: City Of Bro. Purchasing L Acct #30004791
IO: #30280423 (Bid/Proposal/Qualificatio)

Subscribed and sworn to before me on this the 2nd day of June 2026.

Notary Public for the State of Texas

Cristal Amada Trevino
My Commission Expires
4/1/2029
Notary ID 135508080

City of Brownsville Procurement Department

INVITATION

** B/P/Q (Bid/Proposal/Qualifications)*

Description	Number	Pre-Bid/Proposal Meeting	Opening Meeting
Invitation for Bids: Brownsville Traffic Signals Communication Development	*B 144-26-EPW-IFB	Monday, May 11, 2026 @ 10:00 AM CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 4:00 PM CT IN-PERSON & TEAMS VIRTUAL MEETING
Invitation for Bids: 12th St Traffic Signal Improvements	*B 145-26-EPW-IFB	Monday, May 11, 2026 @ 11:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, May 26, 2026 @ 3:00 PM CT IN-PERSON & TEAMS VIRTUAL MEETING
Invitation for Bids: International Blvd Traffic Signal Improvements	*B 146-26-EPW-IFB	Tuesday, May 12, 2026 @10:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, May 26, 2026 @ 4:00 PM CT IN-PERSON & TEAMS VIRTUAL MEETING
Bore and Trenching On-Call Services	*B 218-26-EPW-IFB	Tuesday, May 19, 2026 @ 10:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, June 16, 2026 @ 3:00 PM TEAMS VIRTUAL MEETING

Interested Bidders/Proposer are invited to attend the Bid/Proposal opening via Video conference on the dates specified. Presence is not mandatory. Specifications may also be viewed and downloaded at: http://www.brownsvilletx.gov or https://brownsvilletx.bonfirehub.com/ (956) 548-6087 office, e-mail: purchasing@brownsvilletx.gov.

05/09/2026

PUBLIC NOTICE

REQUEST FOR PROPOSALS (RFP) BEACH CLEANING SERVICES

The City of Starbase, Texas is requesting competitive sealed proposals for professional beach cleaning services at the Boca Chica Boulevard (State Highway 4) beach access point for a 12-month contract period commencing June 1, 2026.

The selected contractor will perform a minimum of 12 and up to a maximum of 24 full beach cleaning operations per year using a Barber SURF RAKE, supplemented by hand-picking of litter and removal of heavy debris. All work must strictly comply with Texas General Land Office (GLO) guidelines.

Proposal Deadline: May 26, 2026, at 2:00 PM CDT

For the complete RFP package and submission instructions, contact: **Gretchen Norton, City Clerk** gretchen.norton@starbase.texas.gov



Extra Space Storage, on behalf of itself or its affiliates, Life Storage or Storage Express, will hold a public auction to satisfy Extra Space's lien, by selling personal property described below belonging to those individuals listed below at the location indicated. All spaces contain household furniture unless otherwise noted. Clean up deposit required.

Property #4235
1795 Coffee Rd, Brownsville, TX 78521
• Jaime Flores • Belinda Ortiz
• Eileen House • Sam Brito

Auction Date : May 27th, 2026, Time: 10:00 AM

The auction will be listed and advertised on www.storagetreasures.com. Purchases must be made with cash only and paid at the above referenced facility to complete the transactions. Extra space storage may refuse any bid and may rescind any purchases up until the winning bidder takes possession of the personal property.

NOTICE OF A RESCHEDULED REGULAR MEETING OF THE CITY OF BROWNSVILLE CITY COMMISSION

NOTICE IS HEREBY GIVEN TO ALL INTERESTED PERSONS, THAT THE CITY OF BROWNSVILLE, TEXAS, HAS BEEN REQUESTED (AND/OR PROPOSES) TO ADOPT THE FOLLOWING ORDINANCE(S):

Ordinance Number 235-2026-008: To rezone from Residential Single-Family (R-1) to Residential Transition (R-3) to allow a multifamily development for a 0.501-acre tract of land comprised of Tracts I and II, each being a 0.167 acre of land out of a 6.50-acre tract out of a 15.00-acre tract; and Tract III, being a 0.167 acre of land out of a 1.00-acre tract, all out of Block 4, El Jardin Subdivision, Cameron County, Texas, located at 4464 Waco Road, Brownsville, Texas 78521.

Ordinance Number 2026-235.127: To amend the City of Brownsville Unified Development Code, Article 3 – Subdivision Regulations, Section 3.4 – Subdivision Design Standards; Article 4 – Zoning Regulations, Section 4.2 – Zoning Procedures, Section 4.3 – Zoning Districts, Section 4.4 – Land Uses, Section 4.5 – Building Types; Article 6 – Definitions, to establish state regulations adopted at the 89th Legislative Session for the purpose of creating housing diversity; and dealing with related matters.

Ordinance Number 2026-235.128: To amend the City of Brownsville Unified Development Code, Article 4 – Zoning Regulations, Section 4.2 – Zoning Procedures, to establish state regulations adopted at the 89th Legislative Session for the purpose of updating protest petition thresholds; and dealing with related matters.

Ordinance Number 2026-235.129: To amend the City of Brownsville Unified Development Code (UDC, Article 4 – Zoning Regulations, Subsection. 4.3.4 – Special Overlay Districts, Subsection 4.4.3 – Permitted Use Chart, Subsection 4.4.4 – Additional Use Standards, Subsection 4.6.3. - Landscaping and Article 6 Definitions) to create the Jefferson Medical Overlay District; and dealing with related matters.

Ordinance Number 2026-235.130: To amend the City of Brownsville Unified Development Code (UDC, Article 4 – Zoning Regulations, Section 4.6 – Zoning Development Standards, Subsection 4.6.3 – Landscaping; Article 5 – Supplemental Regulations, Section 5.1 – Tree Preservation, Subsection 5.1.2 – Applicability and Exemptions, Subsection 5.1.3 – Categories of Preserved Trees, Subsection 5.1.4 – Tree Mitigation, Subsection 5.1.8 – Removal of a Protected Tree

* * * * * * * * * * * * * * * * *

The City Commission meeting scheduled to be held on Tuesday, May 19, 2026, at 5:00 P.M., will be rescheduled to Tuesday, June 2, 2026, at the same time and location for 1st Reading on approved ordinances from the aforementioned list (the link and location to this meeting will be provided by the Office of the City Secretary)

* * * * * * * * * * * * * * * * *

Members of the public who submit "Public Comment Forms" will be permitted to offer public comments as provided by the agenda and as permitted by the presiding officer during the meeting at the aforementioned time and location by and before said City. For further information, please call (956) 548-6150 (Para más información, favor de llamar al (956) 548-6150). Of all said matters and things, all persons interested in the things and matters herein mentioned will take notice.

BROWNSVILLE PUBLIC UTILITIES BOARD

INVITATION TO BID/PROPOSE

NO.	PRE-BID/ PROPOSAL CONFERENCE VIA CONFERENCE CALL	SUBMISSION	OPENING	NAME
B 029-26	N/A	05/19/26 2:00 PM	05/19/26 2:15 PM	Phase I – Service Center Additional Yard Fencing
B 040-26	N/A	05/20/26 5:00 PM	05/21/26 10:30 AM	Annual Supply of General Stock
P 041-26	N/A	06/03/26 5:00 PM	06/04/26 10:00 AM	Microsoft Fabric Readiness, Licensing & Implementation Advisory Services

*B/P/Q (BID/PROPOSAL/QUALIFICATIONS)

Sealed bids/proposals/qualifications will be received by the Brownsville Public Utilities Board, at the office of **DIANE SOLTAIRE, PURCHASING, 1155 FM 511, OLMITO, TEXAS 78575, (956) 983-6364.** The bids/proposals/qualifications will be received until the date specified above. **INTERESTED BIDDERS/ PROPOSERS MAY OBTAIN SPECIFICATIONS AND/OR INFORMATION AT THE BPUB PURCHASING DEPARTMENT.** Bidders/Proposers are invited to attend the bid/proposal/qualification opening at the Office of the Purchasing Department on the dates specified. Presence at the bid opening is not mandatory. Specifications may also be obtained at https://www.brownsville-pub.com/rfp_status/open/ or at https://www.bidnetdirect.com/texas/brownsville-pub

05/09/26



City of PRIMERA

Request for Qualifications (RFQ)

Engineering Services for the

City of Primera's Water Treatment Plant and Water System Improvements

The City of Primera (the City) is seeking qualified firms to provide engineering services for the City.

The City proposes to contract with a qualified Engineering Firm to provide engineering services for the design of a Water Reverse Osmosis (RO) Water Treatment Plant, groundwater pump(s), and other water system improvements.

The requested engineering services shall include, but are not limited to, preparing all preliminary and final design plans and specifications, support permit and regulatory approvals, and overseeing project implementation.

Particular consideration will be given to firms demonstrating prior experience with similar water supply and RO treatment projects, as well as the ability to prepare a detailed project schedule and implementation plan to bring the project to "shovel-ready" status as soon as possible.

Interested firms can request a copy of the full RFQ by going to www.cityofprimera.us or by e-mailing a request to the City's Water Plant Project Manager at aurrea@cflenterprise.com.

The RFQ release date is April 25, 2026. Questions regarding this RFQ must be submitted no later than May 19, 2026, at 5:00 p.m. Statements of Qualifications for the proposed services must be received no later than May 26, 2026, at 5:00 p.m., at the following address:

City of Primera, TX
ATTN: Celina Gonzales, City Manager
17635 Primera Rd.
Primera, Texas 78552

If you have any questions, please feel free to reach out to the City's Water Plant Project Manager at aurrea@cflenterprise.com or (956) 433-2276

BROWNSVILLE

City of Brownsville Procurement Department

INVITATION

** B/P/Q (Bid/Proposal/Qualifications)*

Description	Number	Pre-Bid/Proposal Meeting	Opening Meeting
Invitation For Bids For: Information Technology Department Capital Improvement Project: Proposed 5g & Fiber Design	*B 159-26-IT-IFB	Tuesday, May 5, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 2:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: Carbon Reduction Program Off-System	*B 174-26-EPW-IFB	Monday, May 4, 2026 @ 10:00 AM CT IN-PERSON & TEAMS VIRTUAL MEETING 1001 E. Elizabeth St. Brownsville, TX, 78520	Thursday, May 21, 2026 @ 3:30 PM CT IN-PERSON & TEAMS VIRTUAL MEETING 1001 E. Elizabeth St. Brownsville, TX, 78520
Invitation for Bids: Brownsville Traffic Monitoring & Management of Signalized Roads	*B 143-26-EPW-IFB	Tuesday, May 5, 2026, @ 10:00 AM CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 3:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: Brownsville Traffic Signals Communication Development	*B 144-26-EPW-IFB	Monday, May 11, 2026 @ 10:00 AM CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 4:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: 12th St Traffic Signal Improvements	*B 145-26-EPW-IFB	Monday, May 11, 2026 @ 11:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, May 26, 2026 @ 3:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: International Blvd Traffic Signal Improvements	*B 146-26-EPW-IFB	Tuesday, May 12, 2026 @ 10:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, May 26, 2026 @ 4:00 PM CT TEAMS VIRTUAL MEETING

Interested Bidders/Proposer are invited to attend the Bid/Proposal opening via Video conference on the dates specified. Presence is not mandatory. Specifications may also be viewed and downloaded at: http://www.brownsvilletx.gov or https://brownsvilletx.bonfirehub.com/ (956) 548-6087 office, e-mail: purchasing@brownsvilletx.gov.

05/02/2026

Extra Space Storage, on behalf of itself or its affiliates, Life Storage or Storage Express, will hold a public auction to satisfy Extra Space's lien, by selling personal property described below belonging to those individuals listed below at the location indicated. All spaces contain household furniture, unless otherwise noted. Clean up deposit required.

Property #7952
296 Lorenaly Dr, Brownsville, TX 78526
- Elsa Chio
- Brandy Coffee

Auction Date : May 13th, 2026,
Time: 10:00 AM

The auction will be listed and advertised on www.storageextraxpress.com. Purchases must be made with cash only and paid at the above referenced facility to complete the transactions. Extra space storage may refuse any bid and may rescind any purchases up until the winning bidder takes possession of the personal property.

Application is being made with the Texas Alcoholic Beverage Commission for a Wine and Malt Beverage Retail Dealer's Off-Premise Permit by Dolgencorp of Texas, Inc. d/b/a Dollar General Store #31204 located at 3860 Laredo Rd, Brownsville, Cameron County, TX 78520. Officers of said Corporation are Zak Brining, CEO, Donny Hong Bong Lau, CFO, William Arthur Steiger, VP Tax, and Emily C. Taylor, EVP/Secretary.

04/29/2026, 05/02/2026

PUBLIC NOTICE — TOWN OF BAYVIEW SUBSTANDARD STRUCTURES ORDINANCE

On March 27, 2026, the Town of Bayview, Texas adopted an ordinance for the administration and governance of substandard structures and declaring them to be public nuisances subject to repair, vacating, securing, or demolition upon order of the Building and Standards Commission after notice and public hearing. Failure to comply with an order of the Building and Standards Commission may result in the Town taking corrective action and assessing related costs as a lien against the property containing the substandard structure(s) or otherwise assessing civil penalties in an amount not to exceed $1000 per violation.

CITATION BY PUBLICATION- TRC 109 & 114

THE STATE OF TEXAS

2025-DCL-02681

U.S. Bank National Association, Not in Its Individual Capacity but Solely as Trustee of NRZ Pass-Through Trust XII
vs
Alejandro N. Mata

§ IN THE 444TH DISTRICT COURT
§ OF
§ CAMERON COUNTY, TEXAS

TO: The Unknown Heirs-at-Law of Maria G. Mata, Deceased
No Known Address

NOTICE TO DEFENDANT: "You have been sued. You may employ an attorney. If you or your attorney do not file a written answer with the clerk who issued this citation by 10:00 am on the Monday next following the expiration of 42 days after the date this citation was issued, a default judgment may be taken against you. In addition to filing a written answer with the clerk, you may be required to make initial disclosures to the other parties of this suit. These disclosures generally must be made no later than 30 days after you file your answer with the clerk. Find out more at TexasLawHelp.org."

You are hereby commanded to appear by filing a written answer to the Plaintiffs Original Petition at or before 10:00 o'clock A.M. on the Monday next after the expiration of 42 days after the date of issuance of this citation before the Honorable 444th District Court of Cameron County, at the Courthouse in said County in Brownsville, Texas. Said Plaintiffs Original Petition was filed in said court on the 12th day of May, 2025 in the above entitled cause.

A brief statement of the nature of this suit is as follows, to-wit:

Plaintiff U.S. Bank National Association, not in its individual capacity but solely as trustee of NRZ Pass-Through Trust XII., its successors and assigns, by and through its attorney of record, Myra Homayoun of McCarthy & Holthus, LLP, 1255 West 15th Street, Suite 1060, Plano, Texas 75075, brought suit in rem only, against Alejandro N. Mata a/k/a Alejandro, Mata-Nanez, Sela Noema Gomez, Alejandro Mata, Omar Mata, the Unknown Heirs-at-Law of Maria G. Mata, Deceased, and any other person(s) claiming any right, title, or interest through Maria G. Mata, as heir(s)-at-law to 4356 Palmo Caribe Dr., Brownsville, Texas 78521 and legally described to wit: LOT 6, BLOCK 2, ISLA DE PALMAS SUBDIVSION, SECTION IV, CITY OF BROWNSVILLE, CAMERON COUNTY, TEXAS, ACCORDING TO MAP THEREOF RECORDED IN CABINET 1, PAGE 852-A OF THE MAP RECORDS, CAMERON COUNTY, TEXAS.

as is more fully shown by Plaintiffs Original Petition on file in this suit.

Issued and given under my hand and seal of said Court at Brownsville, Texas, on this the 6th day of March, 2026.

Laura Perez-Reyes
District Clerk of Cameron County
974 E Harrison Street
Brownsville, Texas 78520

By: _____ Deputy

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VISIT OUR WEBSITE AT WWW.MYRGV.COM
FIND THE BEST RATES ON MORTGAGES
FIND YOUR NEXT APARTMENT
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SHOP FOR A NEW HOME 24/7
SELLING YOUR HOME?

Exhibit D

City of Brownsville - Procurement Department
ADDENDUM #1

INVITATION FOR BIDS FOR:
International Blvd Traffic Signal Improvements

IFB #: 146-26-EPW-IFB

ACKNOWLEDGEMENT OF RECEIPT

Please email this page upon receipt

Please fill in the requested information below as acknowledgment that *you have received the* Addendum noted above. If your firm is interested in participating, this sheet must be completed and returned or emailed to:

Eduardo Torres
City of Brownsville - P.O. Box 911
City Hall 1001 E. Elizabeth St. 1ST FLOOR Suite No. 101 Brownsville,
Texas 78520
Phone: (956) 548-6087 Fax: (956) 546-2711
Email: purchasing@brownsvilletx.gov

Name of Firm: AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO.LLC.

Address: P.O.BOX 130

City, State, Zip: ROUND ROCK, TX 78680

Telephone Number: 512-255-9951 Email: stever@atscc.com

(X) **YES,** Our Company does have an interest in responding.

(__) **NO,** Our Company does not have an interest in responding.

Name: (Print) Stephen Rutledge

Title: Area Manager V.P.

Signature:

ADDENDA: The undersigned hereby acknowledges receipt of the following addenda to the Specifications, all of the provisions and requirements of which Addenda have been taken into consideration in the preparation of the foregoing proposal.

Clarifications/Additional Information/Changes to the Original Solicitation Package:

This addendum No. 1 addresses questions received for Project 146-26-EPW-IFB. Please see the responses below in red.

Vendor Discussions

CSJ 0921-06-399 Traffic Signal Communication Development

May 05, 2026 1:39 PM CDT

what is the engineers estimate to provide bid bond. 2) Contractor use rollup signs for this project with little interfence with traffic 3) Safety Contigency off duty officers reimbursed by TXDOT and City

1.- The City will not be disclosing the Engineer's Estimate at this time
2.- Minimum disruptions are expected and meet the TxDOT TCP guidelines.
3.- No, Off-Duty officers are not part of the scope.

its fiber sheets

May 15, 2026 11:31 AM CDT

summary of fiber quantities, is not showing your conduit or conduit size is this direct burial or is item 618-7065 4" bore for this item also? are this a single conduit or 2 ?

4" bore will be used for the fiber

SPEC 6018-0002

May 15, 2026 1:24 PM CDT

Could y 'all provide a manufacture and model number for this Artificial Intelligence camera?

At this time, the specific manufacturer and model information will not be disclosed. Details regarding the equipment will be discussed during the Construction Kick-Off Meeting with the selected contractor.

Cost Range?

May 12, 2026 1:05 PM CDT
Is there an estimated cost range? **The City will not be disclosing the Engineer's Estimate at this time**

Austin Traffic Signal

Name of Bidder/Proposer

Signature

Stephen Rutledge

Print Name

5/20/2026

Date

INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

Solicitation No. 146-26-EPW-IFB

BASIC UNIT BID ITEMS

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	UNTI PRICE	TOTAL PRICE
500	7001	MOBILIZATION	LS	1.00	$ 225,800.00	$ 225,800.00
502	7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	18.00	$ 4,250.00	$ 76,500.00
		Total Bid Unit Items MISCELLANEOUS CONSTRUCTION:				**$ 302,300.00**
104	7013	REMOV CONC (SIDEWALK, RAMP OR SUP)	SY	485.00	50.00	$ 24,250.00
104	7018	REMOV CONC (CURB OR CURB & GUTTER)	LF	1070.00	35.00	$ 37,450.00
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	275.00	345.00	$ 94,875.00
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	176.00	940.00	$ 165,440.00
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	800.00	12.00	$ 9,600.00
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	800.00	2.00	$ 1,600.00
528	7003	REMOVE AND RELAY PAVERS	SY	125.00	115.00	$ 14,375.00
531	7005	CURB RAMPS (TY 1)	EA	7.00	4,200.00	$ 29,400.00
531	7008	CURB RAMPS (TY 5)	EA	25.00	4,965.00	$ 124,125.00
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	505.00	32.00	$ 16,160.00
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	1210.00	40.00	$ 48,400.00
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	7545.00	45.00	$ 339,525.00
620	7009	ELEC CONDR (NO.6) BARE	LF	6165.00	2.10	$ 12,946.50
620	7010	ELEC CONDR (NO.6) INSULATED	LF	1045.00	2.20	$ 2,299.00
623	7018	ITS GND BOX (POLY) TY 1 (243648)W/APRN	EA	2.00	3,550.00	$ 7,100.00
623	7024	ITS GND BOX (POLY) TY 2 (366048)W/APRN	EA	9.00	5,800.00	$ 52,200.00
624	7008	GROUND BOX TY D (162922)W/APRON	EA	45.00	1,800.00	$ 81,000.00
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	8.00	5,200.00	$ 41,600.00
636	7001	ALUMINUM SIGNS (TY A)	SF	415.00	44.00	$ 18,260.00
644	7067	RELOCATE SM RD SN SUP&AM TY S80	EA	3.00	750.00	$ 2,250.00
666	7024	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	2010.00	3.20	$ 6,432.00
666	7030	REFL PAV MRK TY I (W)12"(SLD)(100MIL)	LF	560.00	9.00	$ 5,040.00
666	7036	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	3200.00	11.00	$ 35,200.00
666	7123	REFL PAV MRK TY I (Y)24"(SLD)(100MIL)	LF	220.00	15.00	$ 3,300.00
666	7220	RE PM TY II (Y) (MED NOSE)	EA	1.00	436.00	$ 436.00
666	7402	REFL PAV MRK TY I (W)4"(BRK)(100MIL)	LF	7700.00	1.10	$ 8,470.00
666	7405	REFL PAV MRK TY I (W)4"(SLD)(100MIL)	LF	260.00	2.00	$ 520.00
666	7408	REFL PAV MRK TY I (W)6"(BRK)(100MIL)	LF	1160.00	1.70	$ 1,972.00
666	7411	REFL PAV MRK TY I (W)6"(SLD)(100MIL)	LF	7050.00	1.60	$ 11,280.00
666	7420	REFL PAV MRK TY I (Y)6"(BRK)(100MIL)	LF	2630.00	1.60	$ 4,208.00
666	7423	REFL PAV MRK TY I (Y)6"(SLD)(100MIL)	LF	9950.00	1.20	$ 11,940.00
668	7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	7.00	300.00	$ 2,100.00
668	7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	7.00	300.00	$ 2,100.00
668	7091	PREFAB PM TY C (W)(ARROW)	EA	32.00	300.00	$ 9,600.00
668	7093	PREFAB PM TY C (W)(DBL ARROW)	EA	13.00	450.00	$ 5,850.00
668	7103	PREFAB PM TY C (W)(WORD)	EA	22.00	300.00	$ 6,600.00
672	7002	REFL PAV MRKR TY I-C	EA	266.00	8.00	$ 2,128.00
672	7004	REFL PAV MRKR TY II-A-A	EA	236.00	8.00	$ 1,888.00
677	7001	ELIM EXT PM & MRKS (4")	LF	7820.00	0.70	$ 5,474.00
677	7002	ELIM EXT PM & MRKS (6")	LF	19170.00	0.80	$ 15,336.00

677	7004	ELIM EXT PM & MRKS (8")	LF	1640.00	1.80	$ 2,952.00
677	7006	ELIM EXT PM & MRKS (12")	LF	3590.00	3.50	$ 12,565.00
677	7008	ELIM EXT PM & MRKS (24")	LF	1680.00	8.00	$ 13,440.00
677	7009	ELIM EXT PM & MRKS (ARROW)	EA	33.00	70.00	$ 2,310.00
677	7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	13.00	130.00	$ 1,690.00
677	7015	ELIM EXT PM & MRKS (WORD)	EA	21.00	70.00	$ 1,470.00
677	7025	ELIM EXT PM & MARKS (BIKE ARROW)	EA	7.00	70.00	$ 490.00
677	7027	ELIM EXT PM & MARKS (BIKE SYMBOL)	EA	7.00	80.00	$ 560.00
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	8.00	68,500.00	$ 548,000.00
680	7004	REMOVING TRAFFIC SIGNALS	EA	8.00	3,850.00	$ 30,800.00
682	7001	VEH SIG SEC (12")LED(GRN)	EA	60.00	370.00	$ 22,200.00
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	16.00	370.00	$ 5,920.00
682	7003	VEH SIG SEC (12")LED(YEL)	EA	60.00	370.00	$ 22,200.00
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	23.00	370.00	$ 8,510.00
682	7005	VEH SIG SEC (12")LED(RED)	EA	60.00	370.00	$ 22,200.00
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	12.00	370.00	$ 4,440.00
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	58.00	610.00	$ 35,380.00
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	57.00	125.00	$ 7,125.00
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	15.00	185.00	$ 2,775.00
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	5540.00	1.30	$ 7,202.00
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	4130.00	1.60	$ 6,608.00
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	8208.00	1.10	$ 9,028.80
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	5540.00	1.30	$ 7,202.00
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	8248.00	1.50	$ 12,372.00
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	7550.00	1.80	$ 13,590.00
686	7024	INS TRF SIG PL AM(S)1 ARM(20')LUM&ILSN	EA	1.00	16,850.00	$ 16,850.00
686	7028	INS TRF SIG PL AM(S)1 ARM(24')LUM&ILSN	EA	3.00	18,100.00	$ 54,300.00
686	7032	INS TRF SIG PL AM(S)1 ARM(28')LUM&ILSN	EA	2.00	18,150.00	$ 36,300.00
686	7036	INS TRF SIG PL AM(S)1 ARM(32')LUM&ILSN	EA	1.00	18,950.00	$ 18,950.00
686	7040	INS TRF SIG PL AM(S)1 ARM(36')LUM&ILSN	EA	3.00	19,400.00	$ 58,200.00
686	7044	INS TRF SIG PL AM(S)1 ARM(40')LUM&ILSN	EA	1.00	21,050.00	$ 21,050.00
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	6.00	21,460.00	$ 128,760.00
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	6.00	46,230.00	$ 277,380.00
686	7176	IN TRF SG PL AM(S)2ARM(50-24')LUM&ILSN	EA	1.00	56,540.00	$ 56,540.00
686	7188	IN TRF SG PL AM(S)2ARM(50-36')LUM&ILSN	EA	1.00	54,700.00	$ 54,700.00
687	7001	PED POLE ASSEMBLY	EA	9.00	2,150.00	$ 19,350.00
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	24.00	1,550.00	$ 37,200.00
688	7001	PED DETECT PUSH BUTTON (APS)	EA	57.00	950.00	$ 54,150.00
688	7003	PED DETECTOR CONTROLLER UNIT	EA	8.00	3,850.00	$ 30,800.00
5047	7001	RELOCATE FIRE HYDRANT	EA	1.00	2,850.00	$ 2,850.00
6001	7002	ILSN (6 D)	EA	8.00	4,500.00	$ 36,000.00
6001	7004	ILSN (8D)	EA	7.00	4,850.00	$ 33,950.00
6001	7006	ILSN (10D)	EA	13.00	5,100.00	$ 66,300.00
6005	7001	ITS COM CBL (ETHERNET)	LF	980.00	2.30	$ 2,254.00
6007	7001	BBU SYSTEM (EXTERNAL BATTERY CABINET)	EA	8.00	9,500.00	$ 76,000.00
6008	0001	RVDS (PRESENCE DETECTION ONLY)	EA	28.00	12,800.00	$ 358,400.00
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	28.00	9,500.00	$ 266,000.00
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	8.00	3,850.00	$ 30,800.00
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	3,850.00	$ 30,800.00
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$ 5.30	$ 2,650.00
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$ 5.80	$ 19,720.00

6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$ 5,500.00	$ 77,000.00
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$ 10,500.00	$ 84,000.00
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$ 4,850.00	$ 77,600.00
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$ 650.00	$ 5,200.00
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$ 550.00	$ 4,400.00
					Total Bid Unit Items TRAFFIC SIGNALS:	$ 4,102,213.30
					TOTAL BID PRICE:	**$ 4,404,513.30**

Bidder: **__AUSTIN TRAFFIC SIGNAL CONSTRUCTION COMPANY LLC._____**
By: STEPHEN RUTLEDGE
Name: STEPHEN RUTLEDGE
Address P.O.BOX 130 ROUND ROCK, TX 78680
Date: **5/26/2026**

END OF DOCUMENT

KBH TRAFFIC ENGINEERING, LLC
1127 Eldridge Pkwy, #300-203, Houston, TX 77077
Tel 832-250-1861 Fax 281-597-9354
keti@kbhtraffic.com
www.kbhtraffic.com

July 22, 2026

Eduardo Torres, MBA, CTCD
Buyer-City of Brownsville
City of Brownsville | Procurement Division
1001 E. Elizabeth St
Brownsville, Texas 78520

RE: INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

Solicitation No. 146-26-EPW-IFB

BID RECOMMENDATION LETTER

Dear Mr. Torres

KBH Traffic Engineering, LLC (KBH) is in receipt of the bid tabulation in accordance with Article 2.14 "Tabulation for Bids" of TxDOT's Standard Specifications for the above-mentioned project and offers the following Bid Analysis. A total of three (3) bids were received.

KBH developed the Bid Analysis spreadsheet for the project and populated it with item descriptions, units, estimated quantities, unit prices, and total costs. The total cost for each item was obtained by multiplying the estimated quantity by the unit price. The project's total cost was obtained by summing the costs of all items.

The official bid amounts, summarized below, ranged from -9.61%% to 16.26%% above the engineer's estimate from March 2026.

We prepared a detailed bid summary and analysis in accordance with FHWA's "Guidelines on Preparing Engineer's Estimate, Bid Review, and Evaluation" and the TxDOT Local Government Manual.

1. Bid Results:

No mathematical errors and/or irregularities appear to exist within the Bid Forms submitted by all bidders.

Based on our Bid Tabulation and comparison, the ranking of bidders is listed below:

	Bidder Name	Submitted Bid
Bidder #1	Austin Traffic Signal Construction CO., LLC	$4,404,513.30
Bidder #2	The Levy Company, LLC	$4,976,093.60
Bidder #3	Traf-Tex, Inc.	$5,665,121.05

2. Analyzing the Bids

- Number of Bids – 3 bids
- Difference between the low bid and the engineer's estimate;

Engineer's Estimate - $4,872,593.79

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	Austin Traffic Signal Construction CO., LLC	$4,404,513.30	-9.61%
Bidder #2	The Levy Company, LLC	$4,976,093.60	2.12%
Bidder #3	Traf-Tex, Inc.	$5,665,121.05	16.26%

- Difference between the low bid and other bidders:

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	Austin Traffic Signal Construction CO., LLC	$4,404,513.30	
Bidder #2	The Levy Company, LLC	$4,976,093.60	12.98%
Bidder #3	Traf-Tex, Inc.	$5,665,121.05	28.62%

- Review for Unbalanced Items; In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 8 items: 6018-0002, 6027-7001, 6027-7002, 6027-7005, 6027-7007, 6027-7009, 6036-7001, & 6061-001were identified as significantly unbalanced.

Unbalanced Items for Austin Traffic Signal Construction CO., LLC

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	Engineer's Estimate	Low Bid - Bidder # 1	% Diff	Reason
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 30,800.00	-51.88%	
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 2,650.00	76.67%	Low Quantity
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 19,720.00	132.00%	Subcontracted
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 77,000.00	511.11%	Subcontracted
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 84,000.00	600.00%	Subcontracted
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 77,600.00	870.00%	Subcontracted
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 5,200.00	-56.67%	
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 4,400.00	-81.67%	Eng. Est. to High

Unbalanced Items for The Levy Company, LLC

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	Engineer's Estimate	Bidder #2	% Diff	Reason
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 8.00	-99.99%	Eng. Est. to High
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 12,000.00	700.00%	Low Quantity
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 13,940.00	64.00%	Subcontracted
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 14,000.00	11.11%	Low Quantity
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 8,000.00	-33.33%	Low Quantity
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 16,000.00	100.00%	Subcontracted
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 48,000.00	300.00%	Eng. Est. to High
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 3,040.00	-87.33%	Eng. Est. to High

Unbalanced Items for Traf-Tex, Inc.

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	Engineer's Estimate	Bidder #3	% Diff	Reasson
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 51,312.00	-19.83%	
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 4,025.00	168.33%	Subcontracted
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 21,080.00	148.00%	Subcontracted
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 6,725.60	-46.62%	
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 6,266.00	-47.78%	
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 14,544.00	81.80%	Subcontracted
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 44,696.00	272.47%	Eng. Est. to High
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 14,944.00	-37.73%	

- TxDOT Prequalified under the Confidential Questionnaire

Since this project has portions within State ROW and federal funds are being utilized, it must follow the TxDOT requirements for TxDOT Prequalification. This project requires a TxDOT Confidential Questionnaire Prequalification since the project cost is above $300,000, and as outlined on TxDOT's website (https://www.txdot.gov/business/road-bridge-maintenance/contract-letting/contractor-prequalification.html).

All three (3) Bidders have met the TxDOT's Prequalification requirements.

RECOMMENDATION

The bid analysis shows that Austin Traffic Signal Construction CO., LLC is the responsive and responsible lower bidder at $4,404,513.30. The bid was reviewed for completeness, and we found five (5) unbalanced Items that are low in quantities or due to use of Subcontractor, and will not affect negatively completion of the project.

Austin Traffic Signal Construction CO., LLC is the responsive and responsible lower bidder and has demonstrated the ability to perform quality work on previous projects.

Based on the submitted bids and our corresponding analysis, we recommend that Bidder #1 (Austin Traffic Signal Construction CO., LLC) be awarded the contract not to exceed $4,404,513.30.

Thank you for the opportunity to assist you with this project and should you have any questions or concerns, please feel free to contact me via email at keti@kbhtraffic.com or via phone at 832.250.1861

Sincerely,

Keti Hristova, P.E., PTOE
Principal, KBH Traffic Engineering, LLC

Encl:

1. Bid Tabulation – City of Brownsville – INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS Solicitation No. 146-26-EPW-IFB
2. Bid Comparison vs. Engineer's Estimate - City of Brownsville – INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS Solicitation No. 146-26-EPW-IFB

INTERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

Solicitation No. 146-26-EPW-IFB

BID TABULATION

BASIC UNIT BID ITEMS

					Engineers Estimate		Austin Traffic Signal Construction CO.LLC		The Levy Company, LLC		Traf-Tex, Inc.	
ITEM	**CODE**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**UNIT PRICE**	**TOTAL PRICE**	**UNTI PRICE**	**TOTAL PRICE**	**UNTI PRICE**	**TOTAL PRICE**	**UNTI PRICE**	**TOTAL PRICE**
500	7001	MOBILIZATION	LS	1.00	$429,872.16	$429,872.16	$ 225,800.00	$ 225,800.00	$497,600.00	$ 497,600.00	$414,065.00	$ 414,065.00
502	7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	18.00	$8,000.00	$144,000.00	$ 4,250.00	$ 76,500.00	$ 11,100.00	$ 199,800.00	$ 4,215.00	$ 75,870.00
Total Bid Unit Items MISCELLANEOUS CONSTRUCTION:						**$573,872.16**		**$ 302,300.00**		**$ 697,400.00**		**$ 489,935.00**
104	7013	REMOV CONC (SIDEWALK, RAMP OR SUP)	SY	485.00	$40.00	$19,400.00	$ 50.00	$ 24,250.00	$ 19.00	$ 9,215.00	$ 23.00	$ 11,155.00
104	7018	REMOV CONC (CURB OR CURB & GUTTER)	LF	1070.00	$17.58	$18,810.60	$ 35.00	$ 37,450.00	$ 15.00	$ 16,050.00	$ 13.70	$ 14,659.00
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	275.00	$527.00	$144,925.00	$ 345.00	$ 94,875.00	$ 530.00	$ 145,750.00	$ 961.20	$ 264,330.00
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	176.00	$822.00	$144,672.00	$ 940.00	$ 165,440.00	$ 1,100.00	$ 193,600.00	$ 1,210.00	$ 212,960.00
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	800.00	$8.99	$7,192.00	$ 12.00	$ 9,600.00	$ 5.05	$ 4,040.00	$ 11.80	$ 9,440.00
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	800.00	$2.19	$1,752.00	$ 2.00	$ 1,600.00	$ 1.85	$ 1,480.00	$ 4.80	$ 3,840.00
528	7003	REMOVE AND RELAY PAVERS	SY	125.00	$353.51	$44,188.75	$ 115.00	$ 14,375.00	$ 55.00	$ 6,875.00	$ 49.00	$ 6,125.00
531	7005	CURB RAMPS (TY 1)	EA	7.00	$3,065.28	$21,456.96	$ 4,200.00	$ 29,400.00	$ 3,400.00	$ 23,800.00	$ 2,983.00	$ 20,881.00
531	7008	CURB RAMPS (TY 5)	EA	25.00	$4,651.61	$116,290.25	$ 4,965.00	$ 124,125.00	$ 4,000.00	$ 100,000.00	$ 3,472.00	$ 86,800.00
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	505.00	$38.50	$19,442.50	$ 32.00	$ 16,160.00	$ 36.00	$ 18,180.00	$ 76.95	$ 38,859.75
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	1210.00	$40.20	$48,642.00	$ 40.00	$ 48,400.00	$ 39.00	$ 47,190.00	$ 73.15	$ 88,511.50
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	7545.00	$55.60	$419,502.00	$ 45.00	$ 339,525.00	$ 49.00	$ 369,705.00	$ 159.60	$ 1,204,182.00
620	7009	ELEC CONDR (NO.6) BARE	LF	6165.00	$13.48	$83,104.20	$ 2.10	$ 12,946.50	$ 2.35	$ 14,487.75	$ 2.40	$ 14,796.00
620	7010	ELEC CONDR (NO.6) INSULATED	LF	1045.00	$8.50	$8,882.50	$ 2.20	$ 2,299.00	$ 2.75	$ 2,873.75	$ 2.50	$ 2,612.50
623	7018	ITS GND BOX (POLY) TY 1 (243648)W/APRN	EA	2.00	3,500.00	$ 7,000.00	$ 3,550.00	$ 7,100.00	$ 5,200.00	$ 10,400.00	$ 3,379.00	$ 6,758.00
623	7024	ITS GND BOX (POLY) TY 2 (366048)W/APRN	EA	9.00	5,200.00	$ 46,800.00	$ 5,800.00	$ 52,200.00	$ 9,300.00	$ 83,700.00	$ 6,085.00	$ 54,765.00
624	7008	GROUND BOX TY D (162922)W/APRON	EA	45.00	$3,682.00	$165,690.00	$ 1,800.00	$ 81,000.00	$ 1,700.00	$ 76,500.00	$ 1,719.00	$ 77,355.00
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	8.00	$12,494.00	$99,952.00	$ 5,200.00	$ 41,600.00	$ 22,200.00	$ 177,600.00	$ 10,161.00	$ 81,288.00
636	7001	ALUMINUM SIGNS (TY A)	SF	415.00	$45.16	$18,741.40	$ 44.00	$ 18,260.00	$ 35.00	$ 14,525.00	$ 39.50	$ 16,392.50
644	7067	RELOCATE SM RD SN SUP&AM TY S80	EA	3.00	$866.00	$2,598.00	$ 750.00	$ 2,250.00	$ 1,400.00	$ 4,200.00	$ 1,958.00	$ 5,874.00
666	7024	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	2010.00	$1.16	$2,331.60	$ 3.20	$ 6,432.00	$ 2.55	$ 5,125.50	$ 2.25	$ 4,522.50
666	7030	REFL PAV MRK TY I (W)12"(SLD)(100MIL)	LF	560.00	$3.59	$2,010.40	$ 9.00	$ 5,040.00	$ 3.80	$ 2,128.00	$ 3.33	$ 1,864.80
666	7036	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	3200.00	$8.72	$27,904.00	$ 11.00	$ 35,200.00	$ 7.60	$ 24,320.00	$ 6.70	$ 21,440.00
666	7123	REFL PAV MRK TY I (Y)24"(SLD)(100MIL)	LF	220.00	$7.94	$1,746.80	$ 15.00	$ 3,300.00	$ 7.60	$ 1,672.00	$ 6.70	$ 1,474.00
666	7220	RE PM TY II (Y) (MED NOSE)	EA	1.00	$204.72	$204.72	$ 436.00	$ 436.00	$ 370.00	$ 370.00	$ 328.00	$ 328.00
666	7402	REFL PAV MRK TY I (W)4"(BRK)(100MIL)	LF	7700.00	$0.44	$3,388.00	$ 1.10	$ 8,470.00	$ 1.15	$ 8,855.00	$ 1.00	$ 7,700.00
666	7405	REFL PAV MRK TY I (W)4"(SLD)(100MIL)	LF	260.00	$2.65	$689.00	$ 2.00	$ 520.00	$ 1.15	$ 299.00	$ 1.00	$ 260.00
666	7408	REFL PAV MRK TY I (W)6"(BRK)(100MIL)	LF	1160.00	$0.82	$951.20	$ 1.70	$ 1,972.00	$ 1.70	$ 1,972.00	$ 1.50	$ 1,740.00

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE
666	7411	REFL PAV MRK TY I (W)6"(SLD)(100MIL)	LF	7050.00	$0.75	$5,287.50	$ 1	$ 11,280.00	$ 1.70	$ 11,985.00	$ 1.50	$ 10,575.00
666	7420	REFL PAV MRK TY I (Y)6"(BRK)(100MIL)	LF	2630.00	$1.09	$2,866.70	$ 1	$ 4,208.00	$ 1.70	$ 4,471.00	$ 1.50	$ 3,945.00
666	7423	REFL PAV MRK TY I (Y)6"(SLD)(100MIL)	LF	9950.00	$0.67	$6,666.50	$ 1	$ 11,940.00	$ 1.70	$ 16,915.00	$ 1.50	$ 14,925.00
668	7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	7.00	$1,000.00	$7,000.00	$ 300	$ 2,100.00	$ 230.00	$ 1,610.00	$ 200.00	$ 1,400.00
668	7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	7.00	$1,000.00	$7,000.00	$ 300	$ 2,100.00	$ 130.00	$ 910.00	$ 111.00	$ 777.00
668	7091	PREFAB PM TY C (W)(ARROW)	EA	32.00	$222.00	$7,104.00	$ 300	$ 9,600.00	$ 180.00	$ 5,760.00	$ 156.00	$ 4,992.00
668	7093	PREFAB PM TY C (W)(DBL ARROW)	EA	13.00	$357.41	$4,646.33	$ 450	$ 5,850.00	$ 340.00	$ 4,420.00	$ 294.00	$ 3,822.00
668	7103	PREFAB PM TY C (W)(WORD)	EA	22.00	$278.00	$6,116.00	$ 300	$ 6,600.00	$ 270.00	$ 5,940.00	$ 239.00	$ 5,258.00
672	7002	REFL PAV MRKR TY I-C	EA	266.00	$6.73	$1,790.18	$ 8	$ 2,128.00	$ 6.35	$ 1,689.10	$ 5.60	$ 1,489.60
672	7004	REFL PAV MRKR TY II-A-A	EA	236.00	$4.78	$1,128.08	$ 8	$ 1,888.00	$ 6.35	$ 1,498.60	$ 5.60	$ 1,321.60
677	7001	ELIM EXT PM & MRKS (4")	LF	7820.00	$0.44	$3,440.80	$ 0	$ 5,474.00	$ 1.10	$ 8,602.00	$ 1.00	$ 7,820.00
677	7002	ELIM EXT PM & MRKS (6")	LF	19170.00	$0.67	$12,843.90	$ 0	$ 15,336.00	$ 1.50	$ 28,755.00	$ 1.35	$ 25,879.50
677	7004	ELIM EXT PM & MRKS (8")	LF	1640.00	$0.91	$1,492.40	$ 1	$ 2,952.00	$ 2.15	$ 3,526.00	$ 1.90	$ 3,116.00
677	7006	ELIM EXT PM & MRKS (12")	LF	3590.00	$1.84	$6,605.60	$ 3	$ 12,565.00	$ 3.25	$ 11,667.50	$ 2.85	$ 10,231.50
677	7008	ELIM EXT PM & MRKS (24")	LF	1680.00	$4.54	$7,627.20	$ 8	$ 13,440.00	$ 6.45	$ 10,836.00	$ 5.70	$ 9,576.00
677	7009	ELIM EXT PM & MRKS (ARROW)	EA	33.00	$72.90	$2,405.70	$ 70	$ 2,310.00	$ 100.00	$ 3,300.00	$ 89.00	$ 2,937.00
677	7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	13.00	$115.80	$1,505.40	$ 130	$ 1,690.00	$ 200.00	$ 2,600.00	$ 178.00	$ 2,314.00
677	7015	ELIM EXT PM & MRKS (WORD)	EA	21.00	$78.84	$1,655.64	$ 70	$ 1,470.00	$ 150.00	$ 3,150.00	$ 133.00	$ 2,793.00
677	7025	ELIM EXT PM & MARKS (BIKE ARROW)	EA	7.00	$70.00	$490.00	$ 70	$ 490.00	$ 100.00	$ 700.00	$ 89.00	$ 623.00
677	7027	ELIM EXT PM & MARKS (BIKE SYMBOL)	EA	7.00	$60.87	$426.09	$ 80	$ 560.00	$ 100.00	$ 700.00	$ 89.00	$ 623.00
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	8.00	$45,000.00	$360,000.00	$ 68,500	$ 548,000.00	$ 76,200.00	$ 609,600.00	$ 88,825.00	$ 710,600.00
680	7004	REMOVING TRAFFIC SIGNALS	EA	8.00	$9,887.00	$79,096.00	$ 3,850	$ 30,800.00	$ 8,600.00	$ 68,800.00	$ 11,757.00	$ 94,056.00
682	7001	VEH SIG SEC (12")LED(GRN)	EA	60.00	$435.00	$26,100.00	$ 370	$ 22,200.00	$ 320.00	$ 19,200.00	$ 314.00	$ 18,840.00
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	16.00	$420.00	$6,720.00	$ 370	$ 5,920.00	$ 320.00	$ 5,120.00	$ 332.00	$ 5,312.00
682	7003	VEH SIG SEC (12")LED(YEL)	EA	60.00	$436.00	$26,160.00	$ 370	$ 22,200.00	$ 320.00	$ 19,200.00	$ 320.00	$ 19,200.00
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	23.00	$404.31	$9,299.13	$ 370	$ 8,510.00	$ 320.00	$ 7,360.00	$ 326.00	$ 7,498.00
682	7005	VEH SIG SEC (12")LED(RED)	EA	60.00	$450.00	$27,000.00	$ 370	$ 22,200.00	$ 320.00	$ 19,200.00	$ 314.00	$ 18,840.00
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	12.00	$445.00	$5,340.00	$ 370	$ 4,440.00	$ 320.00	$ 3,840.00	$ 322.00	$ 3,864.00
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	58.00	$1,250.00	$72,500.00	$ 610	$ 35,380.00	$ 790.00	$ 45,820.00	$ 882.00	$ 51,156.00
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	57.00	$248.00	$14,136.00	$ 125	$ 7,125.00	$ 170.00	$ 9,690.00	$ 304.00	$ 17,328.00
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	15.00	$284.00	$4,260.00	$ 185.00	$ 2,775.00	$ 250.00	$ 3,750.00	$ 486.00	$ 7,290.00
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	5540.00	$3.66	$20,276.40	$ 1.30	$ 7,202.00	$ 1.95	$ 10,803.00	$ 1.95	$ 10,803.00
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	4130.00	$4.50	$18,585.00	$ 1.60	$ 6,608.00	$ 2.50	$ 10,325.00	$ 2.45	$ 10,118.50
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	8208.00	$2.28	$18,714.24	$ 1.10	$ 9,028.80	$ 1.50	$ 12,312.00	$ 1.50	$ 12,312.00
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	5540.00	$3.56	$19,722.40	$ 1.30	$ 7,202.00	$ 2.25	$ 12,465.00	$ 2.25	$ 12,465.00
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	8248.00	$4.25	$35,054.00	$ 1.50	$ 12,372.00	$ 2.55	$ 21,032.40	$ 2.40	$ 19,795.20
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	7550.00	$4.55	$34,352.50	$ 1.80	$ 13,590.00	$ 3.40	$ 25,670.00	$ 2.90	$ 21,895.00
686	7024	INS TRF SIG PL AM(S)1 ARM(20')LUM&ILSN	EA	1.00	$16,550.00	$16,550.00	$ 16,850.00	$ 16,850.00	$ 14,800.00	$ 14,800.00	$ 12,778.00	$ 12,778.00
686	7028	INS TRF SIG PL AM(S)1 ARM(24')LUM&ILSN	EA	3.00	$16,400.00	$49,200.00	$ 18,100.00	$ 54,300.00	$ 15,500.00	$ 46,500.00	$ 13,655.00	$ 40,965.00
686	7032	INS TRF SIG PL AM(S)1 ARM(28')LUM&ILSN	EA	2.00	$18,378.00	$36,756.00	$ 18,150.00	$ 36,300.00	$ 15,900.00	$ 31,800.00	$ 14,117.00	$ 28,234.00

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	UNTI PRI	TOTAL PRICE	UNTI PRICE	TOTAL PRICE	UNTI PRICE	TOTAL PRICE
686	7036	INS TRF SIG PL AM(S)1 ARM(32')LUM&ILSN	EA	1.00	$18,896.00	$18,896.00	$ 18,950.	$ 18,950.00	$ 18,100.00	$ 18,100.00	$ 14,999.00	$ 14,999.00
686	7040	INS TRF SIG PL AM(S)1 ARM(36')LUM&ILSN	EA	3.00	$19,619.00	$58,857.00	$ 19,400.	$ 58,200.00	$ 18,700.00	$ 56,100.00	$ 15,728.00	$ 47,184.00
686	7044	INS TRF SIG PL AM(S)1 ARM(40')LUM&ILSN	EA	1.00	$23,496.00	$23,496.00	$ 21,050.	$ 21,050.00	$ 20,400.00	$ 20,400.00	$ 17,451.00	$ 17,451.00
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	6.00	$26,026.00	$156,156.00	$ 21,460.	$ 128,760.00	$ 21,400.00	$ 128,400.00	$ 18,189.00	$ 109,134.00
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	6.00	$42,275.00	$253,650.00	$ 46,230.	$ 277,380.00	$ 42,800.00	$ 256,800.00	$ 29,981.00	$ 179,886.00
686	7176	IN TRF SG PL AM(S)2ARM(50-24')LUM&ILSN	EA	1.00	$52,500.00	$52,500.00	$ 56,540.	$ 56,540.00	$ 47,800.00	$ 47,800.00	$ 38,306.00	$ 38,306.00
686	7188	IN TRF SG PL AM(S)2ARM(50-36')LUM&ILSN	EA	1.00	$50,700.00	$50,700.00	$ 54,700.	$ 54,700.00	$ 48,600.00	$ 48,600.00	$ 39,881.00	$ 39,881.00
687	7001	PED POLE ASSEMBLY	EA	9.00	$5,000.00	$45,000.00	$ 2,150.	$ 19,350.00	$ 3,300.00	$ 29,700.00	$ 5,976.00	$ 53,784.00
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	24.00	$4,500.00	$108,000.00	$ 1,550.	$ 37,200.00	$ 3,000.00	$ 72,000.00	$ 4,628.00	$ 111,072.00
688	7001	PED DETECT PUSH BUTTON (APS)	EA	57.00	$1,230.00	$70,110.00	$ 950.	$ 54,150.00	$ 1,000.00	$ 57,000.00	$ 1,080.00	$ 61,560.00
688	7003	PED DETECTOR CONTROLLER UNIT	EA	8.00	$4,602.40	$36,819.20	$ 3,850.	$ 30,800.00	$ 3,900.00	$ 31,200.00	$ 4,464.00	$ 35,712.00
5047	7001	RELOCATE FIRE HYDRANT	EA	1.00	$8,875.00	$8,875.00	$ 2,850.	$ 2,850.00	$ 16,000.00	$ 16,000.00	$ 14,063.00	$ 14,063.00
6001	7002	ILSN (6 D)	EA	8.00	$3,788.67	$30,309.36	$ 4,500.	$ 36,000.00	$ 3,600.00	$ 28,800.00	$ 4,502.00	$ 36,016.00
6001	7004	ILSN (8D)	EA	7.00	$4,755.12	$33,285.84	$ 4,850.	$ 33,950.00	$ 3,800.00	$ 26,600.00	$ 5,092.00	$ 35,644.00
6001	7006	ILSN (10D)	EA	13.00	$4,437.62	$57,689.06	$ 5,100.	$ 66,300.00	$ 3,900.00	$ 50,700.00	$ 5,885.00	$ 76,505.00
6005	7001	ITS COM CBL (ETHERNET)	LF	980.00	$6.25	$6,125.00	$ 2.	$ 2,254.00	$ 1.50	$ 1,470.00	$ 2.35	$ 2,303.00
6007	7001	BBU SYSTEM (EXTERNAL BATTERY CABINET)	EA	8.00	$10,745.00	$85,960.00	$ 9,500.	$ 76,000.00	$ 9,500.00	$ 76,000.00	$ 11,226.00	$ 89,808.00
6008	0001	RVDS (PRESENCE DETECTION ONLY)	EA	28.00	$9,121.20	$255,393.60	$ 12,800.	$ 358,400.00	$ 13,200.00	$ 369,600.00	$ 9,890.00	$ 276,920.00
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	28.00	$10,300.00	$288,400.00	$ 9,500.	$ 266,000.00	$ 9,900.00	$ 277,200.00	$ 7,419.00	$ 207,732.00
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	8.00	$8,714.00	$69,712.00	$ 3,850.	$ 30,800.00	$ 7,500.00	$ 60,000.00	$ 6,869.00	$ 54,952.00
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$8,000.00	$64,000.00	$ 3,850.	$ 30,800.00	$ 1.00	$ 8.00	$ 6,414.00	$ 51,312.00
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$3.00	$1,500.00	$ 5.	$ 2,650.00	$ 24.00	$ 12,000.00	$ 8.05	$ 4,025.00
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$2.50	$8,500.00	$ 5.	$ 19,720.00	$ 4.10	$ 13,940.00	$ 6.20	$ 21,080.00
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$900.00	$12,600.00	$ 5,500.	$ 77,000.00	$ 1,000.00	$ 14,000.00	$ 480.40	$ 6,725.60
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$1,500.00	$12,000.00	$ 10,500.	$ 84,000.00	$ 1,000.00	$ 8,000.00	$ 783.25	$ 6,266.00
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$500.00	$8,000.00	$ 4,850.	$ 77,600.00	$ 1,000.00	$ 16,000.00	$ 909.00	$ 14,544.00
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$1,500.00	$12,000.00	$ 650.	$ 5,200.00	$ 6,000.00	$ 48,000.00	$ 5,587.00	$ 44,696.00
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$3,000.00	$24,000.00	$ 550.	$ 4,400.00	$ 380.00	$ 3,040.00	$ 1,868.00	$ 14,944.00
		Total Bid Unit Items TRAFFIC SIGNALS:				**$4,298,721.63**		**$ 4,102,213.30**		**$ 4,278,693.60**		**$ 5,165,186.05**
		TOTAL BID PRICE:				**$4,872,593.79**		**$ 4,404,513.30**		**$ 4,976,093.60**		**$ 5,655,121.05**

END OF DOCUMENT

TERNATIONAL BLVD TRAFFIC SIGNAL IMPROVEMENTS

Solicitation No. 146-26-EPW-IFB

BID COMPARISON ALL BIDDERS VS. ENGINEER'S ESTIMATE

BASIC UNIT BID ITEMS

					Engineer's Estimate	Low Bidder - Bidder #1		Bidder #2		Bidder #3	
ITEM	**CODE**	**DESCRIPTION**	**UNIT**	**QUANTITY**	**TOTAL PRICE**	**TOTAL PRICE**	**% Diff.**	**TOTAL PRICE**	**%Diff.**	**TOTAL PRICE**	**% Diff.**
500	7001	MOBILIZATION	LS	1.00	$429,872.16	$ 225,800.00	-47.47%	$ 497,600.00	15.76%	$ 414,065.00	-3.68%
502	7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	18.00	$144,000.00	$ 76,500.00	-46.88%	$ 199,800.00	38.75%	$ 75,870.00	-47.31%
Total Bid Unit Items MISCELLANEOUS CONSTRUCTION:					**$573,872.16**	**$ 302,300.00**		**$ 697,400.00**		**$ 489,935.00**	
104	7013	REMOV CONC (SIDEWALK, RAMP OR SUP)	SY	485.00	$19,400.00	$ 24,250.00	25.00%	$ 9,215.00	-52.50%	$ 11,155.00	-42.50%
104	7018	REMOV CONC (CURB OR CURB & GUTTER)	LF	1070.00	$18,810.60	$ 37,450.00	99.09%	$ 16,050.00	-14.68%	$ 14,659.00	-22.07%
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	275.00	$144,925.00	$ 94,875.00	-34.54%	$ 145,750.00	0.57%	$ 264,330.00	82.39%
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	176.00	$144,672.00	$ 165,440.00	14.36%	$ 193,600.00	33.82%	$ 212,960.00	47.20%
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	800.00	$7,192.00	$ 9,600.00	33.48%	$ 4,040.00	-43.83%	$ 9,440.00	31.26%
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	800.00	$1,752.00	$ 1,600.00	-8.68%	$ 1,480.00	-15.53%	$ 3,840.00	119.18%
528	7003	REMOVE AND RELAY PAVERS	SY	125.00	$44,188.75	$ 14,375.00	-67.47%	$ 6,875.00	-84.44%	$ 6,125.00	-86.14%
531	7005	CURB RAMPS (TY 1)	EA	7.00	$21,456.96	$ 29,400.00	37.02%	$ 23,800.00	10.92%	$ 20,881.00	-2.68%
531	7008	CURB RAMPS (TY 5)	EA	25.00	$116,290.25	$ 124,125.00	6.74%	$ 100,000.00	-14.01%	$ 86,800.00	-25.36%
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	505.00	$19,442.50	$ 16,160.00	-16.88%	$ 18,180.00	-6.49%	$ 38,859.75	99.87%
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	1210.00	$48,642.00	$ 48,400.00	-0.50%	$ 47,190.00	-2.99%	$ 88,511.50	81.97%
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	7545.00	$419,502.00	$ 339,525.00	-19.06%	$ 369,705.00	-11.87%	$ 1,204,182.00	187.05%
620	7009	ELEC CONDR (NO.6) BARE	LF	6165.00	$83,104.20	$ 12,946.50	-84.42%	$ 14,487.75	-82.57%	$ 14,796.00	-82.20%
620	7010	ELEC CONDR (NO.6) INSULATED	LF	1045.00	$8,882.50	$ 2,299.00	-74.12%	$ 2,873.75	-67.65%	$ 2,612.50	-70.59%
623	7018	ITS GND BOX (POLY) TY 1 (243648)W/APRN	EA	2.00	$ 7,000.00	$ 7,100.00	1.43%	$ 10,400.00	48.57%	$ 6,758.00	-3.46%
623	7024	ITS GND BOX (POLY) TY 2 (366048)W/APRN	EA	9.00	$ 46,800.00	$ 52,200.00	11.54%	$ 83,700.00	78.85%	$ 54,765.00	17.02%
624	7008	GROUND BOX TY D (162922)W/APRON	EA	45.00	$165,690.00	$ 81,000.00	-51.11%	$ 76,500.00	-53.83%	$ 77,355.00	-53.31%
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	8.00	$99,952.00	$ 41,600.00	-58.38%	$ 177,600.00	77.69%	$ 81,288.00	-18.67%
636	7001	ALUMINUM SIGNS (TY A)	SF	415.00	$18,741.40	$ 18,260.00	-2.57%	$ 14,525.00	-22.50%	$ 16,392.50	-12.53%
644	7067	RELOCATE SM RD SN SUP&AM TY S80	EA	3.00	$2,598.00	$ 2,250.00	-13.39%	$ 4,200.00	61.66%	$ 5,874.00	126.10%
666	7024	REFL PAV MRK TY I (W)8"(SLD)(100MIL)	LF	2010.00	$2,331.60	$ 6,432.00	175.86%	$ 5,125.50	119.83%	$ 4,522.50	93.97%
666	7030	REFL PAV MRK TY I (W)12"(SLD)(100MIL)	LF	560.00	$2,010.40	$ 5,040.00	150.70%	$ 2,128.00	5.85%	$ 1,864.80	-7.24%
666	7036	REFL PAV MRK TY I (W)24"(SLD)(100MIL)	LF	3200.00	$27,904.00	$ 35,200.00	26.15%	$ 24,320.00	-12.84%	$ 21,440.00	-23.17%
666	7123	REFL PAV MRK TY I (Y)24"(SLD)(100MIL)	LF	220.00	$1,746.80	$ 3,300.00	88.92%	$ 1,672.00	-4.28%	$ 1,474.00	-15.62%
666	7220	RE PM TY II (Y) (MED NOSE)	EA	1.00	$204.72	$ 436.00	112.97%	$ 370.00	80.73%	$ 328.00	60.22%
666	7402	REFL PAV MRK TY I (W)4"(BRK)(100MIL)	LF	7700.00	$3,388.00	$ 8,470.00	150.00%	$ 8,855.00	161.36%	$ 7,700.00	127.27%
666	7405	REFL PAV MRK TY I (W)4"(SLD)(100MIL)	LF	260.00	$689.00	$ 520.00	-24.53%	$ 299.00	-56.60%	$ 260.00	-62.26%

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	TOTAL PRICE	TOTAL PRICE	% Diff.	TOTAL PRICE	%Diff.	TOTAL PRICE	% Diff.
666	7408	REFL PAV MRK TY I (W)6"(BRK)(100MIL)	LF	1160.00	$951.20	$ 1,972.00	107.32%	$ 1,972.00	107.32%	$ 1,740.00	82.93%
666	7411	REFL PAV MRK TY I (W)6"(SLD)(100MIL)	LF	7050.00	$5,287.50	$ 11,280.00	113.33%	$ 11,985.00	126.67%	$ 10,575.00	100.00%
666	7420	REFL PAV MRK TY I (Y)6"(BRK)(100MIL)	LF	2630.00	$2,866.70	$ 4,208.00	46.79%	$ 4,471.00	55.96%	$ 3,945.00	37.61%
666	7423	REFL PAV MRK TY I (Y)6"(SLD)(100MIL)	LF	9950.00	$6,666.50	$ 11,940.00	79.10%	$ 16,915.00	153.73%	$ 14,925.00	123.88%
668	7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	7.00	$7,000.00	$ 2,100.00	-70.00%	$ 1,610.00	-77.00%	$ 1,400.00	-80.00%
668	7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	7.00	$7,000.00	$ 2,100.00	-70.00%	$ 910.00	-87.00%	$ 777.00	-88.90%
668	7091	PREFAB PM TY C (W)(ARROW)	EA	32.00	$7,104.00	$ 9,600.00	35.14%	$ 5,760.00	-18.92%	$ 4,992.00	-29.73%
668	7093	PREFAB PM TY C (W)(DBL ARROW)	EA	13.00	$4,646.33	$ 5,850.00	25.91%	$ 4,420.00	-4.87%	$ 3,822.00	-17.74%
668	7103	PREFAB PM TY C (W)(WORD)	EA	22.00	$6,116.00	$ 6,600.00	7.91%	$ 5,940.00	-2.88%	$ 5,258.00	-14.03%
672	7002	REFL PAV MRKR TY I-C	EA	266.00	$1,790.18	$ 2,128.00	18.87%	$ 1,689.10	-5.65%	$ 1,489.60	-16.79%
672	7004	REFL PAV MRKR TY II-A-A	EA	236.00	$1,128.08	$ 1,888.00	67.36%	$ 1,498.60	32.85%	$ 1,321.60	17.15%
677	7001	ELIM EXT PM & MRKS (4")	LF	7820.00	$3,440.80	$ 5,474.00	59.09%	$ 8,602.00	150.00%	$ 7,820.00	127.27%
677	7002	ELIM EXT PM & MRKS (6")	LF	19170.00	$12,843.90	$ 15,336.00	19.40%	$ 28,755.00	123.88%	$ 25,879.50	101.49%
677	7004	ELIM EXT PM & MRKS (8")	LF	1640.00	$1,492.40	$ 2,952.00	97.80%	$ 3,526.00	136.26%	$ 3,116.00	108.79%
677	7006	ELIM EXT PM & MRKS (12")	LF	3590.00	$6,605.60	$ 12,565.00	90.22%	$ 11,667.50	76.63%	$ 10,231.50	54.89%
677	7008	ELIM EXT PM & MRKS (24")	LF	1680.00	$7,627.20	$ 13,440.00	76.21%	$ 10,836.00	42.07%	$ 9,576.00	25.55%
677	7009	ELIM EXT PM & MRKS (ARROW)	EA	33.00	$2,405.70	$ 2,310.00	-3.98%	$ 3,300.00	37.17%	$ 2,937.00	22.09%
677	7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	13.00	$1,505.40	$ 1,690.00	12.26%	$ 2,600.00	72.71%	$ 2,314.00	53.71%
677	7015	ELIM EXT PM & MRKS (WORD)	EA	21.00	$1,655.64	$ 1,470.00	-11.21%	$ 3,150.00	90.26%	$ 2,793.00	68.70%
677	7025	ELIM EXT PM & MARKS (BIKE ARROW)	EA	7.00	$490.00	$ 490.00	0.00%	$ 700.00	42.86%	$ 623.00	27.14%
677	7027	ELIM EXT PM & MARKS (BIKE SYMBOL)	EA	7.00	$426.09	$ 560.00	31.43%	$ 700.00	64.28%	$ 623.00	46.21%
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	8.00	$360,000.00	$ 548,000.00	52.22%	$ 609,600.00	69.33%	$ 710,600.00	97.39%
680	7004	REMOVING TRAFFIC SIGNALS	EA	8.00	$79,096.00	$ 30,800.00	-61.06%	$ 68,800.00	-13.02%	$ 94,056.00	18.91%
682	7001	VEH SIG SEC (12")LED(GRN)	EA	60.00	$26,100.00	$ 22,200.00	-14.94%	$ 19,200.00	-26.44%	$ 18,840.00	-27.82%
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	16.00	$6,720.00	$ 5,920.00	-11.90%	$ 5,120.00	-23.81%	$ 5,312.00	-20.95%
682	7003	VEH SIG SEC (12")LED(YEL)	EA	60.00	$26,160.00	$ 22,200.00	-15.14%	$ 19,200.00	-26.61%	$ 19,200.00	-26.61%
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	23.00	$9,299.13	$ 8,510.00	-8.49%	$ 7,360.00	-20.85%	$ 7,498.00	-19.37%
682	7005	VEH SIG SEC (12")LED(RED)	EA	60.00	$27,000.00	$ 22,200.00	-17.78%	$ 19,200.00	-28.89%	$ 18,840.00	-30.22%
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	12.00	$5,340.00	$ 4,440.00	-16.85%	$ 3,840.00	-28.09%	$ 3,864.00	-27.64%
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	58.00	$72,500.00	$ 35,380.00	-51.20%	$ 45,820.00	-36.80%	$ 51,156.00	-29.44%
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	57.00	$14,136.00	$ 7,125.00	-49.60%	$ 9,690.00	-31.45%	$ 17,328.00	22.58%
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	15.00	$4,260.00	$ 2,775.00	-34.86%	$ 3,750.00	-11.97%	$ 7,290.00	71.13%
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	5540.00	$20,276.40	$ 7,202.00	-64.48%	$ 10,803.00	-46.72%	$ 10,803.00	-46.72%
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	4130.00	$18,585.00	$ 6,608.00	-64.44%	$ 10,325.00	-44.44%	$ 10,118.50	-45.56%
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	8208.00	$18,714.24	$ 9,028.80	-51.75%	$ 12,312.00	-34.21%	$ 12,312.00	-34.21%
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	5540.00	$19,722.40	$ 7,202.00	-63.48%	$ 12,465.00	-36.80%	$ 12,465.00	-36.80%
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	8248.00	$35,054.00	$ 12,372.00	-64.71%	$ 21,032.40	-40.00%	$ 19,795.20	-43.53%
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	7550.00	$34,352.50	$ 13,590.00	-60.44%	$ 25,670.00	-25.27%	$ 21,895.00	-36.26%
686	7024	INS TRF SIG PL AM(S)1 ARM(20')LUM&ILSN	EA	1.00	$16,550.00	$ 16,850.00	1.81%	$ 14,800.00	-10.57%	$ 12,778.00	-22.79%

ITEM	CODE	DESCRIPTION	UNIT	QUANTITY	TOTAL PRICE	TOTAL PRICE	% Diff.	TOTAL PRICE	%Diff.	TOTAL PRICE	% Diff.
686	7028	INS TRF SIG PL AM(S)1 ARM(24')LUM&ILSN	EA	3.00	$49,200.00	$ 54,300.00	10.37%	$ 46,500.00	-5.49%	$ 40,965.00	-16.74%
686	7032	INS TRF SIG PL AM(S)1 ARM(28')LUM&ILSN	EA	2.00	$36,756.00	$ 36,300.00	-1.24%	$ 31,800.00	-13.48%	$ 28,234.00	-23.19%
686	7036	INS TRF SIG PL AM(S)1 ARM(32')LUM&ILSN	EA	1.00	$18,896.00	$ 18,950.00	0.29%	$ 18,100.00	-4.21%	$ 14,999.00	-20.62%
686	7040	INS TRF SIG PL AM(S)1 ARM(36')LUM&ILSN	EA	3.00	$58,857.00	$ 58,200.00	-1.12%	$ 56,100.00	-4.68%	$ 47,184.00	-19.83%
686	7044	INS TRF SIG PL AM(S)1 ARM(40')LUM&ILSN	EA	1.00	$23,496.00	$ 21,050.00	-10.41%	$ 20,400.00	-13.18%	$ 17,451.00	-25.73%
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	6.00	$156,156.00	$ 128,760.00	-17.54%	$ 128,400.00	-17.77%	$ 109,134.00	-30.11%
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	6.00	$253,650.00	$ 277,380.00	9.36%	$ 256,800.00	1.24%	$ 179,886.00	-29.08%
686	7176	IN TRF SG PL AM(S)2ARM(50-24')LUM&ILSN	EA	1.00	$52,500.00	$ 56,540.00	7.70%	$ 47,800.00	-8.95%	$ 38,306.00	-27.04%
686	7188	IN TRF SG PL AM(S)2ARM(50-36')LUM&ILSN	EA	1.00	$50,700.00	$ 54,700.00	7.89%	$ 48,600.00	-4.14%	$ 39,881.00	-21.34%
687	7001	PED POLE ASSEMBLY	EA	9.00	$45,000.00	$ 19,350.00	-57.00%	$ 29,700.00	-34.00%	$ 53,784.00	19.52%
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	24.00	$108,000.00	$ 37,200.00	-65.56%	$ 72,000.00	-33.33%	$ 111,072.00	2.84%
688	7001	PED DETECT PUSH BUTTON (APS)	EA	57.00	$70,110.00	$ 54,150.00	-22.76%	$ 57,000.00	-18.70%	$ 61,560.00	-12.20%
688	7003	PED DETECTOR CONTROLLER UNIT	EA	8.00	$36,819.20	$ 30,800.00	-16.35%	$ 31,200.00	-15.26%	$ 35,712.00	-3.01%
5047	7001	RELOCATE FIRE HYDRANT	EA	1.00	$8,875.00	$ 2,850.00	-67.89%	$ 16,000.00	80.28%	$ 14,063.00	58.46%
6001	7002	ILSN (6 D)	EA	8.00	$30,309.36	$ 36,000.00	18.78%	$ 28,800.00	-4.98%	$ 36,016.00	18.83%
6001	7004	ILSN (8D)	EA	7.00	$33,285.84	$ 33,950.00	2.00%	$ 26,600.00	-20.09%	$ 35,644.00	7.08%
6001	7006	ILSN (10D)	EA	13.00	$57,689.06	$ 66,300.00	14.93%	$ 50,700.00	-12.12%	$ 76,505.00	32.62%
6005	7001	ITS COM CBL (ETHERNET)	LF	980.00	$6,125.00	$ 2,254.00	-63.20%	$ 1,470.00	-76.00%	$ 2,303.00	-62.40%
6007	7001	BBU SYSTEM (EXTERNAL BATTERY CABINET)	EA	8.00	$85,960.00	$ 76,000.00	-11.59%	$ 76,000.00	-11.59%	$ 89,808.00	4.48%
6008	0001	RVDS (PRESENCE DETECTION ONLY)	EA	28.00	$255,393.60	$ 358,400.00	40.33%	$ 369,600.00	44.72%	$ 276,920.00	8.43%
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	28.00	$288,400.00	$ 266,000.00	-7.77%	$ 277,200.00	-3.88%	$ 207,732.00	-27.97%
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	8.00	$69,712.00	$ 30,800.00	-55.82%	$ 60,000.00	-13.93%	$ 54,952.00	-21.17%
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	8.00	$64,000.00	$ 30,800.00	-51.88%	$ 8.00	-99.99%	$ 51,312.00	-19.83%
6027	7001	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	LF	500.00	$1,500.00	$ 2,650.00	76.67%	$ 12,000.00	700.00%	$ 4,025.00	168.33%
6027	7002	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	LF	3400.00	$8,500.00	$ 19,720.00	132.00%	$ 13,940.00	64.00%	$ 21,080.00	148.00%
6027	7005	FIBER OPTIC PATCH PANEL (12 POSITION)	EA	14.00	$12,600.00	$ 77,000.00	511.11%	$ 14,000.00	11.11%	$ 6,725.60	-46.62%
6027	7007	FIBER OPTIC PATCH PANEL (36 POSITIONS)	EA	8.00	$12,000.00	$ 84,000.00	600.00%	$ 8,000.00	-33.33%	$ 6,266.00	-47.78%
6027	7009	FO SPLICE ENCLOSURE (TYPE 1)	EA	16.00	$8,000.00	$ 77,600.00	870.00%	$ 16,000.00	100.00%	$ 14,544.00	81.80%
6036	7001	ETHERNET SWITCH (INSTALL ONLY)	EA	8.00	$12,000.00	$ 5,200.00	-56.67%	$ 48,000.00	300.00%	$ 44,696.00	272.47%
6061	0001	GPS COMMUNICATION UNIT	EA	8.00	$24,000.00	$ 4,400.00	-81.67%	$ 3,040.00	-87.33%	$ 14,944.00	-37.73%
Total Bid Unit Items TRAFFIC SIGNALS:					**$4,298,721.63**	**$ 4,102,213.30**		**$ 4,278,693.60**		**$ 5,165,186.05**	
TOTAL BID PRICE:					**$4,872,593.79**	**$ 4,404,513.30**		**$ 4,976,093.60**		**$ 5,655,121.05**	

END OF DOCUMENT

Docusign Envelope ID: 26FDA963-0D8E-4BD8-8356-37539B0A6BFB

CONT	SECT	JOB	HIGHWAY
0039	11	002	SH 4
DIST	COUNTY		SHEET NO.
PHRR	CAMERON		1

Exhibit G

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SEE SHEET No. 2

STATE OF TEXAS
CITY OF BROWNSVILLE

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

STATE PROJECT NUMBER

PROJECT NUMBER

0039-11-002

NET LENGTH OF PROJECT = 3,764.82 FEET = 0.71 MILES
- ROADWAY = 3,764.82 FEET = 0.71 MILES
- BRIDGE = 0 FEET = 0 MILES

CAMERON COUNTY
SH 4 (INTERNATIONAL BLVD)

LIMITS: FROM: E. ELIZABETH ST/ W. UNIVERSITY BLVD, E. WASHINGTON ST, E. ADAMS ST,
TO: E. JEFFERSON ST, E. MONROE ST, E. JACKSON ST, E. TYLER ST, E. POLK ST

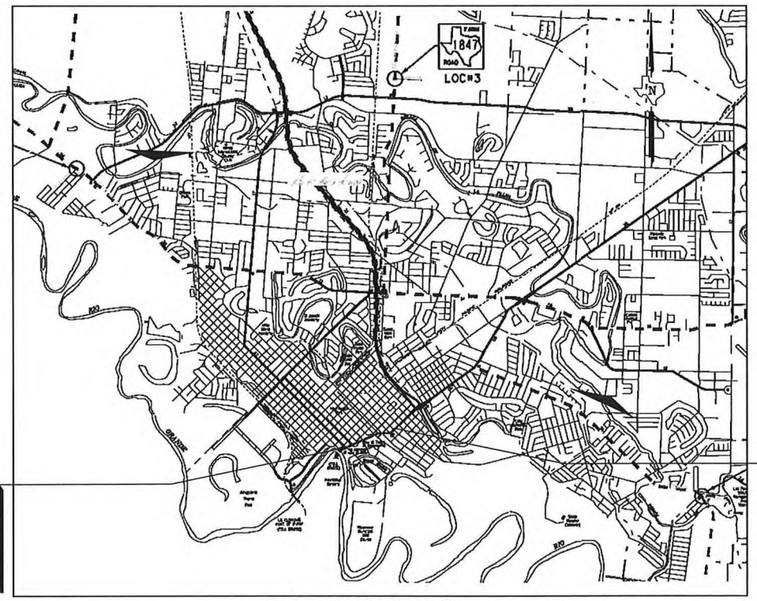
TRAFFIC SINGAL INSTALLATION AND TRAFFIC SINGAL TIMING OPTIMIZATION

STATE OF TEXAS
KETI B. HRISTOVA
90998
LICENSED
PROFESSIONAL ENGINEER

F-14592

4/20/2026

Keti Hristova



BEGIN PROJECT
E. Elizabeth St.

END PROJECT
IH-69E/US 77

LOCATION MAP NOT TO SCALE

EXCEPTIONS: NONE
EQUATIONS: NONE
RAILROAD CROSSINGS: NONE

CITY OF BROWNSVILLE:

CARLOS LASTRA P.E. CITY ENGINEER
LUCIO GUTIERREZ GARCIA MPA; CSHO TRAFFIC MANAGER

THE SEAL(S) APPEARING ON THIS CONSTRUCTION SET WERE AUTHORIZED BY:
KETI B. HRISTOVA, PE (#90998), ON

ALTERATION OF SEALED DOCUMENTS WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD OF THIS DRAWING IS ON FILE AT THE OFFICES OF:

KBH TRAFFIC ENGINEERING
430 STATE HWY 6 S, SUITE 120
HOUSTON, TX 77079
TBPE REGISTRATION NO. F-14592

SUBMITTED FOR APPROVAL BY:

Keti Hristova — ENGINEER OF RECORD

4/20/2026 — DATE

I, KETI B. HRISTOVA, PE, DO HEREBY CONFIRM THAT ANY NEW TRAFFIC SIGNAL UPGRADES DESCRIBED HEREIN, HAVE BEEN DESIGNED IN COMPLIANCE WITH THE TXDOT TRAFFIC STANDARDS ADOPTED BY THE CITY OF BROWNSVILLE, TEXAS.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN ACCEPTING THESE PLANS, THE CITY OF BROWNSVILLE AND CAMERON COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK HERE IN SEALED BY THE DESIGN ENGINEER.

FINAL PLANS

DATE OF LETTING: _____

DATE WORK BEGAN: _____

DATE WORK COMPLETED: _____

DATE WORK ACCEPTED: _____

FINAL CONTRACT COST: $ _____

CONTRACTOR: _____

LIST OF APPROVED FIELD CHANGES, CHANGE ORDERS & SUPPLEMENTAL AGREEMENTS:

THIS IS TO CERTIFY THAT ALL CONSTRUCTION SUBSTANTIAL WORK WAS PERFORMED IN ACCORDANCE WITH THE PLANS SPECIFICATIONS AND CONTRACT.ALL PROPOSED CONSTRUCTION WAS COMPLETED UNLESS OTHERWISE NOTED.

CARLOS LASTRA, P.E.
CITY ENGINEER

DATE

Carlos Lastra P.E.

SUBMITTED FOR LETTING DATE: 4/24/2026

1001 E ELIZABETH STREET
BROWNSVILLE, TEXAS 78520
TEL. (956) 546-4357
www.brownsvilletx.gov

LOCAL PUBLIC AGENCY

KBH Traffic Engineering, LLC
430 State Hwy 6 S, Suite 120,
Houston, TX 77079
Tel: 832-250-1861
TBPE Registration No. F-14592

APPROVED FOR LETTING: DATE: 4-28-2026

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...
DISTRICT ENGINEER

RECOMMENDED FOR LETTING: DATE: 4-28-2026

Signed by:
Gabriel Isaac Garcia
E75CB72436B0468...
DIRECTOR OF TRAFFIC OPERATIONS

TDLR INSPECTION REQUIRED

TDLR No. TABS2026012391 PROJECT REGISTERED THROUGH TDLR

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION ON SEPTEMBER 1, 2024 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, OCTOBER 23, 2023).

FILE: $FILE$ $TIMES
DATE: $DATE$

Texas Department of Transportation

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City of BROWNSVILLE TEXAS
On the Border, By the Sea and Beyond

KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER

3/20/2026

Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:

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SUMMARY OF TRAFFIC SIGNAL ITEMS

LOCATION INTERNATIONAL BLVD @	416 7044 DRILL SHAFT (TRF SIG POLE) (36 IN)	416 7046 DRILL SHAFT (TRF SIG POLE) (48 IN)	502 7001 BARRICADES, SIGNS AND TRAFFIC HANDLING	506 7045 BIODEG EROSN CONT LOGS (INSTL) (18")	506 7046 BIODEG EROSN CONT LOGS (REMOVE)	618 7055 CONDT (PVC) (SCH 80) (2") (BORE)	618 7061 CONDT (PVC) (SCH 80) (3") (BORE)	618 7065 CONDT (PVC) (SCH 80) (4") (BORE)	620 7009 ELEC CONDR (NO.6) BARE	620 7010 ELEC CONDR (NO.6) INSULATED	624 7008 GROUND BOX TY D (162922)W/APRON	628 7199 ELC SRVTY D 120/240 070(NS)SS(N)SP(O)	636 7001 ALUMINUM SIGNS (TYA)	680 7002 INSTALL HVY TRF SIG (ISOLATED)	680 7004 REMOVING TRAFFIC SIGNALS	682 7001 VEH SIG SEC (12")LED(GRN)	682 7002 VEH SIG SEC (12")LED(GRN ARW)	682 7003 VEH SIG SEC (12")LED(YEL)	682 7004 VEH SIG SEC (12")LED(YEL ARW)	682 7005 VEH SIG SEC (12")LED(RED)	682 7006 VEH SIG SEC (12")LED(RED ARW)	682 7018 PED SIG SEC (LED)(COUNTDOWN)	682 7042 BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM
	LF	LF	MO	LF	LF	LF	LF	LF	LF	LF	EA	EA	SF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA
Elizabeth St/W. University Blvd		22	3	100	100	65	210	340	615	140	6	1	50	1	1	5	1	5	1	5	1	6	6
E. Washington Street	30	22	2	100	100	25	350	435	840	400	7	1	65	1	1	7	1	7	2	7	1	6	7
E. Adams Street	45	22	2	100	100	45	200	555	800	45	7	1	60	1	1	9	1	9	2	9	1	6	9
E. Jefferson Street	34	22	3	100	100	85	95	640	840	60	5	1	20	1	1	9	2	9	4	9	2	8	9
E. Monroe S/Ridgely Rd	30	44	2	100	100	90	120	680	800	100	5	1	20	1	1	8	4	8	4	8	2	8	6
E. Jackson Street	64		2	100	100	60	120	750	905	100	5	1	70	1	1	8	4	8	4	8	2	8	6
E. Tayler Street	30	22	2	100	100	90	55	525	650	100	5	1	50	1	1	6	2	6	4	6	2	8	6
E. Polk Street	42	22	2	100	100	45	60	620	715	100	5	1	80	1	1	8	1	8	2	8	1	8	8
PROJECT TOTALS	275	176	18	800	800	505	1210	4545	6165	1045	45	8	415	8	8	60	16	60	23	60	12	58	57

LOCATION INTERNATIONAL BLVD @	682 7043 BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	684 7007 TRF SIG CBL (TYA)(12 AWG)(2 CONDR)	684 7009 TRF SIG CBL (TYA)(12 AWG)(4 CONDR)	684 7028 TRF SIG CBL (TYA)(14 AWG)(2 CONDR)	684 7030 TRF SIG CBL (TYA)(14 AWG)(4 CONDR)	684 7031 TRF SIG CBL (TYA)(14 AWG)(5 CONDR)	684 7033 TRF SIG CBL (TYA)(14 AWG)(7 CONDR)	686 7024 INS TRF SIG PLAM(S)1 ARM(28')LUM&ILSN	686 7028 INS TRF SIG PLAM(S)1 ARM(24')LUM&ILSN	686 7032 INS TRF SIG PLAM(S)1 ARM(28')LUM&ILSN	686 7036 INS TRF SIG PLAM(S)1 ARM(32')LUM&ILSN	686 7040 INS TRF SIG PLAM(S)1 ARM(36')LUM&ILSN	686 7044 INS TRF SIG PLAM(S)1 ARM(40')LUM&ILSN	686 7048 INS TRF SIG PLAM(S)1 ARM(44')LUM&ILSN	686 7056 INS TRF SIG PLAM(S)1 ARM(50')LUM&ILSN	686 7176 IN TRF SG PLAM(S)2ARM(50-24')LUM&ILSN	686 7188 IN TRF SG PLAM(S)2ARM(50-36')LUM&ILSN	687 7001 PED POLE ASSEMBLY	687 7002 PEDESTRIAN PUSH BUTTON POLE	688 7001 PED DETECT PUSH BUTTON (APS)	688 7003 PED DETECTOR CONTROLLER UNIT	6001 7002 ILSN (6D)	6001 7004 ILSN (8D)	6001 7006 ILSN (10D)	6005 7001 ITS COM CBL (ETHERNET)
	EA	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	EA	LF
		240	380	500	240	500	560										1	3	1	5	1		2	1	170
1		960	460	590	960	570	700		1					1	1			3		6	1		2	1	210
1		750	510	888	750	910	970				1	1	1		1			1	3	6	1	2		2	60
2		610	580	1210	610	1198	1120							2	1	1		1	4	8	1		2	2	90
4		810	750	1320	810	1280	1230					1			1				4	8	1		2	2	100
4		890	770	1300	890	1300	1210		1	1				2					4	8	1	2		2	100
2		530	340	1400	530	1380	900		1					1	1			1	4	8	1	2		1	100
1		750	340	1000	750	1110	860	1		1		1			1				4	8	1	2		2	150
15		5540	4130	8208	5540	8248	7550	1	3	2	1	3	1	6	6	1	1	9	24	57	8	8	8	13	980

LOCATION INTERNATIONAL BLVD @	6007 7001 BBU SYSTEM (EXTERNAL BATTERY CABINET)	6008 0001 RVDS (PRESENCE DETECTION ONLY)	6008 0002 RVDS (ADVANCE DETENTION ONLY)	6008 7009 RADAR PRESENCE DETECTOR COMM CABLE	6018 0001 CCTV FIELD EQUIPMENT (DIGITAL)	6018 0002 CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	6061 0001 GPS COMMUNICATION UNIT
	EA	EA	EA	LF	EA	EA	EA
	1	2	2	650	1	1	1
	1	3	3	1060	1	1	1
	1	4	3	1300	1	1	1
	1	4	4	1200	1	1	1
	1	4	4	1400	1	1	1
	1	4	4	1400	1	1	1
	1	3	3	1000	1	1	1
	1	4	4	1280	1	1	1
	8	28	27	9290	8	8	8

SUMMARY OF REMOVAL ITEMS

LOCATION INTERNATIONAL BLVD @	104 7013 REMOV CONC (SIDEWALK, RAMP OR SUP)	104 7018 REMOV CONC (CURB OR CURB & GUTTER)	528 7003 REMOVE AND RELAY PAVERS	644 7067 RELOCATE SM RD SN SUP&AM TY S80	677 7001 ELIM EXT PM & MRKS (4")	677 7002 ELIM EXT PM & MRKS (6")	677 7004 ELIM EXT PM & MRKS (8")	677 7006 ELIM EXT PM & MRKS (12")	677 7008 ELIM EXT PM & MRKS (24")	677 7009 ELIM EXT PM & MRKS (ARROW)	677 7010 ELIM EXT PM & MRKS (DBL ARROW)	677 7015 ELIM EXT PM & MRKS (WORD)	677 7025 ELIM EXT PM & MRKS (BIKE ARROW)	677 7027 ELIM EXT PM & MRKS (BIKE SYMBOL)	50047 7001 RELOCATE FIRE HYDRANT
	SY	LF	SY	EA	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA
Elizabeth St/W. University Blv	15	50	5	1		400		150	330	5	1	5			
E. Washington Street	85	140	20	1	700	900	120	500	300	8	2	1			
E. Adams Street	60	120	20		720	520	220	260	220	4	1	3			
E. Jefferson Street	75	120	20		900	2300	300	600	200	3	1	3			
E. Monroe S/Ridgely Rd	60	140	20		1050	2750	320	600	180	4	2	3	1	1	
E. Jackson Street	65	160	20		1800	5000	280	630	180	4	2	2	2	2	
E. Tayler Street	60	170	20		1750	4700	200	500	120	2		2	2	2	
E. Polk Street	65	170		1	900	2600	200	350	150	3	4	2	2	2	1
PROJECT TOTALS	485	1070	125	3	7820	19170	1640	3590	1680	33	13	21	7	7	1

SUMMARY OF ROADWAY ITEMS

LOCATION INTERNATIONAL BLVD @	531 7005 CURB RAMPS (TY 1)	531 7008 CURB RAMPS (TY 5)	666 7024 REFL PAV MRK TY I (W)8"(SLD)(100MIL)	666 7030 REFL PAV MRK TY I (W)12"(SLD)(100MIL)	666 7036 REFL PAV MRK TY I (W)24"(SLD)(100MIL)	666 7123 REFL PAV MRK TY I (Y)24"(SLD)(100MIL)	666 7220 RE PM TY II (Y) (MED NOSE)	666 7402 REFL PAV MRK TY I (W)4"(BRK)(100MIL)	666 7405 REFL PAV MRK TY I (W)4"(SLD)(100MIL)	666 7408 REFL PAV MRK TY I (W)6"(BRK)(100MIL)	666 7411 REFL PAV MRK TY I (W)6"(SLD)(100MIL)	666 7420 REFL PAV MRK TY I (Y)6"(BRK)(100MIL)	666 7423 REFL PAV MRK TY I (Y)6"(SLD)(100MIL)	668 7040 PREFAB PM TY B (W)(BIKE ARROW)	668 7042 PREFAB PM TY B (W)(BIKE SYMBOL)	668 7091 PREFAB PM TY C (W)(ARROW)	668 7093 PREFAB PM TY C (W)(DBL ARROW)	668 7103 PREFAB PM TY C (W)(WORD)	672 7002 REFL PAV MRKR TY I-C	672 7004 REFL PAV MRKR TY II-A-A
	EA	EA	LF	LF	LF	LF	EA	LF	LF	LF	LF	LF	LF	EA	EA	EA	EA	EA	EA	EA
Elizabeth St/W. University Blv	1	1	330	340	190	160					700		550			5	1	5		20
E. Washington Street	2	2	130		550	60	1	700		260			700			8	2	1	20	30
E. Adams Street	2	3	240	70	450			650	160		600		700			4	1	3	20	24
E. Jefferson Street	2	3	300	150	550			850	100		820	230	900			3	1	3	40	16
E. Monroe S/Ridgely Rd		4	330		600			1100		300	630		1600	1	1	5	2	3	48	40
E. Jackson Street		4	280		600			1800			1800	1200	2000	2	2	3	2	3	50	40
E. Tayler Street		4	200		130			1700		150	1600	1200	2000	2	2	2		2	48	34
E. Polk Street		4	200		130			900		450	900		1500	2	2	2	4	2	40	32
PROJECT TOTALS	7	25	2010	560	3200	220	1	7700	260	1160	7050	2630	9950	7	7	32	13	22	266	236

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1127 Eldridge Pkwy, Suite 300
Houston, Texas, 77077
TBPE FIRM NUMBER: 14592

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SHEET 1 OF 2

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.
SHEET TITLE:	

SUMMARY OF QUANTITIES

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SUMMARY OF FIBER OPTIC ITEMS								
LOCATION	623 7018	623 7024	6027 7001	6027 7002	6027 7005	6027 7007	6027 7009	6036 7001
INTERNATIONAL BOULEVARD BETWEEN WASHINGTON STREET AND POLK STREET	ITS GND BOX (POLY) TY 1 (243648)W /APRN	ITS GND BOX (POLY) TY 2 (366048)W /APRN	FIBER OPTIC CBL (SINGLE-MODE)(12 FIBER)	FIBER OPTIC CBL (SINGLE-MODE)(36 FIBER)	FIBER OPTIC PATCH PANEL (12 POSITION)	FIBER OPTIC PATCH PANEL (36 POSITIONS)	FO SPLICE ENCLOSURE (TYPE 1)	ETHERNET SWITCH (INSTALL ONLY)
	EA	EA	LF	LF	EA	EA	EA	EA
SHEET 1 OF 4	1	2	200	750	6	2	4	3
SHEET 2 OF 4		3	50	900	4	2	4	2
SHEET 3 OF 4	1	1	200	900	2	2	4	1
SHEET 4 OF 4		3	50	850	2	2	4	2
PROJECT TOTALS	2	9	500	3400	14	8	16	8

SPECIAL NOTES:

1. ITEM 628: ELECTRICAL SERVICES
PER THE UTILITY PROVIDER (BROWNSVILLE PUBLIC UTILITIES BOARD), THE METER ENCLOSURE SHALL BE ALUMINUM.

2. ITEM 680: HIGHWAY TRAFFIC SIGNALS
PRIOR TO INSTALLING THE CONTROLLER, THE EXISTING SETUP MUST BE TRANSFERRED TO THE NEW CONTROLLER (FROM CUBIC TO ECONOLITE).
ALL CURRENT OPERATIONAL PARAMETERS SHALL BE PROGRAMMED INTO THE NEW CONTROLLER.

City of BROWNSVILLE Texas
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SHEET 2 OF 2

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SUMMARY OF QUANTITIES

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2014 SPECS GENERAL NOTES:

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General Requirements and Covenants to ITEMS 1 thru 8:

For all pits or quarries, comply with the "Texas Aggregate Quarry and Pit Safety Act."

Provide on a weekly basis a list of equipment, including idle equipment, utilized on the project that week.

The 1-800 call services for utility locations do not include facilities.
Listed below are some key agencies or departments who may need to be contacted throughout the project.

DIG TESS	1-800-344-8377	BROWNSVILLE PUB	1-956-983-6100
TEXAS ONE CALL SYSTEM	1-800-245-4545	CITY OF BROWNSVILLE TRAFFIC	1-956-547-6828
TEXAS EVACUATION SAFETY SYSTEM	1-800-344-8377		
LONE STAR NOTIFICATION COMPANY	1-800-669-8344		
SOUTHWESTERN BELL LOCATE GROUP	1-800-828-5127		

The Contractor's attention is directed to the possible presence of underground utilities on the Right of Way on this project. It is the responsibility of the Contractor to call for locates 48 hours in the advance of excavation or drilling.

All information concerning utility verification shall be provided to the Engineer.

The Contractor shall contact the local power companies prior to commencing construction. The Contractor shall coordinate with the power companies for the raising/relocation of existing power lines where deemed necessary by the Engineer or the Contractor to effect the proposed construction (subsidiary to the various bid items).

Erection of poles, luminaire, and structures located near any overhead or underground utilities shall be accomplished using established industry and utility safety practices. The Contractor shall consult with the appropriate utility companies prior to beginning such work.

The Contractor shall take extreme care when excavating or drilling in the vicinity of utilities. The Contractor shall verify the location of any underground utilities before drilling for steel pole foundations and service poles. The contractor shall hand dig, vacuum excavate, or employ any potholing practice necessary when trying to identify and avoid damage to utilities.

The Contractor shall repair any damage to existing facilities caused by his operations deemed his liability by the Engineer, at his own expense and shall restore facilities to service in a timely manner.

The Contractor shall attend a preconstruction conference to discuss traffic control, traffic safety, construction sequences and safety prior to start of construction. The Contractor's superintendent shall attend the preconstruction conference. The Contractor shall, at the preconstruction meeting

or prior to beginning any work on the project submit a certificate indicating the completion of flagger training by a company representative.

Contractor shall submit a work schedule, material sources and letters designating the project superintendent, safety officer and payroll officer.

ITEM 2: Instructions to Bidders

Contractor questions on this project are to be addressed to the following individual(s):

Carlos Lastra, P.E. Phone: 956-547-6571
Email: carlos.lastra@brownsvilletx.gov

Lucio Gutierrez Garcia Phone: 956-547-6838
Email: lucio.gutierrez@brownsvilletx.gov

ITEM 5: Control of the Work

The responsibility for the construction surveying on this contract will be in accordance with Article 5.9.3., "Method C."

Work in this contract is required to be done on railroad property. Cooperate with the railroad companies and comply with all of their requirements including obtaining any training they require before performing work on railroad property.

ITEM 7: Legal Relations and Responsibilities

No significant traffic generator events identified.

Roadway or Lane closures during the following key dates and/or special events are prohibited:

- National Holidays
- The day before a National Holiday
- During emergency events such as natural disasters or as directed by the Engineer
- Local Special Event (list special event and date-to-date duration)

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90998
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
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GENERAL NOTES

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ITEM 8: Prosecution and Progress

Working days will be computed and charged in accordance with Article 8.3.1.4. Standard Workweek.

A TOTAL OF 720 DAYS WILL BE ALLOWED FOR THIS PROJECT. WORK (TIME CHARGES) SHALL BEGIN NO LATER THAN:

The Contractor shall begin work as per the contract within 120 days and shall continuously prosecute the work thereafter. The Contractor shall complete the work within the time limit specified. The Contractor shall notify the engineer at least 24 hours before beginning work and any new operation. The Contractor shall not start new operations to the detriment of work already begun. The prosecution of the work shall be conducted in such a manner as to impose minimum inconvenience to the traveling public.

Prepare progress schedules as a Bar Chart.

ITEM 416: Drilled Shaft Foundations

416-1

Payment for furnishing and installing anchor bolts mounted in drill shafts will be included in the unit price bid for the various diameter drill shafts.

The Contractor shall coordinate with the utility companies to verify utility locations before drilling foundations.

The Contractor shall form, or provide a smooth finish, the portions of drilled shaft that project above the ground line. Place a ¾ inch chamfer on the top edge of each pole foundation. This work will not be paid for directly, but will be considered subsidiary to this bid item.

All drilled shaft foundations will be based on the lengths shown on the plans or those established in writing. Adequate calculations for measurements of foundations have been made in accordance with Article 9.1. of the Standard Specifications. Increases or decreases in the quantities required by change in design will be measured as specified and the revised quantities will be the basis for payment.

In the presence of excess ground water and/or unstable conditions in sub-grade soils prevents excavation to the line and depths indicated on the plans for "Drilled Shaft Foundation", other proposed methods of foundation installation such as casing, etc. shall be submitted for review and approved by the Engineer.

Project Number: Project Number **Sheet D**

County: Cameron

Highway: International Blvd

ITEM 502: Barricades, Signs, and Traffic Handling

Shadow vehicles equipped with Truck-Mounted Attenuators are required for traffic handling. See notes for Item 6185: Truck Mounted Attenuator/Trailer Attenuator, for additional references pertaining to the TMAs.

Replace/relocate all regulatory signs removed due to construction operations with the same sign on fixed support(s) immediately upon its removal. First obtain Project Engineer approval before removing any regulatory roadway sign. Required flaggers are to be available to direct traffic during sign intermediate down time.

Relocate any Directional Sign Assemblies removed during construction operations immediately upon their removal.

These signs shall be relocated to a location in accordance with the Latest Version of the "Texas Manual on Uniform Traffic Control Devices". In no case will a sign be removed without a replacement sign and support(s) being readily available and a location established. Removal and relocation of these signs required for traffic control will not be paid for directly, but shall be considered subsidiary to Item 502.

From the beginning to the end of the project, all traffic control devices need to be in acceptable condition as per the Texas Quality Guidelines for Work Zone Traffic Control Devices.

The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The "Safety Contingency" is not intended to be used in lieu of bid items established by the contract.

ITEM 504: Field Office and Laboratory

For this project a field office will not be required at the project site.

ITEM 506: Temporary Erosion, Sedimentation, and Environmental Controls

Due to the nature of this project, it is unlikely a significant amount of soil will be disturbed. However, if erosion control logs are needed; it shall be placed as directed by the Engineer.

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Before starting each phase of construction, review with the Engineer the SW3P used for temporary erosion control as outlined on the plans. Before construction, place the temporary erosion and sedimentation control features as shown on the SW3P. Location of Construction Exits are to be approved by the Engineer. After completing earthwork operations, restore and reseed the disturbed areas in accordance with the Department's specifications for permanent or temporary erosion control. Before starting grading operations and during the project duration, place the temporary or permanent erosion control measures to prevent sediment from leaving the right of way.

The Contractor Force Account "Erosion Control Maintenance" that has been established for this project is intended to be utilized for work zone Best Management Practice (BMP) maintenance, to improve the effectiveness of the Environmental Controls that may need maintenance attention and/or require replacement while the project is still under the construction stage. These procedures will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent BMP management reviews on the project. The "Erosion Control Maintenance" is not intended to be used in lieu of bid items established by the contract.

ITEM 531: Sidewalks

Construct ¼-inch thick score joints at a maximum 6-foot spacing and expansion joints at a maximum 18 foot spacing. Construct a joint in the center of the sidewalk if it is over 15-feet wide. For steel reinforcement, use 6x6-inch spacing with #3 bars or 6x6 – D6 welded wire fabric.

ITEM 618: Conduit

All conduit ends in pole bases, controllers and ground boxes shall be plugged with 4 to 6 inches of polyurethane sealant or its equivalent after cables are in place.

Conduit shall be placed in a straight line not to exceed 2.0 feet in any direction. The depth of the conduit shall be 2.0 feet except when crossing a roadway where the depth shall not be more than 3.0 feet nor less than 1.0 foot below the bottom of the base material in the roadway when placed by the jacking or boring method. Any evidence of damage to the roadway during the jacking or boring operation shall be sufficient grounds to stop the method being used.

Conduit runs under paved roadways or driveways shall be jacked or bored and then pushed across. At these locations, galvanized rigid metal may be used. All other runs shall be made by trenching. Existing pavement which will be removed, reconstructed or overlaid with new pavement may be trenched across.

Trenches for conduit runs shall be a minimum 2 feet deep and 4 inches wide. The conduit shall be placed on a 2-inch sand cushion and then backfilled with a minimum of 6 inches sand fill. The remainder of the trench shall be backfilled with flexible base, soil or two-sack concrete as required by location of conduit on the project or as directed. The top 3 inches shall match the existing surface material.

All conduit elbows and rigid extensions required to be installed on PVC conduit systems will not be paid for separately, but will be considered subsidiary to the various bid items.

Use materials from prequalified material producers list as shown on the Texas Department of Transportation (TxDOT) - Construction Division's (CST) materials producers list. Category is "Roadway Illumination and Electrical Supplies."

Use materials from prequalified producers as shown on the Construction Division (CST) of the Texas Department of Transportation (TXDOT) Material Producers List. Use the following website to view the list:
http://www.txdot.gov/business/resources/materials/producer-list.html

Where PVC, duct cable, and HDPE conduit 1" and larger is allowed and installed as per TxDOT standards, provide a PVC elbow in place of the galvanized rigid metal elbow required by the Electrical Detail standards. Ensure the PVC elbow is of the same schedule rating as the conduit to which it is connected. Ensure only a flat, high tensile strength polyester fiber pull tape is used for pulling conductors through the PVC conduit system.

ITEM 620: Electrical Conductors

For Flashing Beacons (Item 685) and Ped poles (Item 687) within the project, provide single-pole breakaway disconnects.

Use Bussman HEBW, Littelfuse LEB, Ferraz-Shawmut FEB, or equal on ungrounded conductors.

For all grounded conductors use Bussman HET, Littelfuse LET, Ferraz-Shawmut FEBN, or equal on ungrounded conductors. For all grounded conductors use Bussman HET, Littelfuse LET, Ferraz-Shawmut FEBN, or equal. These breakaway connectors have a white colored marking and a permanently installed solid neutral.

The meter enclosure shall be aluminum.

ITEM 628: Electrical Services

Arrange for and cooperate with the utility company to provide electrical power for the service(s) shown and as required by the plans. A meter will be required on all electrical services.

Per the Utility Provider (Brownsville Public Utilities Board), the meter enclosure shall be aluminum.

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ITEMS 636: Signs

Complete sign blanks and panels shall be handled and stored at the job site in such a manner that corners, edges and faces are not damaged. Finished sign blanks shall be stored in either a weatherproof ware-house or outside and off the ground in a vertical position. All paper, cardboard and chemically treated separators and packaging shall be removed prior to outside storage.

ITEM 644: Small Roadside Sign Assemblies

All signs shall be installed as shown in the plans and in accordance with the current edition of the "Texas Manual on Uniform Traffic Control Devices" and the "Sign Crew Field Book" (SCFB).

All signs shall be erected according to the locations shown on the signing layout sheets except that a sign may be shifted in order to secure a more desirable location. All sign locations will be staked as shown in the plans and as approved. It is the intent of the plans to erect all roadside traffic signs with the sign edge a minimum of 6 feet from the edge of the shoulder, or if none, 12 feet from the edge of the travel lane. In curb and gutter sections the sign edge shall be a minimum of 2 feet from the face of the curb.
For this project, aluminum type sign blanks as provided for under Item 636 will be required for all proposed signing installed under Item 644. Aluminum sign blanks less than 7.5 square feet shall be 1.8 inch thick, sign blanks 7.5 to 15 square feet shall be 0.100 inch thick and sign blanks greater than 15 square feet shall be 0.125 inch thick.

All excess excavation shall be spread uniformly inside the right of way as directed and shall be included in the price of these Items.

Sign types which design details are not shown on the plans shall conform with the latest edition of the Department's "Standard Highway Sign Design for Texas" Manual.

Signs shown to be removed shall include the complete sign installation and separate the sign post at the concrete foundation. The concrete foundation shall be disposed in accordance with this Bid Item. Except for concrete foundations, all removed sign panels, sign posts, and hardware shall remain then property of the Department. All removed sign installations shall be completely disassembled. All salvageable sections of sign panels shall be recycled by TxDOT. The removed sign material will be required to be hauled to the maintenance yard closest to the project. No signs shall be removed without prior approval.

ITEM 656: Foundations for Traffic Control Devices

The dimensions shown on the plans for location of signal pole foundations, conduit and other items may be varied to meet existing conditions as approved.

The work area shall be cleaned up and all loose material resulting from the contract operations shall be removed from the work area each day before work is suspended.

No traffic signal pole shall be placed on the foundations prior to seven (7) days following placement of concrete.

ITEMS 662 and 666: Work Zone Pavement Markings and Retroreflectorized Pavement Markings

All permanent pavement markings and work zone pavement markings for this project under these Items shall be 0.100 inches (100 mil) thick thermoplastic.

Any permanent pavement markings or non-removal work zone pavement markings lacking reflectivity in accordance with the requirements of Tex 828-B, or that fail to meet minimum retro reflectivity requirements for longitudinal pavement markings when required, will be addressed per the requirements of the specification. The roadway will be re-striped at no additional compensation.

Pavement surface preparation for markings and markers will not be paid for directly, but shall be considered subsidiary to Item 666.

Prior to any striping operations, an on-site coordination meeting between all the parties involved will be required to review striping details and requirements to ensure quality work.

The beads used on this project shall meet the requirements of Departmental Materials Specification DMS-8290, Glass Traffic Beads Texas Type II & III. Use a 50% Type II/ 50% Type III mix utilizing a double drop system with Type III beads dropped first.

ITEM 677: Eliminating Existing Pavement Markings and Markers

Asphalt and aggregate types and grades shall be as approved in writing when a surface treatment is used to eliminate existing pavement markings.

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ITEM 680: Highway Traffic Signals

The installation of highway traffic signals shall consist of the following principal Items:

1. Furnishing and installing 16-phase full traffic actuated controllers, base mounted cabinets, conflict monitors, load switches and loop amplifiers.
2. Furnishing and installing post mounted flashing beacon controllers and cabinets.
3. Furnishing and installing either, steel strain and/or mast arm poles, electrical service, luminaires, signal heads and cables, pedestrian heads and push buttons with signs that meet the "Americans with Disabilities Act" Standards, galvanized steel span wire, loop detectors, ground boxes, conduit runs and controller foundations.
4. Removal and disposal of existing signal material specified in the plans.
5. All other Items not listed above which are needed to provide for complete traffic signal installations and for proper signal operation as called for in the plans and specifications shall be furnished and installed.
6. Traffic Signal controllers shall be ATC and compatible with city traffic signal management software - CENTRACS
   Any deviation of location for proposed signal work shall be as approved.

Signal controller

The signal installations shall be wired in accordance with the phase diagrams in the plans. The proposed base mounted cabinets shall contain 16-phase conflict monitors, which display the "R-Y- G" and "Walk" phases. In addition to detecting phasing conflicts, the Conflict monitors shall also be able to detect multiple signal head indications within every phase. The conflict monitors shall continue to operate in the event of a power supply failure in the timer and shall be able to retain in memory the time and date of the failure detection. Time changes shall be programmable in the field without replacing components or use of external devices. The full-actuated controllers shall meet N.E.M.A. Specifications. The flasher Controllers shall be solid state.

Prior to installing the controller, the existing setup must be transferred to the new controller (from Cubic to Econolite). All current operational parameters shall be programmed into the new controller.

A controller manufacturer's technician shall be required to load initial timing programs into the controllers as called for in the plans. Once the traffic signals are turned on, the same technician shall monitor the signal operation and traffic movement and shall adjust settings for best signal operation. The technician shall provide the State with a certification that the timing plan and coordination has been established according to the plans. This certification shall include a record showing all settings and functions programmed into the timer and any related units.

The controller must be delivered with two sets of wiring diagrams and operating manuals enclosed in a weatherproof bag.

7. Traffic Signal Cabinet shall be an ITS GROUND MOUNTED - TYPE 6 as per the City standard specifications.

All wiring not covered by the plans and specifications shall be in accordance with the latest edition of the National Electrical Code,

Under this Item, the proposed cabinets shall be base mounted or as shown in the plans.

Existing utilities

The exact location of existing underground utilities shall be verified with the utility companies prior to construction to avoid conflict with or damage to these utilities.

The coordination with the utility companies will be required to make any adjustments, due to utility conflicts, as defined in the specifications or deemed necessary.

Uniformity in equipment

1. All traffic signal controllers furnished shall be by the same manufacturer.
2. Traffic Signal controllers and Malfunction Management Units shall be flashing yellow arrow capable and shall be compatible with Pharr District's traffic signal management software **CENTRACS**
3. All flashing beacon controllers furnished shall be by the same manufacturer.
4. All traffic signal heads and flashing beacon heads furnished shall be by the same manufacturer.
5. All signal fittings and pipe brackets shall be of an approved metallic material and of the same design and manufacturer.
6. All traffic signal poles furnished shall be by the same manufacturer.
7. All loop detector amplifiers furnished shall be by the same manufacturer and of the same type. Handling of traffic

Roads and streets shall be kept open to traffic at all times. The setting of loop detectors shall be arranged so as to close only one lane of a roadway at a time. The installation of signal heads, poles and conduit shall also be arranged so as to permit the continuous movement of traffic in both directions at all times.

All construction operations shall be conducted to provide the least possible interference to traffic as shown on the plans, as provided for in the specifications and/or as directed. All signing, barricading and handling of traffic shall conform to the current edition of the "Texas Manual on Uniform Traffic Control Devices".

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Sequence of work

1. The existing traffic signal installations and/or flashing beacon installations shall remain in operation at all times during construction of the proposed traffic signal and/or flashing beacon installations or modifications.

2. The complete removal of the specified existing traffic signal and/or flashing beacon installations or specified Items when the proposed traffic signal and/or flashing beacon installations are in place and operational.
3. All labor, tools, and materials used to remove the specified existing traffic signal material shall not be paid for directly, but shall be considered subsidiary to the various items of work.

4. Final inspection shall be performed in conjunction with the district signal shop.

ITEM 682: Vehicle and Pedestrian Signal Heads

All signal heads shall be covered with burlap from the time of installation until the signal is placed in operation. All signal heads shall be of polycarbonate material and yellow in color. Signal heads shall have standard detachable visors. LED's shall be furnished for all traffic signal heads.

Signal heads shall be positioned carefully to provide the best view of signal indications to motorists. All signal heads shall be installed to a neat overall appearance.

Nominal height for signal heads above pavement surface shall be 18 feet 6 inches, plus/minus 3 inches.

Pedestrian signal heads shall be positioned carefully to provide the best view to pedestrians.

ITEM 684: Traffic Signal Cables

All signal cable shall be #12 AWG; 2/c loop. Lead-In shall be #14 AWG shielded and loop wires in pavement.

ITEM 686: Traffic Signal Pole Assemblies (Steel)

The locations for the proposed traffic signal poles are approximate. The exact locations will be determined in the field in coordination with the District Signal Shop.

Erection and/or removal of poles and luminaries located near any overhead electrical power lines shall be accomplished using established industry and utility safety practices. The appropriate utility company shall be consulted with prior to beginning such work.

ITEM 6027: ITS

All existing cameras and ITS equipment are to be relocated and rewired to the new proposed pole at the intersection, where applicable.

CCTV (Digital) requires a CAT 5 Ethernet cable from signal pole to the field mounting unit. A 24V wire is required to power unit.

Install antenna on signal pole below the mast arm with metal straps as per manufacturer recommendations.

Contractor to expose the fiber lines prior to drilling the foundation shaft.

Seal conduit at time of conduit installation and after final internal component installation with approved duct plug.

All fiber optic cable shall be labeled with conduit tags within 1 foot of each splice and/or termination point. All patch panel connectors are to be clearly labeled and documented.

Verify/test existing fiber before bringing fiber live and splicing proposed drop fiber cables.

Neatly coil 100 feet of fiber optic cable slack for each proposed drop cable in the splice vaults, for each fiber optic cable slack in all other ground boxes, neatly coil 25 feet of slack.

Fiber Markers to be placed at every fiber ground box, but not to interfere with pedestrian walkways.

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GENERAL NOTES

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N

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

LOCATION # 1
INTERNATIONAL BLVD &
E ELIZABETH ST / W UNIVERSITY BLVD

INTERNATIONAL BLVD
POSTED SPEED: 30 MPH
RAILROAD CROSSING: NONE

City of BROWNSVILLE Texas
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LOCATION MAP

11



N

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

LOCATION # 2
INTERNATIONAL BLVD &
E WASHINGTON ST

INTERNATIONAL BLVD
POSTED SPEED: 30 MPH
RAILROAD CROSSING: NONE

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Keti Hristova

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LOCATION MAP

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0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

LOCATION # 3
INTERNATIONAL BLVD &
E ADAMS ST

INTERNATIONAL BLVD
POSTED SPEED: 30 MPH
RAILROAD CROSSING: NONE

City of BROWNSVILLE Texas
On the Border. By the Sea. and Beyond.

KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
11127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER

3/20/2026

Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:

LOCATION MAP

13



N

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

LOCATION # 4
INTERNATIONAL BLVD &
E JEFFERSON ST / MAY ST

INTERNATIONAL BLVD
POSTED SPEED: 30 MPH
RAILROAD CROSSING: NONE

City of BROWNSVILLE
On the Border. By the Sea. and Beyond.

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Keti Hristova

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DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:

LOCATION MAP

14



N

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

LOCATION # 5
INTERNATIONAL BLVD &
E MONROE ST / RIDGELY RD

INTERNATIONAL BLVD
POSTED SPEED: 30 MPH
RAILROAD CROSSING: NONE

City of BROWNSVILLE TEXAS
On the Border. By the Sea. and Beyond.

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3/20/2026

Keti Hristova

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ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:

LOCATION MAP

15



N

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

LOCATION # 6
INTERNATIONAL BLVD &
E JACKSON ST

INTERNATIONAL BLVD
POSTED SPEED: 30 MPH
RAILROAD CROSSING: NONE

City of BROWNSVILLE
On the Border of the Sea and Beyond
TEXAS

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1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

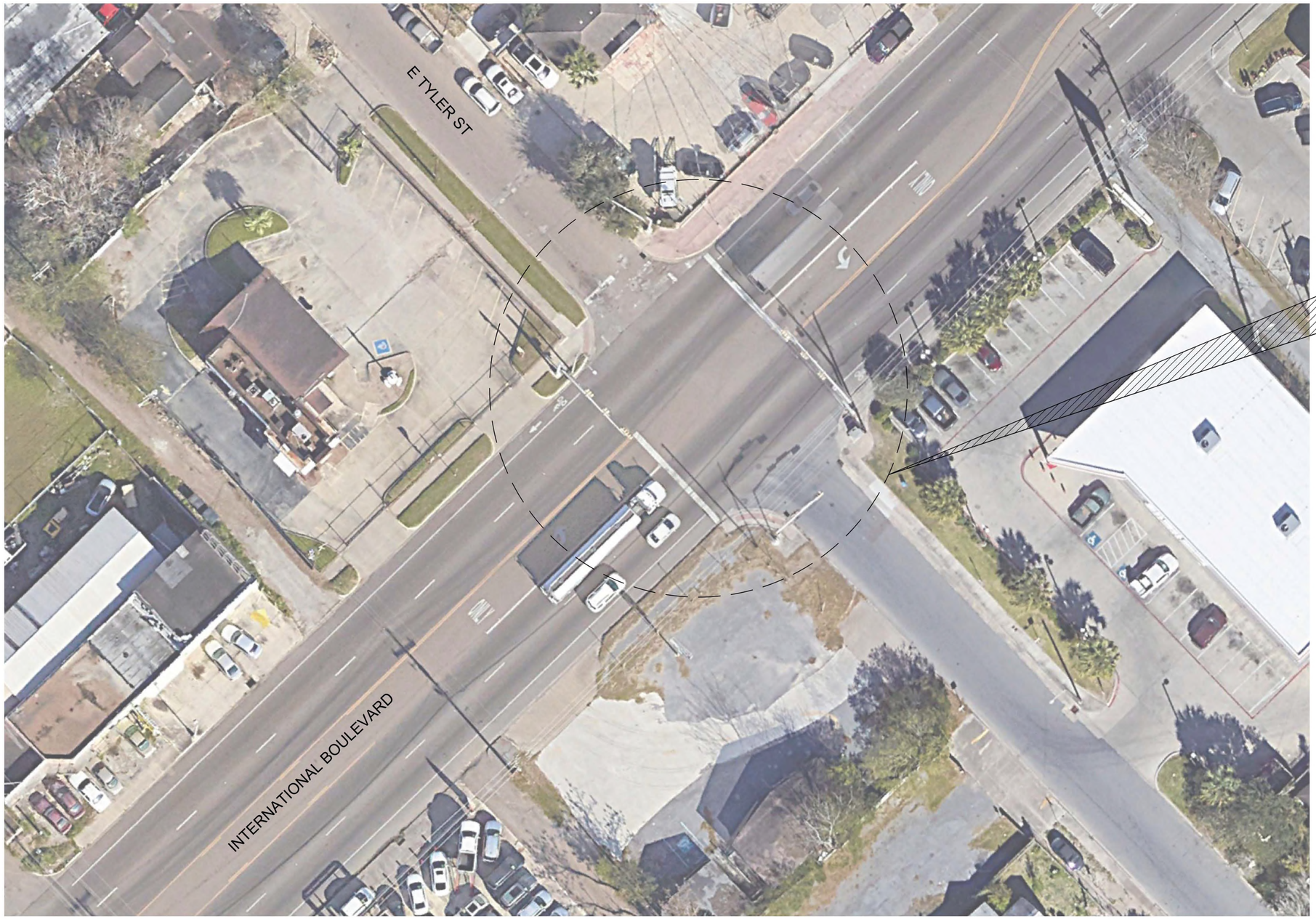
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:

LOCATION MAP

16





0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

LOCATION # 7
INTERNATIONAL BLVD &
E TYLER ST

INTERNATIONAL BLVD
POSTED SPEED: 30 MPH
RAILROAD CROSSING: NONE
A.A.D.T.: 2021 = 21,000
2024 = 24,875

City of BROWNSVILLE
On the Border. By the Sea. and Beyond.
TEXAS

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STATE OF TEXAS
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3/20/2026

Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.
SHEET TITLE:	

LOCATION MAP

17



N

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

LOCATION # 8
INTERNATIONAL BLVD &
E POLK ST

INTERNATIONAL BLVD
POSTED SPEED: 30 MPH
RAILROAD CROSSING: NONE

City of BROWNSVILLE Texas
On the Border. By the Sea. and Beyond.

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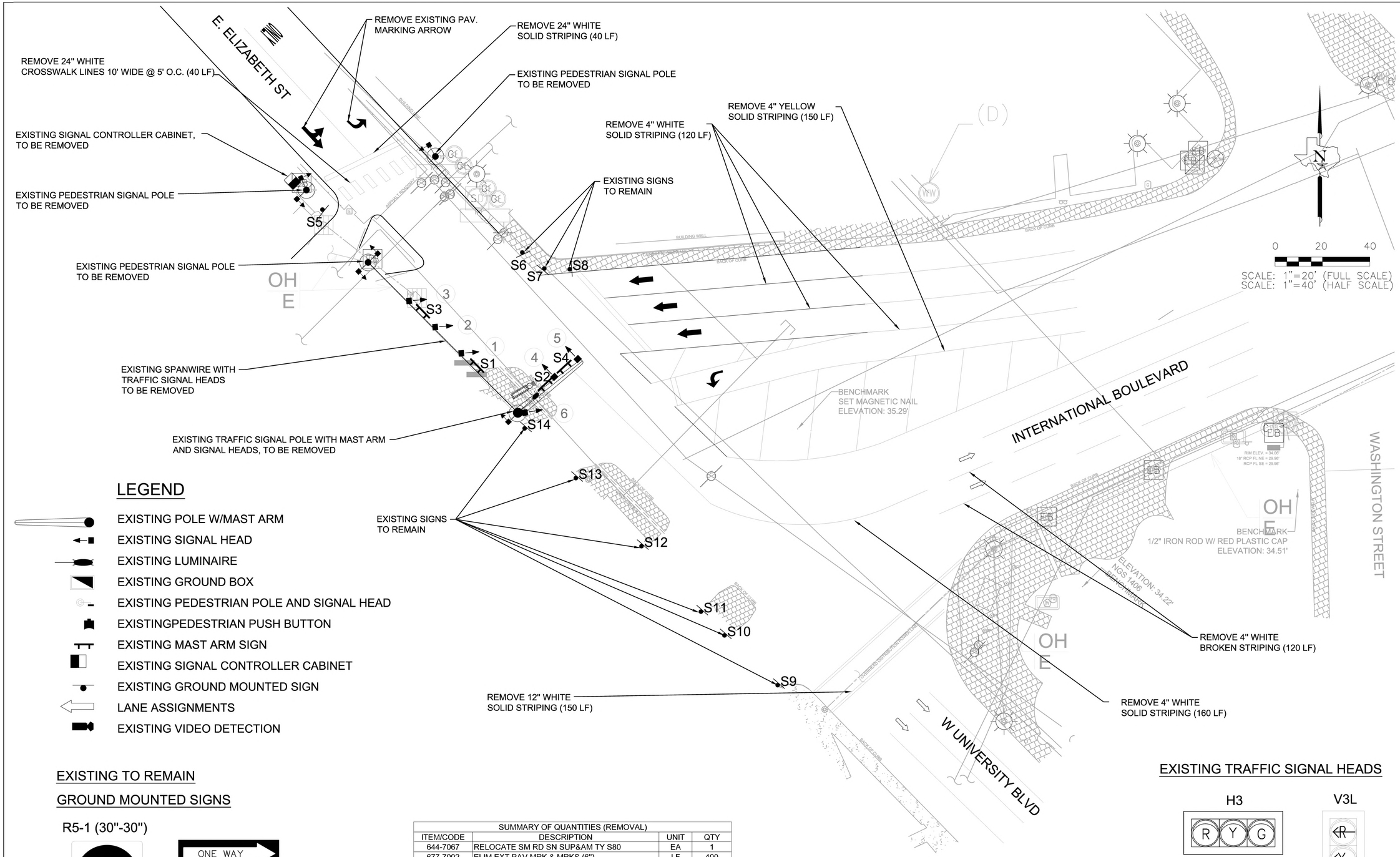
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:

LOCATION MAP

18



LEGEND

- EXISTING POLE W/MAST ARM
- EXISTING SIGNAL HEAD
- EXISTING LUMINAIRE
- EXISTING GROUND BOX
- EXISTING PEDESTRIAN POLE AND SIGNAL HEAD
- EXISTINGPEDESTRIAN PUSH BUTTON
- EXISTING MAST ARM SIGN
- EXISTING SIGNAL CONTROLLER CABINET
- EXISTING GROUND MOUNTED SIGN
- LANE ASSIGNMENTS
- EXISTING VIDEO DETECTION

EXISTING TO REMAIN

GROUND MOUNTED SIGNS

R5-1 (30"-30")



S7

S5, S6, S9, S10,

S11, S12, S13, S14

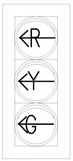
SUMMARY OF QUANTITIES (REMOVAL)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
644-7067	RELOCATE SM RD SN SUP&AM TY S80	EA	1
677-7002	ELIM EXT PAV MRK & MRKS (6")	LF	400
677-7006	ELIM EXT PAV MRK & MRKS (12")	LF	150
677-7008	ELIM EXT PAV MRK & MRKS (24")	LF	330
677-7009	ELIM EXT PAV MRK & MRKS (ARROW)	EA	5
677-7010	ELIM EXT PAV MRK & MRKS (DBL ARROW)	EA	1
677-7015	ELIM EXT PAV MRK & MRKS (WORD)	EA	5

EXISTING TRAFFIC SIGNAL HEADS

H3

1, 2, 3, 4, 5

V3L



6

City of BROWNSVILLE TEXAS
On the Border. By the Sea. and Beyond.

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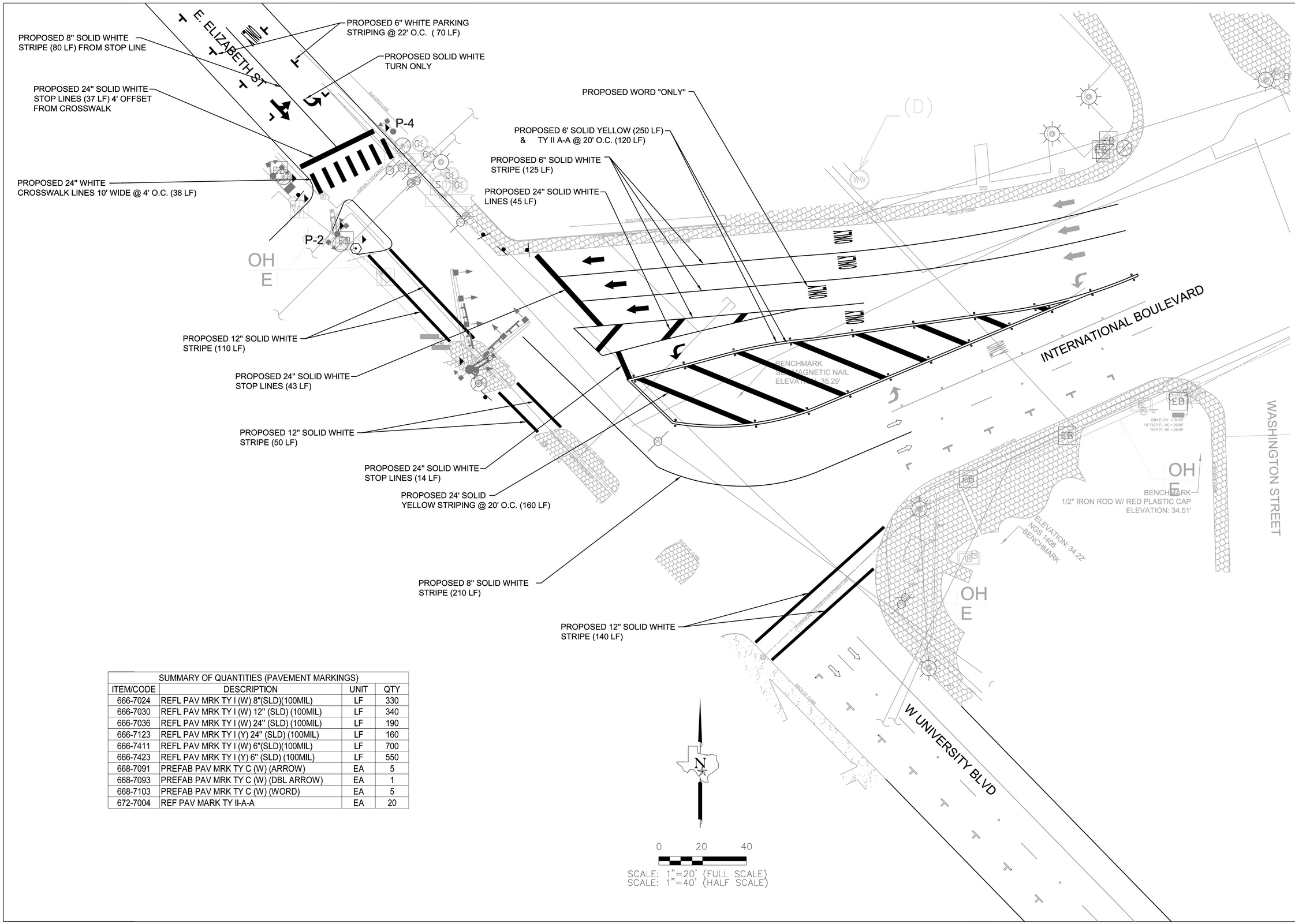
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:

EXISTING CONDITION LAYOUT

19



SUMMARY OF QUANTITIES (PAVEMENT MARKINGS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
666-7024	REFL PAV MRK TY I (W) 8"(SLD)(100MIL)	LF	330
666-7030	REFL PAV MRK TY I (W) 12" (SLD) (100MIL)	LF	340
666-7036	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	190
666-7123	REFL PAV MRK TY I (Y) 24" (SLD) (100MIL)	LF	160
666-7411	REFL PAV MRK TY I (W) 6"(SLD)(100MIL)	LF	700
666-7423	REFL PAV MRK TY I (Y) 6" (SLD) (100MIL)	LF	550
668-7091	PREFAB PAV MRK TY C (W) (ARROW)	EA	5
668-7093	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA	1
668-7103	PREFAB PAV MRK TY C (W) (WORD)	EA	5
672-7004	REF PAV MARK TY II-A-A	EA	20

City of BROWNSVILLE TEXAS
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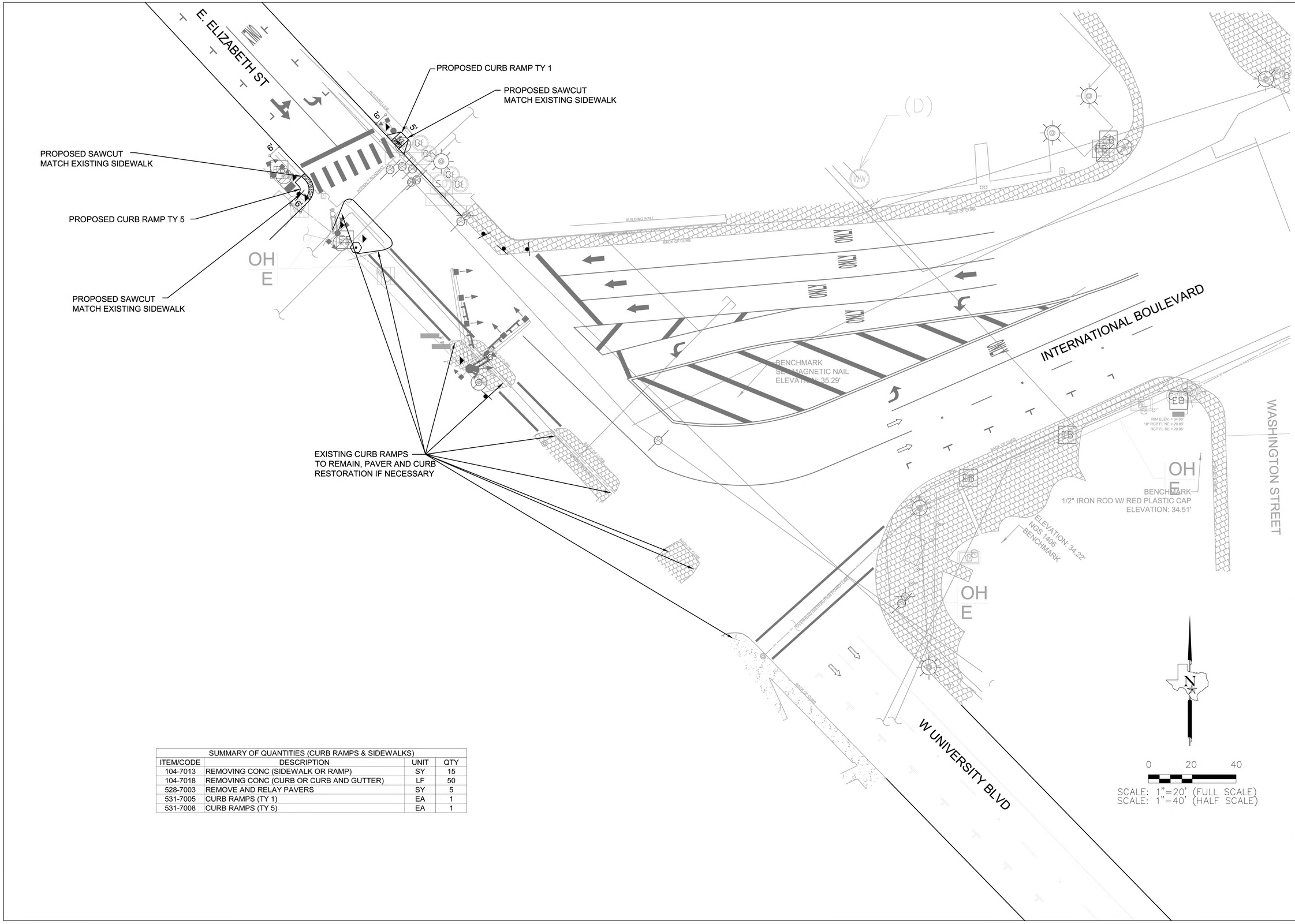
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:

PROPOSED PAVEMENT MARKING LAYOUT

20



SUMMARY OF QUANTITIES (CURB RAMPS & SIDEWALKS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
104-7013	REMOVING CONC (SIDEWALK OR RAMP)	SY	15
104-7018	REMOVING CONC (CURB OR CURB AND GUTTER)	LF	50
528-7003	REMOVE AND RELAY PAVERS	SY	5
531-7005	CURB RAMPS (TY 1)	EA	1
531-7008	CURB RAMPS (TY 5)	EA	1

City of BROWNSVILLE TEXAS
On the Border By the Sea and Beyond

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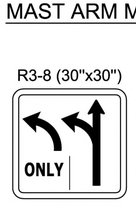
PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED CURB RAMP LAYOUT

21

TRAFFIC SIGNAL LOCATIONS		
POLE NUMBER	NORTHING	EASTING
1	16490090.7886	1313191.1318
2	16490152.7429	1313130.5885
3	16490179.3426	1313101.2763
4	16490199.5825	1313156.1409
GROUND BOX		
1	16490150.2288	1313142.0048
2	16490178.2438	1313110.0216
3	16490168.9204	1313115.5847
4	16490201.3263	1313152.6408
5	16490156.4992	1313131.8842
6	16490094.5338	1313186.5532
CABINET CONTROLLER	16490174.6196	1313107.9151

MAST ARM MOUNTED SIGNS



NOTE: RELOCATED EXISTING WAYFINDING SIGNS TO THE NEW POLES

EXISTING TO REMAIN GROUND MOUNTED SIGNS

R5-1 (30"-30")

S6, S7, S10, S11
S12, S13, S14,S15

S8

SPECIAL NOTE: ALL EXISTING GROUND MOUNTED SIGNS TO REMAIN

PROPOSED TRAFFIC SIGNAL HEADS

PEDESTRIAN SIGNS

R10-3eL
PB2, PB4, PB6

R10-3eR
PB1, PB3
PB4, PB5

W1-W6
LED COUNTDOWN
PEDESTRIAN SIGNAL

SIGNAL NOTES

1. THE CONTRACTOR SHALL FURNISH AND INSTALL RADAR VEHICLE DETECTION SYSTEM AND MAKE FULLY OPERATIONAL.
2. THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANIES AS TO THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT WITH OR DAMAGE TO THE UTILITIES.
3. FOR THE RADAR VEHICLE DETECTION SYSTEM, LOCATION AND PLACEMENT SHALL BE MOUNTED AS PER MANUFACTURER RECOMMENDATION AND IN COORDINATION WITH THE CITY OF BROWNSVILLE TRAFFIC DEPARTMENT.
4. EXISTING PHASING AND TIMING SHALL BE USED.

ITS NOTES

1. ALL EXISTING CAMERAS AND ITS EQUIPMENT TO BE RELOCATED AND REWIRED TO THE NEW PROPOSED POLE AT THIS LOCATION
2. CCTV (DIGITAL) REQUIRES A CAT 5 ETHERNET CABLE FROM MAST ARM TO FIELD MOUNTING UNIT (AI-500-085-02) IN THE SIGNAL CABINET.
3. ROADSIDE UNIT C-V2X (AI-500-095) REQUIRES A CAT 5 ETHERNET CABLE FROM SIGNAL POLE TO THE FIELD MOUNTING UNIT. A 24V WIRE IS REQUIRED TO POWER THE UNIT.
4. INSTALL ANTENNA ON SIGNAL POLE BELOW THE MAST ARM WITH METAL STRAPS AS PER MANUFACTURER RECOMMENDATIONS.
5. CONTRACTOR TO EXPOSE THE FIBER LINES PRIOR TO DRILLING THE FOUNDATION SHAFT

DETAIL A

LEGEND

- PROP SIGNAL POLE W/MAST ARM
- PROPOSED SIGNAL HEAD
- PROPOSED LUMINAIRE
- GROUND BOX W/APRON
- PEDESTRIAN POLE AND SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PROPOSED ILSN SIGN
- PROPOSED MAST ARM SIGN
- PROPOSED ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- RADAR DETECTION
- CCTV CAMERA
- PROPOSED CONDUIT RUN (TRENCH)
- PROPOSED CONDUIT RUN (BORED)
- GROUND MOUNTED SIGN
- LANE ASSIGNMENTS

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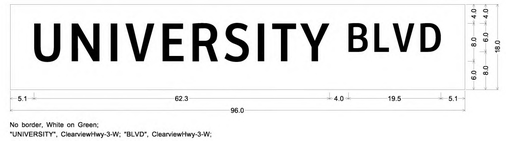
SHEET TITLE:
PROPOSED TRAFFIC SIGNAL LAYOUT

22

TRAFFIC GROUND CONDUIT QUANTITIES														
ITEM	TOTAL QTY	ADD QTY	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13
			RUN LENGTH (LF)	10	42	10	10	10	10	20	55	10	20	15	90	10
POWER	124	10	1/C - #6 XHHW	2	2	2										
GROUND	567	45	1/C - #6 BARE	1	1	1	1	2		1	1	1	3	2	3	3
SIGNAL CABLE	365	29	2/C - #14 AWG					6	1	2	1	1	3	2	1	1
	355	28	5/C - #14 AWG					6		2	1	1	3	2	1	1
	390	31	7/C - #14 AWG					3					3		3	3
OPTICOM	260	21	4/C - #12 AWG					2					2		2	2
LUMINAIRE	172	14	2/C - #12 AWG (TC)	1	1		1	1							1	1
CONDUIT	60	5	2" PVC BORE							1		1		2		
	192	15	3" PVC BORE	1	1	1	1						1		1	1
	315	25	4" PVC BORE					2			1		2		2	2
ILSN SIGNS	172	14	4/C - #14 AWG TY"A" SOLID	1	1		1	1							1	1
ITS COMM. CABLE	130	10	CAT 5 ETHERNET					1					1		1	1
RVDS COMM. CABLE	350	28	RVDS CABLE					4					4	2	2	2



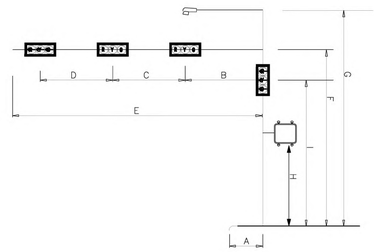
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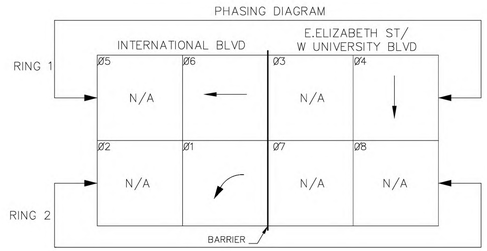
RADAR DETECTOR SCHEDULE		
UNIT	ZONE	SIZE (W'XL')
R1-P	Z-1	6' X 40'
	Z-6	12' X 40'
R1-A	Z-6	12'X20'
R2-P	Z-4	12'X40'
R2-A	Z-4	12'X20'

GROUND BOX SUMMARY (ITEM 624)			
TYPE	DESCRIPTION	UNIT	QTY
D	No. 162922	EA	6



SIGNAL HEAD AND POLE PLACEMENT (LF)																					
POLE NO.	FND TYPE WIND ZONE 100 MPH	DRILLED SHAFT		WIRE INSIDE POLES										NO. OF SIGNAL HEADS	NO. OF PED HEADS	LUM-A	RVDS PRESENCE & ADVANCE	ILSN SIGNS	DIMENSION (LF)							
		ITEM 416	ITEM 416	ITEM 682 SIG CABLE TYPE A			ITEM 684	ITEM 688	ITEM 6001	ITEM 6018	ITEM 6008	ITEM SS 8590							A	B	C	D	E	F	G	H
		24" DIA TYPE A LF	48" DIA TYPE A LF	SIG HD 7 CNDR 14 AWG	PED HD 5 CNDR 14 AWG	PED BTN 2CNDR 14 AWG	LUM 2 CND 12 AWG	APS PED PUSH BUTTONS	ILSN 4 CND 14 AWG, TY "A" SOLID	CCTV CAT 5 ETHERNET	RVDS RVDS CABLE	OPTICOM 4CNDR #12 AWG														
P-1	48-A		22	95	20	15	40	1	40	65	130	60		4	1	1	2	1	10	20	12	13	50	19	30	10
				45							130	60		2			2	1	10	22	13		36	17		
P-2	24-A	6			34	30									2				7	PEDESTRIAN SIGNAL POLE						10
P-3	24-A	6			40	36									2				10	PEDESTRIAN SIGNAL POLE						10
P-4	24-A	6			16	12									1				6	PEDESTRIAN SIGNAL POLE						10
TOTAL:		18	22	140	110	93	40	1	40	65	260	120		6	6	1	4	2								

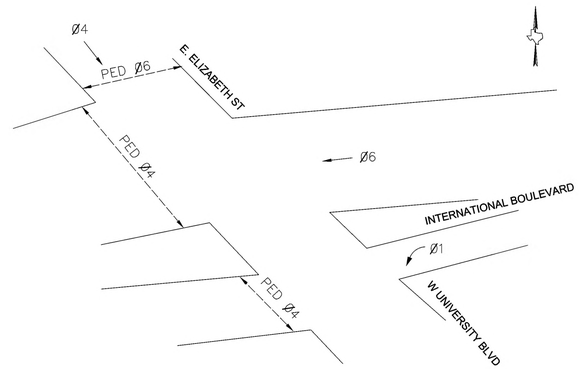
INTERSECTION PHASING



SIGNAL HEADS (ITEM 682)										
SIGNAL HEAD ID	SIGNAL HEAD TYPE	BACK PLATE		12" LED SIGNAL INCICATIONS						PED SIG SEC (LED) COUNTDOWN
		3 SEC	4 SEC	<- G -	G	<- Y -	Y	< - R -	R	
		EA	EA	EA	EA	EA	EA	EA	EA	EA
1	H3	1			1		1		1	
2	H3	1			1		1		1	
3	H3	1			1		1		1	
4	H3	1			1		1		1	
5	H3	1			1		1		1	
6	V3 P1	1		1		1		1		
W1	PED									1
W2	PED									1
W3	PED									1
W4	PED									1
W5	PED									1
W6	PED									1
TOTAL:		6	0	1	5	1	5	1	5	6

TRAFFIC SIGNAL SIGNS SUMMARY					
SIGN NUMBER	SIGN STATUS	TYPE	LEGEND	LOCATION	DIMENSIONS
S1	I	D3-1G	UNIVERSITY BLVD	P-1 MA-50'	96"x18"
S2	I	D3-1G	INTERNATIONAL BLVD	P-1 MA-36'	120"X18"
S3	I	R6-1R	ONE WAY	P-1 MA-50'	36"X12"
S4	I	R3-8	LEFT & SHEERED LEFT	P-1 MA36'	30"X30"
S5	I	R10-5	LEFT ON GREEN ARROW ONLY	P-1	24"X30"
S6	REM	R5-1	DO NOT ENTER	ADJACENT TO DRIVEWAY SB	
S7	REM	R5-1	DO NOT ENTER	ADJACENT TO CURB NBE	
S8	REM	R6-1R	ONE WAY	ADJACENT TO CURB EBN	
S9	REM	R6-1L	ONE WAY	ADJACENT TO CURB WBN	
S10	REM	R5-1	DO NOT ENTER	ADJACENT TO CURB SBW	
S11	REM	R5-1	DO NOT ENTER	ADJACENT TO CURB SBW	
S12	REM	R5-1	DO NOT ENTER	ADJACENT TO CURB SBW	
S13	REM	R5-1	DO NOT ENTER	ADJACENT TO CURB SBW	
S14	REM	R5-1	DO NOT ENTER	ADJACENT TO CURB SBW	
S15	REM	R5-1	DO NOT ENTER	ADJACENT TO CURB SBW	
PB1	I	R10-3eR	PUSHBUTTON INSTRICTIONS	ON P-3 POLE	9"X15"
PB2	I	R10-3eL	PUSHBUTTON INSTRICTIONS	ON P-5 POLE	9"X15"
PB3	I	R10-3eR	PUSHBUTTON INSTRICTIONS	ON P-1 POLE	9"X15"
PB4	I	R10-3eR	PUSHBUTTON INSTRICTIONS	ON P-2 POLE	9"X15"
PB5	I	R10-3eR	PUSHBUTTON INSTRICTIONS	ON P-2 POLE	9"X15"
PB6	I	R10-3eL	PUSHBUTTON INSTRICTIONS	ON P-4 POLE	9"X15"

NOTE: REM = REMAIN, REL = RELOCATE, I = INSTALL



ESTIMATE OF TRAFFIC SIGNAL QUANTITIES

ITEM No.	DESC. CODE	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	22
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	100
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	100
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	65
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	210
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	340
620	7009	ELEC CONDR (NO.6) BARE	LF	615
620	7010	ELEC CONDR (NO.6) INSULATED	LF	140
624	7008	GROUND BOX TY D (162922)W/APRON	EA	6
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	1
636	7001	ALUMINUM SIGNS (TY A)	SF	50
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	1
680	7004	REMOVING TRAFFIC SIGNALS	EA	1
682	7001	VEH SIG SEC (12")LED(GRN)	EA	5
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	1
682	7003	VEH SIG SEC (12")LED(YEL)	EA	5
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	1
682	7005	VEH SIG SEC (12")LED(RED)	EA	5
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	1
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	6
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	6
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	240
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	380
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	500
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	240
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	500
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	560
686	7188	IN TRF SG PL AM(S)2ARM(50-36')LUM&ILSN	EA	1
687	7001	PED POLE ASSEMBLY	EA	3
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	1
688	7001	PED DETECT PUSH BUTTON (APS)	EA	5
688	7003	PED DETECTOR CONTROLLER UNIT	EA	1
6001	7004	ILSN (8D)	EA	1
6001	7006	ILSN (10D)	EA	1
6005	7001	ITS COM CBL (ETHERNET)	LF	170
6007	7001	BBU SYSTEM (EXTERNAL BATT CABINET)	EA	1
6008	0001	RADAR PRESENCE DETECTION ONLY)	EA	2
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	2
6008	7009	RADAR PRESENCE DETECTOR COMM CABLE	LF	650
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6061	0001	GPS COMMUNICATION UNIT	EA	1
n/a		FIELD MONITORING UNIT	EA	1
n/a		ENABLED ROADSIDE UNIT	EA	1

APS MESSAGE CHART			
POLE LOCATON	PEDESTRIAN MOVEMENT	FUNCTIONS	SPEECH MESSAGE / SOUND DETAILS
P - 1	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E ELIZABETH STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 2	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E ELIZABETH STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 3	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E ELIZABETH STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 4	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E ELIZABETH STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 5	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E ELIZABETH STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK

ELECTRICAL SERVICE DESCRIPTION										
PROJECT LOCATION	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT	TWO-POLE CONTACTOR AMPS	PANEL BD./ LOAD CENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CIRCUIT POLE/AMPS	KVA LOAD
International Blvd @ E. Elizabeth St - W. University Blvd	TY D (120/240) 070 (NS) SS (N) SP (O)	2-1/2"	3/#6	N/A	2P/70	30	100	1. TRAFFIC SIGNAL	1P/50	<7.5
								2. LUM	2P/20	
								3. ILSN	3P/20	

BASIC TIMING CHART								
Phase	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Street	International Blvd		E. Elizabeth St		International Blvd			
Direction	WBLT			SB		WBT		
Minimum Green	5	NOT	NOT	8	NOT	10	NOT	NOT
Extension	2,0			2,0		2,0		
Maximum 1	20			40		60		
Maximum 2	25	IN	IN	50	IN	70	IN	IN
Yellow	4,0			4,0		4,0		
All Red	2,0	USE	USE	2,0	USE	2,0	USE	USE
Walk				7		7		
F.D. Walk				35		15		
Recall						C-Max		
Dual Entry								

KBH TRAFFIC ENGINEERING, LLC
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:
PROPOSED INSTALLATION

23

EXISTING MAST ARM MOUNTED SIGNS

D12-1 (24"X24")



R3-2 (24"X24")

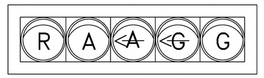


R15-6 (24"X12")



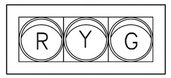
EXISTING TRAFFIC SIGNAL HEADS

H5



5

H3



1, 2, 3, 4, 6, 7

EXISTING TO REMAIN GROUND MOUNTED SIGNS

S3



S3

R5-1 (30"-30")



S1, S2



S4

SUMMARY OF QUANTITIES (REMOVAL)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
644-7067	RELOCATE SM RD SN SUP&AM TY S80	EA	1
677-7001	ELIM EXT PM & MRKS (4")	LF	700
677-7002	ELIM EXT PM & MRKS (6")	LF	900
677-7004	ELIM EXT PM & MRKS (8")	LF	120
677-7006	ELIM EXT PM & MRKS (12")	LF	500
677-7008	ELIM EXT PM & MRKS (24")	LF	300
677-7009	ELIM EXT PM & MRKS (ARROW)	EA	8
677-7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	2
677-7015	ELIM EXT PM & MRKS (WORD)	EA	1

LEGEND

- EXISTING POLE W/MAST ARM
- EXISTING SIGNAL HEAD
- EXISTING LUMINAIRE
- EXISTING GROUND BOX
- EXISTING PEDESTRIAN POLE AND SIGNAL HEAD
- EXISTINGPEDESTRIAN PUSH BUTTON
- EXISTING MAST ARM SIGN
- EXISTING SIGNAL CONTROLLER CABINET
- EXISTING GROUND MOUNTED SIGN
- LANE ASSIGNMENTS
- EXISTING RADAR DETECTION

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

City of BROWNSVILLE
On the Border. By the Sea. and Beyond.

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KBH TRAFFIC ENGINEERING
11127 Eldridge Pkwy, Suite 300-203
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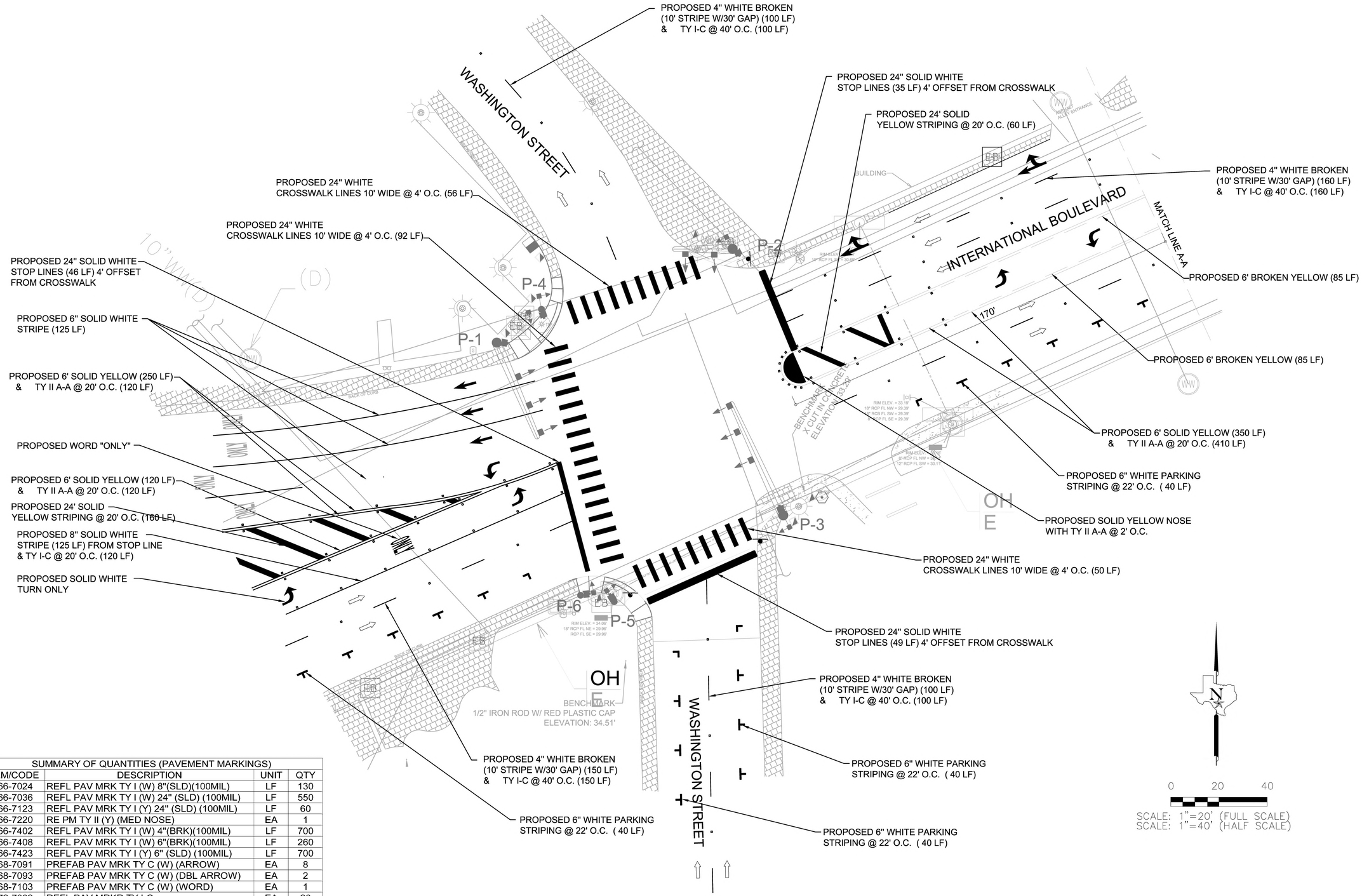
REVISION		
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90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
EXISTING CONDITION LAYOUT

24



SUMMARY OF QUANTITIES (PAVEMENT MARKINGS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
666-7024	REFL PAV MRK TY I (W) 8"(SLD)(100MIL)	LF	130
666-7036	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	550
666-7123	REFL PAV MRK TY I (Y) 24" (SLD) (100MIL)	LF	60
666-7220	RE PM TY II (Y) (MED NOSE)	EA	1
666-7402	REFL PAV MRK TY I (W) 4"(BRK)(100MIL)	LF	700
666-7408	REFL PAV MRK TY I (W) 6"(BRK)(100MIL)	LF	260
666-7423	REFL PAV MRK TY I (Y) 6" (SLD) (100MIL)	LF	700
668-7091	PREFAB PAV MRK TY C (W) (ARROW)	EA	8
668-7093	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA	2
668-7103	PREFAB PAV MRK TY C (W) (WORD)	EA	1
672-7002	REFL PAV MRKR TY I-C	EA	20
672-7004	REFL PAV MRKR TY II-A-A	EA	30

City of BROWNSVILLE
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TEXAS

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TBPE FIRM NUMBER: F-14592

REVISION NO	DATE	DESCRIPTION

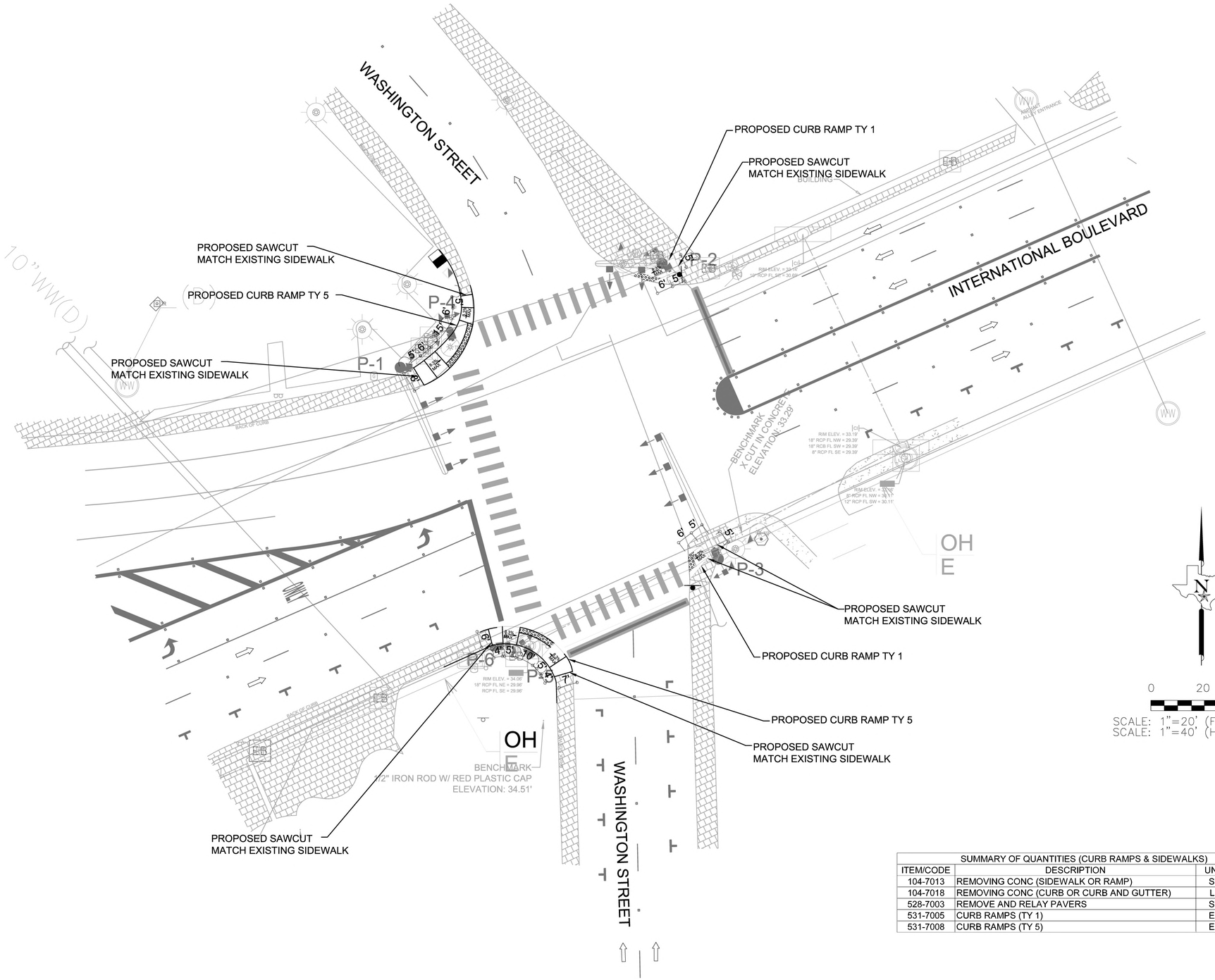
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:

PROPOSED PAVEMENT MARKING LAYOUT

25



SUMMARY OF QUANTITIES (CURB RAMPS & SIDEWALKS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
104-7013	REMOVING CONC (SIDEWALK OR RAMP)	SY	85
104-7018	REMOVING CONC (CURB OR CURB AND GUTTER)	LF	140
528-7003	REMOVE AND RELAY PAVERS	SY	20
531-7005	CURB RAMPS (TY 1)	EA	2
531-7008	CURB RAMPS (TY 5)	EA	2

City of BROWNSVILLE TEXAS
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REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
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REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:

PROPOSED CURB RAMP LAYOUT

26

PROPOSED TRAFFIC SIGNAL HEADS



W1–W6
LED COUNTDOWN
PEDESTRIAN SIGNAL

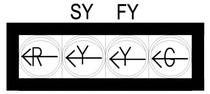
H3



1, 2, 4, 5, 6, 7, 8

H4L

SY FY



3

PEDESTRIAN SIGNS



R10–3eL
PB2, PB4, PB6



R10–3eR
PB1, PB3 PB5

NOTE: RELOCATED EXISTING SPECIAL WAYFINDING SIGNS TO THE NEW POLES

WAYFINDING SIGNS



S6



S8

MAST ARM MOUNTED SIGNS

R10-27A (24"X30")



S9

R3-2 (24"X24")



S4



S1



S3



S2

R6-1R (36"X12")



S7

R15-6 (24"X12")



S5

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

R5-1 (30"-30")

S11, S12

R6-1R (36"X12")



S10

R6-1R (36"X12")



S13

SPECIAL NOTE: ALL EXISTING GROUND MOUNTED SIGNS TO REMAIN

EXISTING TO REMAIN GROUND MOUNTED SIGNS

LEGEND

- PROP SIGNAL POLE W/MAST ARM
- PROPOSED SIGNAL HEAD
- PROPOSED LUMINAIRE
- GROUND BOX W/APRON
- PEDESTRIAN POLE AND SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PROPOSED ILSN SIGN
- PROPOSED MAST ARM SIGN
- PROPOSED ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- RADAR DETECTION
- CCTV CAMERA
- PROPOSED CONDUIT RUN (TRENCH)
- PROPOSED CONDUIT RUN (BORED)
- GROUND MOUNTED SIGN
- LANE ASSIGNMENTS

TRAFFIC SIGNAL LOCATIONS		
POLE NUMBER	NORTHING	EASTING
1	16490184.3397	1313471.6508
2	16490223.2910	1313569.6779
3	16490112.5665	1313590.7306
4	16490198.2068	1313490.2208
5	16490076.7025	1313520.4702
6	16490079.3358	1313506.4610
GROUND BOX		
1	16490119.9985	1313602.1006
2	16490219.7406	1313489.5998
3	16490202.7284	1313486.0597
4	16490188.3292	1313475.3447
5	16490229.3592	1313553.6127
6	16490078.1809	1313513.5902
7	16490109.9786	1313595.0491
CABINET CONTROLLER	16490225.2244	1313485.5009

SIGNAL NOTES

1. THE CONTRACTOR SHALL FURNISH AND INSTALL RADAR VEHICLE DETECTION SYSTEM AND MAKE FULLY OPERATIONAL.
2. THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANIES AS TO THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT WITH OR DAMAGE TO THE UTILITIES.
3. FOR THE RADAR VEHICLE DETECTION SYSTEM, LOCATION AND PLACEMENT SHALL BE MOUNTED AS PER MANUFACTURER RECOMMENDATION AND IN COORDINATION WITH THE CITY OF BROWNSVILLE TRAFFIC DEPARTMENT.
4. EXISTING PHASING AND TIMING SHALL BE USED.

ITS NOTES

1. ALL EXISTING CAMERAS AND ITS EQUIPMENT TO BE RELOCATED AND REWIRED TO THE NEW PROPOSED POLE AT THIS LOCATION
2. CCTV (DIGITAL) REQUIRES A CAT 5 ETHERNET CABLE FROM MAST ARM TO FIELD MOUNTING UNIT (AI-500-085-02) IN THE SIGNAL CABINET.
3. ROADSIDE UNIT C-V2X (AI-500-095) REQUIRES A CAT 5 ETHERNET CABLE FROM SIGNAL POLE TO THE FIELD MOUNTING UNIT. A 24V WIRE IS REQUIRED TO POWER THE UNIT.
4. INSTALL ANTENNA ON SIGNAL POLE BELOW THE MAST ARM WITH METAL STRAPS AS PER MANUFACTURER RECOMMENDATIONS.
5. CONTRACTOR TO EXPOSE THE FIBER LINES PRIOR TO DRILLING THE FOUNDATION SHAFT

City of BROWNSVILLE
On the Border. By the Sea. and Beyond.
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KBH TRAFFIC ENGINEERING
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Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

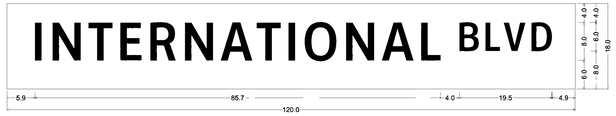
PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED TRAFFIC SIGNAL LAYOUT

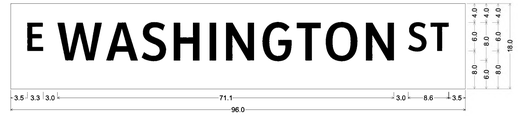
27

TRAFFIC GROUND CONDUIT QUANTITIES

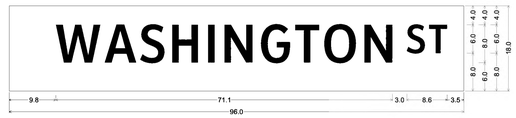
ITEM	TOTAL QTY	ADD QTY	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			RUN LENGTH (LF)	10	160	10	10	25	20	10	75	20	130	10	10	90	10	10
POWER	360	29	1/C - #6 XHHW	2	2	2												
GROUND	730	58	1/C - #6 BARE	1	1	1		2	2	2	2	2	2	1	1	2	2	1
SIGNAL CABLE	435	35	2/C - #14 AWG					6	1	1	1	1	3	1	1	1	1	1
	415	33	5/C - #14 AWG					6			1	1	3	1	1	1	1	2
	445	36	7/C - #14 AWG					4	1	1	1	1	2			2	2	
OPTICOM	310	25	4/C - #12 AWG					3	1	1	1	1	1			1	1	
LUMINAIRE	775	62	2/C - #12 AWG (TC)	3	3		3		1	1	1	1	1			1	1	
CONDUIT	20	2	2" PVC BORE											1	1			
	320	26	3" PVC BORE	1	1	1	1		2	2		2					2	1
	400	32	4" PVC BORE					2			2		2			2		
ILSN SIGNS	775	62	4/C - #14 AWG TY"A" SOLID	3	3		3		1	1	1	1	1			1	1	
ITS COMM. CABLE	135	11	CAT 5 ETHERNET					1					1			1	1	
RVDS COMM. CABLE	650	52	RVDS CABLE					6	2	2			4			4	4	



No border, White on Green;
"INTERNATIONAL", ClearviewHwy-3-W; "BLVD", ClearviewHwy-3-W;



No border, White on Green;
"E", ClearviewHwy-3-W; "WASHINGTON", ClearviewHwy-3-W 85% spacing; "ST", ClearviewHwy-3-W;



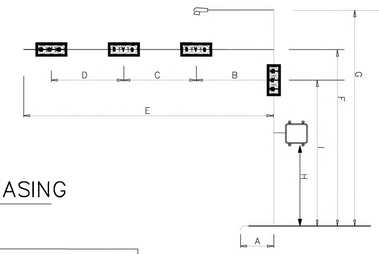
No border, White on Green;
"E", ClearviewHwy-3-W; "WASHINGTON", ClearviewHwy-3-W 85% spacing; "ST", ClearviewHwy-3-W;

GROUND BOX SUMMARY (ITEM 624)			
TYPE	DESCRIPTION	UNIT	QTY
D	No. 162922	EA	7

RADAR DETECTOR SCHEDULE		
UNIT	ZONE	SIZE (W'XL')
R1-P	Z-5	6' X 40'
	Z-2	12' X 40'
R1-A	Z-2	12'X20'
R2-P	Z-6	24'X40'
R2-A	Z-6	24'X20'
R3-P	Z-8	12'X40'
R3-A	Z-8	12'X20'

SIGNAL HEAD AND POLE PLACEMENT (LF)

POLE NO.	FND TYPE WIND ZONE 100 MPH	DRILLED SHAFT				WIRE INSIDE POLES									NO. OF SIGNAL HEADS	NO. OF PED HEADS	LUM-A	RVDS PRESENCE & ADVANCE	ILSN SIGNS	DIMENSION (LF)							
		ITEM 416	ITEM 416	ITEM 416	ITEM 416	ITEM 682 SIG CABLE TYPE A			ITEM 684	ITEM 688	ITEM 6001	ITEM 6018	ITEM 6008	ITEM SS 8590						A	B	C	D	E	F	G	H
		24" DIA TYPE A LF	36" DIA TYPE A LF	36" DIA TYPE B LF	48" DIA TYPE A LF	SIG HD 7 CNDR 14 AWG	PED HD 5 CNDR 14 AWG	PED BTN 2CNDR 14 AWG	LUM 2 CND 12 AWG	APS PED PUSH BUTTONS	ILSN 4 CND 14 AWG, TYPE "A" SOLID	CCTV CAT 5 ETHERNET	RVDS RVDS CABLE	OPTICOM EMERG PREEMP DETECT CABLE													
P-1	36-B			16		62		20	40	1	40		120	50	3		1	2	1	10	16	13	13	44	19	30	10
P-2	36-A		14			48	20	20	40	1	40		120	1	2	1	1	2	1	10	7	12		24	19	30	10
P-3	48-A				22	108	21	20	41	1	41	60	120	60	3	1	1	2	1	11	24	13	12	50	19	30	10
P-4	24-A	6					40	20		1						2				10	PEDESTRIAN SIGNAL POLE						10
P-5	24-A	6					20	20		1						1				10	PEDESTRIAN SIGNAL POLE						10
P-6	24-A	6					20	20		1						1				10	PEDESTRIAN SIGNAL POLE						10
	TOTAL:	18	14	16	22	218	121	120	121	6	121	60	360	111	8	6	3	6	3								



SIGNAL HEADS (ITEM 682)

SIGNAL HEAD ID	SIGNAL HEAD TYPE	BACK PLATE		12" LED SIGNAL INCICATIONS						PED SIG SEC (LED)
		3 SEC EA	4 SEC EA	<- G - EA	G EA	<- Y - EA	Y EA	< - R - EA	R EA	EA
1	H3	1			1		1		1	
2	H3	1			1		1		1	
3	H4		1	1		2		1		
4	H3	1			1		1		1	
5	H3	1			1		1		1	
6	H3	1			1		1		1	
7	H3	1			1		1		1	
8	H3	1			1		1		1	
W1	PED									1
W2	PED									1
W3	PED									1
W4	PED									1
W5	PED									1
W6	PED									1
	TOTAL:	7	1	1	7	2	7	1	7	6

ESTIMATE OF TRAFFIC SIGNAL QUANTITIES

ITEM No.	DESC. CODE	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	30
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	22
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	100
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	100
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	25
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	350
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	435
620	7009	ELEC CONDR (NO.6) BARE	LF	840
620	7010	ELEC CONDR (NO.6) INSULATED	LF	400
624	7008	GROUND BOX TY D (162922)W/APRON	EA	7
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	1
636	7001	ALUMINUM SIGNS (TY A)	SF	65
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	1
680	7004	REMOVING TRAFFIC SIGNALS	EA	1
682	7001	VEH SIG SEC (12")LED(GRN)	EA	7
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	1
682	7003	VEH SIG SEC (12")LED(YEL)	EA	7
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	2
682	7005	VEH SIG SEC (12")LED(RED)	EA	7
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	1
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	6
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	7
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	1
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	960
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	460
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	590
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	960
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	570
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	700
686	7028	INS TRF SIG PL AM(S)1 ARM(24')LUM&ILSN	EA	1
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	1
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	1
687	7001	PED POLE ASSEMBLY	EA	3
688	7001	PED DETECT PUSH BUTTON (APS)	EA	6
688	7003	PED DETECTOR CONTROLLER UNIT	EA	1
6001	7004	ILSN (8D)	EA	2
6001	7006	ILSN (10D)	EA	1
6005	7001	ITS COM CBL (ETHERNET)	LF	210
6007	7001	BBU SYSTEM (EXTERNAL BATT CABINET)	EA	1
6008	0001	RADAR PRESENCE DETECTION ONLY)	EA	3
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	3
6008	7009	RADAR PRESENCE DETECTOR COMM CABLE	LF	1060
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6061	0001	GPS COMMUNICATION UNIT	EA	1
n/a		FIELD MONITORING UNIT	EA	1
n/a		ENABLED ROADSIDE UNIT	EA	1

TRAFFIC SIGNAL SIGNS SUMMARY

SIGN NUMBER	SIGN STATUS	TYPE	LEGEND	LOCATION	DIMENSIONS
S1	I	D3-1G	WASHINGTON ST	P-1	102"X18"
S2	I	D3-1G	INTERNATIONAL BLVD	P-2	120"X18"
S3	I	D3-1G	WASHINGTON ST	P-3	102"X18"
S4	I	R3-2	NO LEFT TURN	P-1	24"X24"
S5	I	R15-6	NO LEFT TURN	P-1	24"X12"
S6	REL	WF	TO MEXICO	P-1	
S7	I	R6-1R	ONE WAY	P-1	36"X12"
S8	REL	WF	DOWNTOWN CITY HALL	P-1	
S9	I	R10-27A	LEFT TURN YIELD ON FYA	P-3	24"X30"
S10	REM	R6-1R	ONE WAY	ADJACENT TO WBN CURB	
S11	REM	R5-1	DO NOT ENTER	ADJACENT TO SBE CURB	
S12	REM	R5-1	DO NOT ENTER	ADJACENT TO SBE2 CURB	
S13	REM	R6-1R	ONE WAY	ADJACENT TO EBS CURB	
PB1	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-4	9"X15"
PB2	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-2	9"X15"
PB3	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-3	9"X15"
PB4	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-5	9"X15"
PB5	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-6	9"X15"
PB6	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-1	9"X15"

NOTE: REM = REMAIN, REL = RELOCATE, I = INSTALL, WF = WAYFINDING

APS MESSAGE CHART

POLE LOCATON	PEDESTRIAN MOVEMENT	FUNCTIONS	SPEECH MESSAGE / SOUND DETAILS
P - 1	PHASE 8	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E WASHINGTON STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 2	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E WASHINGTON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 3	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E WASHINGTON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 4	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E WASHINGTON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 5	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E WASHINGTON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 6	PHASE 8	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E WASHINGTON STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK

ELECTRICAL SERVICE DESCRIPTION

PROJECT LOCATION	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT	TWO-POLE CONTACTOR AMPS	PANEL BD./ LOAD CENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CIRCUIT POLE/AMPS	KVA LOAD
International Blvd @ E. Washington Street	TY D (120/240) 070 (NS) SS (N) SP (O)	2-1/2"	3/#6	N/A	2P/70	30	100	1. TRAFFIC SIGNAL	1P/50	
								2. LUM	2P/20	<7.5
								3. ILSN	3P/20	

INTERSECTION PHASING

BASIC TIMING CHART

Phase	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Street	International Blvd				International Blvd		Washington St	
Direction		EBT			EBLT	WBT		NB
Minimum Green	NOT	10	NOT	NOT	5	10	NOT	8
Extension		2,0			2,0	2,0		2,0
Maximum 1		60			20	60		30
Maximum 2	IN	70	IN	IN	25	70	IN	40
Yellow		4,0			4,0	4,0		4,0
All Red		2,0			2,0	2,0		2,0
Walk	USE	7	USE	USE		7	USE	7
F.D. Walk		18				20		32
Recall		C-Max				Max		
Dual Entry		X				X		

KBH TRAFFIC ENGINEERING, LLC
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REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:

PROPOSED INSTALLATION

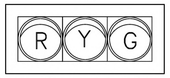
28

LEGEND

- EXISTING POLE W/MAST ARM
- EXISTING SIGNAL HEAD
- EXISTING LUMINAIRE
- EXISTING GROUND BOX
- EXISTING PEDESTRIAN POLE AND SIGNAL HEAD
- EXISTINGPEDESTRIAN PUSH BUTTON
- EXISTING MAST ARM SIGN
- EXISTING SIGNAL CONTROLLER CABINET
- EXISTING GROUND MOUNTED SIGN
- LANE ASSIGNMENTS
- EXISTING RADAR DETECTION

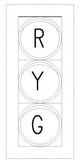
EXISTING TRAFFIC SIGNAL HEADS

H3



1, 2, 3, 4, 6, 7, 8, 9

V3



10

REMOVE 8" WHITE SOLID STRIPING (120 LF)

REMOVE 4" PARKING STRIPING (200 LF)

REMOVE EXISTING PAV. MARKING ARROW

EXISTING SIGNAL POLE WITH MAST ARM AND SIGNAL HEADS, TO BE REMOVED

REMOVE 4" WHITE BROKEN STRIPING (150 LF)

REMOVE 4" SOLID PARKING STRIPING (450 LF)

REMOVE 24" WHITE SOLID STRIPING (40 LF)

ADAMS STREET

REMOVE 24" WHITE SOLID STRIPING (80 LF)

REMOVE 24" WHITE SOLID STRIPING (35 LF)

REMOVE 12" WHITE SOLID STRIPING (70 LF)

REMOVE 12" WHITE SOLID STRIPING (160 LF)

EXISTING SIGNAL POLE WITH MAST ARM AND SIGNAL HEADS TO BE REMOVED

REMOVE 4" WHITE BROKEN STRIPING (130 LF)

REMOVE EXISTING PAV. MARKING "ONLY"

MATCH LINE B-B

BENCHMARK
X CUT IN CONCRETE
ELEVATION: 33.00'

REMOVE 4" YELLOW SOLID STRIPING (160 LF)

REMOVE 4" SOLID PARKING STRIPING (250 LF)

REMOVE 4" WHITE BROKEN STRIPING (140 LF)

EXISTING SIGNAL POLE WITH MAST ARM AND SIGNAL HEADS, TO BE REMOVED

REMOVE EXISTING SIGNAL CONTROLLER CABINET

EXISTING SIGNAL POLE WITH MAST ARM AND SIGNAL HEADS, TO BE REMOVED

BUILDING

INTERNATIONAL BOULEVARD

MATCH LINE A-A

BENCHMARK
X CUT IN CONCRETE
ELEVATION: 33.29'

BENCHMARK
X CUT IN CONCRETE
ELEVATION: 33.00'

REMOVE 8" WHITE SOLID STRIPING (80 LF)

REMOVE 24" WHITE SOLID STRIPING (50 LF)

REMOVE 6" DOUBLE YELLOW SOLID STRIPING (250 LF)

REMOVE 4" WHITE BROKEN STRIPING (130 LF)

EXISTING TO REMAIN GROUND MOUNTED SIGNS

R5-1 (30"-30")



S1, S2

R4-7 (24"-30")



S3

NOTE: RELOCATED EXISTING SPECIAL STREET NAME, WAYFINDING AND WARNING SIGNS TO THE NEW POLES

EXISTING MAST ARM MOUNTED SIGNS

ADAMS ST

S1, S3

INTERNATIONAL BLVD

S2, S4

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

SUMMARY OF QUANTITIES (REMOVAL)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
677-7001	ELIM EXT PM & MRKS (4")	LF	720
677-7002	ELIM EXT PM & MRKS (6")	LF	520
677-7004	ELIM EXT PM & MRKS (8")	LF	220
677-7006	ELIM EXT PM & MRKS (12")	LF	260
677-7008	ELIM EXT PM & MRKS (24")	LF	220
677-7009	ELIM EXT PM & MRKS (ARROW)	EA	4
677-7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	1
677-7015	ELIM EXT PM & MRKS (WORD)	EA	3

City of BROWNSVILLE TEXAS
On the Border. By the Sea. and Beyond.

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KBH TRAFFIC ENGINEERING
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

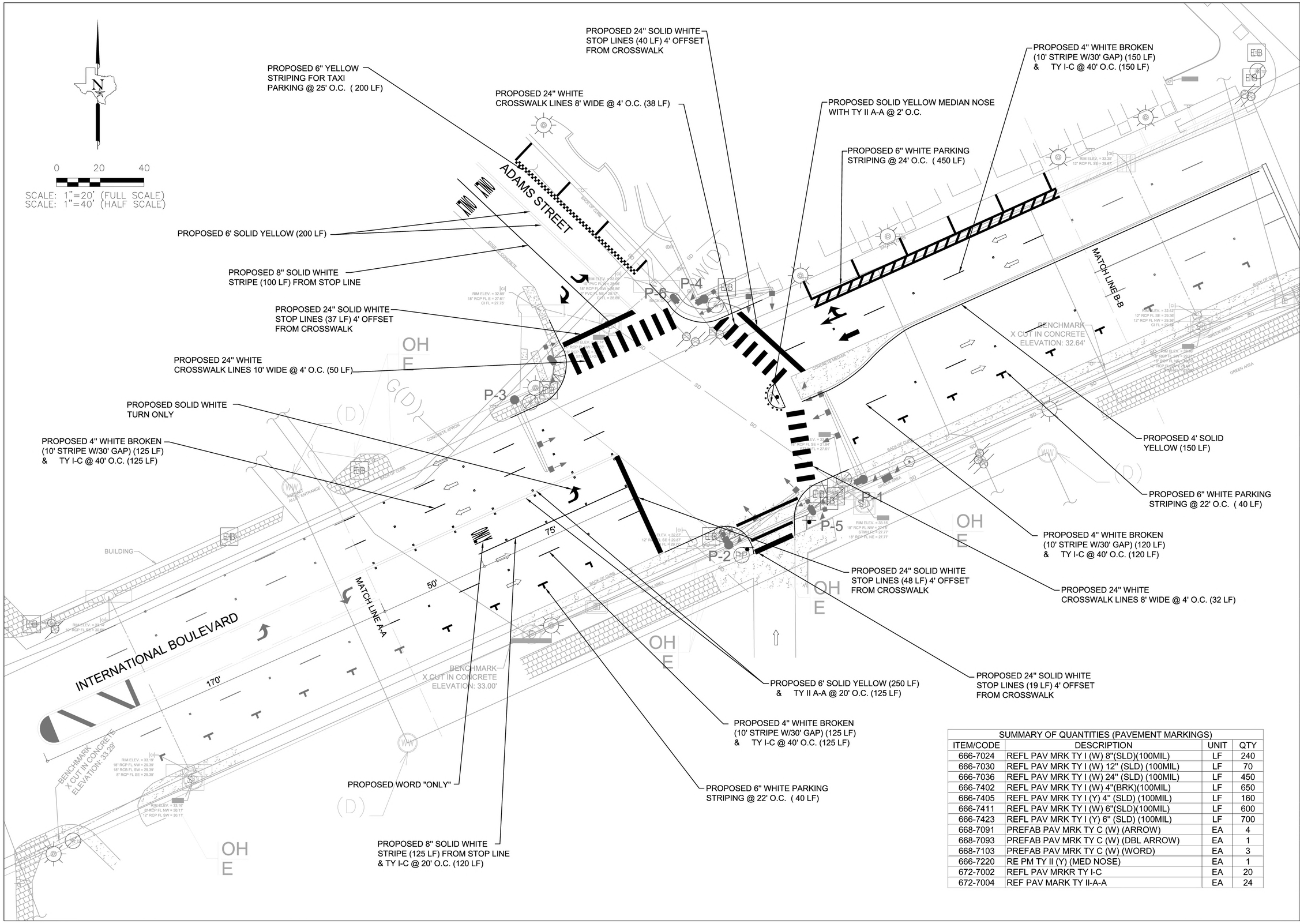
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:

EXISTING CONDITION LAYOUT

29



SUMMARY OF QUANTITIES (PAVEMENT MARKINGS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
666-7024	REFL PAV MRK TY I (W) 8"(SLD)(100MIL)	LF	240
666-7030	REFL PAV MRK TY I (W) 12" (SLD) (100MIL)	LF	70
666-7036	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	450
666-7402	REFL PAV MRK TY I (W) 4"(BRK)(100MIL)	LF	650
666-7405	REFL PAV MRK TY I (Y) 4" (SLD) (100MIL)	LF	160
666-7411	REFL PAV MRK TY I (W) 6"(SLD)(100MIL)	LF	600
666-7423	REFL PAV MRK TY I (Y) 6" (SLD) (100MIL)	LF	700
668-7091	PREFAB PAV MRK TY C (W) (ARROW)	EA	4
668-7093	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA	1
668-7103	PREFAB PAV MRK TY C (W) (WORD)	EA	3
666-7220	RE PM TY II (Y) (MED NOSE)	EA	1
672-7002	REFL PAV MRKR TY I-C	EA	20
672-7004	REF PAV MARK TY II-A-A	EA	24

City of BROWNSVILLE
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TEXAS

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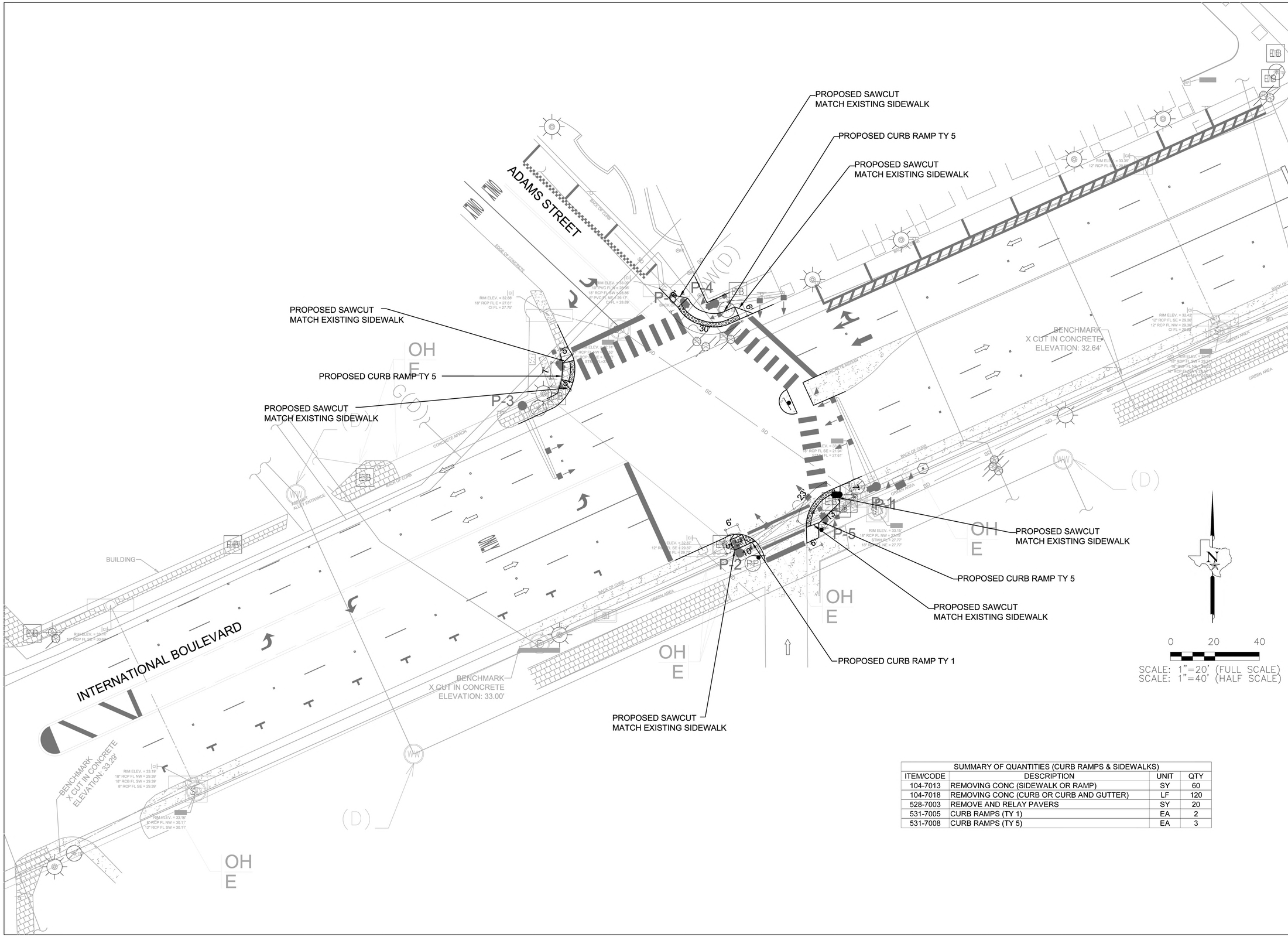
REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED PAVEMENT MARKING LAYOUT

30



SUMMARY OF QUANTITIES (CURB RAMPS & SIDEWALKS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
104-7013	REMOVING CONC (SIDEWALK OR RAMP)	SY	60
104-7018	REMOVING CONC (CURB OR CURB AND GUTTER)	LF	120
528-7003	REMOVE AND RELAY PAVERS	SY	20
531-7005	CURB RAMPS (TY 1)	EA	2
531-7008	CURB RAMPS (TY 5)	EA	3

City of BROWNSVILLE
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STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED CURB RAMP LAYOUT

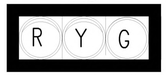
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PROPOSED TRAFFIC SIGNAL HEADS



W1 – W6
LED COUNTDOWN
PEDESTRIAN SIGNAL

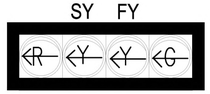
H3



1, 2, 4, 5, 6, 7, 8, 9, 10

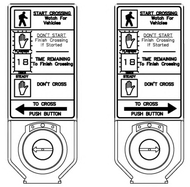
H4L

SY FY



3

PEDESTRIAN SIGNS



R10 – 3eL
PB2, PB4,
PB6

R10 – 3eR
PB1, PB3
PB5

MAST ARM MOUNTED SIGNS

R10-12A (24"X30")



S5



S1, S3



S2, S4

NOTE: RELOCATED EXISTING SPECIAL STREET NAME, WAYFINDING AND WARNING SIGNS (S6 & S7) TO THE NEW POLES

EXISTING TO REMAIN GROUND MOUNTED SIGNS

R5-1 (30"-30")



S8, S9

R4-7 (24"-30")



S10

SPECIAL NOTE: ALL EXISTING GROUND MOUNTED SIGNS TO REMAIN

TRAFFIC SIGNAL LOCATIONS		
POLE NUMBER	NORTHING	EASTING
1	16490136.8195	1312904.7822
2	16490106.8886	1312843.2258
3	16490173.2599	1312745.2040
4	16490219.3445	1312831.8884
5	16490121.7420	1312881.8563
6	16490220.3314	1312817.6531
GROUND BOX		
1	16490141.4394	1312919.8012
2	16490137.3436	1312909.6276
3	16490119.9917	1312885.4720
4	16490109.2894	1312847.5661
5	16490182.3027	1312762.1035
6	16490220.4133	1312826.1324
CABINET CONTROLLER	16490138.6743	1312915.0697

SIGNAL NOTES

1. THE CONTRACTOR SHALL FURNISH AND INSTALL RADAR VEHICLE DETECTION SYSTEM AND MAKE FULLY OPERATIONAL.
2. THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANIES AS TO THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT WITH OR DAMAGE TO THE UTILITIES.
3. FOR THE RADAR VEHICLE DETECTION SYSTEM, LOCATION AND PLACEMENT SHALL BE MOUNTED AS PER MANUFACTURER RECOMMENDATION AND IN COORDINATION WITH THE CITY OF BROWNSVILLE TRAFFIC DEPARTMENT.
4. EXISTING PHASING AND TIMING SHALL BE USED.

ITS NOTES

1. ALL EXISTING CAMERAS AND ITS EQUIPMENT TO BE RELOCATED AND REWIRED TO THE NEW PROPOSED POLE AT THIS LOCATION
2. CCTV (DIGITAL) REQUIRES A CAT 5 ETHERNET CABLE FROM MAST ARM TO FIELD MOUNTING UNIT (AI-500-085-02) IN THE SIGNAL CABINET.
3. ROADSIDE UNIT C-V2X (AI-500-095) REQUIRES A CAT 5 ETHERNET CABLE FROM SIGNAL POLE TO THE FIELD MOUNTING UNIT. A 24V WIRE IS REQUIRED TO POWER THE UNIT.
4. INSTALL ANTENNA ON SIGNAL POLE BELOW THE MAST ARM WITH METAL STRAPS AS PER MANUFACTURER RECOMMENDATIONS.
5. CONTRACTOR TO EXPOSE THE FIBER LINES PRIOR TO DRILLING THE FOUNDATION SHAFT

LEGEND

- PROP SIGNAL POLE W/MAST ARM
- PROPOSED SIGNAL HEAD
- PROPOSED LUMINAIRE
- GROUND BOX W/APRON
- PEDESTRIAN POLE AND SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PROPOSED ILSN SIGN
- PROPOSED MAST ARM SIGN
- PROPOSED ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- RADAR DETECTION
- CCTV CAMERA
- PROPOSED CONDUIT RUN (TRENCH)
- PROPOSED CONDUIT RUN (BORED)
- GROUND MOUNTED SIGN
- LANE ASSIGNMENTS

City of BROWNSVILLE TEXAS
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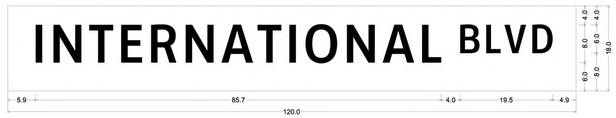
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
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3/20/2026

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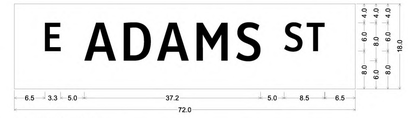
SHEET TITLE:
PROPOSED TRAFFIC SIGNAL LAYOUT

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TRAFFIC GROUND CONDUIT QUANTITIES																			
ITEM	TOTAL QTY	ADD QTY	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
			RUN LENGTH (LF)	10	10	13	10	10	30	10	10	41	10	55	70	10	10	75	20	10
POWER	40	3	1/C - #6 XHHW	2	2															
GROUND	735	59	1/C - #6 BARE	1	1	1	2	2	2	1	1	2	2	2	2	2	1	2	2	1
SIGNAL CABLE	701	56	2/C - #14 AWG				6		3	1	1	1	1	3	3	1	1	1		1
	701	56	5/C - #14 AWG				6		3	2		1	1	3	3	2		1		1
	506	40	7/C - #14 AWG				5	2	1			1	1	2	2	1		1	1	
OPTICOM	341	27	4/C - #12 AWG				3	1	1			1	1	1	1			1	1	
LUMINAIRE	538	43	2/C - #12 AWG (TC)	4		4		1	1			1	1	2	2	1		1	1	
CONDUIT	40	3	2" PVC BORE							1	1						1			1
	183	15	3" PVC BORE	1	1	1	1		2				2			2			2	
	512	41	4" PVC BORE					2		1		2		2	2			2		
ILSN SIGNS	538	43	4/C - #14 AWG TY"A" SOLID	4		4		1	1			1	1	2	2	1		1	1	
ITS COMM. CABLE	10	1	CAT 5 ETHERNET					1												
RVDS COMM. CABLE	827	66	RVDS CABLE				7	2	2			2	2	3	3	1		2	2	

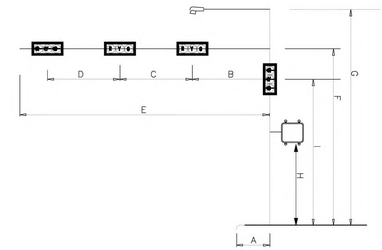


No border, White on Green;
"INTERNATIONAL", ClearviewHwy-3-W; "BLVD", ClearviewHwy-3-W;



No border, White on Green;
"E", ClearviewHwy-3-W; "ADAMS", ClearviewHwy-3-W; "ST", ClearviewHwy-3-W;

SIGNAL HEAD AND POLE PLACEMENT (LF)																											
POLE NO.	FND TYPE WIND ZONE 100 MPH	DRILLED SHAFT				WIRE INSIDE									NO. OF SIGNAL HEADS	NO. OF PED HEADS	LUM-A	RVDS PRESENCE & ADVANCE	ILSN SIGNS	DIMENTION (LF)							
		ITEM 416	ITEM 416	ITEM 416	ITEM 416	ITEM 682 SIG CABLE TYPE A			ITEM 684	ITEM 688	ITEM 6001	ITEM 6018	ITEM 6008	ITEM SS 8590						A	B	C	D	E	F	G	H
		24" DIA TYPE A LF	36" DIA TYPE A LF	36" DIA TYPE B LF	48" DIA TYPE A LF	SIG HD 7 CNDR 14 AWG	PED HD 5 CNDR 14 AWG	PED BTN 2CNDR 14 AWG	LUM 2 CND 12 AWG	APS PED PUSH BUTTONS	ILSN 4 CND 14 AWG, TY "A" SOLID	CCTV CAT 5 ETHERNET	RVDS RVDS CABLE	OPTICOM EMERG PREEMP DETECT CABLE													
P-1	48-A				22	142			42		42	40	140	55	3		1	2	1	12	22	12	12	50	19	30	10
P-2	36-B			16		119	44	20	42	1	42		140	40	3	1	1	2	1	12	7	12	19	40	19	30	10
P-3	36-A		14			93			40		40		120	45	2		1	2	1	10	22	12		36	19	30	10
P-4	36-A		14			62	40	20	40	1	40		30		2	2	1	1	1	10	20	12		32	19	30	10
P-5	24-A	6					40	20								2				10	PEDESTRIAN SIGNAL POLE						10
P-6	24-A	6						20												10	PEDESTRIAN SIGNAL POLE						10
P-7	24-A	6						20												10	PEDESTRIAN SIGNAL POLE						10
P-8	24-A	6					20	20												10	PEDESTRIAN SIGNAL POLE						10
TOTAL:		24	28	16	22	416	144	120	164	2	164	40	430	140	10	5	4	7	4								

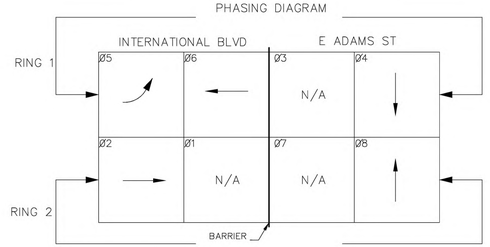


SIGNAL HEADS (ITEM 682)										
SIGNAL HEAD ID	SIGNAL HEAD TYPE	BACK PLATE		12" LED SIGNAL INCICATIONS						PED SIG SEC (LED)
		3 SEC	4 SEC	<- G -	G	<- Y -	Y	< - R -	R	
		EA	EA	EA	EA	EA	EA	EA	EA	EA
1	H3	1			1		1		1	
2	H3	1			1		1		1	
3	H4		1	1		2		1		
4	H3	1			1		1		1	
5	H3	1			1		1		1	
6	H3	1			1		1		1	
7	H3	1			1		1		1	
8	H3	1			1		1		1	
9	H3	1			1		1		1	
10	H3	1			1		1		1	
W1	PED									1
W2	PED									1
W3	PED									1
W4	PED									1
W5	PED									1
W6	PED									1
TOTAL:		9	1	1	9	2	9	1	9	6

TRAFFIC SIGNAL SIGNS SUMMARY					
SIGN NUMBER	SIGN STATUS	TYPE	LEGEND	LOCATION	DIMENSIONS
S1	I	D3-1G	ADAMS ST	P-1	66"X18"
S2	I	D3-1G	INTERNATIONAL BLVD	P-2	120"X18"
S3	I	D3-1G	ADAMS ST	P-3	66"X18"
S4	I	R3-2	INTERNATIONAL BLVD	P-4	120"X18"
S5	I	R10-27A	LEFT TURN YIELD ON FYA	P-1	24"X30"
S6	REL	WF	STILLMAN HOUSE MUSEUM	P-3	
S7	REL	WF	WARNING SIGN	P-3	
S8	REM	R5-1	DO NOT ENTER	ADJACENT TO NBW CURB	
S9	REM	R5-1	DO NOT ENTER	ADJACENT TO NBW CURB	
S10	REM	R4-7	KEEP RIGHT	ADJACENT TO THE EB MEDIAN CURB	
PB1	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-8	9"X15"
PB2	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-7	9"X15"
PB3	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-4	9"X15"
PB4	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-6	9"X15"
PB5	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-5	9"X15"
PB6	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-2	9"X15"

NOTE: REM = REMAIN, REL = RELOCATE, I = INSTALL, WF = WAYFINDING

INTERSECTION PHASING

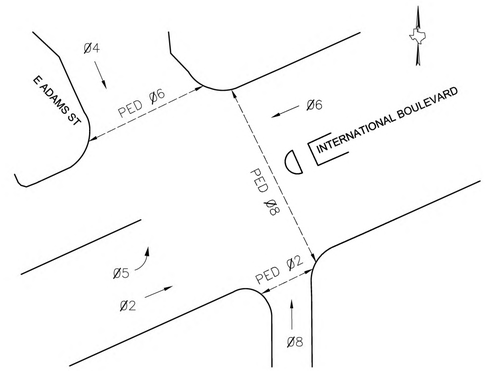


ESTIMATE OF TRAFFIC SIGNAL QUANTITIES				
ITEM No.	DESC. CODE	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	45
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	22
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	100
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	100
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	45
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	200
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	555
620	7009	ELEC CONDR (NO.6) BARE	LF	800
620	7010	ELEC CONDR (NO.6) INSULATED	LF	45
624	7008	GROUND BOX TY D (162922)W/APRON	EA	7
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	1
636	7001	ALUMINUM SIGNS (TY A)	SF	60
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	1
680	7004	REMOVING TRAFFIC SIGNALS	EA	1
682	7001	VEH SIG SEC (12")LED(GRN)	EA	9
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	1
682	7003	VEH SIG SEC (12")LED(YEL)	EA	9
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	2
682	7005	VEH SIG SEC (12")LED(RED)	EA	9
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	1
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	6
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	9
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	1
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	750
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	510
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	880
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	750
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	910
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	970
686	7036	INS TRF SIG PL AM(S)1 ARM(32')LUM&ILSN	EA	1
686	7040	INS TRF SIG PL AM(S)1 ARM(36')LUM&ILSN	EA	1
686	7044	INS TRF SIG PL AM(S)1 ARM(40')LUM&ILSN	EA	1
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	1
687	7001	PED POLE ASSEMBLY	EA	1
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	3
688	7001	PED DETECT PUSH BUTTON (APS)	EA	6
688	7003	PED DETECTOR CONTROLLER UNIT	EA	1
6001	7002	ILSN (6D)	EA	2
6001	7006	ILSN (10D)	EA	2
6005	7001	ITS COM CBL (ETHERNET)	LF	60
6007	7001	BBU SYSTEM (EXTERNAL BATT CABINET)	EA	1
6008	0001	RADAR PRESENCE DETECTION ONLY)	EA	4
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	3
6008	7009	RADAR PRESENCE DETECTOR COMM CABLE	LF	1300
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6061	0001	GPS COMMUNICATION UNIT	EA	1
n/a		FIELD MONITORING UNIT	EA	1
n/a		ENABLED ROADSIDE UNIT	EA	1

APS MESSAGE CHART			
POLE LOCATON	PEDESTRIAN MOVEMENT	FUNCTIONS	SPEECH MESSAGE / SOUND DETAILS
P - 2	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E ADAMS STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 4	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E ADAMS STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 5	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E ADAMS STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 6	PHASE 8	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E ADAMS STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 7	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E ADAMS STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 8	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E ADAMS STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK

RADAR DETECTOR SCHEDULE		
UNIT	ZONE	SIZE (W'XL')
R1-P	Z-6	12' X 40'
R1-A	Z-6	12' X 20'
R2-P	Z-4	12'X40'
R2-A	Z-4	12'X20'
R3-P	Z-8	6'X40'
R4-P	Z-5	6'X40'
	Z-2	12'X40'
R4-A	Z-2	12'X20'

GROUND BOX SUMMARY (ITEM 624)			
TYPE	DESCRIPTION	UNIT	QTY
D	No. 162922	EA	7



BASIC TIMING CHART									
Phase	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8	
Street	International Blvd		E Adams St		International Blvd		Driveway		
Direction		EBT		SB	EBLT	WBT		NB	
Minimum Green	NOT IN USE	10	NOT IN USE	8	5	10	NOT IN USE	8	
Extension		2,0		2,0	2,0	2,0		2,0	
Maximum 1		60		30	20	60		30	
Maximum 2		70		40	25	70		40	
Yellow		4,0		4,0	4,0	4,0		4,0	
All Red		2,0		2,0	2,0	2,0		2,0	
Walk		7				7		7	
F.D. Walk		12				18		28	
Recall		C-Max				Max			
Dual Entry		X		x		X		x	

ELECTRICAL SERVICE DESCRIPTION										
PROJECT LOCATION	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT	TWO-POLE CONTACTOR AMPS	PANEL BD / LOAD CENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CIRCUIT POLE/AMPS	KVA LOAD
International Blvd @ E. Adams Street	TY D (120/240) 070 (NS) SS (N) SP (O)	2-1/2"	3/#6	N/A	2P/70	30	100	1. TRAFFIC SIGNAL	1P/50	<7.5
								2. LUM	2P/20	
								3. ILSN	3P/20	

KBH TRAFFIC ENGINEERING, LLC
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
3/20/2026

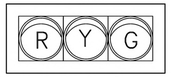
PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:
PROPOSED INSTALLATION

33

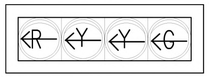
EXISTING TRAFFIC SIGNAL HEADS

H3



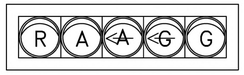
1, 2, 4, 5, 6, 7, 9, 10

H4L



3

H5L



8

EXISTING MAST ARM MOUNTED SIGNS

D12-1 (24"X24")



S5



S1



S3

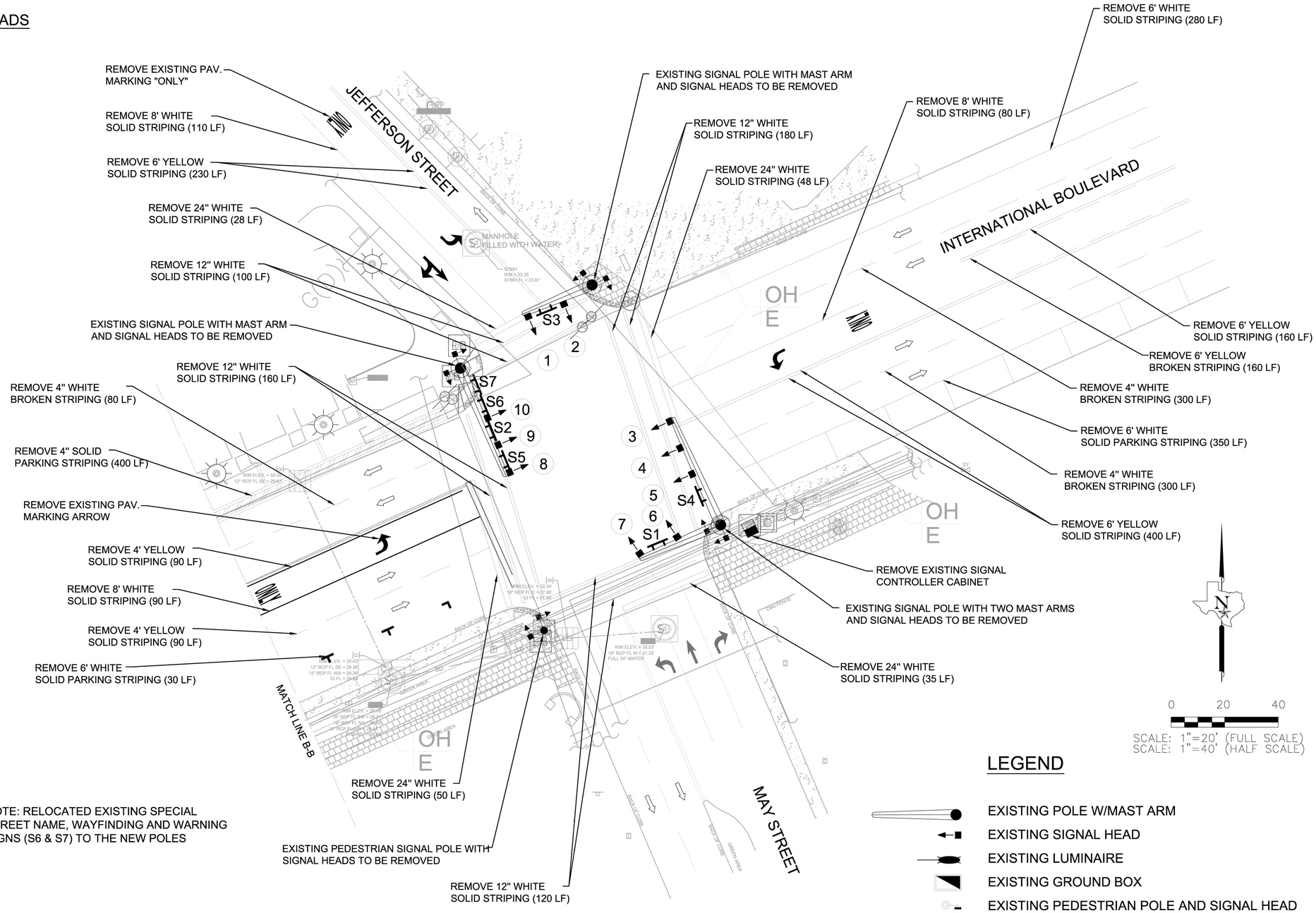


S2



S4

NOTE: RELOCATED EXISTING SPECIAL STREET NAME, WAYFINDING AND WARNING SIGNS (S6 & S7) TO THE NEW POLES



0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

SUMMARY OF QUANTITIES (REMOVAL)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
677-7001	ELIM EXT PM & MRKS (4")	LF	900
677-7002	ELIM EXT PM & MRKS (6")	LF	2300
677-7004	ELIM EXT PM & MRKS (8")	LF	300
677-7006	ELIM EXT PM & MRKS (12")	LF	600
677-7008	ELIM EXT PM & MRKS (24")	LF	200
677-7009	ELIM EXT PM & MRKS (ARROW)	EA	3
677-7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	1
677-7015	ELIM EXT PM & MRKS (WORD)	EA	3

LEGEND

- EXISTING POLE W/MAST ARM
- EXISTING SIGNAL HEAD
- EXISTING LUMINAIRE
- EXISTING GROUND BOX
- EXISTING PEDESTRIAN POLE AND SIGNAL HEAD
- EXISTINGPEDESTRIAN PUSH BUTTON
- EXISTING MAST ARM SIGN
- EXISTING SIGNAL CONTROLLER CABINET
- EXISTING GROUND MOUNTED SIGN
- LANE ASSIGNMENTS
- EXISTING RADAR DETECTION

City of BROWNSVILLE TEXAS
On the Border. By the Sea. and Beyond.

KBH TRAFFIC ENGINEERING, LLC
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1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

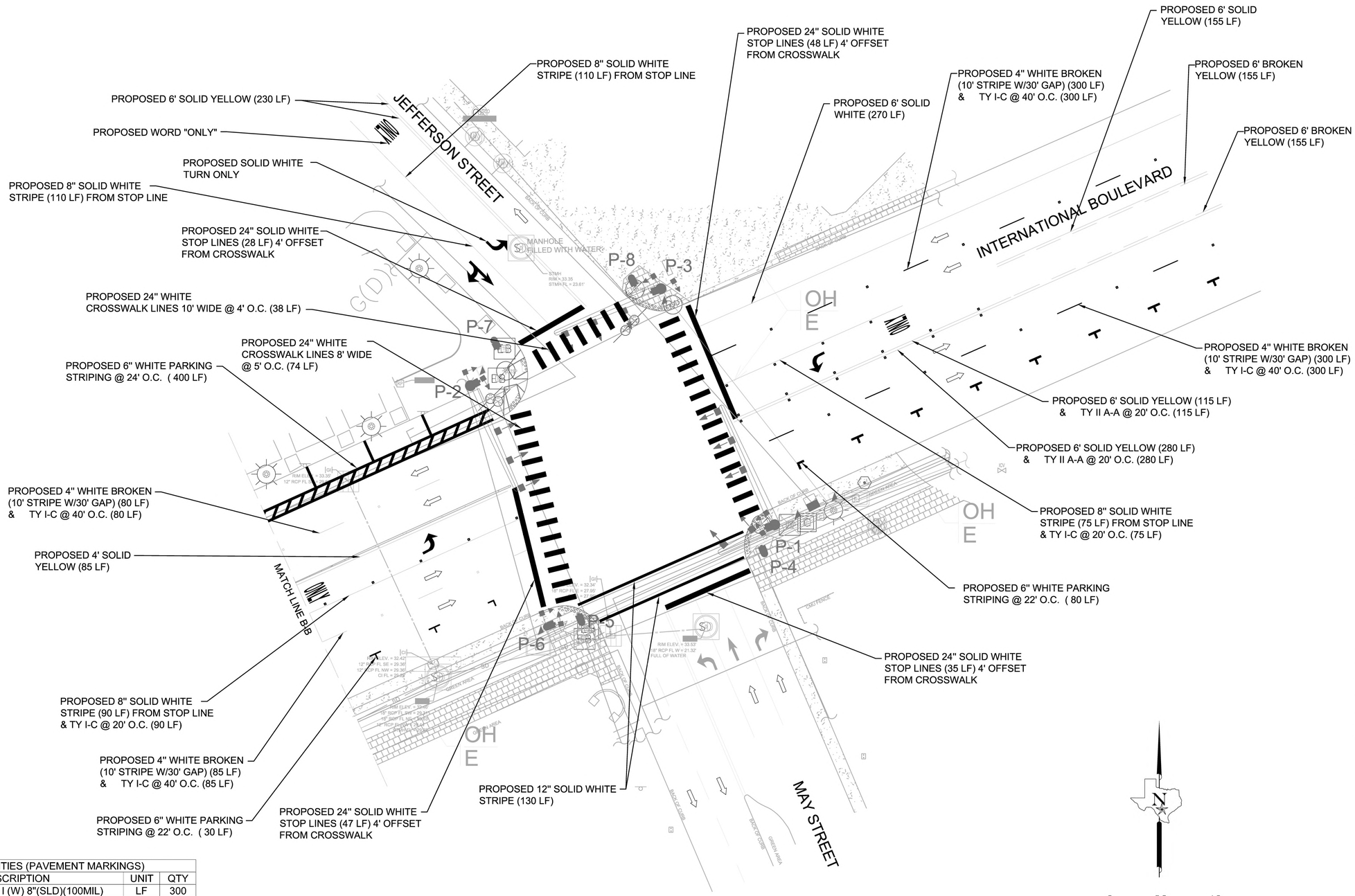
REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
EXISTING CONDITION LAYOUT

34



SUMMARY OF QUANTITIES (PAVEMENT MARKINGS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
666-7024	REFL PAV MRK TY I (W) 8"(SLD)(100MIL)	LF	300
666-7030	REFL PAV MRK TY I (W) 12" (SLD) (100MIL)	LF	150
666-7036	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	550
666-7402	REFL PAV MRK TY I (W) 4"(BRK)(100MIL)	LF	850
666-7405	REFL PAV MRK TY I (Y) 4" (SLD) (100MIL)	LF	100
666-7411	REFL PAV MRK TY I (W) 6"(SLD)(100MIL)	LF	820
666-7420	REFL PAV MRK TY I (Y) 6" (BRK) (100MIL)	LF	230
666-7423	REFL PAV MRK TY I (Y) 6" (SLD) (100MIL)	LF	900
668-7091	PREFAB PAV MRK TY C (W) (ARROW)	EA	3
668-7093	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA	1
668-7103	PREFAB PAV MRK TY C (W) (WORD)	EA	3
672-7002	REFL PAV MRKR TY I-C	EA	40
672-7004	REFL PAV MARK TY II-A-A	EA	16

City of BROWNSVILLE TEXAS
On the Border. By the Sea. and Beyond.

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1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

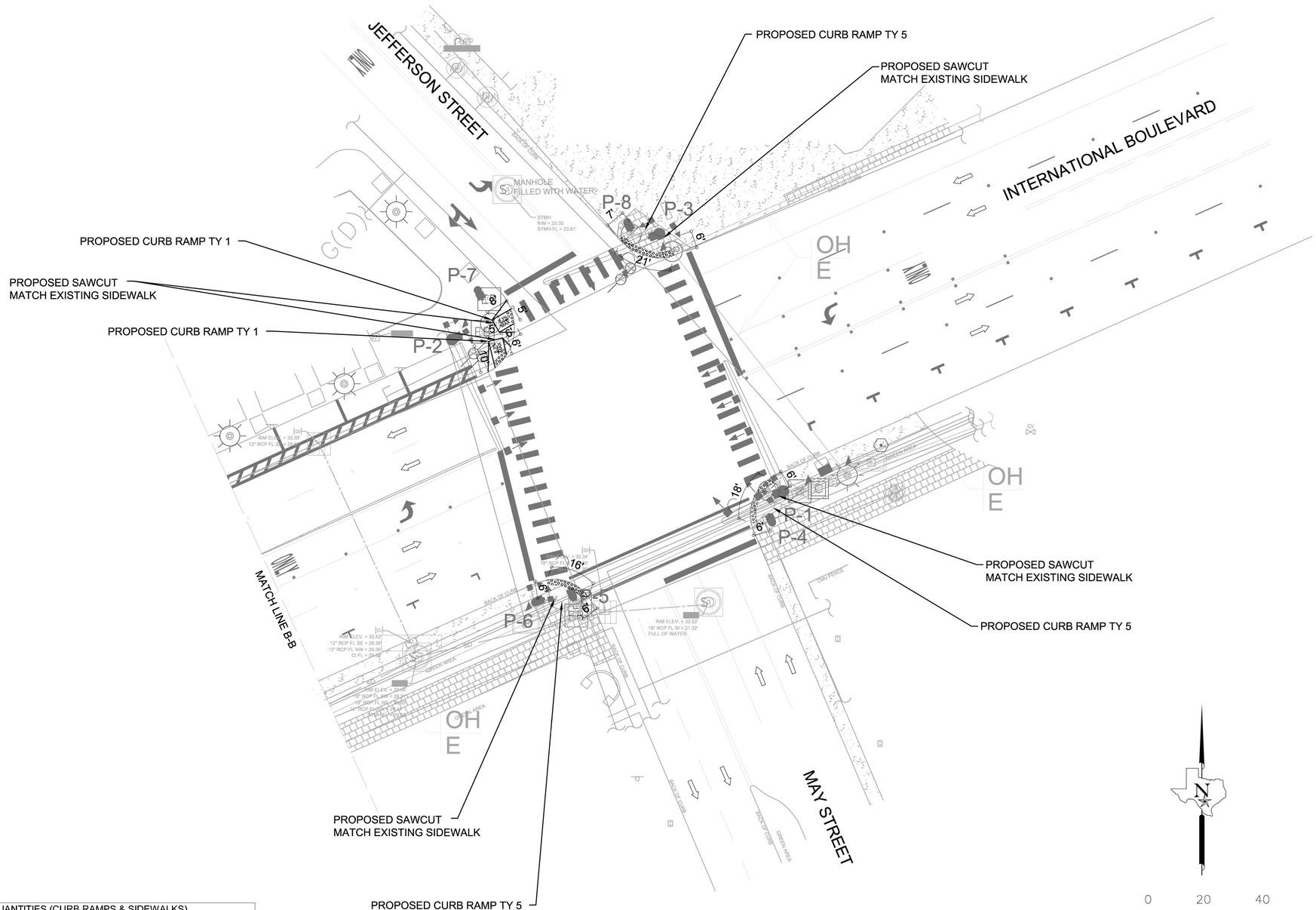
REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED PAVEMENT MARKING LAYOUT

35



SUMMARY OF QUANTITIES (CURB RAMPS & SIDEWALKS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
104-7013	REMOVING CONC (SIDEWALK OR RAMP)	SY	75
104-7018	REMOVING CONC (CURB OR CURB AND GUTTER)	LF	120
528-7003	REMOVE AND RELAY PAVERS	SY	20
531-7005	CURB RAMPS (TY 1)	EA	2
531-7008	CURB RAMPS (TY 5)	EA	3

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

City of BROWNSVILLE Texas
On the Border. By the Sea. and Beyond.

KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION

NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED CURB RAMP LAYOUT

36

PROPOSED TRAFFIC SIGNAL HEADS



W1–W8
LED COUNTDOWN
PEDESTRIAN SIGNAL

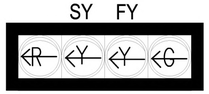
H3



1, 2, 3, 5, 6, 7, 8, 10, 11

H4L

SY FY



4, 9

PEDESTRIAN SIGNS



R10–3eL
PB2, PB4,
PB6, PB8

R10–3eR
PB1, PB3,
PB5, PB7

TRAFFIC SIGNAL LOCATIONS		
POLE NUMBER	NORTHING	EASTING
1	16490264.9295	1313187.6911
2	16490317.8466	1313071.8667
3	16490354.9104	1313144.3851
4	16490253.9641	1313183.7876
5	16490227.8083	1313114.1369
6	16490225.9953	1313100.8601
7	16490335.1828	1313080.8105
8	16490358.9620	1313133.0988
GROUND BOX		
1	16490275.5671	1313209.9055
2	16490268.9077	1313195.8287
3	16490224.6873	1313098.0291
4	16490350.4888	1313145.0915
5	16490323.7122	1313075.8054
CABINET CONTROLLER	16490273.3912	1313201.7800

NOTE: RELOCATED EXISTING SPECIAL WAYFINDING AND WARNING SIGNS (S7 & S8) TO THE NEW POLES

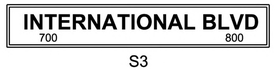
MAST ARM MOUNTED SIGNS



S4



S1



S3



S2

WAYFINDING SIGNS

R10-12A (24"X30")



S5, S9

D12-1 (24"X24")



S6

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

LEGEND

- PROP SIGNAL POLE W/MAST ARM
- PROPOSED SIGNAL HEAD
- PROPOSED LUMINAIRE
- GROUND BOX W/APRON
- PEDESTRIAN POLE AND SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PROPOSED ILSN SIGN
- PROPOSED MAST ARM SIGN
- PROPOSED ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- RADAR DETECTION
- CCTV CAMERA
- PROPOSED CONDUIT RUN (TRENCH)
- PROPOSED CONDUIT RUN (BORED)
- GROUND MOUNTED SIGN
- LANE ASSIGNMENTS

SIGNAL NOTES

1. THE CONTRACTOR SHALL FURNISH AND INSTALL RADAR VEHICLE DETECTION SYSTEM AND MAKE FULLY OPERATIONAL.
2. THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANIES AS TO THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT WITH OR DAMAGE TO THE UTILITIES.
3. FOR THE RADAR VEHICLE DETECTION SYSTEM, LOCATION AND PLACEMENT SHALL BE MOUNTED AS PER MANUFACTURER RECOMMENDATION AND IN COORDINATION WITH THE CITY OF BROWNSVILLE TRAFFIC DEPARTMENT.
4. EXISTING PHASING AND TIMING SHALL BE USED.

ITS NOTES

1. ALL EXISTING CAMERAS AND ITS EQUIPMENT TO BE RELOCATED AND REWIRED TO THE NEW PROPOSED POLE AT THIS LOCATION
2. CCTV (DIGITAL) REQUIRES A CAT 5 ETHERNET CABLE FROM MAST ARM TO FIELD MOUNTING UNIT (AI-500-085-02) IN THE SIGNAL CABINET.
3. ROADSIDE UNIT C-V2X (AI-500-095) REQUIRES A CAT 5 ETHERNET CABLE FROM SIGNAL POLE TO THE FIELD MOUNTING UNIT. A 24V WIRE IS REQUIRED TO POWER THE UNIT.
4. INSTALL ANTENNA ON SIGNAL POLE BELOW THE MAST ARM WITH METAL STRAPS AS PER MANUFACTURER RECOMMENDATIONS.
5. CONTRACTOR TO EXPOSE THE FIBER LINES PRIOR TO DRILLING THE FOUNDATION SHAFT

City of BROWNSVILLE TEXAS
On the Border. By the Sea. and Beyond.

KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
1127 Eldridge Pkwy, Suite 300–203
Houston, Texas, 77077
TBPE FIRM NUMBER: F–14592

REVISION NO	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED TRAFFIC SIGNAL LAYOUT

37

TRAFFIC GROUND CONDUIT QUANTITIES

ITEM	TOTAL QTY	ADD QTY	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			RUN LENGTH (LF)	15	10	20	10	10	20	110	10	10	100	10	20	75	10	15
POWER	50	4	1/C - #6 XHHW	2	2													
GROUND	770	62	1/C - #6 BARE	1	1	1	2	2	1	2	1	1	2	2	1	2	2	1
SIGNAL CABLE	955	76	2/C - #14 AWG				8	1	1	2	1	1	4	1	1	2	1	1
	930	74	5/C - #14 AWG				8	2		2	2		4	2		2	2	
	710	57	7/C - #14 AWG				8	4					4	2		2	2	
OPTICOM	345	28	4/C - #12 AWG				4	1					2	1		1	1	
LUMINAIRE	440	35	2/C - #12 AWG (TC)	3		3	3	1					2	1		1	1	
CONDUIT	75	6	2" PVC BORE						1		1	1			1			1
	85	7	3" PVC BORE	1	1	1		2									2	
	590	47	4" PVC BORE							2			2	2		2		
ILNS SIGNS	440	35	4/C - #14 AWG TY"A" SOLID	3		3	3	1					2	1		1	1	
ITS COMM. CABLE	20	2	CAT 5 ETHERNET				1	1										
RVDS COMM. CABLE	710	57	RVDS CABLE				8	4					4	2		2	2	



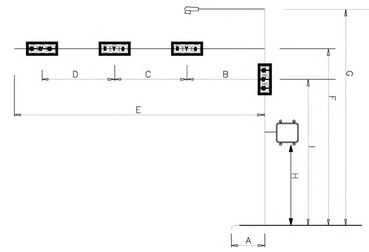
No border, White on Green;
Standard Arrow 2 9.4" X 5.4" 180"; "JEFFERSON", ClearviewHwy-3-W; "ST", ClearviewHwy-3-W; "MAY", ClearviewHwy-3-W;
"ST", ClearviewHwy-3-W; Standard Arrow 2 9.4" X 5.4" 0";



No border, White on Green;
"JEFFERSON", ClearviewHwy-3-W; "ST", ClearviewHwy-3-W; Standard Arrow 2 9.4" X 5.4" 0"; Standard Arrow 2 9.4" X 5.4" 180";
"MAY", ClearviewHwy-3-W; "ST", ClearviewHwy-3-W;

SIGNAL HEAD AND POLE PLACEMENT (LF)

POLE NO.	FND TYPE WIND ZONE 100 MPH	DRILLED SHAFT ITEM 416 24" DIA TYPE A LF	DRILLED SHAFT ITEM 416 36" DIA TYPE B LF	DRILLED SHAFT ITEM 416 48" DIA TYPE A LF	WIRE INSIDE POLES ITEM 682 SIG CABLE TYPE A SIG HD 7 CNDR 14 AWG	PED HD 5 CNDR 14 AWG	PED BTN 2CNDR 14 AWG	ITEM 684 LUM 2 CND 12 AWG	ITEM 688 APS PED PUSH BUTTONS	ITEM 6001 ILSN 4 CND 14 AWG, TY "A" SOLID	ITEM 6018 CCTV CAT 5 ETHERNET	ITEM 6008 RVDS RVDS CABLE	ITEM SS 8590 OPTICOM EMERG PREEMP DETECT CABLE	NO. OF SIGNAL HEADS	NO. OF PED HEADS	LUM-A	RVDS PRESENCE & ADVANCE	ILSN SIGNS	DIMENSION (LF) A	B	C	D	E	F	G	H
P-1	48-A			22	105	40	20	40	1	40	55	120	50	3	2	1	2	1	10	24	12	12	50	19	30	10
					35							120	45	2			2	1	10	10	12		24	17	30	10
P-2	36-B		16		115	60	30	50	1	50		90	60	3	2	1	2	1	18	20	12	12	44	19	30	10
P-3	36-B		16		95	40	20	40	1	40		110	50	3	2	1	2	1	10	17	12	12	44	19	30	10
P-4	24-A	6					20												10	PEDESTRIAN SIGNAL POLE						10
P-5	24-A	6					20												10	PEDESTRIAN SIGNAL POLE						10
P-6	24-A	6				40	20												10	PEDESTRIAN SIGNAL POLE						10
P-7	24-A	6					20												10	PEDESTRIAN SIGNAL POLE						10
P-8	24-A	6					20												10	PEDESTRIAN SIGNAL POLE						10
TOTAL:		30	32	22	350	180	170	130	3	130	55	440	205	11	6	3	8	4								



SIGNAL HEADS (ITEM 682)

SIGNAL HEAD ID	SIGNAL HEAD TYPE	BACK PLATE 3 SEC EA	BACK PLATE 4 SEC EA	12" LED SIGNAL INCICATIONS <- G - EA	G EA	<- Y - EA	Y EA	<- R - EA	R EA	PED SIG SEC (LED) EA
1	H3	1			1		1		1	
2	H3	1			1		1		1	
3	H3	1			1		1		1	
4	H4		1	1		2		1		
5	H3	1			1		1		1	
6	H3	1			1		1		1	
7	H3	1			1		1		1	
8	H3	1			1		1		1	
9	H4		1	1		2		1		
10	H3	1			1		1		1	
11	H3	1			1		1		1	
W1	PED									1
W2	PED									1
W3	PED									1
W4	PED									1
W5	PED									1
W6	PED									1
W7	PED									1
W8	PED									1
TOTAL:		9	2	2	9	4	9	2	9	8

TRAFFIC SIGNAL SIGNS SUMMARY

SIGN NUMBER	SIGN STATUS	TYPE	LEGEND	LOCATION	DIMENSIONS
S1	REL	D3-1G	INTERNATIONAL BLVD	P-1 MA 24'	
S2	REL	D3-1G	E JEFFERSON ST/MAY ST	P-2	
S3	REL	D3-1G	INTERNATIONAL BLVD	P-3	
S4	REL	D3-1G	E JEFFERSON ST/MAY ST	P-1 MA 50'	
S5	I	R10-27A	LEFT TURN YIELD ON FYA	P-2	24"X30"
S6	REL	WF	TO MEXICO	P-2	
S7	REL	WF	WARNING SIGN	P-2	
S8	REL	WF	DOWN TOWN	P-2	
S9	I	R10-27A	LEFT TURN YIELD ON FYA	P-1 MA 50'	24"X30"
PB1	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-7	9"X15"
PB2	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-8	9"X15"
PB3	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-3	9"X15"
PB4	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-1	9"X15"
PB5	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-4	9"X15"
PB6	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-5	9"X15"
PB7	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-6	9"X15"
PB8	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-2	9"X15"

NOTE: REM = REMAIN, REL = RELOCATE, I = INSTALL, WF = WAYFINDING

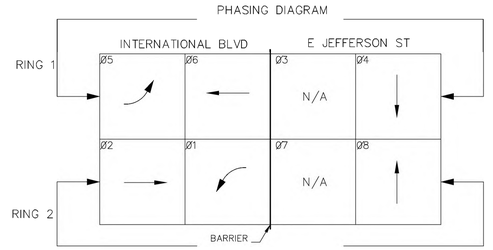
RADAR DETECTOR SCHEDULE

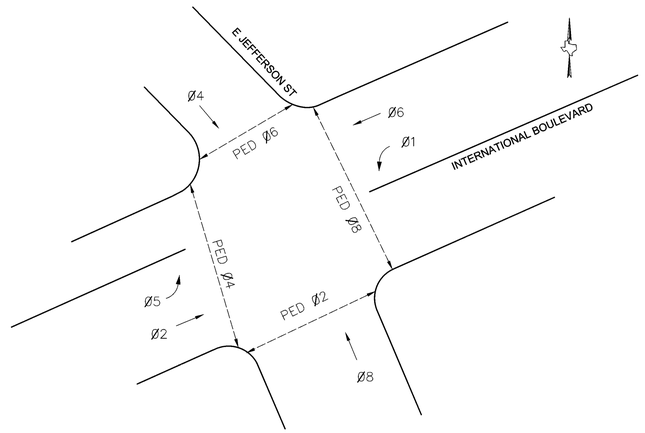
UNIT	ZONE	SIZE (W'XL')
R1-P	Z-5	6' X 40'
	Z-2	12' X 40'
R1-A	Z-2	12'X20'
R2-P	Z-8	24'X40'
R2-A	Z-8	24'X20'
R3-P	Z-1	6'X40'
	Z-6	12'X40'
R3-A	Z-6	12'X20'
R4-P	Z-4	12'X40'
R4-A	Z-4	12'X20'

GROUND BOX SUMMARY (ITEM 624)

TYPE	DESCRIPTION	UNIT	QTY
D	No. 162922	EA	5

INTERSECTION PHASING





APS MESSAGE CHART

POLE LOCATON	PEDESTRIAN MOVEMENT	FUNCTIONS	SPEECH MESSAGE / SOUND DETAILS
P - 1	PHASE 8	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E JEFFERSON STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 2	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E JEFFERSON STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 3	PHASE 8	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E JEFFERSON STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 4	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E JEFFERSON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 5	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E JEFFERSON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 6	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E JEFFERSON STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 7	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E JEFFERSON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 8	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E JEFFERSON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK

ESTIMATE OF TRAFFIC SIGNAL QUANTITIES

ITEM No.	DESC. CODE	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	34
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	22
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	100
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	100
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	85
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	95
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	640
620	7009	ELEC CONDR (NO.6) BARE	LF	840
620	7010	ELEC CONDR (NO.6) INSULATED	LF	60
624	7008	GROUND BOX TY D (162922)W/APRON	EA	5
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	1
636	7001	ALUMINUM SIGNS (TY A)	SF	20
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	1
680	7004	REMOVING TRAFFIC SIGNALS	EA	1
682	7001	VEH SIG SEC (12")LED(GRN)	EA	9
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	2
682	7003	VEH SIG SEC (12")LED(YEL)	EA	9
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	4
682	7005	VEH SIG SEC (12")LED(RED)	EA	9
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	2
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	8
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	9
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	2
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	610
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	580
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	1210
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	610
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	1190
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	1120
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	2
686	7176	IN TRF SG PL AM(S)2ARM(50-24')LUM&ILSN	EA	1
687	7001	PED POLE ASSEMBLY	EA	1
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	4
688	7001	PED DETECT PUSH BUTTON (APS)	EA	8
688	7003	PED DETECTOR CONTROLLER UNIT	EA	1
6001	7004	ILSN (8D)	EA	2
6001	7006	ILSN (10D)	EA	2
6005	7001	ITS COM CBL (ETHERNET)	LF	90
6007	7001	BBU SYSTEM (EXTERNAL BATT CABINET)	EA	1
6008	0001	RADAR PRESENCE DETECTION ONLY)	EA	4
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	4
6008	7009	RADAR PRESENCE DETECTOR COMM CABLE	LF	1200
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6061	0001	GPS COMMUNICATION UNIT	EA	1
n/a		FIELD MONITORING UNIT	EA	1
n/a		ENABLED ROADSIDE UNIT	EA	1

ELECTRICAL SERVICE DESCRIPTION

PROJECT LOCATION	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT	TWO-POLE CONTACTOR AMPS	PANEL BD./ LOAD CENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CIRCUIT POLE/AMPS	KVA LOAD
International Blvd @ E. Jefferson Street	TY D (120/240) 070 (NS) SS (N) SP (O)	2-1/2"	3/#6	N/A	2P/70	30	100	1. TRAFFIC SIGNAL	1P/50	<7.5
								2. LUM	2P/20	
								3. ILSN	3P/20	

BASIC TIMING CHART

Phase	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Street	International Blvd		E Jefferson St		International Blvd		E Jefferson St	
Direction	WBLT	EBT		SB	EBLT	WBT		NB
Minimum Green	5	10		8	5	10		8
Extension	2,0	2,0	NOT	2,0	2,0	2,0	NOT	2,0
Maximum 1	20	60		30	20	60		30
Maximum 2	25	70	IN	40	25	70	IN	40
Yellow	4,0	4,0		4,0	4,0	4,0		4,0
All Red	2,0	2,0	USE	2,0	2,0	2,0	USE	2,0
Walk		7		7		7		7
F.D. Walk		18		25		18		25
Recall		C-Max				Max		
Dual Entry		X		X		X		X

City of BROWNSVILLE
On the Border By the Sea and Beyond
KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

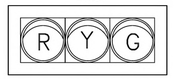
SHEET TITLE:

PROPOSED INSTALLATION

38

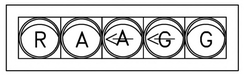
EXISTING TRAFFIC SIGNAL HEADS

H3



1, 2, 4, 5, 6, 7, 9, 10

H5L



3, 8

EXISTING MAST ARM MOUNTED SIGNS

D12-2 (24"X24")



S7



S3



S1



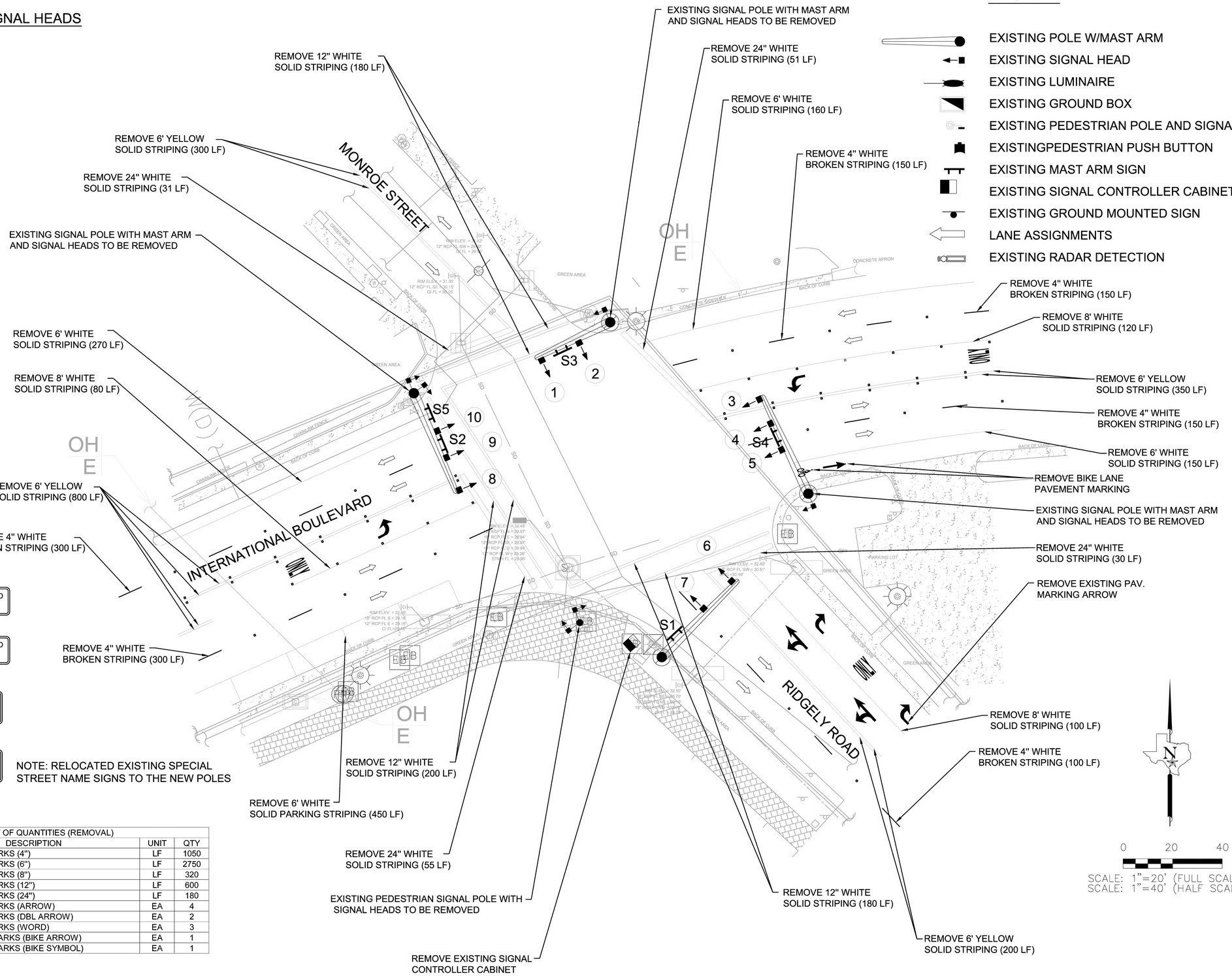
S2



S4

NOTE: RELOCATED EXISTING SPECIAL STREET NAME SIGNS TO THE NEW POLES

SUMMARY OF QUANTITIES (REMOVAL)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
677-7001	ELIM EXT PM & MRKS (4")	LF	1050
677-7002	ELIM EXT PM & MRKS (6")	LF	2750
677-7004	ELIM EXT PM & MRKS (8")	LF	320
677-7006	ELIM EXT PM & MRKS (12")	LF	600
677-7008	ELIM EXT PM & MRKS (24")	LF	180
677-7009	ELIM EXT PM & MRKS (ARROW)	EA	4
677-7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	2
677-7015	ELIM EXT PM & MRKS (WORD)	EA	3
677-7025	ELIM EXT PM & MARKS (BIKE ARROW)	EA	1
677-7027	ELIM EXT PM & MARKS (BIKE SYMBOL)	EA	1



LEGEND

- EXISTING POLE W/MAST ARM
- EXISTING SIGNAL HEAD
- EXISTING LUMINAIRE
- EXISTING GROUND BOX
- EXISTING PEDESTRIAN POLE AND SIGNAL HEAD
- EXISTINGPEDESTRIAN PUSH BUTTON
- EXISTING MAST ARM SIGN
- EXISTING SIGNAL CONTROLLER CABINET
- EXISTING GROUND MOUNTED SIGN
- LANE ASSIGNMENTS
- EXISTING RADAR DETECTION

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

City of BROWNSVILLE
On the Border By the Sea and Beyond
TEXAS

KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION



3/20/2026

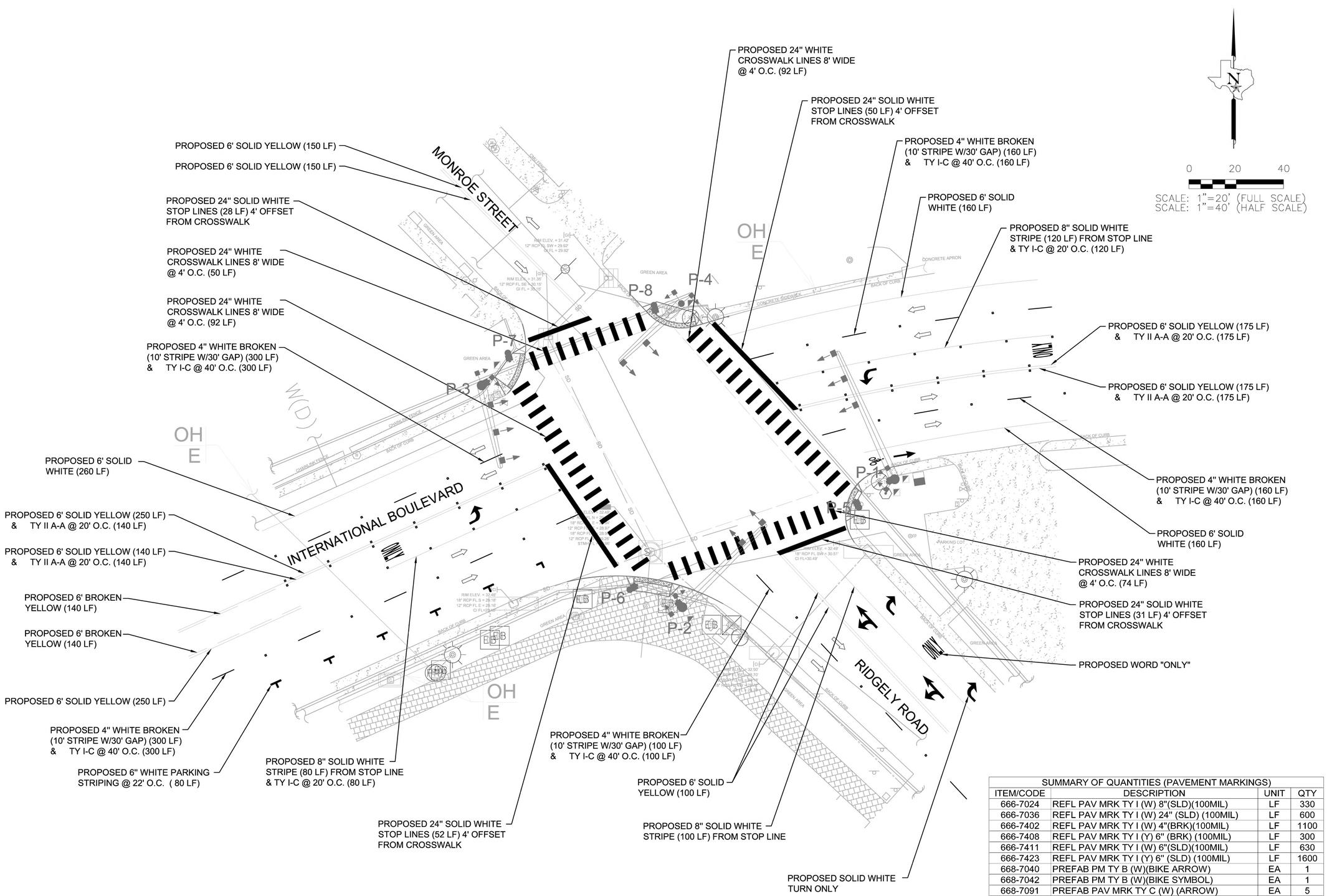
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:

EXISTING CONDITION LAYOUT

39



SUMMARY OF QUANTITIES (PAVEMENT MARKINGS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
666-7024	REFL PAV MRK TY I (W) 8"(SLD)(100MIL)	LF	330
666-7036	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	600
666-7402	REFL PAV MRK TY I (W) 4"(BRK)(100MIL)	LF	1100
666-7408	REFL PAV MRK TY I (Y) 6" (BRK) (100MIL)	LF	300
666-7411	REFL PAV MRK TY I (W) 6"(SLD)(100MIL)	LF	630
666-7423	REFL PAV MRK TY I (Y) 6" (SLD) (100MIL)	LF	1600
668-7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	1
668-7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	1
668-7091	PREFAB PAV MRK TY C (W) (ARROW)	EA	5
668-7093	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA	2
668-7103	PREFAB PAV MRK TY C (W) (WORD)	EA	3
672-7002	REFL PAV MRKR TY I-C	EA	48
672-7004	REFL PAV MARK TY II-A-A	EA	40

City of BROWNSVILLE Texas
On the Border, By the Sea, and Beyond

KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

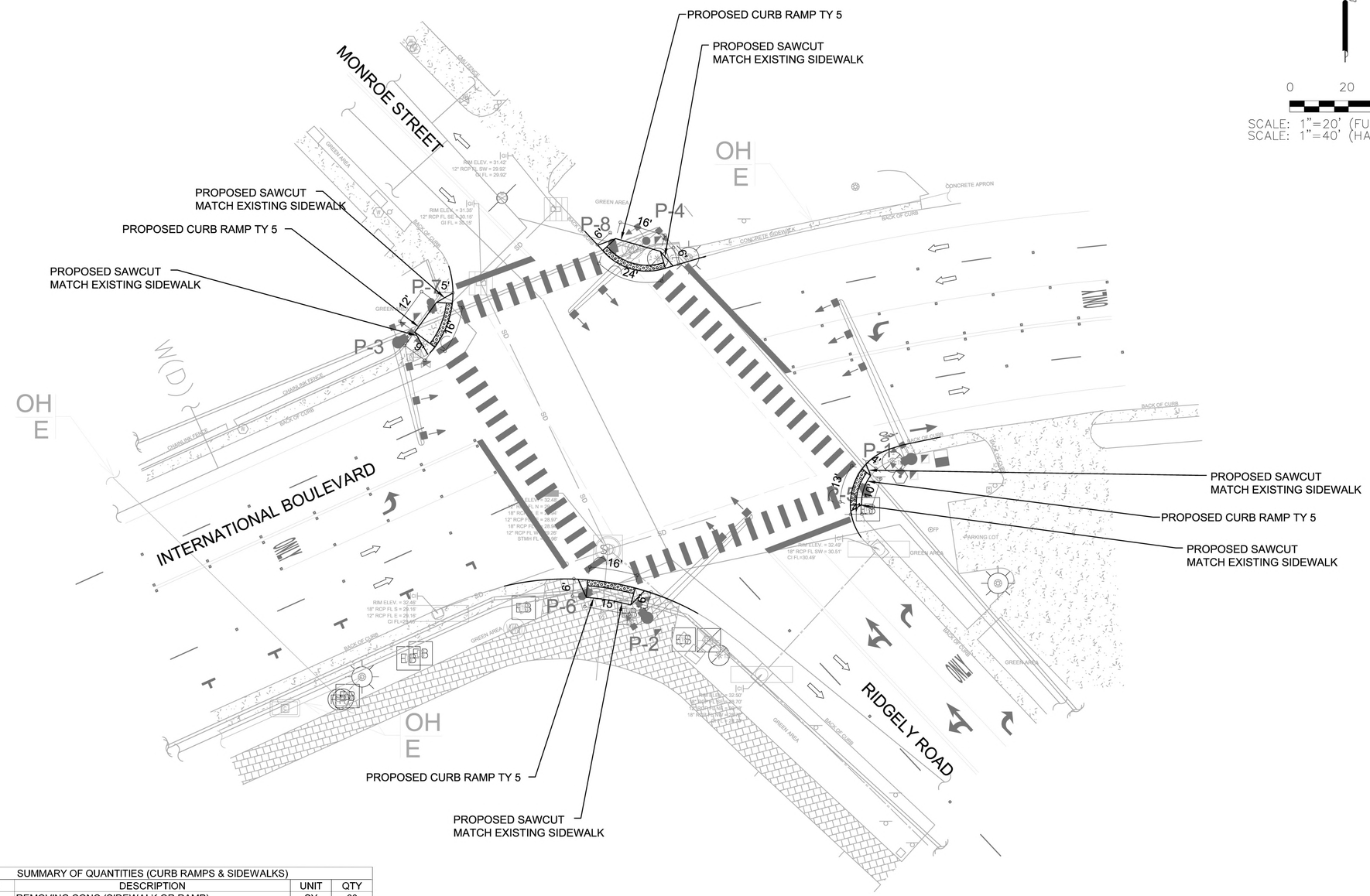
REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED PAVEMENT MARKING LAYOUT

40



SUMMARY OF QUANTITIES (CURB RAMPS & SIDEWALKS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
104-7013	REMOVING CONC (SIDEWALK OR RAMP)	SY	60
104-7018	REMOVING CONC (CURB OR CURB AND GUTTER)	LF	140
528-7003	REMOVE AND RELAY PAVERS	SY	20
531-7008	CURB RAMPS (TY 5)	EA	4

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PROJECT NO.:	1617
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SCALE:	1:20

SHEET TITLE:
PROPOSED CURB RAMP LAYOUT

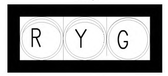
41

PROPOSED TRAFFIC SIGNAL HEADS



W1–W8
LED COUNTDOWN
PEDESTRIAN SIGNAL

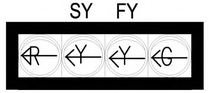
H3



1, 2, 3, 5, 6, 7, 8, 10, 11

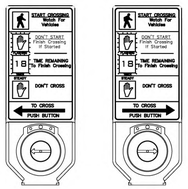
H4L

SY FY



4, 9

PEDESTRIAN SIGNS



R10–3eL
PB2, PB4,
PB6, PB8

R10–3eR
PB1, PB3,
PB5, PB7

WAYFINDING SIGNS



S7

MAST ARM MOUNTED SIGNS

R10-12A (24"X30")



S5, S6



S2



S4



S3



S1

NOTE: RELOCATED EXISTING SPECIAL WAYFINDING SIGNS TO THE NEW POLES

INSTALL CCTV (DIGITAL) ON MAST ARM WITH 5' MOUNT. (SEE NOTE 1 & 2)

PROP. TRAFFIC SIGNAL CONTROLLER CABINET

INSTALL ROADSIDE UNIT C-V2X (APPLIED INFORMATION AI-500-095) ON PROPOSED SIGNAL POLE 1. INSTALL ANTENNA ON SIGNAL POLE BELOW MAST ARM. (SEE NOTE 3 & 4)

PROPOSED ELECTRICAL SERVICE

TRAFFIC SIGNAL LOCATIONS		
POLE NUMBER	NORTHING	EASTING
1	16490554.6060	1313862.7945
2	16490500.4046	1313772.7862
3	16490594.3188	1313687.8721
4	16490628.9280	1313772.4741
5	16490542.5449	1313847.7110
6	16490507.7363	1313750.6274
7	16490607.9650	1313698.9870
8	16490628.1982	1313760.8828
GROUND BOX		
1	16490549.0936	1313863.6095
2	16490554.6958	1313867.4461
3	16490495.2116	1313776.4832
4	16490629.1953	1313776.5531
5	16490602.9926	1313694.3367
CABINET CONTROLLER	16490554.8298	1313873.0949

LEGEND

- PROP SIGNAL POLE W/MAST ARM
- PROPOSED SIGNAL HEAD
- PROPOSED LUMINAIRE
- GROUND BOX W/APRON
- PEDESTRIAN POLE AND SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PROPOSED ILSN SIGN
- PROPOSED MAST ARM SIGN
- PROPOSED ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- RADAR DETECTION
- CCTV CAMERA
- PROPOSED CONDUIT RUN (TRENCH)
- PROPOSED CONDUIT RUN (BORED)
- GROUND MOUNTED SIGN
- LANE ASSIGNMENTS

SIGNAL NOTES

1. THE CONTRACTOR SHALL FURNISH AND INSTALL RADAR VEHICLE DETECTION SYSTEM AND MAKE FULLY OPERATIONAL.
2. THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANIES AS TO THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT WITH OR DAMAGE TO THE UTILITIES.
3. FOR THE RADAR VEHICLE DETECTION SYSTEM, LOCATION AND PLACEMENT SHALL BE MOUNTED AS PER MANUFACTURER RECOMMENDATION AND IN COORDINATION WITH THE CITY OF BROWNSVILLE TRAFFIC DEPARTMENT.
4. EXISTING PHASING AND TIMING SHALL BE USED.

ITS NOTES

1. ALL EXISTING CAMERAS AND ITS EQUIPMENT TO BE RELOCATED AND REWIRED TO THE NEW PROPOSED POLE AT THIS LOCATION
2. CCTV (DIGITAL) REQUIRES A CAT 5 ETHERNET CABLE FROM MAST ARM TO FIELD MOUNTING UNIT (AI-500-085-02) IN THE SIGNAL CABINET.
3. ROADSIDE UNIT C-V2X (AI-500-095) REQUIRES A CAT 5 ETHERNET CABLE FROM SIGNAL POLE TO THE FIELD MOUNTING UNIT. A 24V WIRE IS REQUIRED TO POWER THE UNIT.
4. INSTALL ANTENNA ON SIGNAL POLE BELOW THE MAST ARM WITH METAL STRAPS AS PER MANUFACTURER RECOMMENDATIONS.
5. CONTRACTOR TO EXPOSE THE FIBER LINES PRIOR TO DRILLING THE FOUNDATION SHAFT



0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

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REVISION NO.	DATE	DESCRIPTION



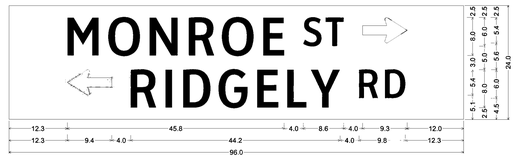
PROJECT NO.:	1617
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SCALE:	1:20

SHEET TITLE:

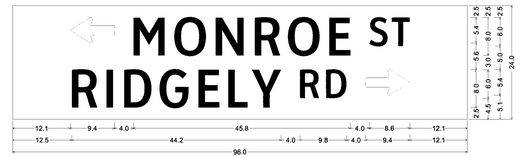
PROPOSED TRAFFIC SIGNAL LAYOUT

42

TRAFFIC GROUND CONDUIT QUANTITIES																	
ITEM	TOTAL QTY	ADD QTY	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			RUN LENGTH (LF)	10	10	10	10	10	25	110	10	30	120	10	15	85	10	10
POWER	40	3	1/C - #6 XHHW	2	2													
GROUND	730	58	1/C - #6 BARE	1	1	1	2	2	1	1	2	1	2	2	1	2	2	1
SIGNAL CABLE	1070	86	2/C - #14 AWG				8	1	1	2	1	1	4	1	1	2	1	1
	1030	82	5/C - #14 AWG				8	2		2	2		4	2		2	2	
	760	61	7/C - #14 AWG				6	2		1	1		3	1		2	2	
OPTICOM	515	41	4/C - #12 AWG				4	1		1	1		2	1		1	1	
LUMINAIRE	595	48	2/C - #12 AWG (TC)	4		4	4	1		1	1		2	1		1	1	
CONDUIT	80	6	2" PVC BORE						1			1			1			1
	110	9	3" PVC BORE	1	1	1		2			2			2			2	
	630	50	4" PVC BORE							2			2			2		
ILNS SIGNS	595	48	4/C - #14 AWG TY"A" SOLID	4		4	4	1		1	1		2	1		1	1	
ITS COMM. CABLE	20	2	CAT 5 ETHERNET				1	1										
RVDS COMM. CABLE	1030	82	RVDS CABLE				8	2		2	2		4	2		2	2	

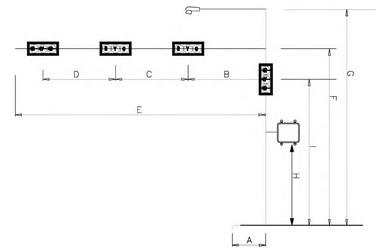


No border, White on Green;
"MONROE", ClearviewHwy-3-W; "ST", ClearviewHwy-3-W; Standard Arrow 2 9.4" X 5.4" 0"; Standard Arrow 2 9.4" X 5.4" 180";
"RIDGELY", ClearviewHwy-3-W; "RD", ClearviewHwy-3-W;



No border, White on Green;
Standard Arrow 2 9.4" X 5.4" 180"; "MONROE", ClearviewHwy-3-W; "ST", ClearviewHwy-3-W; "RIDGELY", ClearviewHwy-3-W;
"RD", ClearviewHwy-3-W; Standard Arrow 2 9.4" X 5.4" 0";

SIGNAL HEAD AND POLE PLACEMENT (LF)																									
POLE NO.	FND TYPE WIND ZONE 100 MPH	DRILLED SHAFT			WIRE INSIDE POLES										NO. OF SIGNAL HEADS	NO. OF PED HEADS	LUM-A	RVDS PRESENCE & ADVANCE	ILSN SIGNS	DIMENSION (LF)						
		ITEM 416	ITEM 416	ITEM 416	ITEM 682 SIG CABLE TYPE A			ITEM 684	ITEM 688	ITEM 6001	ITEM 6018	ITEM 6008	ITEM SS 8590							A	B	C	D	E	F	G	H
		24" DIA TYPE A LF	36" DIA TYPE A LF	48" DIA TYPE A LF	SIG HD 7 CNDR 14 AWG	PED HD 5 CNDR 14 AWG	PED BTN 2CNDR 14 AWG	LUM 2 CND 14 AWG	APS PED PUSH BUTTONS	ILSN 4 CND 14 AWG, TY "A" SOLID	CCTV CAT 5 ETHERNET	RVDS RVDS CABLE	OPTICOM EMERG PREEMP DETECT CABLE													
P-1	48-A			22	145	40	20	40	1	40	50	70	50		3	2	1	2	1	10	23	12	12	50	19	30	10
P-2	48=A			22	80	40	20	40	1	40		90	50		2	2	1	2	1	10	37	12		50	19	30	10
P-3	36-A		14		115	40	20	40	1	40		80	45		3	2	1	2	1	10	10	12	12	36	19	30	10
P-4	36-A		14		65	40	20	40	1	40		80	45		2	2	1	2	1	10	21	13		36	19	30	10
P-5	24-A	6					20													10	PEDESTRIAN SIGNAL POLE						10
P-6	24-A	6					20													10	PEDESTRIAN SIGNAL POLE						10
P-7	24-A	6					20													10	PEDESTRIAN SIGNAL POLE						10
P-8	24-A	6					20													10	PEDESTRIAN SIGNAL POLE						10
TOTAL:		24	28	44	405	160	160	160	4	160	50	320	190		10	8	4	8	4								



SIGNAL HEADS (ITEM 682)											
SIGNAL HEAD ID	SIGNAL HEAD TYPE	BACK PLATE		12" LED SIGNAL INCICATIONS							PED SIG SEC (LED) COUNTDOWN
		3 SEC	4 SEC	<- G -	G	<- Y -	Y	< - R -	R		
		EA	EA	EA	EA	EA	EA	EA	EA		EA
1	H4		1	1	1		1		1		
2	H3	1			1		1		1		
3	H4		1	1		2		1			
4	H3	1			1		1		1		
5	H3	1			1		1		1		
6	H4		1	1	1		1		1		
7	H3	1			1		1		1		
8	H4		1	1		2		1			
9	H3	1			1		1		1		
10	H3	1			1		1		1		
W1	PED										1
W2	PED										1
W3	PED										1
W4	PED										1
W5	PED										1
W6	PED										1
W7	PED										1
W8	PED										1
TOTAL:		6	4	4	8	4	8	2	8		8

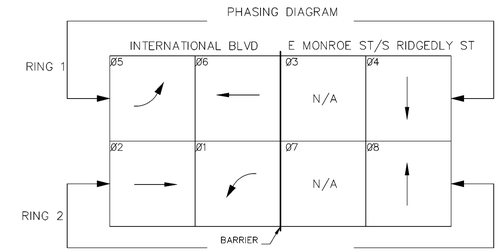
TRAFFIC SIGNAL SIGNS SUMMARY					
SIGN NUMBER	SIGN STATUS	TYPE	LEGEND	LOCATION	DIMENSIONS
S1	REL	D3-1G	MONROE ST/RIDGELY RD	P-1	
S2	REL	D3-1G	INTERNATIONAL BLVD	P-2	
S3	REL	D3-1G	MONROE ST/RIDGELY RD	P-3	
S4	REL	D3-1G	INTERNATIONAL BLVD	P-4	
S5	I	R10-27A	LEFT TURN YIELD ON FYA	P-1	24"X30"
S6	I	R10-27A	LEFT TURN YIELD ON FYA	P-3	24"X30"
S7	REL	WF	CHAMBER OF COMMERCE	P-3	
S8	REL	WF	DOWN TOWN	P-2	
PB1	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-7	9"X15"
PB2	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-8	9"X15"
PB3	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-4	9"X15"
PB4	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-1	9"X15"
PB5	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-5	9"X15"
PB6	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-2	9"X15"
PB7	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-6	9"X15"
PB8	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-3	9"X15"

NOTE: REM = REMAIN, REL = RELOCATE, I = INSTALL, WF = WAYFINDING

RADAR DETECTOR SCHEDULE		
UNIT	ZONE	SIZE (W'XL')
R1-P	Z-8	12' X 40'
R1-A	Z-8	12' X 20'
R2-P	Z-5	6'X40'
	Z-2	12'X40'
R2-A	Z-2	12'X20'
R3-P	Z-4	12'X40'
R3-A	Z-4	12'X20'
R4-P	Z-1	6'X40'
	Z-6	12'X40'
R4-A	Z-6	12'X20'

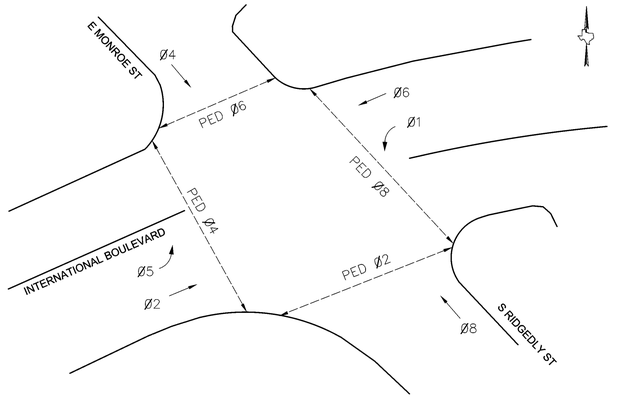
GROUND BOX SUMMARY (ITEM 624)			
TYPE	DESCRIPTION	UNIT	QTY
D	No. 162922	EA	5

INTERSECTION PHASING



ESTIMATE OF TRAFFIC SIGNAL QUANTITIES				
ITEM No.	DESC. CODE	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	30
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	44
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	100
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	100
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	90
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	120
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	680
620	7009	ELEC CONDR (NO.6) BARE	LF	800
620	7010	ELEC CONDR (NO.6) INSULATED	LF	100
624	7008	GROUND BOX TY D (162922)W/APRON	EA	5
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	1
636	7001	ALUMINUM SIGNS (TY A)	SF	20
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	1
680	7004	REMOVING TRAFFIC SIGNALS	EA	1
682	7001	VEH SIG SEC (12")LED(GRN)	EA	8
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	4
682	7003	VEH SIG SEC (12")LED(YEL)	EA	8
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	4
682	7005	VEH SIG SEC (12")LED(RED)	EA	8
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	2
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	8
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	6
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	4
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	810
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	750
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	1320
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	810
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	1280
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	1230
686	7040	INS TRF SIG PL AM(S)1 ARM(36')LUM&ILSN	EA	2
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	2
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	4
688	7001	PED DETECT PUSH BUTTON (APS)	EA	8
688	7003	PED DETECTOR CONTROLLER UNIT	EA	1
6001	7004	ILSN (8D)	EA	2
6001	7006	ILSN (10D)	EA	2
6005	7001	ITS COM CBL (ETHERNET)	LF	100
6007	7001	BBU SYSTEM (EXTERNAL BATT CABINET)	EA	1
6008	0001	RADAR PRESENCE DETECTION ONLY)	EA	4
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	4
6008	7009	RADAR PRESENCE DETECTOR COMM CABLE	LF	1400
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6061	0001	GPS COMMUNICATION UNIT	EA	1
n/a		FIELD MONITORING UNIT	EA	1
n/a		ENABLED ROADSIDE UNIT	EA	1

APS MESSAGE CHART			
POLE LOCATON	PEDESTRIAN MOVEMENT	FUNCTIONS	SPEECH MESSAGE / SOUND DETAILS
P - 1	PHASE 8	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. MONROE STREET / RIDGELY ROAD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 2	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS RIDGELY ROAD AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 3	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. MONROE STREET / RIDGELY ROAD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 4	PHASE 8	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. MONROE STREET / RIDGELY ROAD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 5	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS RIDGELY ROAD AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 6	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. MONROE STREET / RIDGELY ROAD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 7	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. MONROE STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 8	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. MONROE STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK



ELECTRICAL SERVICE DESCRIPTION										
PROJECT LOCATION	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT	TWO-POLE CONTACTOR AMPS	PANEL BD./ LOAD CENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CIRCUIT POLE/AMPS	KVA LOAD
International Blvd @ E. Monroe S/ Ridgely Rd	TY D (120/240) 070 (NS) SS (N) SP (O)	2-1/2"	3/#6	N/A	2P/70	30	100	1. TRAFFIC SIGNAL	1P/50	<7.5
								2. LUM	2P/20	
								3. ILSN	3P/20	

BASIC TIMING CHART								
Phase	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Street	International Blvd		E Monroe St		International Blvd		S Ridgedly St	
Direction	WBLT	EBT	NOT IN USE	SB	EBLT	WBT	NOT IN USE	NB
Minimum Green	5	10		8	5	10		8
Extension	2,0	2,0		2,0	2,0	2,0		2,0
Maximum 1	20	60		30	20	60		30
Maximum 2	25	70		40	25	70		40
Yellow	4,0	4,0		4,0	4,0	4,0		4,0
All Red	2,0	2,0		2,0	2,0	2,0		2,0
Walk		7		7		7		7
F.D. Walk		17		30		17		30
Recall		C-Max				Max		
Dual Entry		X		X		X		X

KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
11127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

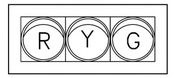
SHEET TITLE:

PROPOSED INSTALLATION

43

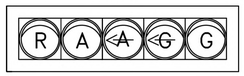
EXISTING TRAFFIC SIGNAL HEADS

H3



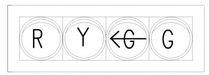
2, 4, 5, 7, 9, 10

H5L



3

H4SP



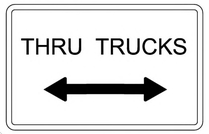
1, 6, 8

EXISTING MAST ARM MOUNTED SIGNS

WAYFINDING SIGNS



S7



S8



S5

R10-5 (24"X30")



S6



S2



S1



S4



S3

NOTE: RELOCATED EXISTING SPECIAL STREET NAME AND WAYFINDING SIGNS TO THE NEW POLES



0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

EXISTING TO REMAIN GROUND MOUNTED SIGNS

S9

SUMMARY OF QUANTITIES (REMOVAL)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
677-7001	ELIM EXT PM & MRKS (4")	LF	1800
677-7002	ELIM EXT PM & MRKS (6")	LF	5000
677-7004	ELIM EXT PM & MRKS (8")	LF	280
677-7006	ELIM EXT PM & MRKS (12")	LF	630
677-7008	ELIM EXT PM & MRKS (24")	LF	180
677-7009	ELIM EXT PM & MRKS (ARROW)	EA	4
677-7010	ELIM EXT PM & MRKS (DBL ARROW)	EA	2
677-7015	ELIM EXT PM & MRKS (WORD)	EA	2
677-7025	ELIM EXT PM & MRKS (BIKE ARROW)	EA	2
677-7027	ELIM EXT PM & MRKS (BIKE SYMBOL)	EA	2

LEGEND

- EXISTING POLE W/MAST ARM
- EXISTING SIGNAL HEAD
- EXISTING LUMINAIRE
- EXISTING GROUND BOX
- EXISTING PEDESTRIAN POLE AND SIGNAL HEAD
- EXISTINGPEDESTRIAN PUSH BUTTON
- EXISTING MAST ARM SIGN
- EXISTING SIGNAL CONTROLLER CABINET
- EXISTING GROUND MOUNTED SIGN
- LANE ASSIGNMENTS
- EXISTING RADAR DETECTION

City of BROWNSVILLE On the Border, By the Sea, and Beyond TEXAS

KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

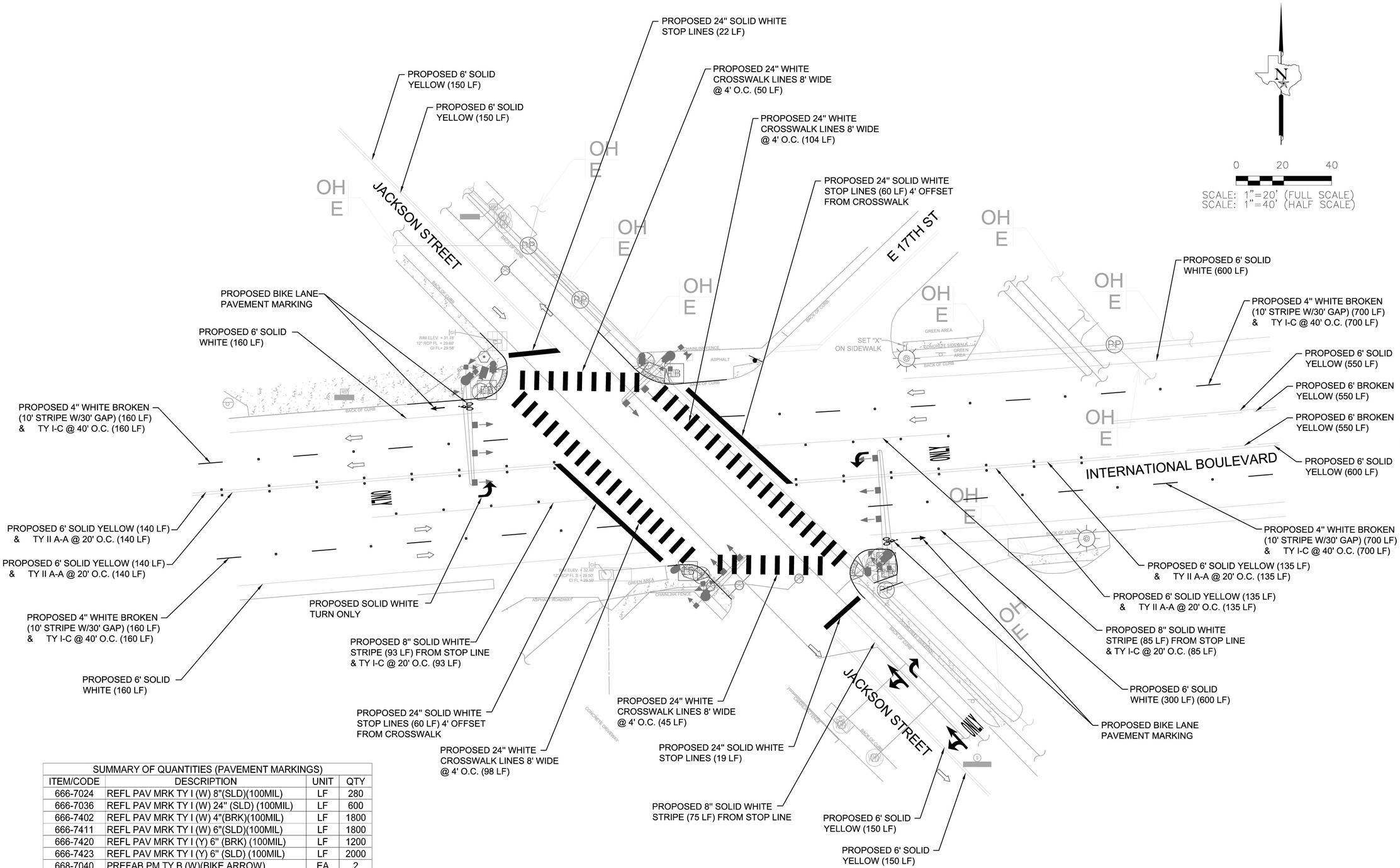
REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
EXISTING CONDITION LAYOUT

44



SUMMARY OF QUANTITIES (PAVEMENT MARKINGS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
666-7024	REFL PAV MRK TY I (W) 8"(SLD)(100MIL)	LF	280
666-7036	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	600
666-7402	REFL PAV MRK TY I (W) 4"(BRK)(100MIL)	LF	1800
666-7411	REFL PAV MRK TY I (W) 6"(SLD)(100MIL)	LF	1800
666-7420	REFL PAV MRK TY I (Y) 6" (BRK) (100MIL)	LF	1200
666-7423	REFL PAV MRK TY I (Y) 6" (SLD) (100MIL)	LF	2000
668-7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	2
668-7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	2
668-7091	PREFAB PAV MRK TY C (W) (ARROW)	EA	3
668-7093	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA	2
668-7103	PREFAB PAV MRK TY C (W) (WORD)	EA	3
672-7002	REFL PAV MRKR TY I-C	EA	50
672-7004	REFL PAV MARK TY II-A-A	EA	40

City of BROWNSVILLE TEXAS
On the Border. By the Sea. and Beyond.

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TBPE FIRM NUMBER: F-14592

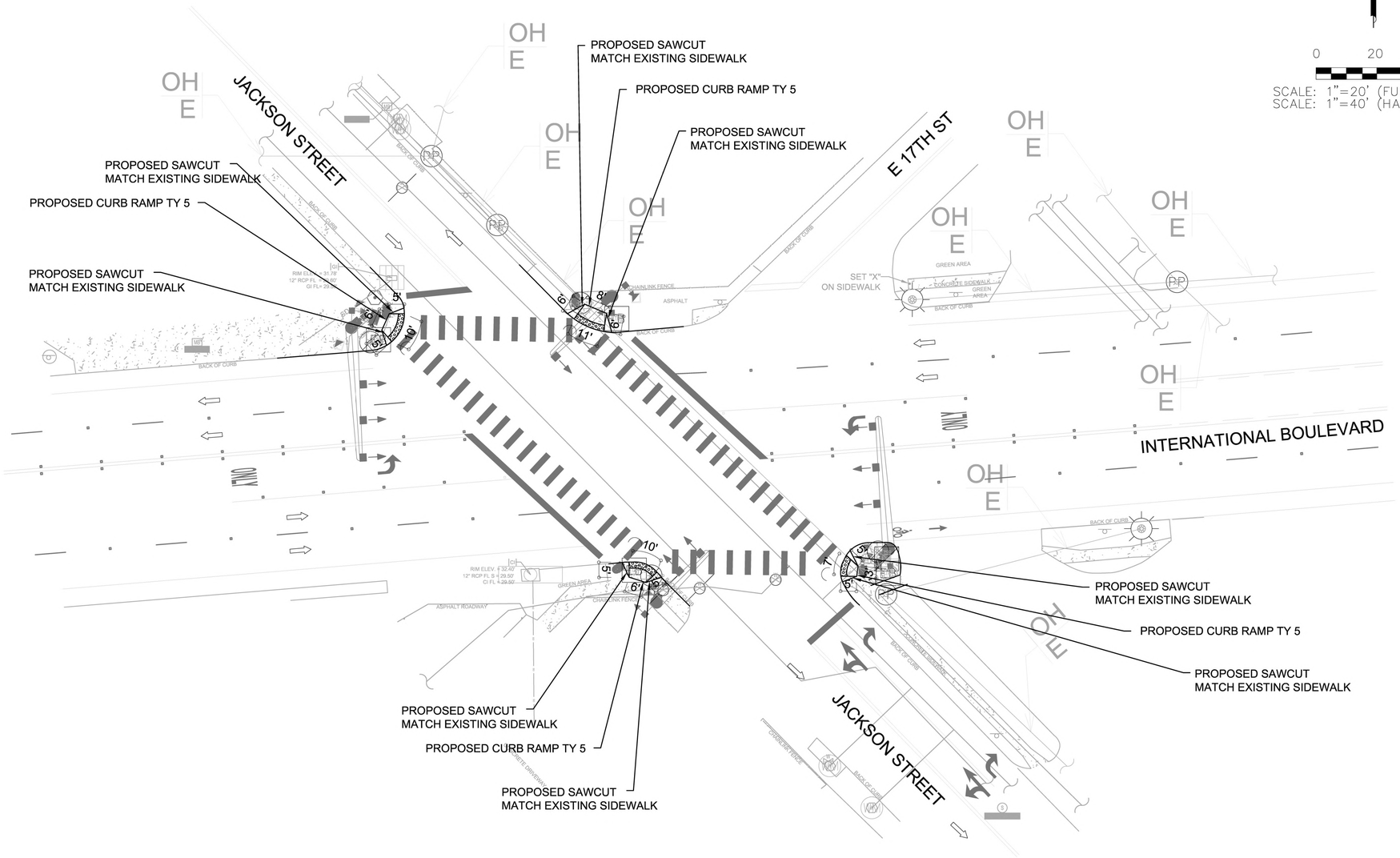
REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED PAVEMENT MARKING LAYOUT

45



SUMMARY OF QUANTITIES (CURB RAMPS & SIDEWALKS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
104-7013	REMOVING CONC (SIDEWALK OR RAMP)	SY	65
104-7018	REMOVING CONC (CURB OR CURB AND GUTTER)	LF	160
528-7003	REMOVE AND RELAY PAVERS	SY	20
531-7008	CURB RAMPS (TY 5)	EA	4

City of BROWNSVILLE TEXAS
On the Border. By the Sea. and Beyond.

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Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION	
NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED CURB RAMP LAYOUT

46

PROPOSED TRAFFIC SIGNAL HEADS

H3

R Y G

2, 4, 5, 7, 9, 10, 11

W1–W8
LED COUNTDOWN
PEDESTRIAN SIGNAL

H4L
SY FY

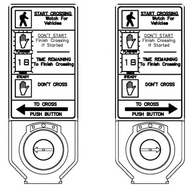
3, 8

H4SP

R Y G

1, 6

PEDESTRIAN SIGNS



R10-3eL
PB2, PB4,
PB6, PB8

R10-3eR
PB1, PB3,
PB5, PB7

MAST ARM MOUNTED SIGNS

WAYFINDING SIGNS

MUNICIPAL PAY PARKING LOT

S6

THRU TRUCKS

S7

R10-12A (24"X30")

LEFT TURN YIELD ON FLASHING YELLOW ARROW

S5, S8

INTERNATIONAL BLVD

S2

E JACKSON ST

S1

INTERNATIONAL BLVD

S4

E JACKSON ST

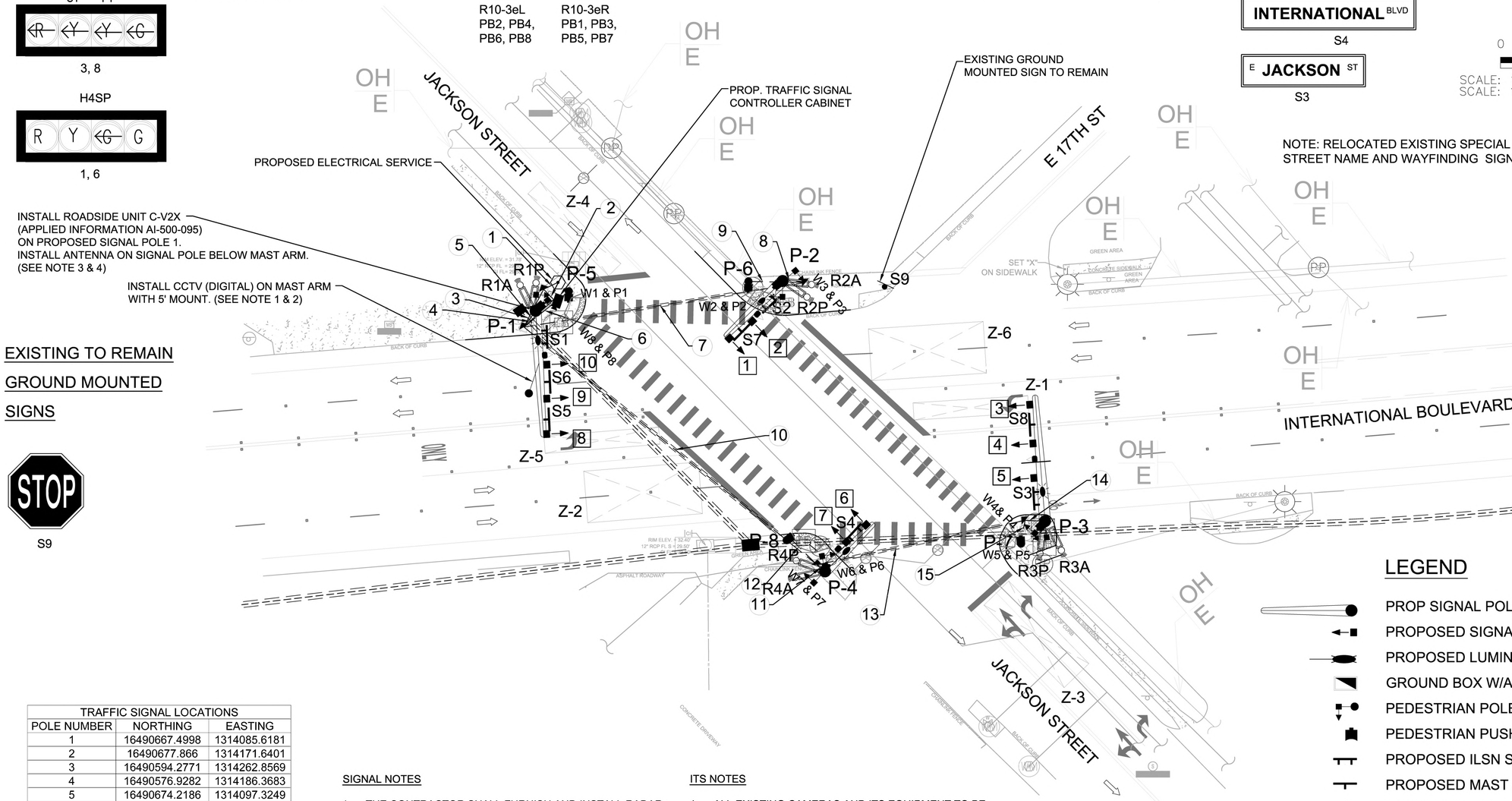
S3

N

0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

NOTE: RELOCATED EXISTING SPECIAL STREET NAME AND WAYFINDING SIGNS TO THE NEW POLES



EXISTING TO REMAIN GROUND MOUNTED SIGNS

STOP

S9

TRAFFIC SIGNAL LOCATIONS		
POLE NUMBER	NORTHING	EASTING
1	16490667.4998	1314085.6181
2	16490677.866	1314171.6401
3	16490594.2771	1314262.8569
4	16490576.9282	1314186.3683
5	16490674.2186	1314097.3249
6	16490677.6382	1314159.8037
7	16490586.512	1314254.5919
8	16490587.6853	1314173.0832
GROUND BOX		
1	16490674.9515	1314088.4353
2	16490661.8221	1314081.5589
3	16490677.299	1314179.4724
4	16490579.0965	1314183.4508
5	16490594.532	1314255.7993
CABINET CONTROLLER	16490671.2932	1314092.1358

SIGNAL NOTES

1. THE CONTRACTOR SHALL FURNISH AND INSTALL RADAR VEHICLE DETECTION SYSTEM AND MAKE FULLY OPERATIONAL.
2. THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANIES AS TO THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT WITH OR DAMAGE TO THE UTILITIES.
3. FOR THE RADAR VEHICLE DETECTION SYSTEM, LOCATION AND PLACEMENT SHALL BE MOUNTED AS PER MANUFACTURER RECOMMENDATION AND IN COORDINATION WITH THE CITY OF BROWNSVILLE TRAFFIC DEPARTMENT.
4. EXISTING PHASING AND TIMING SHALL BE USED.

ITS NOTES

1. ALL EXISTING CAMERAS AND ITS EQUIPMENT TO BE RELOCATED AND REWIRED TO THE NEW PROPOSED POLE AT THIS LOCATION
2. CCTV (DIGITAL) REQUIRES A CAT 5 ETHERNET CABLE FROM MAST ARM TO FIELD MOUNTING UNIT (AI-500-085-02) IN THE SIGNAL CABINET.
3. ROADSIDE UNIT C-V2X (AI-500-095) REQUIRES A CAT 5 ETHERNET CABLE FROM SIGNAL POLE TO THE FIELD MOUNTING UNIT. A 24V WIRE IS REQUIRED TO POWER THE UNIT.
4. INSTALL ANTENNA ON SIGNAL POLE BELOW THE MAST ARM WITH METAL STRAPS AS PER MANUFACTURER RECOMMENDATIONS.
5. CONTRACTOR TO EXPOSE THE FIBER LINES PRIOR TO DRILLING THE FOUNDATION SHAFT

LEGEND

- PROP SIGNAL POLE W/MAST ARM
- PROPOSED SIGNAL HEAD
- PROPOSED LUMINAIRE
- GROUND BOX W/APRON
- PEDESTRIAN POLE AND SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PROPOSED ILSN SIGN
- PROPOSED MAST ARM SIGN
- PROPOSED ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- RADAR DETECTION
- CCTV CAMERA
- PROPOSED CONDUIT RUN (TRENCH)
- PROPOSED CONDUIT RUN (BORED)
- GROUND MOUNTED SIGN
- LANE ASSIGNMENTS

City of BROWNSVILLE
On the Border. By the Sea. and Beyond.

KBH TRAFFIC ENGINEERING, LLC
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TBPE FIRM NUMBER: F–14592

REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
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3/20/2026

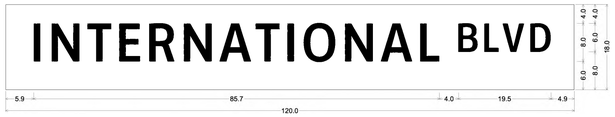
PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED TRAFFIC SIGNAL LAYOUT

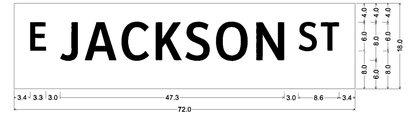
47

TRAFFIC GROUND CONDUIT QUANTITIES

ITEM	TOTAL QTY	ADD QTY	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			RUN LENGTH (LF)	10	10	20	15	10	20	100	10	20	135	10	15	80	10	1
POWER	40	3	1/C - #6 XHHW	2	2													
GROUND	836	67	1/C - #6 BARE	1	1	1	2	2	1	2	2	1	2	2	1	2	2	1
SIGNAL CABLE	1056	84	2/C - #14 AWG				4	1	1	2	1	1	4	1	1	2	1	1
	1040	83	5/C - #14 AWG				4	2		2	2		4	2		2	2	
	815	65	7/C - #14 AWG				6	2		1	1		3	1		2	2	
OPTICOM	550	44	4/C - #12 AWG				4	1		1	1		2	1		1	1	
LUMINAIRE	670	54	2/C - #12 AWG (TC)	4		4	4	1		1	1		2	1		1	1	
CONDUIT	56	4	2" PVC BORE						1			1			1			1
	110	9	3" PVC BORE	1	1	1		2			2			1			2	
	690	55	4" PVC BORE				4			2			2			2		
ILNS SIGNS	670	54	4/C - #14 AWG TY"A" SOLID	4		4	4	1		1	1		2	1		1	1	
ITS COMM. CABLE	25	2	CAT 5 ETHERNET				1	1										
RVDS COMM. CABLE	1010	81	RVDS CABLE				2	2		2	2		4	2		2	2	



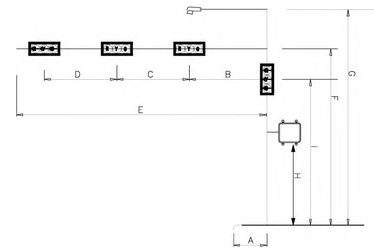
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"INTERNATIONAL", ClearviewHwy-3-W; "BLVD", ClearviewHwy-3-W;



No border, White on Green;
"E", ClearviewHwy-3-W; "JACKSON", ClearviewHwy-3-W 85% spacing; "ST", ClearviewHwy-3-W;

SIGNAL HEAD AND POLE PLACEMENT (LF)

POLE NO.	FND TYPE WIND ZONE 100 MPH	DRILLED SHAFT			WIRE INSIDE POLES									NO. OF SIGNAL HEADS	NO. OF PED HEADS	LUM-A	RVDS PRESENCE & ADVANCE	ILSN SIGNS	DIMENSION (LF)							
		ITEM 416	ITEM 416	ITEM 416	ITEM 682 SIG CABLE TYPE A			ITEM 684	ITEM 688	ITEM 6001	ITEM 6018	ITEM 6008	ITEM SS 8590						A	B	C	D	E	F	G	H
		24" DIA TYPE A LF	36" DIA TYPE A LF	36" DIA TYPE B LF	SIG HD	PED HD	PED BTN	LUM	APS PED	ILSN	CCTV	RVDS	OPTICOM													
					7 CNDR 14 AWG	5 CNDR 14 AWG	2CNDR 14 AWG	2 CND 12 AWG	PUSH BUTTONS	4 CND 14 AWG, TY "A" SOLID	CAT 5 ETHERNET	RVDS CABLE	EMERG PREEMP DETECT CABLE													
P-1	36-B			16	95	40	20	40	1	40	50	70	45	3	2	1	2	1	10	19	12	12	44	19	30	10
P-2	36-A		14		50	45	20	45	1	45		70	40	2	2	1	2	1	12	17	11		28	19	30	10
P-3	36-B			16	130	40	20	40	1	40		70	45	3	2	1	2	1	10	16	12	14	44	19	30	10
P-4	36-A		14		55	40	20	40	1	40		70	40	2	2	1	2	1	10	13	10		24	19	30	10
P-5	24-A	6					20												10	PEDESTRIAN SIGNAL POLE						10
P-6	24-A	6					20												10	PEDESTRIAN SIGNAL POLE						10
P-7	24-A	6					20												10	PEDESTRIAN SIGNAL POLE						10
P-8	24-A	6					20												10	PEDESTRIAN SIGNAL POLE						10
	TOTAL:	24	28	32	330	165	160	165	4	165	50	280	170	10	8	4	8	4								



SIGNAL HEADS (ITEM 682)

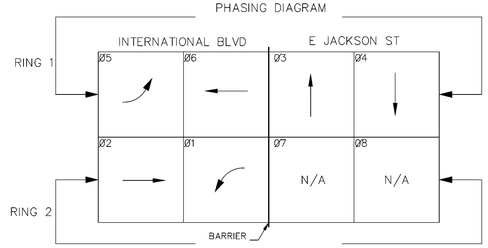
SIGNAL HEAD ID	SIGNAL HEAD TYPE	BACK PLATE		12" LED SIGNAL INCICATIONS						PED SIG SEC (LED)
		3 SEC	4 SEC	<- G -	G	<- Y -	Y	< - R -	R	
		EA	EA	EA	EA	EA	EA	EA	EA	EA
1	H4		1	1	1		1		1	
2	H3	1			1		1		1	
3	H4		1	1		2		1		
4	H3	1			1		1		1	
5	H3	1			1		1		1	
6	H4		1	1	1		1		1	
7	H3	1			1		1		1	
8	H4		1	1		2		1		
9	H3	1			1		1		1	
10	H3	1			1		1		1	
W1	PED									1
W2	PED									1
W3	PED									1
W4	PED									1
W5	PED									1
W6	PED									1
W7	PED									1
W8	PED									1
	TOTAL:	6	4	4	8	4	8	2	8	8

TRAFFIC SIGNAL SIGNS SUMMARY

SIGN NUMBER	SIGN STATUS	TYPE	LEGEND	LOCATION	DIMENSIONS
S1	I	D3-1G	E JACKSON ST	P-1	78"X18"
S2	I	D3-1G	INTERNATIONAL BLVD	P-2	120"X18"
S3	I	D3-1G	E JACKSON ST	P-3	78"X18"
S4	I	D3-1G	INTERNATIONAL BLVD	P-4	120"X18"
S5	I	R10-27A	LEFT TURN YIELD ON FYA	P-1	24"X30"
S6	REL	WF	MINICIPAL PAY PARKING LOT	P-1	
S7	REL	WF	THRU TRUCKS	P-2	
S8	I	R10-27A	LEFT TURN YIELD ON FYA	P-3	24"X30"
PB1	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-5	9"X15"
PB2	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-6	9"X15"
PB3	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-2	9"X15"
PB4	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-3	9"X15"
PB5	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-7	9"X15"
PB6	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-4	9"X15"
PB7	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-8	9"X15"
PB8	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-1	9"X15"

NOTE: REM = REMAIN, REL = RELOCATE, I = INSTALL, WF = WAYFINDING

INTERSECTION PHASING



ESTIMATE OF TRAFFIC SIGNAL QUANTITIES

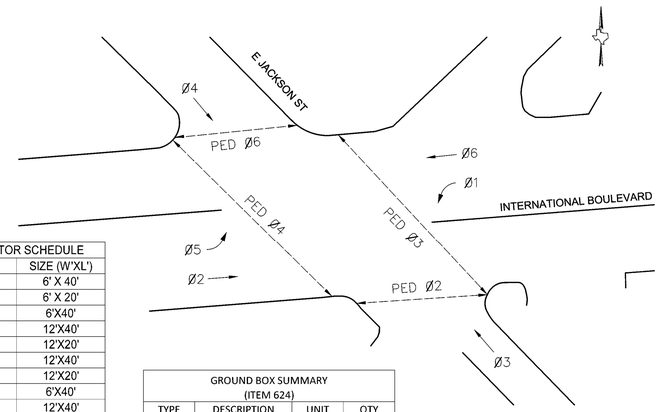
ITEM No.	DESC. CODE	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	64
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	100
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	100
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	60
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	120
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	750
620	7009	ELEC CONDR (NO.6) BARE	LF	905
620	7010	ELEC CONDR (NO.6) INSULATED	LF	100
624	7008	GROUND BOX TY D (162922)W/APRON	EA	5
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	1
636	7001	ALUMINUM SIGNS (TY A)	SF	70
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	1
680	7004	REMOVING TRAFFIC SIGNALS	EA	1
682	7001	VEH SIG SEC (12")LED(GRN)	EA	8
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	4
682	7003	VEH SIG SEC (12")LED(YEL)	EA	8
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	4
682	7005	VEH SIG SEC (12")LED(RED)	EA	8
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	2
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	8
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	6
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	4
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	890
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	770
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	1300
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	890
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	1300
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	1210
686	7028	INS TRF SIG PL AM(S)1 ARM(24')LUM&ILSN	EA	1
686	7032	INS TRF SIG PL AM(S)1 ARM(28')LUM&ILSN	EA	1
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	2
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	4
688	7001	PED DETECT PUSH BUTTON (APS)	EA	8
688	7003	PED DETECTOR CONTROLLER UNIT	EA	1
6001	7002	ILSN (6D)	EA	2
6001	7006	ILSN (10D)	EA	2
6005	7001	ITS COM CBL (ETHERNET)	LF	100
6007	7001	BBU SYSTEM (EXTERNAL BATT CABINET)	EA	1
6008	0001	RADAR PRESENCE DETECTION ONLY)	EA	4
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	4
6008	7009	RADAR PRESENCE DETECTOR COMM CABLE	LF	1400
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6061	0001	GPS COMMUNICATION UNIT	EA	1
n/a		FIELD MONITORING UNIT	EA	1
n/a		ENABLED ROADSIDE UNIT	EA	1

APS MESSAGE CHART

POLE LOCATON	PEDESTRIAN MOVEMENT	FUNCTIONS	SPEECH MESSAGE / SOUND DETAILS
P - 1	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. JACKSON STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 2	PHASE 3	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. JACKSON STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 3	PHASE 3	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. JACKSON STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 4	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. JACKSON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 5	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. JACKSON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 6	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. JACKSON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 7	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. JACKSON STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 8	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. JACKSON STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK

ELECTRICAL SERVICE DESCRIPTION

PROJECT LOCATION	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT	TWO-POLE CONTACTOR AMPS	PANEL BD / LOAD CENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CIRCUIT POLE/AMPS	KVA LOAD
International Blvd @ E. Jackson Street	TY D (120/240) 070 (NS) SS (N) SP (O)	2-1/2"	3/#6	N/A	2P/70	30	100	TRAFFIC SIGNAL	1P/50	<7.5
								2. LUM	2P/20	
								3. ILSN	3P/20	



RADAR DETECTOR SCHEDULE

UNIT	ZONE	SIZE (W'XL')
R1-P	Z-4	6' X 40'
R1-A	Z-4	6' X 20'
R2-P	Z-1	6'X40'
	Z-6	12'X40'
R2-A	Z-6	12'X20'
R3-P	Z-8	12'X40'
R3-A	Z-8	12'X20'
R4-P	Z-5	6'X40'
	Z-2	12'X40'
R4-A	Z-2	12'X20'

GROUND BOX SUMMARY (ITEM 624)

TYPE	DESCRIPTION	UNIT	QTY
D	No. 162922	EA	5

BASIC TIMING CHART

Phase	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Street	International Blvd		E Jackson St		International Blvd			
Direction	WBLT	EBT	NB	SB	EBLT	WBT		
Minimum Green	5	10	8	8	5	10	NOT IN USE	NOT IN USE
Extension	2,0	2,0	2,0	2,0	2,0	2,0		
Maximum 1	20	60	30	30	20	60		
Maximum 2	25	70	40	40	25	70		
Yellow	4,0	4,0	4,0	4,0	4,0	4,0		
All Red	2,0	2,0	2,0	2,0	2,0	2,0		
Walk		7	7	7		7		
F.D. Walk		17	30	30		17		
Recall		C-Max				Max		
Dual Entry		X				X		

City of BROWNSVILLE
On the Border. By the Sea. and Beyond.
TEXAS

KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
11127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

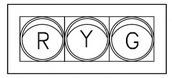
SHEET TITLE:

PROPOSED INSTALLATION

48

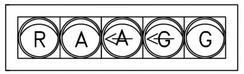
EXISTING TRAFFIC SIGNAL HEADS

H3



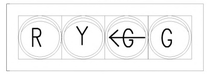
2, 3, 4, 5, 7, 8

H5L



6

H4SP



1

EXISTING GROUND MOUNTED SIGNS

R6-2L



S6

WAYFINDING SIGNS

D12-2 (24"X24")



S5

R10-5 (24"X30")



S4

EXISTING MAST ARM MOUNTED SIGNS



S1



S2



S3

NOTE: RELOCATED EXISTING SPECIAL STREET NAME AND WAYFINDING SIGNS TO THE NEW POLES

LEGEND

- EXISTING POLE W/MAST ARM
- EXISTING SIGNAL HEAD
- EXISTING LUMINAIRE
- EXISTING GROUND BOX
- EXISTING PEDESTRIAN POLE AND SIGNAL HEAD
- EXISTINGPEDESTRIAN PUSH BUTTON
- EXISTING MAST ARM SIGN
- EXISTING SIGNAL CONTROLLER CABINET
- EXISTING GROUND MOUNTED SIGN
- LANE ASSIGNMENTS
- EXISTING RADAR DETECTION

SUMMARY OF QUANTITIES (REMOVAL)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
677-7001	ELIM EXT PM & MRKS (4")	LF	1750
677-7002	ELIM EXT PM & MRKS (6")	LF	4700
677-7004	ELIM EXT PM & MRKS (8")	LF	200
677-7006	ELIM EXT PM & MRKS (12")	LF	500
677-7008	ELIM EXT PM & MRKS (24")	LF	120
677-7009	ELIM EXT PM & MRKS (ARROW)	EA	2
677-7015	ELIM EXT PM & MRKS (WORD)	EA	2
677-7025	ELIM EXT PM & MRKS (BIKE ARROW)	EA	2
677-7027	ELIM EXT PM & MRKS (BIKE SYMBOL)	EA	2

City of BROWNSVILLE TEXAS
On the Border. By the Sea. and Beyond.

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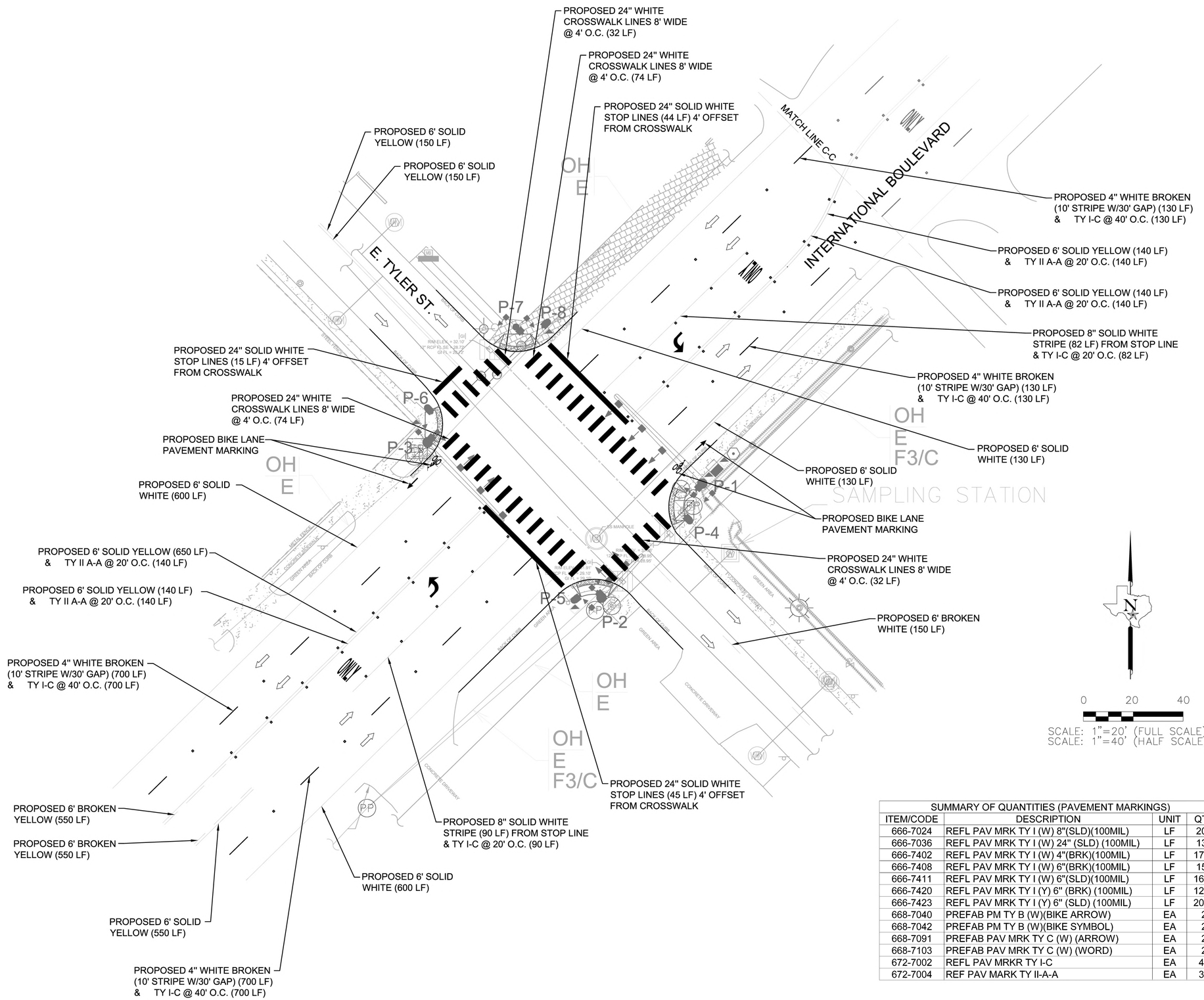
REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
EXISTING CONDITION LAYOUT

49



SUMMARY OF QUANTITIES (PAVEMENT MARKINGS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
666-7024	REFL PAV MRK TY I (W) 8"(SLD)(100MIL)	LF	200
666-7036	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	130
666-7402	REFL PAV MRK TY I (W) 4"(BRK)(100MIL)	LF	1700
666-7408	REFL PAV MRK TY I (W) 6"(BRK)(100MIL)	LF	150
666-7411	REFL PAV MRK TY I (W) 6"(SLD)(100MIL)	LF	1600
666-7420	REFL PAV MRK TY I (Y) 6" (BRK) (100MIL)	LF	1200
666-7423	REFL PAV MRK TY I (Y) 6" (SLD) (100MIL)	LF	2000
668-7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	2
668-7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	2
668-7091	PREFAB PAV MRK TY C (W) (ARROW)	EA	2
668-7103	PREFAB PAV MRK TY C (W) (WORD)	EA	2
672-7002	REFL PAV MRKR TY I-C	EA	48
672-7004	REF PAV MARK TY II-A-A	EA	34

City of BROWNSVILLE TEXAS
On The Border. By The Sea. and Beyond.

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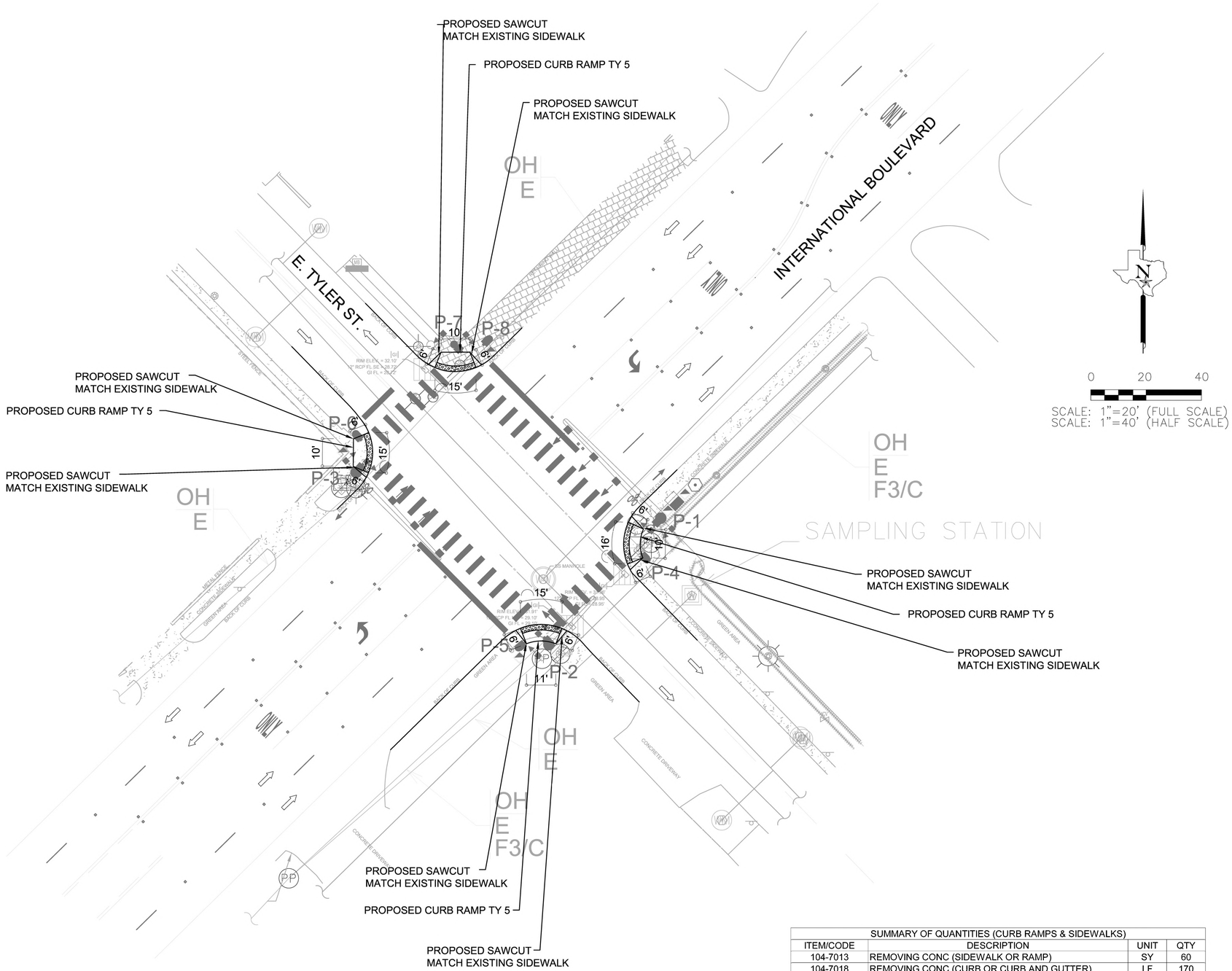
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STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
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SCALE:	1:20

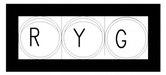
SHEET TITLE:
PROPOSED PAVEMENT MARKING LAYOUT

50


PROPOSED SAWCUT
MATCH EXISTING SIDEWALK
PROPOSED CURB RAMP TY 5
PROPOSED SAWCUT
MATCH EXISTING SIDEWALK
INTERNATIONAL BOULEVARD
E. TYLER ST.
P-7
P-8
10'
10'
15'
PROPOSED SAWCUT
MATCH EXISTING SIDEWALK
PROPOSED CURB RAMP TY 5
PROPOSED SAWCUT
MATCH EXISTING SIDEWALK
P-6
P-3
10'
15'
6'
OH
E
OH
E
F3/C
SAMPLING STATION
P-1
P-4
16'
10'
6'
6'
PROPOSED SAWCUT
MATCH EXISTING SIDEWALK
PROPOSED CURB RAMP TY 5
PROPOSED SAWCUT
MATCH EXISTING SIDEWALK
15'
P-5
P-2
6'
6'
11'
OH
E
OH
E
F3/C
PROPOSED SAWCUT
MATCH EXISTING SIDEWALK
PROPOSED CURB RAMP TY 5
PROPOSED SAWCUT
MATCH EXISTING SIDEWALK
METAL FENCE
CONCRETE DRIVEWAY
GREEN AREA
BACK OF CURB
CONCRETE DRIVEWAY
GREEN AREA
CONCRETE DRIVEWAY
CONCRETE DRIVEWAY
GREEN AREA
CONCRETE DRIVEWAY
GREEN AREA
CONCRETE DRIVEWAY
CONCRETE DRIVEWAY
GREEN AREA
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CONCRETE DRIVEWAY

PROPOSED TRAFFIC SIGNAL HEADS

H3



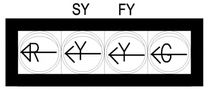
2, 3, 4, 5, 7, 8



W1–W8
LED COUNTDOWN
PEDESTRIAN SIGNAL

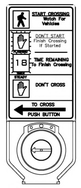
H4L

SY FY



1, 6

PEDESTRIAN SIGNS



R10-3eL
PB2, PB4,
PB6, PB8



R10-3eR
PB1, PB3,
PB5, PB7

EXISTING GROUND MOUNTED SIGNS

R6-2L



S7

MAST ARM MOUNTED SIGNS

WAYFINDING SIGNS



S6

R10-12A (24"X30")



S4, S5



S1



S2



S3

NOTE: RELOCATED EXISTING SPECIAL STREET NAME AND WAYFINDING SIGNS TO THE NEW POLES

TRAFFIC SIGNAL LOCATIONS		
POLE NUMBER	NORTHING	EASTING
1	16491064.9909	1315142.3982
2	16491019.1899	1315101.9094
3	16491081.6034	1315032.0921
4	16491050.0579	1315137.3687
5	16491018.1511	1315090.8912
6	16491095.4584	1315032.0034
7	16491127.8971	1315067.5824
8	16491129.8156	1315080.2511
GROUND BOX		
1	16491073.7683	1315151.1839
2	16491067.7632	1315144.9763
3	16491014.6262	1315091.2303
4	16491088.88	1315027.417
5	16491125.2848	1315080.8009
CABINET CONTROLLER	16491071.174	1315147.3353

SIGNAL NOTES

1. THE CONTRACTOR SHALL FURNISH AND INSTALL RADAR VEHICLE DETECTION SYSTEM AND MAKE FULLY OPERATIONAL.
2. THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANIES AS TO THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT WITH OR DAMAGE TO THE UTILITIES.
3. FOR THE RADAR VEHICLE DETECTION SYSTEM, LOCATION AND PLACEMENT SHALL BE MOUNTED AS PER MANUFACTURER RECOMMENDATION AND IN COORDINATION WITH THE CITY OF BROWNSVILLE TRAFFIC DEPARTMENT.
4. EXISTING PHASING AND TIMING SHALL BE USED.

ITS NOTES

1. ALL EXISTING CAMERAS AND ITS EQUIPMENT TO BE RELOCATED AND REWIRED TO THE NEW PROPOSED POLE AT THIS LOCATION
2. CCTV (DIGITAL) REQUIRES A CAT 5 ETHERNET CABLE FROM MAST ARM TO FIELD MOUNTING UNIT (AI-500-085-02) IN THE SIGNAL CABINET.
3. ROADSIDE UNIT C-V2X (AI-500-095) REQUIRES A CAT 5 ETHERNET CABLE FROM SIGNAL POLE TO THE FIELD MOUNTING UNIT. A 24V WIRE IS REQUIRED TO POWER THE UNIT.
4. INSTALL ANTENNA ON SIGNAL POLE BELOW THE MAST ARM WITH METAL STRAPS AS PER MANUFACTURER RECOMMENDATIONS.
5. CONTRACTOR TO EXPOSE THE FIBER LINES PRIOR TO DRILLING THE FOUNDATION SHAFT

LEGEND

- PROP SIGNAL POLE W/MAST ARM
- PROPOSED SIGNAL HEAD
- PROPOSED LUMINAIRE
- GROUND BOX W/APRON
- PEDESTRIAN POLE AND SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PROPOSED ILSN SIGN
- PROPOSED MAST ARM SIGN
- PROPOSED ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- RADAR DETECTION
- CCTV CAMERA
- PROPOSED CONDUIT RUN (TRENCH)
- PROPOSED CONDUIT RUN (BORED)
- GROUND MOUNTED SIGN
- LANE ASSIGNMENTS

City of BROWNSVILLE
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TEXAS

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TBPE FIRM NUMBER: F-14592

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STATE OF TEXAS
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REGISTERED PROFESSIONAL ENGINEER
3/20/2026

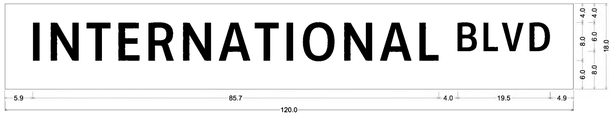
PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:

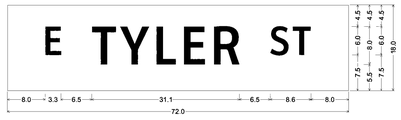
PROPOSED TRAFFIC SIGNAL LAYOUT

52

TRAFFIC GROUND CONDUIT QUANTITIES																	
ITEM	TOTAL QTY	ADD QTY	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			RUN LENGTH (LF)	10	10	10	10	10	20	75	15	10	100	10	10	65	15	10
POWER	40	3	1/C - #6 XHHW	2	2													
GROUND	600	48	1/C - #6 BARE	1	1	1	2	2	1	2	2	1	2	2	1	1	1	1
SIGNAL CABLE	1160	93	2/C - #14 AWG				8	1	1	6	1	1	4	1	1	2	1	1
	1160	93	5/C - #14 AWG				8	2		6	2		4	2		2	2	
	530	42	7/C - #14 AWG				5	2		3	1		2	2				
OPTICOM	215	17	4/C - #12 AWG				2	1		1			1	1				
LUMINAIRE	375	30	2/C - #12 AWG (TC)	3		3	3	1		2	1		1	1				
CONDUIT	80	6	2" PVC BORE						1			1			1		2	1
	50	4	3" PVC BORE	1	1	1		2										
	485	39	4" PVC BORE				2			2	2		2	2		1		
ILNS SIGNS	375	30	4/C - #14 AWG TY"A" SOLID	3		3	3	1		2	1		1	1				
ITS COMM. CABLE	20	2	CAT 5 ETHERNET				1	1										
RVDS COMM. CABLE	630	50	RVDS CABLE				6	2		4	2		2	2				

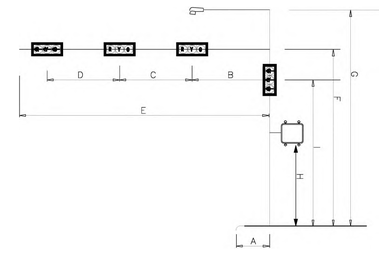


No border, White on Green;
"INTERNATIONAL", ClearviewHwy-3-W; "BLVD", ClearviewHwy-3-W;



No border, White on Green;
"E", ClearviewHwy-3-W; "TYLER", ClearviewHwy-3-W; "ST", ClearviewHwy-3-W;

SIGNAL HEAD AND POLE PLACEMENT (LF)																										
POLE NO.	FND TYPE WIND ZONE 100 MPH	DRILLED SHAFT				WIRE INSIDE POLES									NO. OF SIGNAL HEADS	NO. OF PED HEADS	LUM-A	RVDS PRESENCE & ADVANCE	ILSN SIGNS	DIMENTION (LF)						
		ITEM 416	ITEM 416	ITEM 416	ITEM 416	ITEM 682 SIG CABLE TYPE A			ITEM 684	ITEM 688	ITEM 6001	ITEM 6018	ITEM 6008	ITEM SS 8590						A	B	C	D	E	F	G	H
		24" DIA TYPE A LF	36" DIA TYPE A LF	36" DIA TYPE B LF	48" DIA TYPE A LF	SIG HD 7 CNDR 14 AWG	PED HD 5 CNDR 14 AWG	PED BTN 2CNDR 14 AWG	LUM 2 CND 12 AWG	APS PED PUSH BUTTONS	ILSN 4 CND 14 AWG, TY "A" SOLID	CCTV CAT 5 ETHERNET	RVDS RVDS CABLE	OPTICOM EMERG PREEMP DETECT CABLE												
P-1	48-A				22	140	40	20	40	1	40	60	80	50	3	2	1	2	1	10	21	12	14	50	19	30	10
P-2	36-A		14			50	40	20	40	1	40		70		2	2	1	2	1	10	7	12		24	19	30	10
P-3	36-B			16		135	40	20	40	1	40		80	50	3	2	1	2	1	10	17	12	14	44	19	30	10
P-4	24-A	6						20												10	PEDESTRIAN SIGNAL POLE						10
P-5	24-A	6						20												10	PEDESTRIAN SIGNAL POLE						10
P-6	24-A	6						20												10	PEDESTRIAN SIGNAL POLE						10
P-7	24-A	6						20												10	PEDESTRIAN SIGNAL POLE						10
P-8	24-A	6						20												10	PEDESTRIAN SIGNAL POLE						10
TOTAL:		30	14	16	22	325	120	160	120	3	120	60	230	100	8	6	3	6	3								

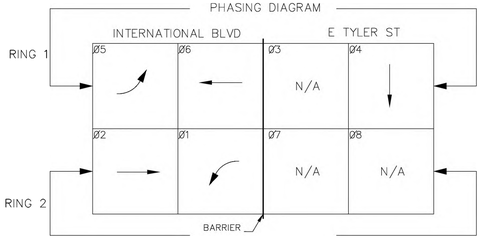


SIGNAL HEADS (ITEM 682)										
SIGNAL HEAD ID	SIGNAL HEAD TYPE	BACK PLATE 3 SEC EA	BACK PLATE 4 SEC EA	12" LED SIGNAL INCICATIONS <- G - EA	G EA	<- Y - EA	Y EA	<- R - EA	R EA	PED SIG SEC (LED) EA
1	H4		1	1		2		1		
2	H3	1			1		1		1	
3	H3	1			1		1		1	
4	H3	1			1		1		1	
5	H3	1			1		1		1	
6	H4		1	1		2		1		
7	H3	1			1		1		1	
8	H3	1			1		1		1	
W1	PED									1
W2	PED									1
W3	PED									1
W4	PED									1
W5	PED									1
W6	PED									1
W7	PED									1
W8	PED									1
TOTAL:		6	2	2	6	4	6	2	6	8

TRAFFIC SIGNAL SIGNS SUMMARY					
SIGN NUMBER	SIGN STATUS	TYPE	LEGEND	LOCATION	DIMENSIONS
S1	I	D3-1G	TYLER ST	P-1	60"X18"
S2	I	D3-1G	INTERNATIONAL BLVD	P-2	120"X18"
S3	I	D3-1G	TYLER ST	P-3	60"X18"
S4	I	R10-27A	LEFT TURN YIELD ON FYA	P-1	24"X30"
S5	I	R10-27A	LEFT TURN YIELD ON FYA	P-3	24"X30"
S6	REL	WF	CHAMBER OF COMMERCE	P-3	
S7	REM	R6-2L	ONE WAY	ADJACENT TO EBS CURB	
PB1	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-5	9"X15"
PB2	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-6	9"X15"
PB3	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-2	9"X15"
PB4	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-3	9"X15"
PB5	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-7	9"X15"
PB6	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-4	9"X15"
PB7	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-8	9"X15"
PB8	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-1	9"X15"

NOTE: REM = REMAIN, REL = RELOCATE, I = INSTALL, WF = WAYFINDING

INTERSECTION PHASING



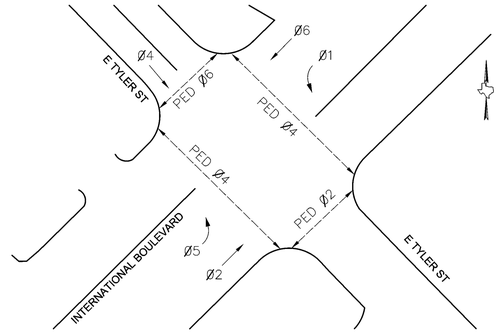
ESTIMATE OF TRAFFIC SIGNAL QUANTITIES				
ITEM No.	DESC. CODE	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	30
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	22
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	100
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	100
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	90
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	55
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	525
620	7009	ELEC CONDR (NO.6) BARE	LF	650
620	7010	ELEC CONDR (NO.6) INSULATED	LF	100
624	7008	GROUND BOX TY D (162922)W/APRON	EA	5
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	1
636	7001	ALUMINUM SIGNS (TY A)	SF	50
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	1
680	7004	REMOVING TRAFFIC SIGNALS	EA	1
682	7001	VEH SIG SEC (12")LED(GRN)	EA	6
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	2
682	7003	VEH SIG SEC (12")LED(YEL)	EA	6
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	4
682	7005	VEH SIG SEC (12")LED(RED)	EA	6
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	2
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	8
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	6
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	2
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	530
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	340
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	1400
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	530
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	1380
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	900
686	7028	INS TRF SIG PL AM(S)1 ARM(24')LUM&ILSN	EA	1
686	7048	INS TRF SIG PL AM(S)1 ARM(44')LUM&ILSN	EA	1
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	1
687	7001	PED POLE ASSEMBLY	EA	1
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	4
688	7001	PED DETECT PUSH BUTTON (APS)	EA	8
688	7003	PED DETECTOR CONTROLLER UNIT	EA	1
6001	7002	ILSN (6D)	EA	2
6001	7006	ILSN (10D)	EA	1
6005	7001	ITS COM CBL (ETHERNET)	LF	100
6007	7001	BBU SYSTEM (EXTERNAL BATT CABINET)	EA	1
6008	0001	RADAR PRESENCE DETECTION ONLY)	EA	3
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	3
6008	7009	RADAR PRESENCE DETECTOR COMM CABLE	LF	1000
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6061	0001	GPS COMMUNICATION UNIT	EA	1
n/a		FIELD MONITORING UNIT	EA	1
n/a		ENABLED ROADSIDE UNIT	EA	1

APS MESSAGE CHART			
POLE LOCATON	PEDESTRIAN MOVEMENT	FUNCTIONS	SPEECH MESSAGE / SOUND DETAILS
P - 1	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. TYLER STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 2	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. TYLER STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 3	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. TYLER STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 4	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. TYLER STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 5	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. TYLER STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 6	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. TYLER STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 7	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. TYLER STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 8	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. TYLER STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK

ELECTRICAL SERVICE DESCRIPTION									
PROJECT LOCATION	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT	TWO-POLE CONTACTOR AMPS	PANEL BD./ LOAD CENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CIRCUIT POLE/AMPS	KVA LOAD
International Blvd @ E. Tyler Street	TY D (120/240) 070 (NS) SS (N) SP (O)	2-1/2"	3/#6	N/A	2P/70	30	100	1. TRAFFIC SIGNAL	1P/50	<7.5
								2. LUM	2P/20	
								3. ILSN	3P/20	

RADAR DETECTOR SCHEDULE		
UNIT	ZONE	SIZE (W'XL')
R1-P	Z-1	6' X 40'
	Z-6	12' X 40'
R1-A	Z-6	12'X20'
R2-P	Z-5	6'X40'
	Z-2	12'X40'
R2-A	Z-2	12'X20'
R3-P	Z-4	6'X40'
R3-A	Z-4	6'X20'

GROUND BOX SUMMARY (ITEM 624)			
TYPE	DESCRIPTION	UNIT	QTY
D	No. 162922	EA	5



BASIC TIMING CHART								
Phase	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Street	International Blvd		E Tyler St		International Blvd			
Direction	WBLT	EBT		SB	EBLT	WBT		
Minimum Green	5	10		8	5	10		
Extension	2,0	2,0		2,0	2,0	2,0		
Maximum 1	20	60		30	20	60		
Maximum 2	25	70		40	25	70		
Yellow	4,0	4,0		4,0	4,0	4,0		
All Red	2,0	2,0		2,0	2,0	2,0		
Walk		7		7		7		
F.D. Walk		14		24		14		
Recall		C-Max				Max		
Dual Entry		X				X		

NOT IN USE

KBH TRAFFIC ENGINEERING, LLC
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:

PROPOSED INSTALLATION

53

EXISTING MASK ARM MOUNTED SIGNS

WAYFINDING SIGNS

D12-2 (24"X24")



S7



S6



S5



S8



S2



S4



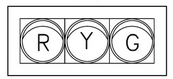
S1



S3

EXISTING TRAFFIC SIGNAL HEADS

H3



1, 2, 3, 4, 5, 6, 7, 8

EXISTING TO REMAIN

GROUND MOUNTED SIGNS

R5-1 (30"-30")



S10, S11

R3-1 (24"X24")



S9

NOTE: RELOCATED EXISTING SPECIAL STREET NAME AND WAYFINDING SIGNS TO THE NEW POLES

SUMMARY OF QUANTITIES (REMOVAL)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
644-7067	RELOCATE SM RD SN SUP&AM TY S80	EA	1
677-7001	ELIM EXT PM & MRKS (4")	LF	900
677-6002	ELIM EXT PM & MRKS (6")	LF	2600
677-7004	ELIM EXT PM & MRKS (8")	LF	200
677-6006	ELIM EXT PM & MRKS (12")	LF	350
677-6008	ELIM EXT PM & MRKS (24")	LF	150
677-6009	ELIM EXT PM & MRKS (ARROW)	EA	3
677-6010	ELIM EXT PM & MRKS (DBL ARROW)	EA	4
677-6015	ELIM EXT PM & MRKS (WORD)	EA	2
677-7025	ELIM EXT PM & MRKS (BIKE ARROW)	EA	2
677-7027	ELIM EXT PM & MRKS (BIKE SYMBOL)	EA	2
5047-7001	RELOCATE FIRE HYDRANT	EA	1

LEGEND

- EXISTING POLE W/MAST ARM
- EXISTING SIGNAL HEAD
- EXISTING LUMINAIRE
- EXISTING GROUND BOX
- EXISTING PEDESTRIAN POLE AND SIGNAL HEAD
- EXISTINGPEDESTRIAN PUSH BUTTON
- EXISTING MAST ARM SIGN
- EXISTING SIGNAL CONTROLLER CABINET
- EXISTING GROUND MOUNTED SIGN
- LANE ASSIGNMENTS
- EXISTING RADAR DETECTION

City of BROWNSVILLE TEXAS
On the Border By the Sea and Beyond

KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

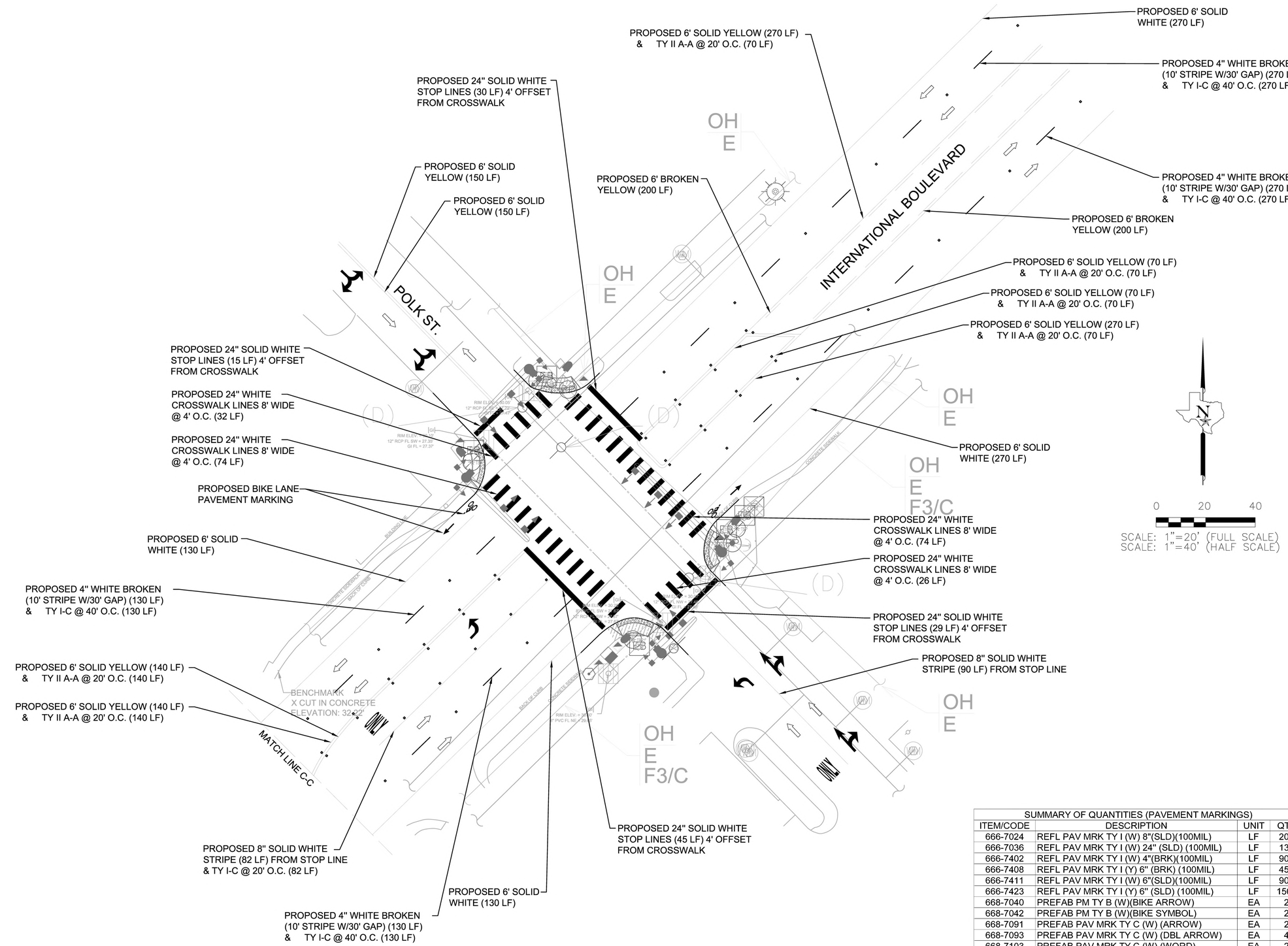
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:

EXISTING CONDITION LAYOUT

54



SUMMARY OF QUANTITIES (PAVEMENT MARKINGS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
666-7024	REFL PAV MRK TY I (W) 8"(SLD)(100MIL)	LF	200
666-7036	REFL PAV MRK TY I (W) 24" (SLD) (100MIL)	LF	130
666-7402	REFL PAV MRK TY I (W) 4"(BRK)(100MIL)	LF	900
666-7408	REFL PAV MRK TY I (Y) 6" (BRK) (100MIL)	LF	450
666-7411	REFL PAV MRK TY I (W) 6"(SLD)(100MIL)	LF	900
666-7423	REFL PAV MRK TY I (Y) 6" (SLD) (100MIL)	LF	1500
668-7040	PREFAB PM TY B (W)(BIKE ARROW)	EA	2
668-7042	PREFAB PM TY B (W)(BIKE SYMBOL)	EA	2
668-7091	PREFAB PAV MRK TY C (W) (ARROW)	EA	2
668-7093	PREFAB PAV MRK TY C (W) (DBL ARROW)	EA	4
668-7103	PREFAB PAV MRK TY C (W) (WORD)	EA	2
672-7002	REFL PAV MRKR TY I-C	EA	40
672-7004	REFL PAV MARK TY II-A-A	EA	32

City of BROWNSVILLE TEXAS
On The Border By The Sea and Beyond

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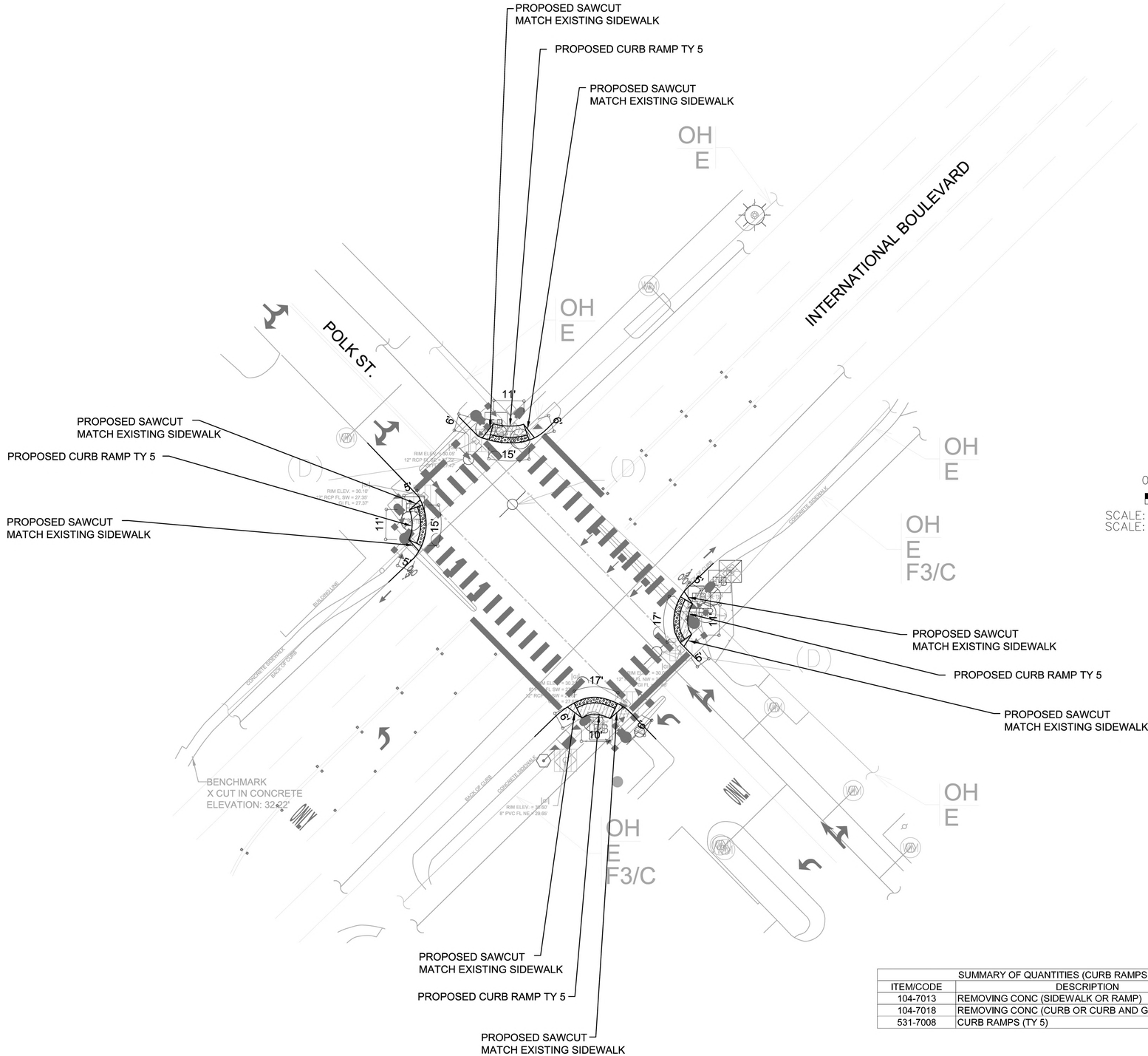
REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED PAVEMENT MARKING LAYOUT

55



0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

SUMMARY OF QUANTITIES (CURB RAMPS & SIDEWALKS)			
ITEM/CODE	DESCRIPTION	UNIT	QTY
104-7013	REMOVING CONC (SIDEWALK OR RAMP)	SY	65
104-7018	REMOVING CONC (CURB OR CURB AND GUTTER)	LF	170
531-7008	CURB RAMPS (TY 5)	EA	4

City of BROWNSVILLE TEXAS
On the Border. By the Sea. and Beyond.

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STATE OF TEXAS
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3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20

SHEET TITLE:
PROPOSED CURB RAMP LAYOUT

56

MAST ARM MOUNTED SIGNS

WAYFINDING SIGNS

D12-2 (24"X24")



S6

R10-12A (24"X30")



S8

R3-2 (30"X30")



S5

R3-1 (30"X30")



S9

R3-8R (36"X30")



S7



S1



S2



S3



S4

NOTE: RELOCATED EXISTING WAYFINDING SIGNS TO THE NEW POLES

EXISTING TO REMAIN GROUND MOUNTED SIGNS

R5-1 (30"-30")



S10, S11

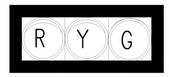
R3-1 (24"X24")



S12

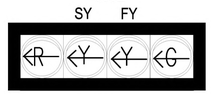
PROPOSED TRAFFIC SIGNAL HEADS

H3



1, 2, 4, 5, 6, 7, 8, 9

H4L

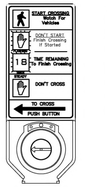


3



W1–W8
LED COUNTDOWN
PEDESTRIAN SIGNAL

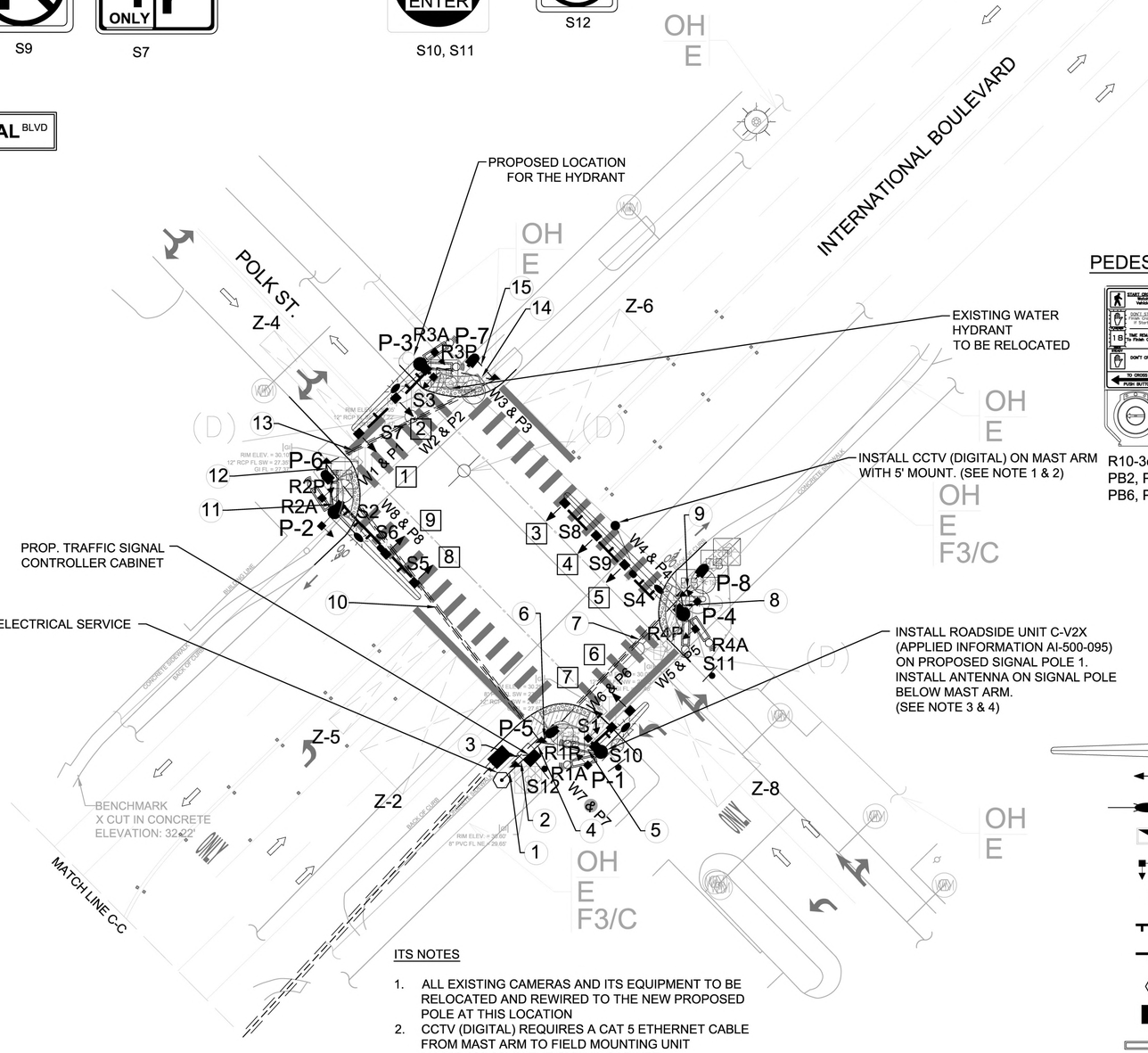
PEDESTRIAN SIGNS



R10-3eL
PB2, PB4,
PB6, PB8



R10-3eR
PB1, PB3,
PB5, PB7



0 20 40

SCALE: 1"=20' (FULL SCALE)
SCALE: 1"=40' (HALF SCALE)

TRAFFIC SIGNAL LOCATIONS		
POLE NUMBER	NORTHING	EASTING
1	16491237.287	1315339.6392
2	16491308.2717	1315260.7221
3	16491352.0848	1315286.0682
4	16491278.0711	1315363.9946
5	16491242.6844	1315324.408
6	16491319.3348	1315257.9622
7	16491353.7964	1315302.2377
8	16491291.5899	1315370.2035
GROUND BOX		
1	16491232.6558	1315314.092
2	16491240.0083	1315321.9254
3	16491283.3588	1315363.384
4	16491322.5618	1315258.2598
5	16491347.4061	1315308.0909
CABINET CONTROLLER	16491236.5389	1315318.2156

SIGNAL NOTES

1. THE CONTRACTOR SHALL FURNISH AND INSTALL RADAR VEHICLE DETECTION SYSTEM AND MAKE FULLY OPERATIONAL.
2. THE CONTRACTOR SHALL VERIFY WITH THE UTILITY COMPANIES AS TO THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION TO AVOID CONFLICT WITH OR DAMAGE TO THE UTILITIES.
3. FOR THE RADAR VEHICLE DETECTION SYSTEM, LOCATION AND PLACEMENT SHALL BE MOUNTED AS PER MANUFACTURER RECOMMENDATION AND IN COORDINATION WITH THE CITY OF BROWNSVILLE TRAFFIC DEPARTMENT.
4. EXISTING PHASING AND TIMING SHALL BE USED.

ITS NOTES

1. ALL EXISTING CAMERAS AND ITS EQUIPMENT TO BE RELOCATED AND REWIRED TO THE NEW PROPOSED POLE AT THIS LOCATION
2. CCTV (DIGITAL) REQUIRES A CAT 5 ETHERNET CABLE FROM MAST ARM TO FIELD MOUNTING UNIT (AI-500-085-02) IN THE SIGNAL CABINET.
3. ROADSIDE UNIT C-V2X (AI-500-095) REQUIRES A CAT 5 ETHERNET CABLE FROM SIGNAL POLE TO THE FIELD MOUNTING UNIT. A 24V WIRE IS REQUIRED TO POWER THE UNIT.
4. INSTALL ANTENNA ON SIGNAL POLE BELOW THE MAST ARM WITH METAL STRAPS AS PER MANUFACTURER RECOMMENDATIONS.
5. CONTRACTOR TO EXPOSE THE FIBER LINES PRIOR TO DRILLING THE FOUNDATION SHAFT

LEGEND

- PROP SIGNAL POLE W/MAST ARM
- PROPOSED SIGNAL HEAD
- PROPOSED LUMINAIRE
- GROUND BOX W/APRON
- PEDESTRIAN POLE AND SIGNAL HEAD
- PEDESTRIAN PUSH BUTTON
- PROPOSED ILSN SIGN
- PROPOSED MAST ARM SIGN
- PROPOSED ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- RADAR DETECTION
- CCTV CAMERA
- PROPOSED CONDUIT RUN (TRENCH)
- PROPOSED CONDUIT RUN (BORED)
- GROUND MOUNTED SIGN
- LANE ASSIGNMENTS

KBH TRAFFIC ENGINEERING, LLC
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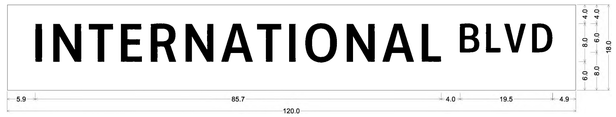
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:20
SHEET TITLE:	

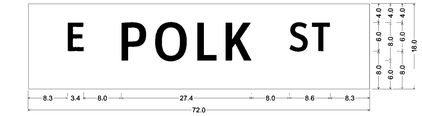
PROPOSED TRAFFIC SIGNAL LAYOUT

57

TRAFFIC GROUND CONDUIT QUANTITIES																		
ITEM	TOTAL QTY	ADD QTY	RUN NUMBER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
			RUN LENGTH (LF)	10	10	15	10	20	10	65	10	10	105	15	10	55	25	10
POWER	40	3	1/C - #6 XHHW	2	2													
GROUND	665	53	1/C - #6 BARE	1	1	1	2	1	1	2	2	1	2	2	1	2	2	1
SIGNAL CABLE	850	68	2/C - #14 AWG				8	1	1	2	1	1	4	1	1	2	1	1
	880	70	5/C - #14 AWG				8	2		2	2		4	2		2	2	
	525	42	7/C - #14 AWG				5	1		2	2		2	1		1	1	
OPTICOM	215	17	4/C - #12 AWG				2			1	1		1	1				
LUMINAIRE	540	43	2/C - #12 AWG (TC)	4		4	4	1		1	1		2	1		1	1	
CONDUIT	40	3	2" PVC BORE						1			1			1			1
	55	4	3" PVC BORE	1	1	1		1										
	570	46	4" PVC BORE				2			2	2		2	2		2	2	
ILNS SIGNS	540	43	4/C - #14 AWG TY"A" SOLID	4		4	4	1		1	1		2	1		1	1	
ITS COMM. CABLE	85	7	CAT 5 ETHERNET				1			1	1							
RVDS COMM. CABLE	880	70	RVDS CABLE				8	2		2	2		4	2		2	2	

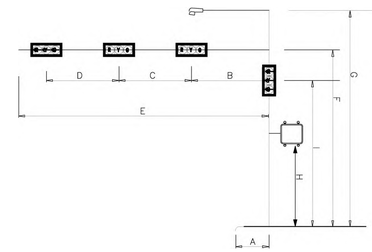


No border, White on Green;
"INTERNATIONAL", ClearviewHwy-3-W; "BLVD", ClearviewHwy-3-W;



No border, White on Green;
"E", ClearviewHwy-3-W; "POLK", ClearviewHwy-3-W 110% spacing; "ST", ClearviewHwy-3-W;

SIGNAL HEAD AND POLE PLACEMENT (LF)																										
POLE NO.	FND TYPE WIND ZONE 100 MPH	DRILLED SHAFT			WIRE INSIDE POLES										NO. OF SIGNAL HEADS	NO. OF PED HEADS	LUM-A	RVDS PRESENCE & ADVANCE	ILSN SIGNS	DIMENSION (LF)						
		ITEM 416	ITEM 416	ITEM 416	ITEM 682 SIG CABLE TYPE A			ITEM 684	ITEM 688	ITEM 6001	ITEM 6018	ITEM 6008	ITEM SS 8590							A	B	C	D	E	F	G	H
		24" DIA TYPE A LF	36" DIA TYPE A LF	48" DIA TYPE A LF	SIG HD	PED HD	PED BTN	LUM	APS PED	ILSN	CCTV	RVDS	OPTICOM														
					7 CNDR 14 AWG	5 CNDR 14 AWG	2CNDR 14 AWG	2 CND 12 AWG	PUSH BUTTONS	4 CND 14 AWG, TY "A" SOLID	CAT 5 ETHERNET	RVDS CABLE	EMERG PREEMP DETECT CABLE														
P-1	36-A		14		50	40	20	40	1	40		80		2	2	1	2	1	10	7	12		20	19	30	10
P-2	36-A		14		65	40	20	40	1	40		80	50	2	2	1	2	1	10	20	12		36	19	30	10
P-3	36-A		14		45	40	20	40	1	40		80		2	2	1	2	1	5	13	15		28	19	30	10
P-4	48-A			22	125	40	20	40	1	40	50	80	50	3	2	1	2	1	8	23	12	14	50	19	30	10
P-5	24-A	6																	10	PEDESTRIAN SIGNAL POLE						10
P-6	24-A	6																	10	PEDESTRIAN SIGNAL POLE						10
P-7	24-A	6																	10	PEDESTRIAN SIGNAL POLE						10
P-8	24-A	6		22															10	PEDESTRIAN SIGNAL POLE						10
TOTAL:		24	42	44	285	160	80	160	4	160	50	320	100	9	8	4	8	4								



SIGNAL HEADS (ITEM 682)										
SIGNAL HEAD ID	SIGNAL HEAD TYPE	BACK PLATE		12" LED SIGNAL INCICATIONS						PED SIG SEC (LED)
		3 SEC	4 SEC	<- G -	G	<- Y -	Y	< - R -	R	
		EA	EA	EA	EA	EA	EA	EA	EA	EA
1	H3	1			1		1		1	
2	H3	1			1		1		1	
3	H4		1	1		2		1		
4	H3	1			1		1		1	
5	H3	1			1		1		1	
6	H3	1			1		1		1	
7	H3	1			1		1		1	
8	H3	1			1		1		1	
9	H3	1			1		1		1	
W1	PED									1
W2	PED									1
W3	PED									1
W4	PED									1
W5	PED									1
W6	PED									1
W7	PED									1
W8	PED									1
TOTAL:		8	1	1	8	2	8	1	8	0

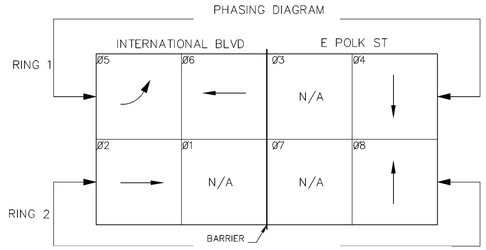
TRAFFIC SIGNAL SIGNS SUMMARY				
SIGN NUMBER	SIGN STATUS	TYPE	LEGEND	LOCATION	DIMENSIONS
S1	I	D3-1G	INTERNATIONAL BLVD	P-1	120"X18"
S2	I	D3-1G	POLK ST	P-2	54"X18"
S3	I	D3-1G	INTERNATIONAL BLVD	P-3	120"X18"
S4	I	D3-1G	POLK ST	P-4	54"X18"
S5	I	R3-2	NO LEFT TURN	P-2	30"X30"
S6	REL	WF	CHAMBER OF COMMERCE	P-2	
S7	I	R3-8R	LANE CONTROL	P-3	36"X30"
S8	I	R10-27A	LEFT TURN YIELD ON FYA	P-4	24"X30"
S9	I	R3-1	NO RIGHT TURN	P-4	30"X30"
S10	REM	R5-1	DO NOT ENTER	ADJACENT TO EBS CURB	
S11	REM	R5-1	DO NOT ENTER	ADJACENT TO EBN CURB	
S12	I	R3-1	NO RIGHT TURN	ADJACENT TO EBS CURB	
PB1	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-6	9"X15"
PB2	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-3	9"X15"
PB3	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-7	9"X15"
PB4	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-8	9"X15"
PB5	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-4	9"X15"
PB6	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-1	9"X15"
PB7	I	R10-3eR	PUSHBUTTON INSTRICTIONS	P-5	9"X15"
PB8	I	R10-3eL	PUSHBUTTON INSTRICTIONS	P-2	9"X15"

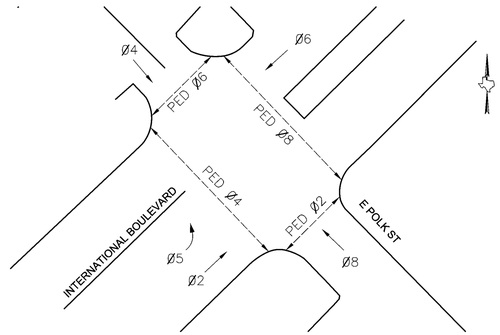
NOTE: REM = REMAIN, REL = RELOCATE, I = INSTALL, WF = WAYFINDING

RADAR DETECTOR SCHEDULE		
UNIT	ZONE	SIZE (W'XL')
R1-P	Z-5	6' X 40'
	Z-2	12' X 40'
R1-A	Z-2	12'X20'
R2-P	Z-4	12'X40'
R2-A	Z-4	12'X20'
R3-P	Z-1	6'X40'
	Z-6	12'X40'
R3-A	Z-6	12'X20'
R4-P	Z-8	12'X40'
R4-A	Z-8	12'X20'

GROUND BOX SUMMARY (ITEM 624)			
TYPE	DESCRIPTION	UNIT	QTY
D	No. 162922	EA	5

INTERSECTION PHASING





APS MESSAGE CHART			
POLE LOCATON	PEDESTRIAN MOVEMENT	FUNCTIONS	SPEECH MESSAGE / SOUND DETAILS
P - 1	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. POLK STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 2	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. POLK STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 3	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. POLK STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 4	PHASE 2	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. POLK STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 5	PHASE 4	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. POLK STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 6	PHASE 6	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS E. POLK STREET AT INTERNATIONAL BOULEVARD
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 7	PHASE 8	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. POLK STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK
P - 8	PHASE 8	BUTTON PUSH ON DW	WAIT
		EXTENDED BUTTON PUSH	WAIT TO CROSS INTERNATIONAL BOULEVARD AT E. POLK STREET
		LOCATOR TONE	SLOW TICK
		WALK INDICATION	RAPID TICK

BASIC TIMING CHART								
Phase	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
Street	International Blvd		E Polk St		International Blvd		E Polk St	
Direction		EBT		SB	EBLT	WBT		NB
Minimum Green	NOT IN USE	10	NOT IN USE	8	5	10	NOT IN USE	8
Extension		2,0		2,0	2,0	2,0		2,0
Maximum 1		60		30	20	60		30
Maximum 2		70		40	25	70		40
Yellow		4,0		4,0	4,0	4,0		4,0
All Red		2,0		2,0	2,0	2,0		2,0
Walk		7		7		7		7
F.D. Walk		14		24		14		24
Recall		C-Max				Max		
Dual Entry		X		X		X		X

ESTIMATE OF TRAFFIC SIGNAL QUANTITIES				
ITEM No.	DESC. CODE	ITEM DESCRIPTION	UNIT	ESTIMATED QUANTITY
416	7044	DRILL SHAFT (TRF SIG POLE) (36 IN)	LF	42
416	7046	DRILL SHAFT (TRF SIG POLE) (48 IN)	LF	22
506	7045	BIODEG EROSN CONT LOGS (INSTL) (18")	LF	100
506	7046	BIODEG EROSN CONT LOGS (REMOVE)	LF	100
618	7055	CONDT (PVC) (SCH 80) (2") (BORE)	LF	45
618	7061	CONDT (PVC) (SCH 80) (3") (BORE)	LF	60
618	7065	CONDT (PVC) (SCH 80) (4") (BORE)	LF	620
620	7009	ELEC CONDR (NO.6) BARE	LF	715
620	7010	ELEC CONDR (NO.6) INSULATED	LF	100
624	7008	GROUND BOX TY D (162922)W/APRON	EA	5
628	7199	ELC SRV TY D 120/240 070(NS)SS(N)SP(O)	EA	1
636	7001	ALUMINUM SIGNS (TY A)	SF	80
680	7002	INSTALL HWY TRF SIG (ISOLATED)	EA	1
680	7004	REMOVING TRAFFIC SIGNALS	EA	1
682	7001	VEH SIG SEC (12")LED(GRN)	EA	8
682	7002	VEH SIG SEC (12")LED(GRN ARW)	EA	1
682	7003	VEH SIG SEC (12")LED(YEL)	EA	8
682	7004	VEH SIG SEC (12")LED(YEL ARW)	EA	2
682	7005	VEH SIG SEC (12")LED(RED)	EA	8
682	7006	VEH SIG SEC (12")LED(RED ARW)	EA	1
682	7018	PED SIG SEC (LED)(COUNTDOWN)	EA	8
682	7042	BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM	EA	8
682	7043	BACKPLATE W/REF BRDR(4 SEC)(VENT)ALUM	EA	1
684	7007	TRF SIG CBL (TY A)(12 AWG)(2 CONDR)	LF	750
684	7009	TRF SIG CBL (TY A)(12 AWG)(4 CONDR)	LF	340
684	7028	TRF SIG CBL (TY A)(14 AWG)(2 CONDR)	LF	1000
684	7030	TRF SIG CBL (TY A)(14 AWG)(4 CONDR)	LF	750
684	7031	TRF SIG CBL (TY A)(14 AWG)(5 CONDR)	LF	1110
684	7033	TRF SIG CBL (TY A)(14 AWG)(7 CONDR)	LF	860
686	7024	INS TRF SIG PL AM(S)1 ARM(20')LUM&ILSN	EA	1
686	7032	INS TRF SIG PL AM(S)1 ARM(28')LUM&ILSN	EA	1
686	7040	INS TRF SIG PL AM(S)1 ARM(36')LUM&ILSN	EA	1
686	7056	INS TRF SIG PL AM(S)1 ARM(50')LUM&ILSN	EA	1
687	7002	PEDESTRIAN PUSH BUTTON POLE	EA	4
688	7001	PED DETECT PUSH BUTTON (APS)	EA	8
688	7003	PED DETECTOR CONTROLLER UNIT	EA	1
6001	7002	ILSN (6D)	EA	2
6001	7006	ILSN (10D)	EA	2
6005	7001	ITS COM CBL (ETHERNET)	LF	150
6007	7001	BBU SYSTEM (EXTERNAL BATT CABINET)	EA	1
6008	0001	RADAR PRESENCE DETECTION ONLY)	EA	4
6008	0002	RVDS (ADVANCE DETENTION ONLY)	EA	4
6008	7009	RADAR PRESENCE DETECTOR COMM CABLE	LF	1280
6018	0001	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6018	0002	CCTV FIELD EQUIPMENT (DIGITAL)	EA	1
6061	0001	GPS COMMUNICATION UNIT	EA	1
n/a		FIELD MONITORING UNIT	EA	1
n/a		ENABLED ROADSIDE UNIT	EA	1

ELECTRICAL SERVICE DESCRIPTION										
PROJECT LOCATION	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE (RMC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT	TWO-POLE CONTACTOR AMPS	PANEL BD./ LOAD CENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CIRCUIT POLE/AMPS	KVA LOAD
International Blvd @ E. Polk Street	TY D (120/240) 070 (NS) SS (N) SP (O)	2-1/2"	3/#6	N/A	2P/70	30	100	1. TRAFFIC SIGNAL	1P/50	<7.5
								2. LUM	2P/20	
								3. ILSN	3P/20	

City of BROWNSVILLE
On the Border By the Sea and Beyond
KBH TRAFFIC ENGINEERING, LLC
KBH TRAFFIC ENGINEERING
1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

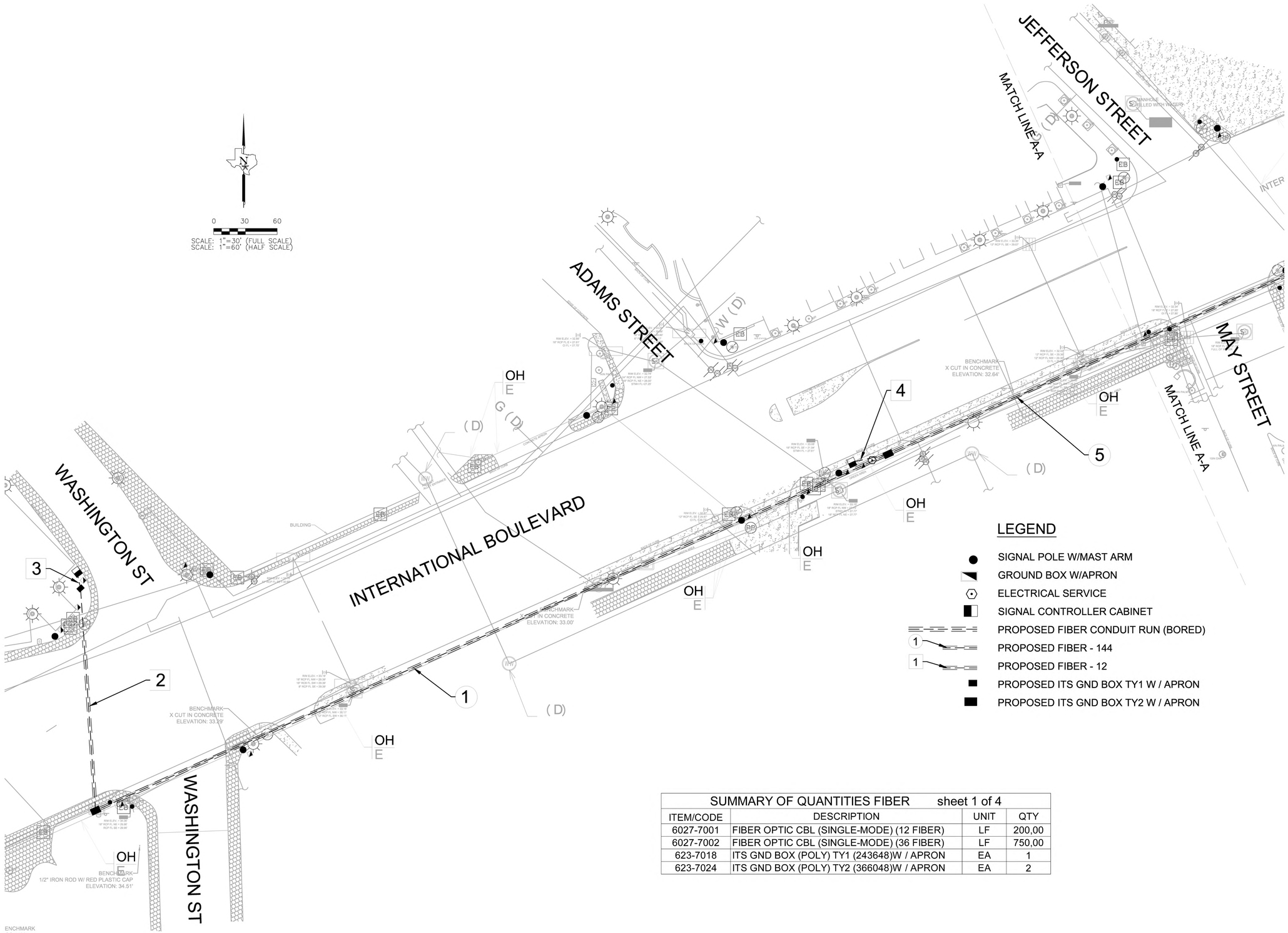
REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026
Keti Hristova

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	N.T.S.

SHEET TITLE:
PROPOSED INSTALLATION

58



LEGEND

- SIGNAL POLE W/MAST ARM
- GROUND BOX W/APRON
- ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- PROPOSED FIBER CONDUIT RUN (BORED)
- 1 PROPOSED FIBER - 144
- 1 PROPOSED FIBER - 12
- PROPOSED ITS GND BOX TY1 W / APRON
- PROPOSED ITS GND BOX TY2 W / APRON

SUMMARY OF QUANTITIES FIBER sheet 1 of 4

ITEM/CODE	DESCRIPTION	UNIT	QTY
6027-7001	FIBER OPTIC CBL (SINGLE-MODE) (12 FIBER)	LF	200,00
6027-7002	FIBER OPTIC CBL (SINGLE-MODE) (36 FIBER)	LF	750,00
623-7018	ITS GND BOX (POLY) TY1 (243648)W / APRON	EA	1
623-7024	ITS GND BOX (POLY) TY2 (366048)W / APRON	EA	2

City of BROWNSVILLE Texas
On the Border. By the Sea. and Beyond.

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TBPE FIRM NUMBER: F-14592

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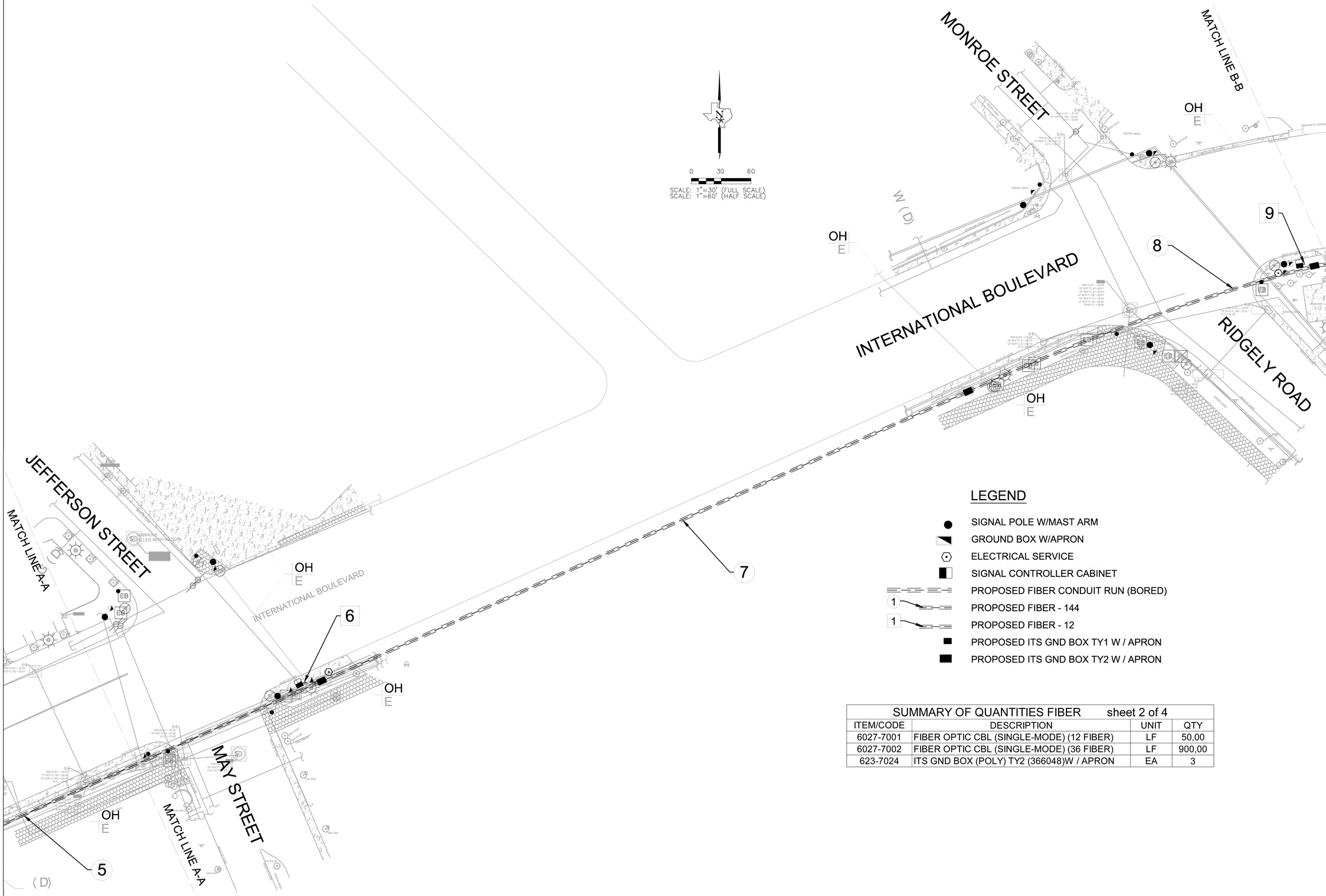
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

SHEET 1 OF 4

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:30

SHEET TITLE:
PROPOSED FIBER OPTIC LAYOUT

59



LEGEND

- SIGNAL POLE W/MAST ARM
- GROUND BOX W/APRON
- ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- PROPOSED FIBER CONDUIT RUN (BORED)
- 1 PROPOSED FIBER - 144
- 1 PROPOSED FIBER - 12
- PROPOSED ITS GND BOX TY1 W / APRON
- PROPOSED ITS GND BOX TY2 W / APRON

SUMMARY OF QUANTITIES FIBER sheet 2 of 4

ITEM/CODE	DESCRIPTION	UNIT	QTY
6027-7001	FIBER OPTIC CBL (SINGLE-MODE) (12 FIBER)	LF	50,00
6027-7002	FIBER OPTIC CBL (SINGLE-MODE) (36 FIBER)	LF	900,00
623-7024	ITS GND BOX (POLY) TY2 (366048)W / APRON	EA	3

City of BROWNSVILLE Texas
On the Border of the Sea and Beyond

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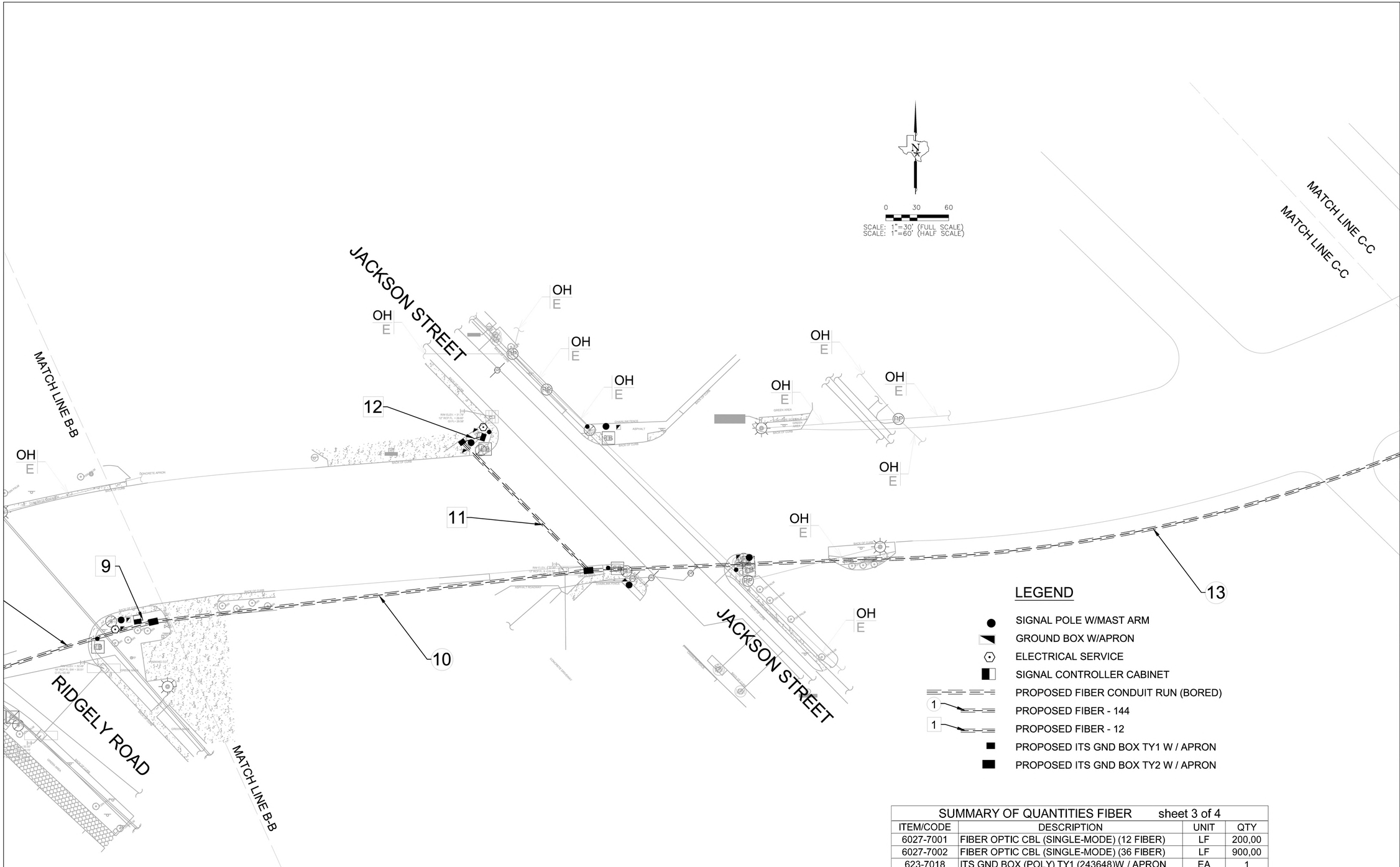
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

SHEET 2 OF 4

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:30

SHEET TITLE:
PROPOSED FIBER OPTIC LAYOUT

60



LEGEND

- SIGNAL POLE W/MAST ARM
- GROUND BOX W/APRON
- ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- PROPOSED FIBER CONDUIT RUN (BORED)
- 1 PROPOSED FIBER - 144
- 1 PROPOSED FIBER - 12
- PROPOSED ITS GND BOX TY1 W / APRON
- PROPOSED ITS GND BOX TY2 W / APRON

SUMMARY OF QUANTITIES FIBER sheet 3 of 4

ITEM/CODE	DESCRIPTION	UNIT	QTY
6027-7001	FIBER OPTIC CBL (SINGLE-MODE) (12 FIBER)	LF	200,00
6027-7002	FIBER OPTIC CBL (SINGLE-MODE) (36 FIBER)	LF	900,00
623-7018	ITS GND BOX (POLY) TY1 (243648)W / APRON	EA	1
623-7024	ITS GND BOX (POLY) TY2 (366048)W / APRON	EA	1

City of BROWNSVILLE Texas
On the Border. By the Sea. and Beyond.

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REVISION NO.	DATE	DESCRIPTION

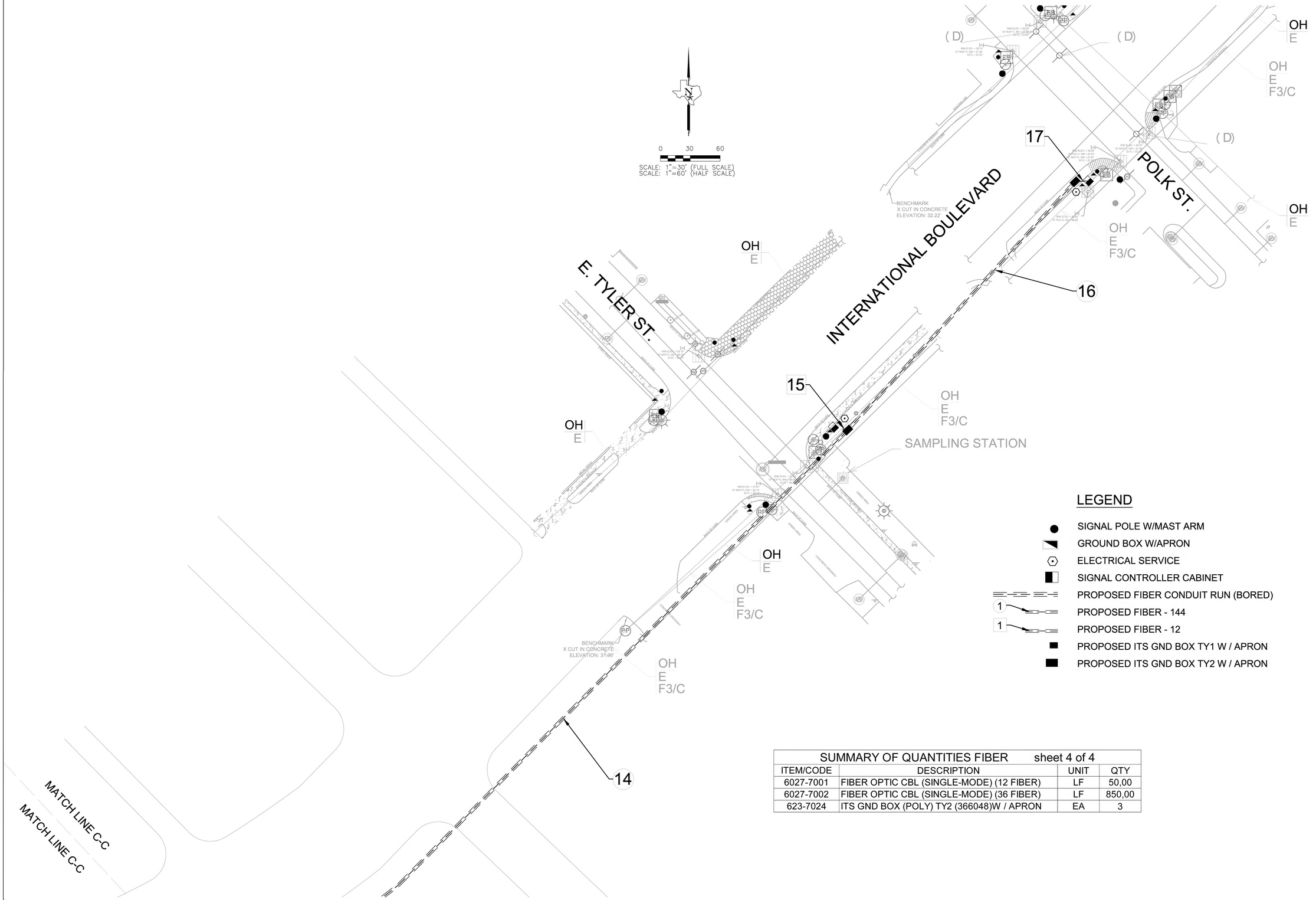
STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

SHEET 3 OF 4

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:30

SHEET TITLE:
PROPOSED FIBER OPTIC LAYOUT

61



LEGEND

- SIGNAL POLE W/MAST ARM
- GROUND BOX W/APRON
- ELECTRICAL SERVICE
- SIGNAL CONTROLLER CABINET
- PROPOSED FIBER CONDUIT RUN (BORED)
- 1 PROPOSED FIBER - 144
- 1 PROPOSED FIBER - 12
- PROPOSED ITS GND BOX TY1 W / APRON
- PROPOSED ITS GND BOX TY2 W / APRON

SUMMARY OF QUANTITIES FIBER sheet 4 of 4

ITEM/CODE	DESCRIPTION	UNIT	QTY
6027-7001	FIBER OPTIC CBL (SINGLE-MODE) (12 FIBER)	LF	50,00
6027-7002	FIBER OPTIC CBL (SINGLE-MODE) (36 FIBER)	LF	850,00
623-7024	ITS GND BOX (POLY) TY2 (366048)W / APRON	EA	3

City of BROWNSVILLE Texas
On the Border By the Sea and Beyond

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1127 Eldridge Pkwy, Suite 300-203
Houston, Texas, 77077
TBPE FIRM NUMBER: F-14592

REVISION NO.	DATE	DESCRIPTION

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER
3/20/2026

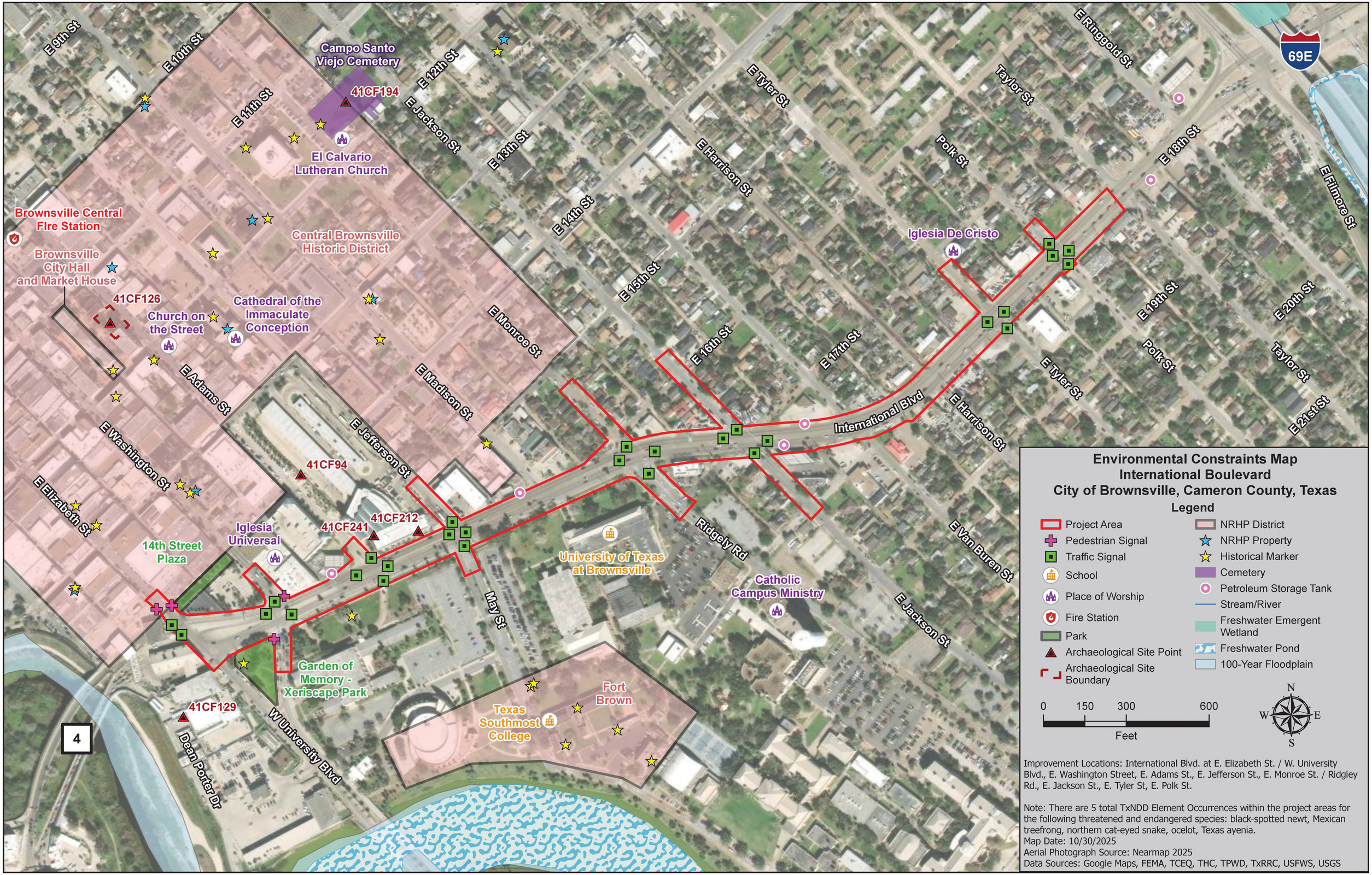
SHEET 4 OF 4

PROJECT NO.:	1617
ISSUED	09/09/2025
DRAWN BY:	MH
CHECKED BY:	KH
SCALE:	1:30

SHEET TITLE:

PROPOSED FIBER OPTIC LAYOUT

62



Environmental Constraints Map
International Boulevard
City of Brownsville, Cameron County, Texas

Legend

- Project Area
- Pedestrian Signal
- Traffic Signal
- School
- Place of Worship
- Fire Station
- Park
- Archaeological Site Point
- Archaeological Site Boundary
- NRHP District
- NRHP Property
- Historical Marker
- Cemetery
- Petroleum Storage Tank
- Stream/River
- Freshwater Emergent Wetland
- Freshwater Pond
- 100-Year Floodplain

0 150 300 600

Feet

N W E S

Improvement Locations: International Blvd. at E. Elizabeth St. / W. University Blvd., E. Washington Street, E. Adams St., E. Jefferson St., E. Monroe St. / Ridgley Rd., E. Jackson St., E. Tyler St, E. Polk St.

Note: There are 5 total TxNDD Element Occurrences within the project areas for the following threatened and endangered species: black-spotted newt, Mexican treefrong, northern cat-eyed snake, ocelot, Texas ayenia.
Map Date: 10/30/2025
Aerial Photograph Source: Nearmap 2025
Data Sources: Google Maps, FEMA, TCEQ, THC, TPWD, TxRRC, USFWS, USGS

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BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

2. The development and design of the Traffic Control Plan (TCP)is the responsibility of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.

7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.

8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.

10. Where highway construction or maintenance work is being undertaken, other than mobile operations as defined by the Texas Manual on Uniform Traffic Control Devices, CSJ limit signs are required. CSJ limit signs are shown on BC(2). The OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits. For mobile operations, CSJ limit signs are not required.

11. Traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of all traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

2. Except in emergency situations, flagger stations shall be illuminated when flagging is used at night.

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

1. Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources.

2. Work zone traffic control devices shall be compliant with the Manual for Assessing safety Hardware (MASH).

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

SHEET 1 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

BC(1)-21

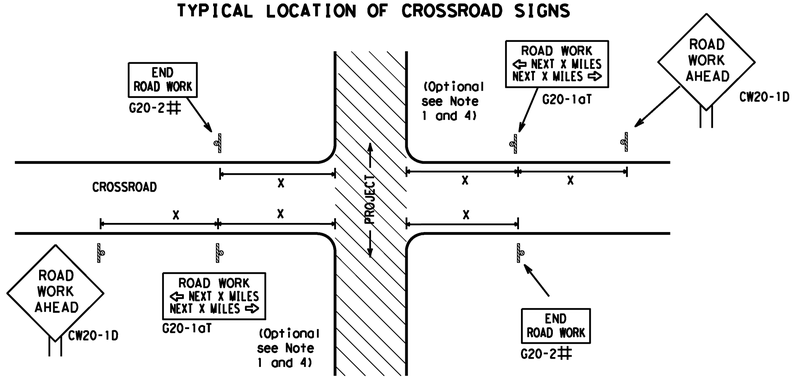
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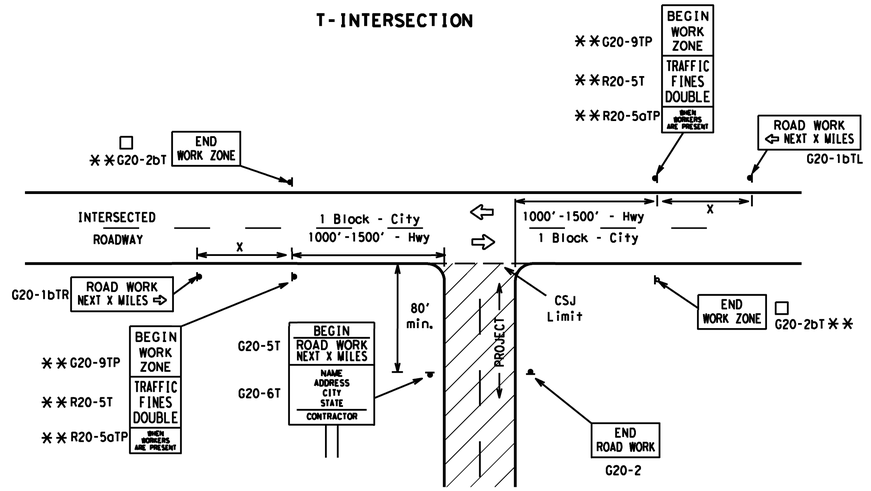
TYPICAL LOCATION OF CROSSROAD SIGNS



May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D)sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume as per TMUTCD Part 5. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES"(G20-1aT)sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection, the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

SIZE

Sign Number or Series	Conventional Road	Expressway/ Freeway
CW20[4] CW21 CW22 CW23 CW25	48" x 48"	48" x 48"
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"

SPACING

Posted Speed	Sign △ Spacing "X"
MPH	Feet (Apprx.)
30	120
35	160
40	240
45	320
50	400
55	500[2]
60	600[2]
65	700[2]
70	800[2]
75	900[2]
80	1000[2]
*	*[3]

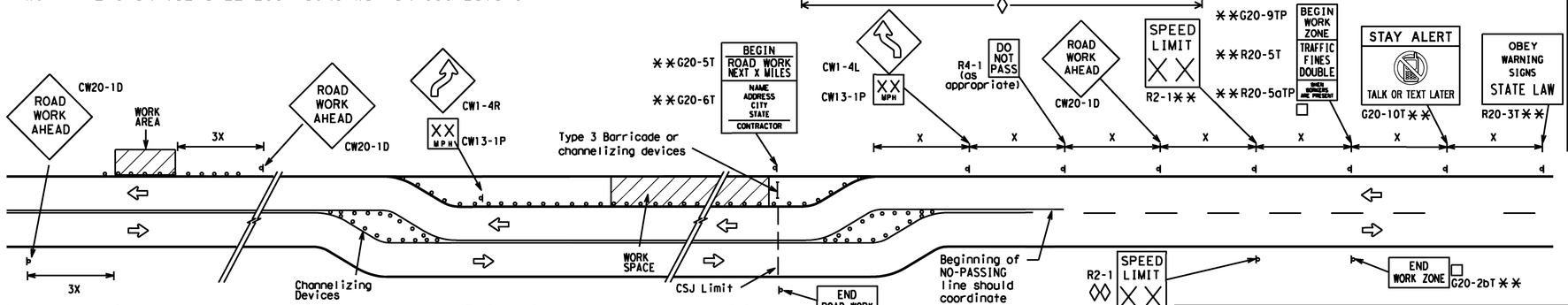
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

△ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

GENERAL NOTES

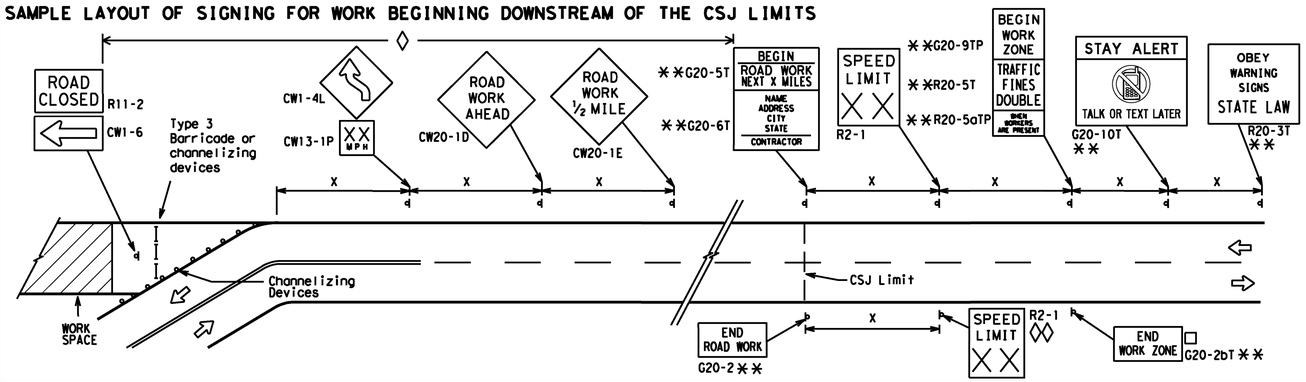
1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer as per TMUTCD Part 5. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D)signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS

NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T)sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

□ The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

** CSJ limit signing is required for highway construction and maintenance work, with the exception of mobile operations.

◊ Area for placement of "ROAD WORK AHEAD" (CW20-1D)sign and other signs or devices as called for on the Traffic Control Plan.

◊◊ Contractor will install a regulatory speed limit sign at the end of the work zone.

LEGEND	
⊢⊣	Type 3 Barricade
○○○	Channelizing Devices
▬	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

SHEET 2 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-21

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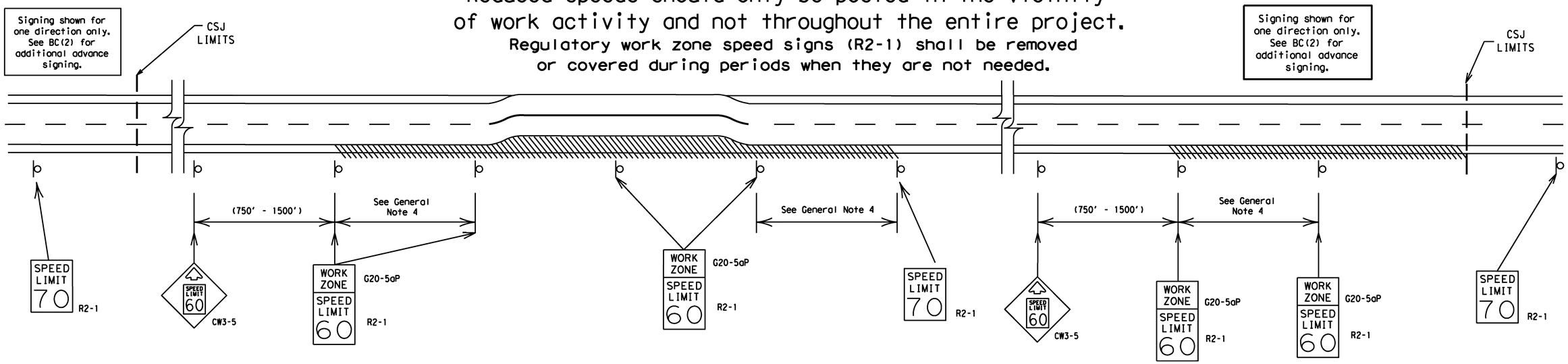
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TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

a) rough road or damaged pavement surface
b) substantial alteration of roadway geometrics (diversions)
c) construction detours
d) grade
e) width
f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the traveled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
(See Removing or Covering on BC(4)).

GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT"(CW3-5)sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1)signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
8. Techniques that may help reduce traffic speeds include but are not limited to:
   A. Law enforcement.
   B. Flagger stationed next to sign.
   C. Portable changeable message sign (PCMS).
   D. Low-power (drone) radar transmitter.
   E. Speed monitor trailers or signs.
9. Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC(3)-21

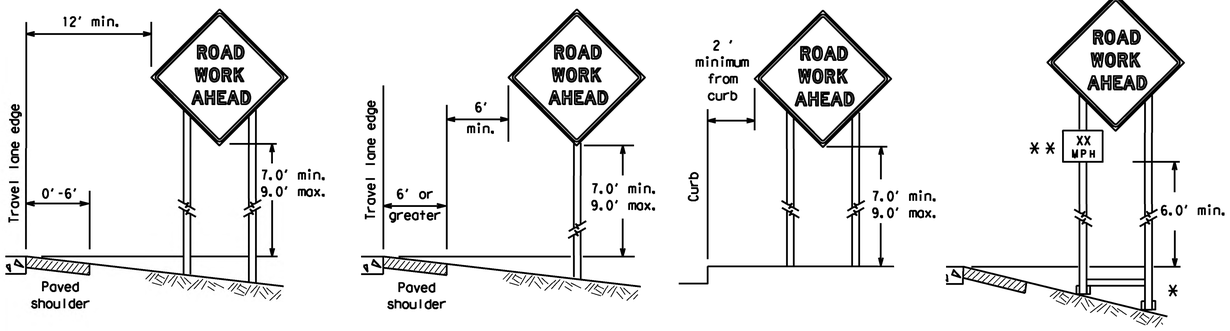
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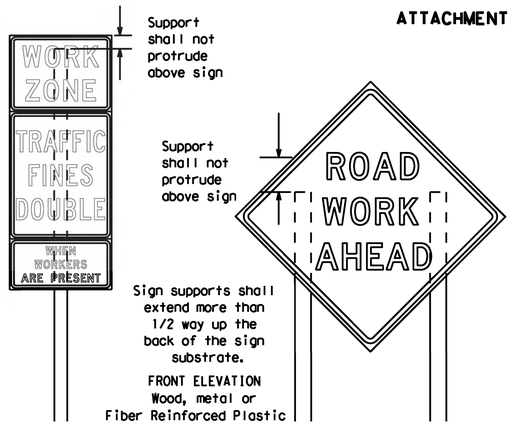
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS



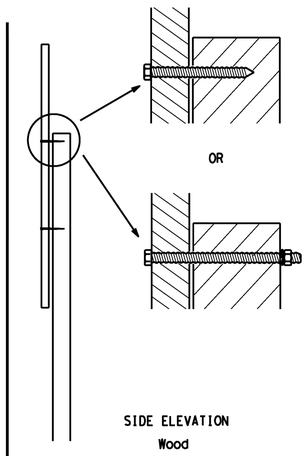
* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

** When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS



FRONT ELEVATION
Wood, metal or
Fiber Reinforced Plastic



SIDE ELEVATION
Wood

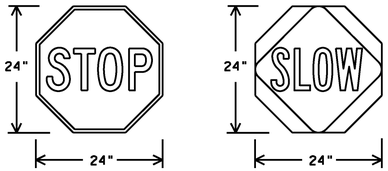
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
2. STOP/SLOW paddles shall be retroreflectorized when used at night.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



Background - Red
Legend & Border - White

Background - Orange
Legend & Border - Black

SHEETING REQUIREMENTS (WHEN USED AT NIGHT)		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	ORANGE	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDER	WHITE	TYPE B OR C SHEETING
LEGEND & BORDER	BLACK	ACRYLIC NON-REFLECTIVE FILM

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, specific service (LOGO), or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition. For details for covering large guide signs see the TS-CD standard.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC standard sheets, TLRS standard sheets or the CWZTCD list. The signs shall meet the required mounting heights shown on the BC, or the SMD standard sheets during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD) for small roadside signs. Supports for temporary large roadside signs shall meet the requirements detailed on the Temporary Large Roadside Signs (TLRS) standard sheets. The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B_{FL} or Type C_{FL}, shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used, the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

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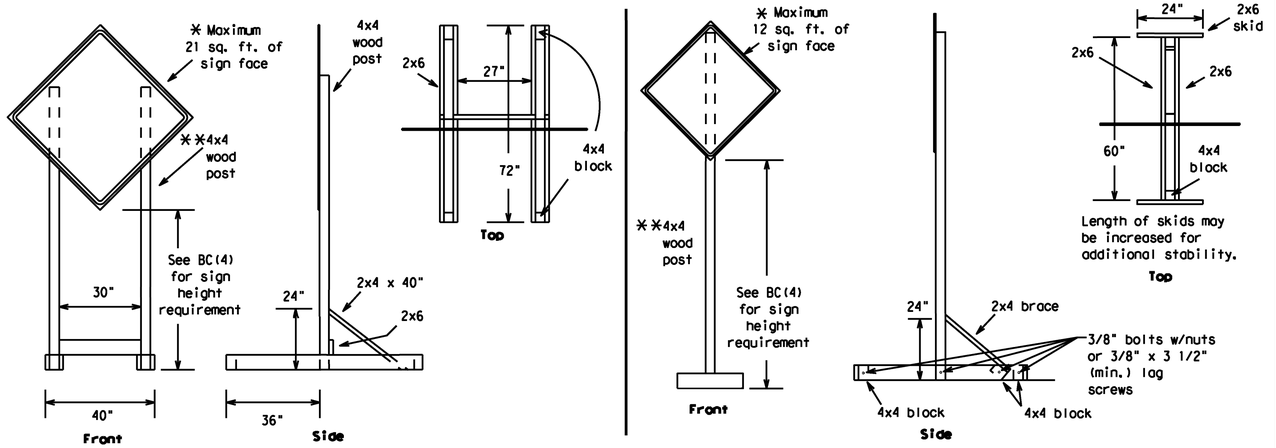
BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4)-21

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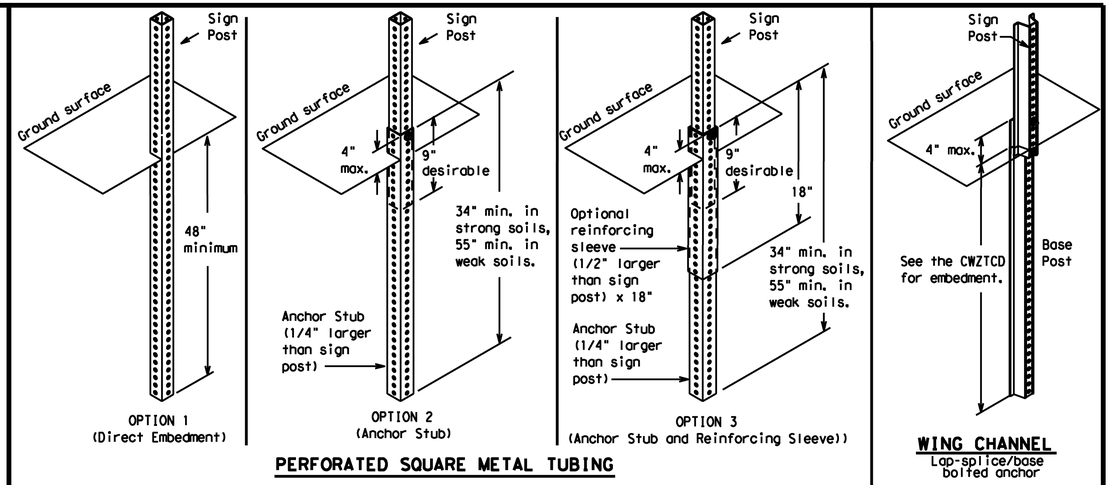
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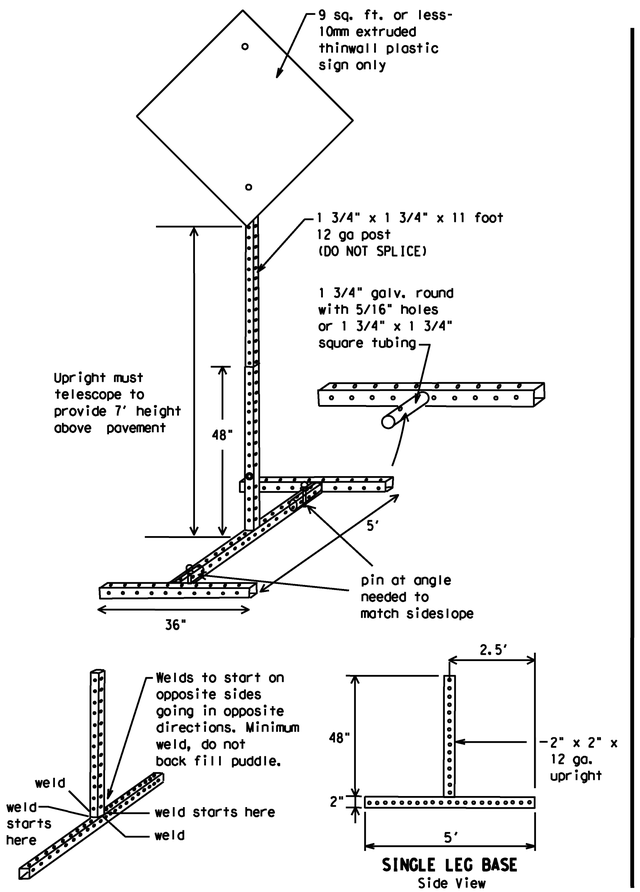
SKID MOUNTED WOOD SIGN SUPPORTS

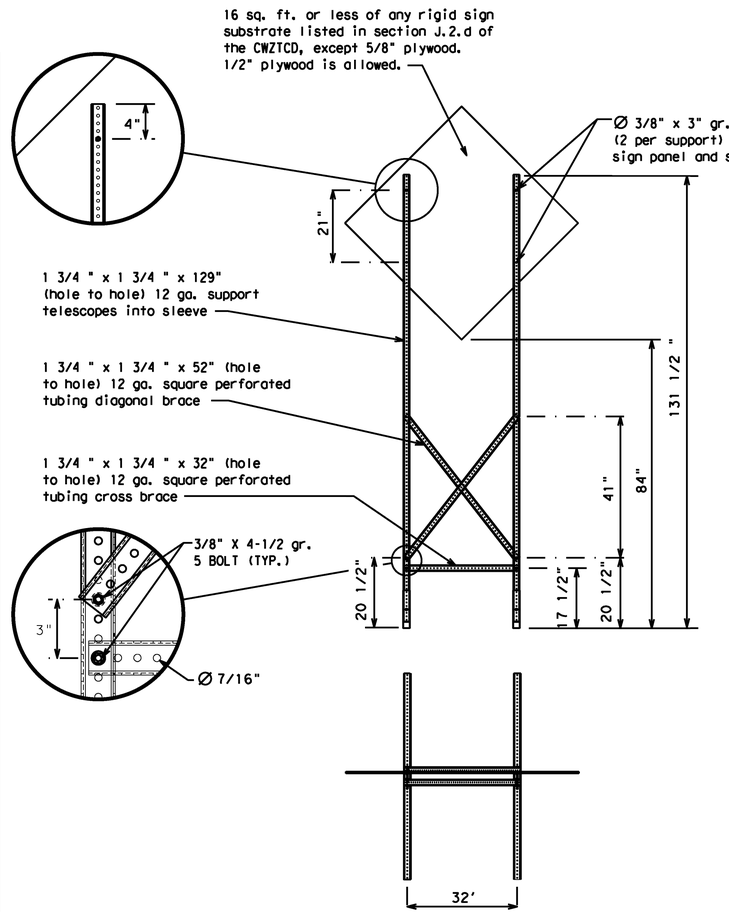
* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

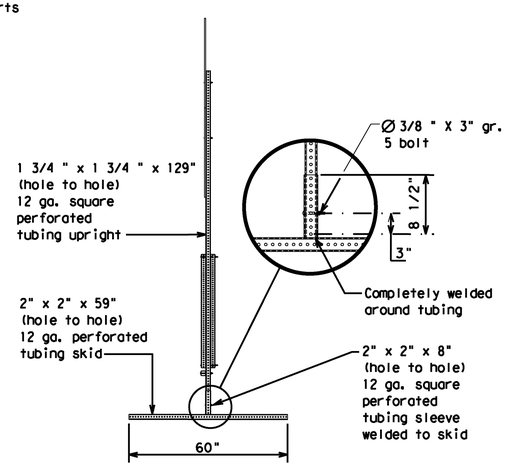


GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation.
Two post installations can be used for larger signs.







SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

* LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

* See BC(4) for definition of "Work Duration."

** Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

☐ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

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BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

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WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGNS

1. The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
2. Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
3. Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
4. Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
6. When in use, the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
11. Do not use the word "Danger" in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontally or vertically across the face of the sign.
14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
16. Each line of text should be centered on the message board rather than left or right justified.
17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD
Alternate	ALT
Avenue	AVE
Best Route	BEST RTE
Boulevard	BLVD
Bridge	BRDG
Cannot	CANT
Center	CTR
Construction Ahead	CONST AHD
CROSSING	XING
Detour Route	DETOUR RTE
Do Not	DONT
East	E
Eastbound	(route) E
Emergency	EMER
Emergency Vehicle	EMER VEH
Entrance, Enter	ENT
Express Lane	EXP LN
Expressway	EXPWY
XXXX Feet	XXXX FT
Fog Ahead	FOG AHD
Freeway	FRWY, FWY
Freeway Blocked	FWY BLKD
Friday	FRI
Hazardous Driving	HAZ DRIVING
Hazardous Material	HAZMAT
High-Occupancy	HOV
Vehicle Highway	HWY
Hour(s)	HR, HRS
Information	INFO
It Is	ITS
Junction	JCT
Left	LFT
Left Lane	LFT LN
Lane Closed	LN CLOSED
Lower Level	LWR LEVEL
Maintenance	MAINT
Major	MAJ
Miles	MI
Miles Per Hour	MPH
Minor	MNR
Monday	MON
Normal	NORM
North	N
Northbound	(route) N
Parking	PKING
Road	RD
Right Lane	RT LN
Saturday	SAT
Service Road	SERV RD
Shoulder	SHLDR
Slippery	SLIP
South	S
Southbound	(route) S
Speed	SPD
Street	ST
Sunday	SUN
Telephone	PHONE
Temporary	TEMP
Thursday	THURS
To Downtown	TO DWNTN
Traffic	TRAF
Travelers	TRVLRS
Tuesday	TUES
Time Minutes	TIME MIN
Upper Level	UPR LEVEL
Vehicles (s)	VEH, VEHS
Warning	WARN
Wednesday	WED
Weight Limit	WT LIMIT
West	W
Westbound	(route) W
Wet Pavement	WET PVMT
Will Not	WONT

Roadway designation * IH-number, US-number, SH-number, FM-number

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

- FREEWAY CLOSED X MILE
- FRONTAGE ROAD CLOSED
- ROAD CLOSED AT SH XXX
- SHOULDER CLOSED XXX FT
- ROAD CLSD AT FM XXXX
- RIGHT LN CLOSED XXX FT
- RIGHT X LANES CLOSED
- RIGHT X LANES OPEN
- CENTER LANE CLOSED
- DAYTIME LANE CLOSURES
- NIGHT LANE CLOSURES
- I-XX SOUTH EXIT CLOSED
- VARIOUS LANES CLOSED
- EXIT XXX CLOSED X MILE
- EXIT CLOSED
- RIGHT LN TO BE CLOSED
- MALL DRIVEWAY CLOSED
- X LANES CLOSED TUE - FRI
- XXXXXXXX BLVD CLOSED

Other Condition List

- ROADWORK XXX FT
- ROAD REPAIRS XXXX FT
- FLAGGER XXXX FT
- LANE NARROWS XXXX FT
- RIGHT LN NARROWS XXXX FT
- TWO-WAY TRAFFIC XX MILE
- MERGING TRAFFIC XXXX FT
- CONST TRAFFIC XXX FT
- LOOSE GRAVEL XXXX FT
- UNEVEN LANES XXXX FT
- DETOUR X MILE
- ROUGH ROAD XXXX FT
- ROADWORK PAST SH XXXX
- ROADWORK NEXT FRI-SUN
- BUMP XXXX FT
- US XXX EXIT X MILES
- TRAFFIC SIGNAL XXXX FT
- LANES SHIFT *

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

- MERGE RIGHT
- FORM X LINES RIGHT
- DETOUR NEXT X EXITS
- USE XXXXX RD EXIT
- USE EXIT XXX
- USE EXIT I-XX NORTH
- STAY ON US XXX SOUTH
- USE I-XX E TO I-XX N
- TRUCKS USE US XXX N
- WATCH FOR TRUCKS
- WATCH FOR TRUCKS
- EXPECT DELAYS
- EXPECT DELAYS
- PREPARE TO STOP
- REDUCE SPEED XXX FT
- END SHOULDER USE
- USE OTHER ROUTES
- WATCH FOR WORKERS
- STAY IN LANE *

Location List

- AT FM XXXX
- BEFORE RAILROAD CROSSING
- NEXT X MILES
- PAST US XXX EXIT
- XXXXXXX TO XXXXXXX
- US XXX TO FM XXXX

Warning List

- SPEED LIMIT XX MPH
- MAXIMUM SPEED XX MPH
- MINIMUM SPEED XX MPH
- ADVISORY SPEED XX MPH
- RIGHT LANE EXIT
- USE CAUTION
- DRIVE SAFELY
- DRIVE WITH CARE

** Advance Notice List

- TUE-FRI XX AM- X PM
- APR XX-XX X PM-X AM
- BEGINS MONDAY
- BEGINS MAY XX
- MAY X-X XX PM - XX AM
- NEXT FRI-SUN
- XX AM TO XX PM
- NEXT TUE AUG XX
- TONIGHT XX PM- XX AM

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

1. Only 1 or 2 phases are to be used on a PCMS.
2. The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL can be interchanged as appropriate.
2. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
4. Highway names and numbers replaced as appropriate.
5. ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
6. AHEAD may be used instead of distances if necessary.
7. FT and MI, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

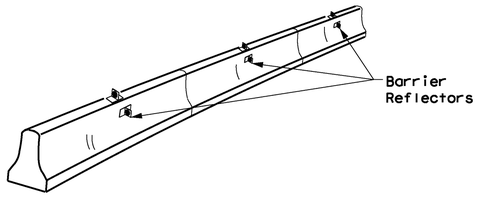
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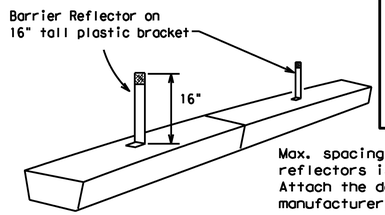
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1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.

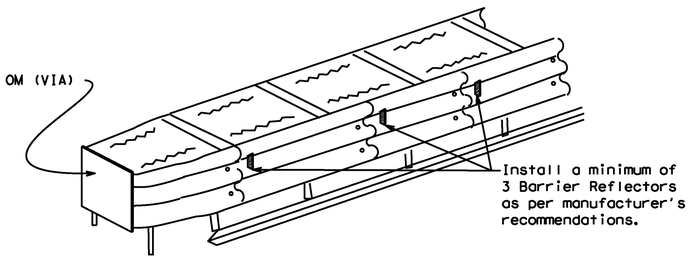


Max. spacing of barrier reflectors is 20 feet. Attach the delineators as per manufacturer's recommendations.

LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES

LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

LOW PROFILE CONCRETE BARRIER (LPCB)

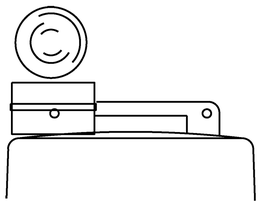


DELINEATION OF END TREATMENTS

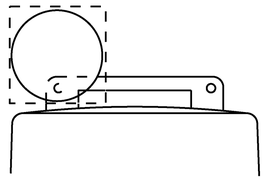
END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet the apppropriate crashworthy standards as defined in the Manual for Assessing Safety Hardware (MASH). Refer to the CWZTCD List for approved end treatments and manufacturers.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square. Must have a yellow reflective surface area of at least 30 square inches

WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B_{FL} or C_{FL} Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

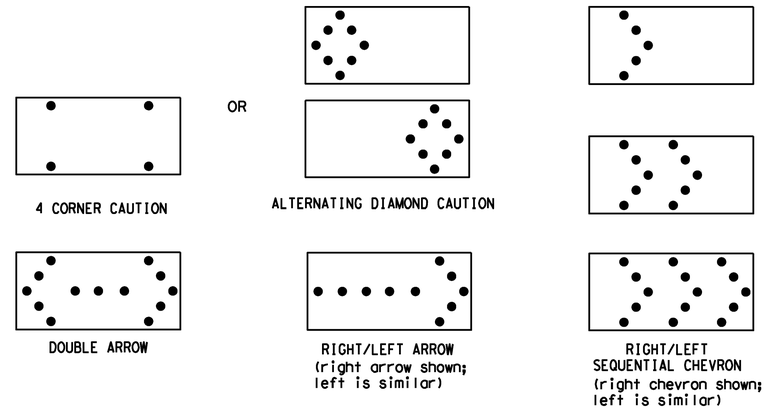
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:



5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

SHEET 7 OF 12

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

BC(7)-21

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GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections, one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

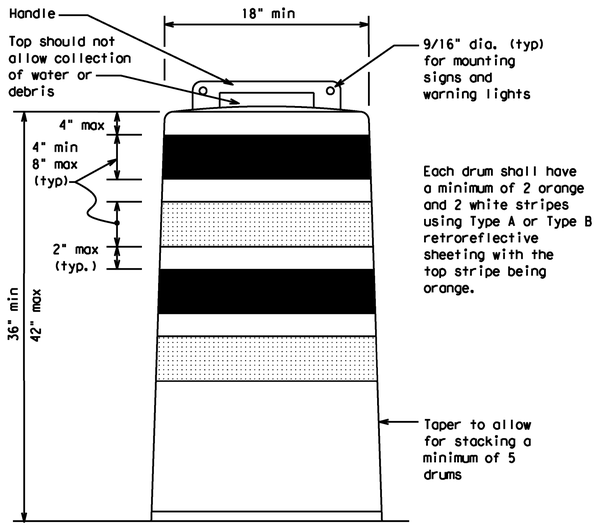
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

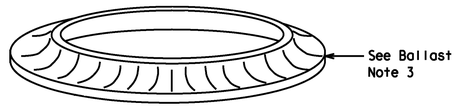
RETROREFLECTIVE SHEETING

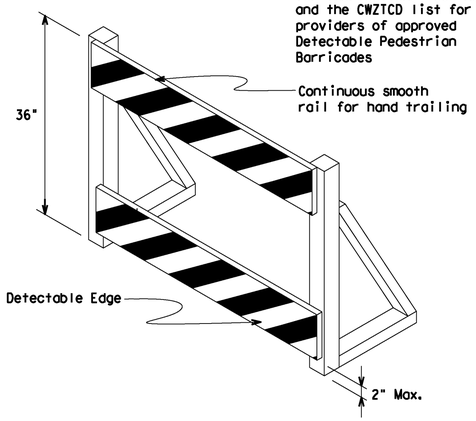
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.

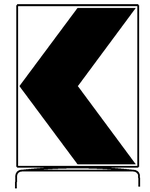




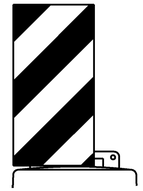


DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Refer to WZ(BTS-2) for Pedestrian Control requirements for Sidewalk Diversions, Sidewalk Detours and Crosswalk Closures.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a Detectable Pedestrian Barricade shall be placed across the full width of the closed sidewalk instead of a Type 3 Barricade.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades should use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type B_{FL} or Type C_{FL} Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A or Type B. Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations, they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

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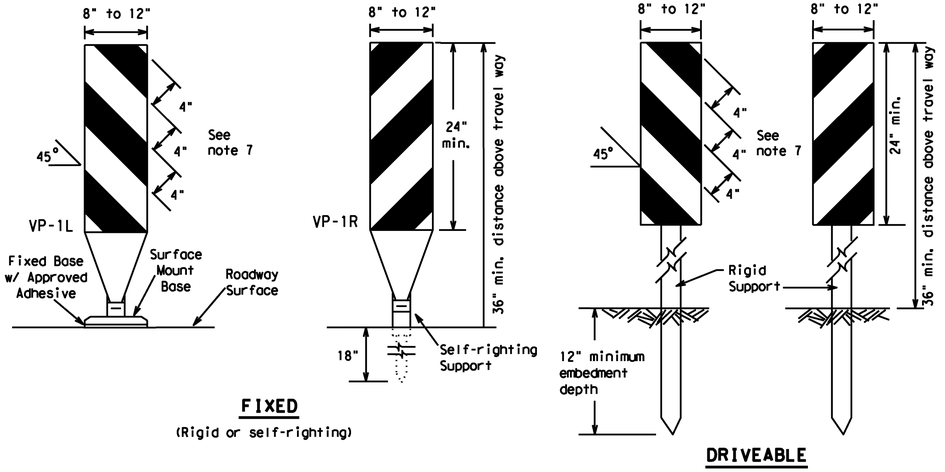
BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-21

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FIXED
(Rigid or self-righting)

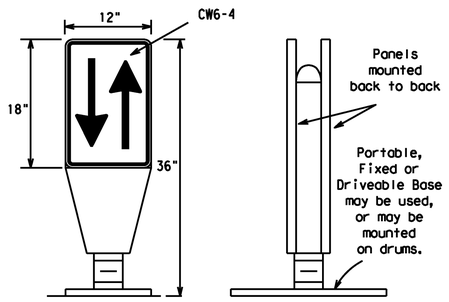
DRIVEABLE

(Rigid or self-righting)

PORTABLE

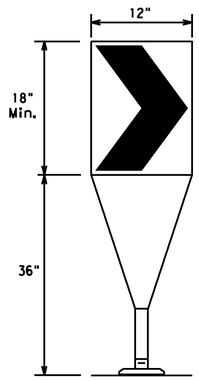
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual for additional requirements on the use VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

VERTICAL PANELS (VPs)



1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



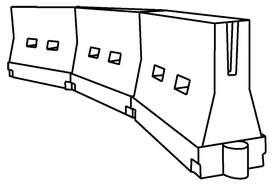
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways, self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

CHEVRONS

GENERAL NOTES

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.



LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
2. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10). Place reflective sheeting near the top of the LCD along the full length of the device.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate Manual for Assessing Safety Hardware (MASH) crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

Posted Speed	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40		265'	295'	320'	40'	80'
45	L = WS	450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

** Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

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BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-21

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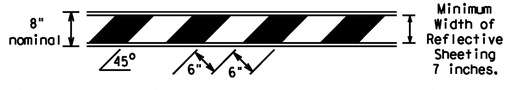
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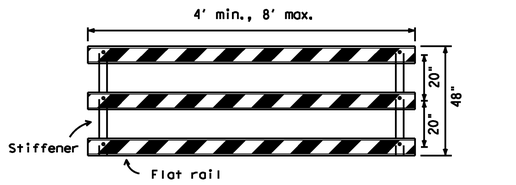
TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road, striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.



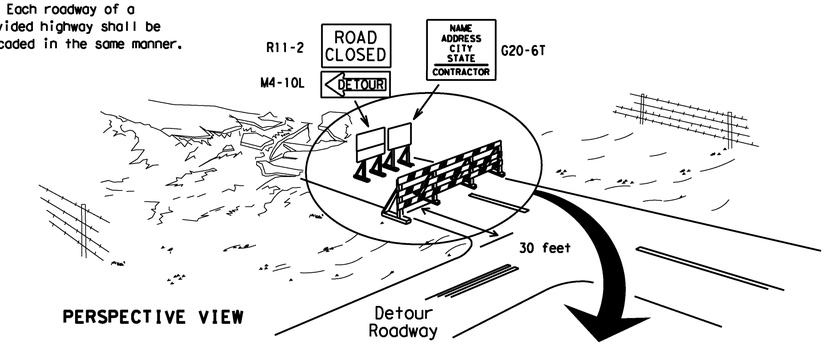
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

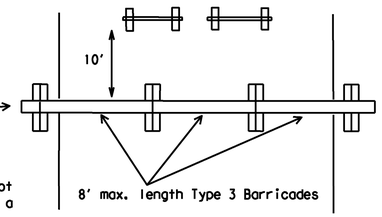
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

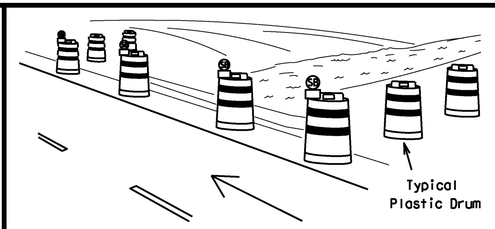
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

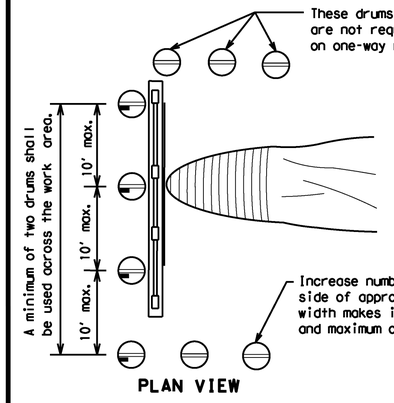
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

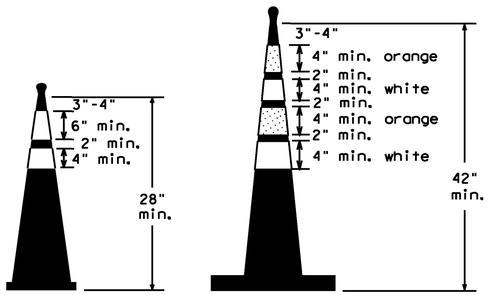
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.



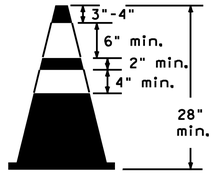
LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

PLAN VIEW

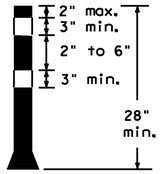
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Two-Piece cones



One-Piece cones

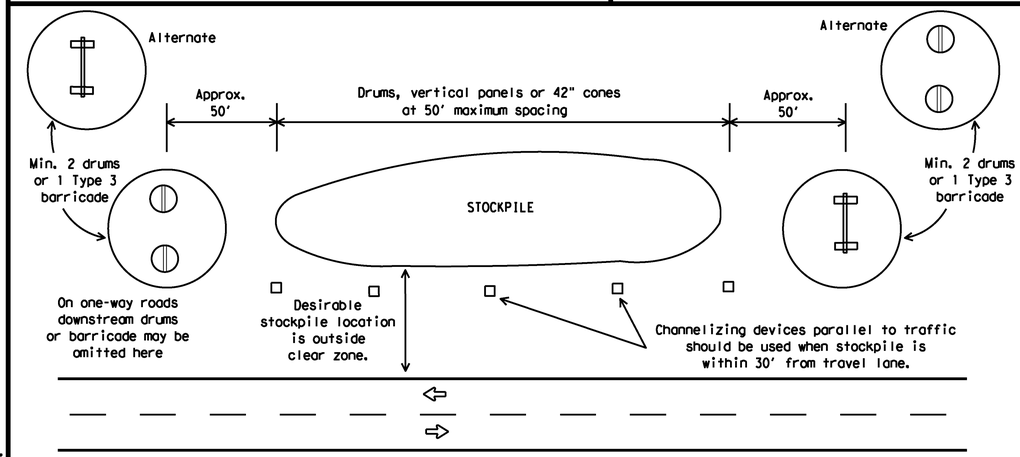


Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A or Type B.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

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SHEET 10 OF 12

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

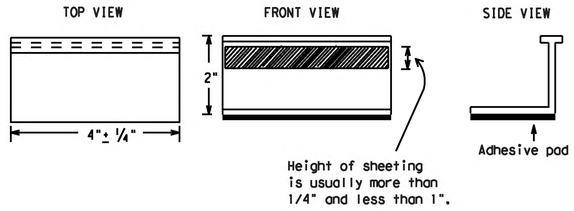
MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC(11)-21

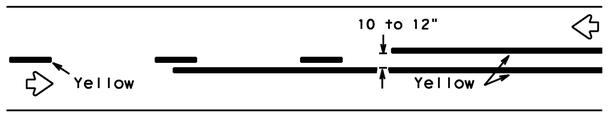
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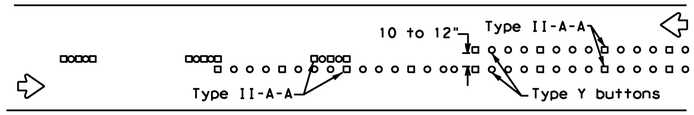
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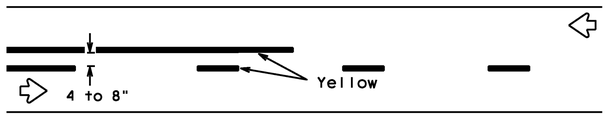
PAVEMENT MARKING PATTERNS



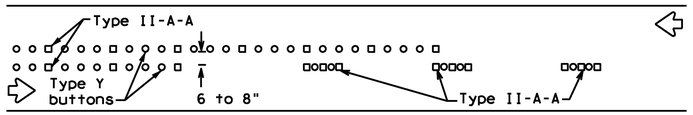
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



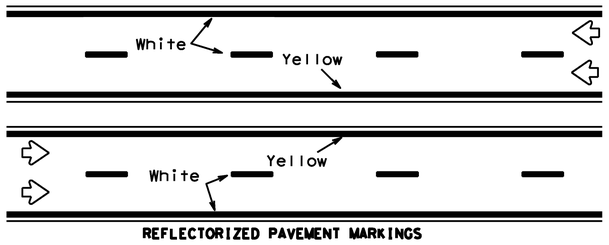
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



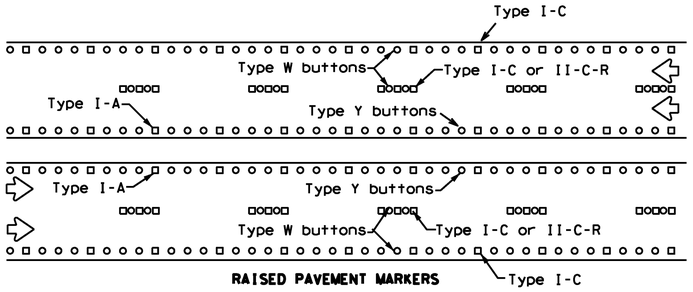
RAISED PAVEMENT MARKERS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



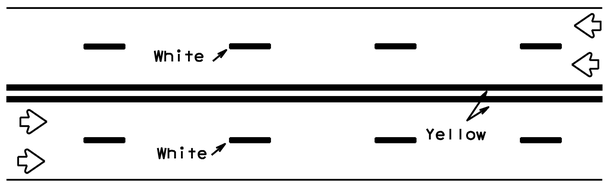
REFLECTORIZED PAVEMENT MARKINGS



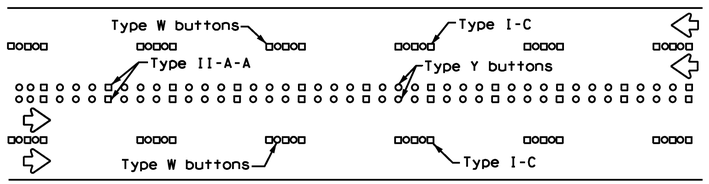
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



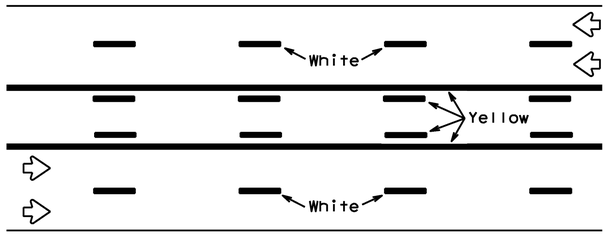
REFLECTORIZED PAVEMENT MARKINGS



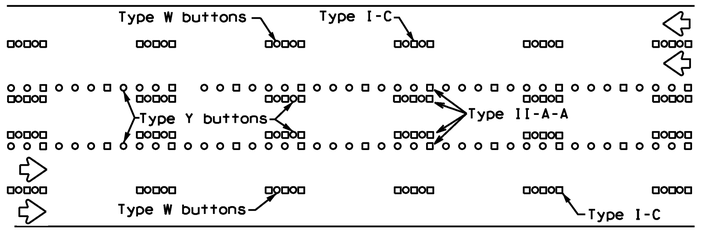
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

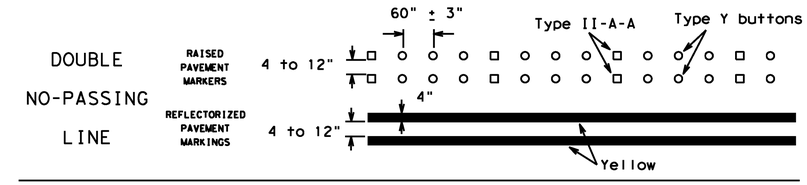
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

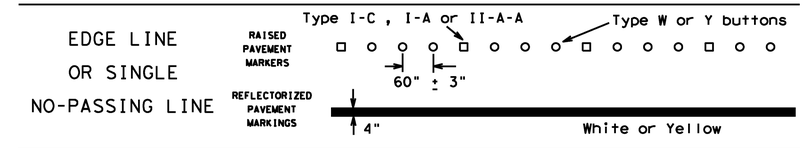
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

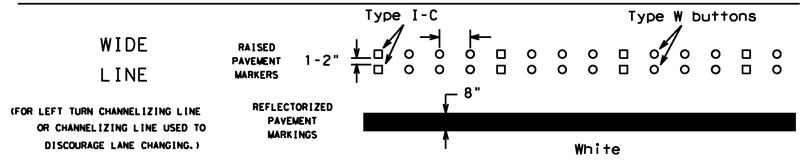


EDGE LINE OR SINGLE NO-PASSING LINE



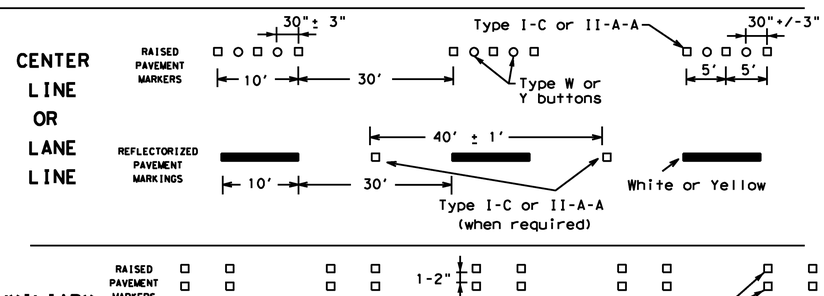
WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)

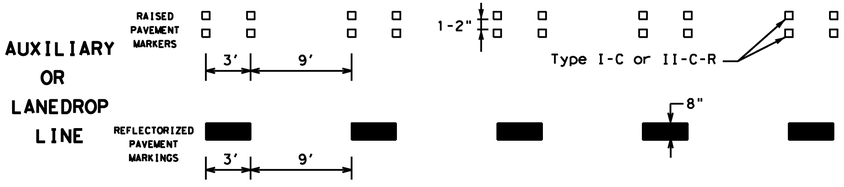


BROKEN LINES

CENTER LINE OR LANE LINE

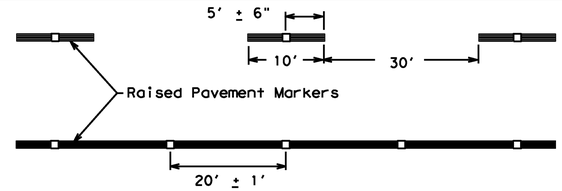


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.



Centerline only - not to be used on edge lines

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

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Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

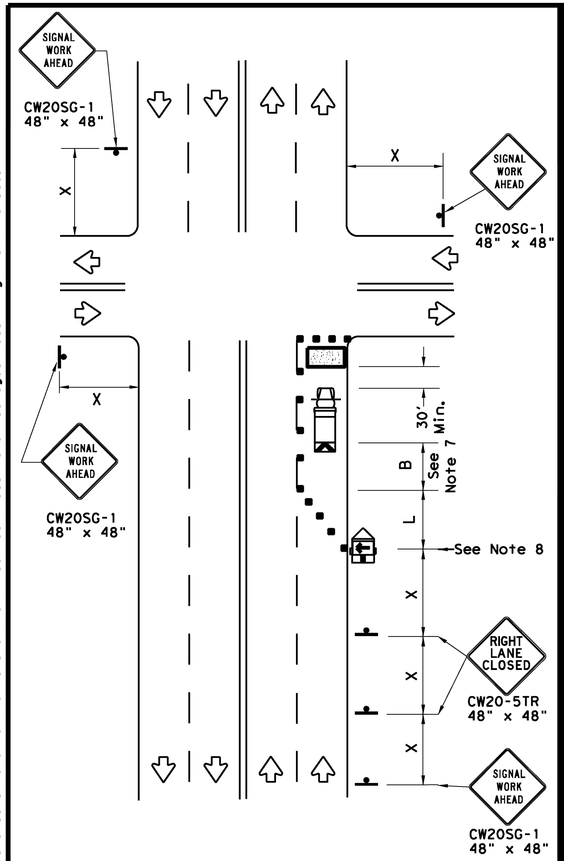
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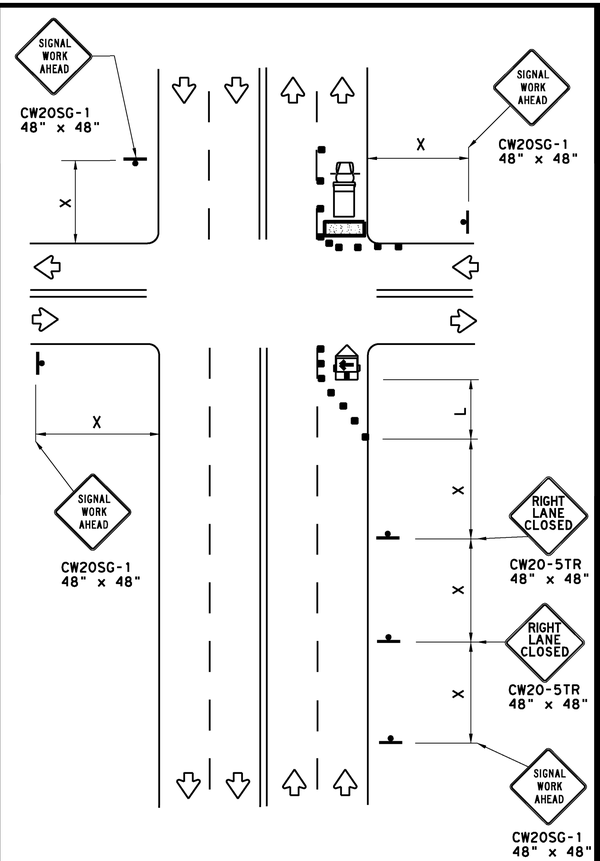
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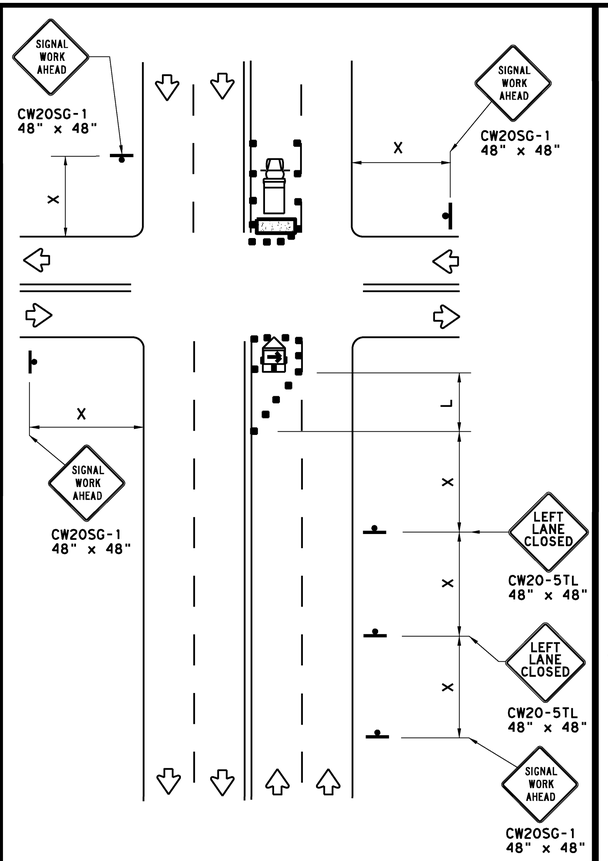
NEAR SIDE LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY



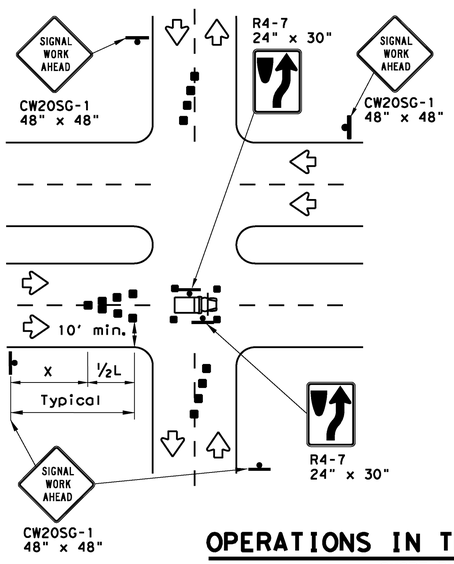
FAR SIDE RIGHT LANE CLOSURE

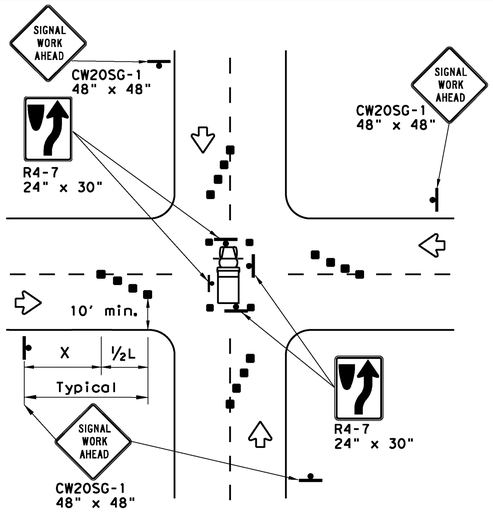
SHORT DURATION OR SHORT TERM STATIONARY



FAR SIDE LEFT LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY





OPERATIONS IN THE INTERSECTION

SHORT DURATION

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L = WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

WORKERS IN BUCKET TRUCKS SHALL NOT WORK ABOVE OPEN LANES OF TRAFFIC.

GENERAL NOTES

1. The minimum size channelizing device is the 28" cone. 42" Two-piece cones, drums, vertical panels or barricades will be required when the device must be left unattended at night.
2. Obstructions or hazards at the work area shall be clearly marked and delineated at all times.
3. Flaggers and Flagger Symbol (CW20-7) signs may be required according to field conditions.
4. Vehicles parked in roadway shall be equipped with at least two high intensity rotating, flashing, oscillating or strobe type lights.
5. High level warning devices (flag trees) may be used at corners of the vehicle.
6. When work operations are performed on existing signals, the signals may be placed in flashing red mode when approved by the engineer. If existing signals do not have power, All-Way Stop (R1-1 and R1-3P) signs may be implemented when approved by the engineer.
7. For Short-Term Stationary work the buffer space "B" from the above table should be used if field conditions permit. For Short Duration (less than 1 hour) any buffer space provided will enhance the safety of the setup.
8. The arrow board at this location may be omitted for Short Duration work if the work vehicle has an arrow board in operation. As an option, the arrow board may be placed at the end of the taper in the closed lane if space is not available at the beginning of the taper.
9. Signs and devices for the NEAR SIDE LANE CLOSURE may be altered for a left lane closure by using a LEFT LANE CLOSED (CW20-5TL) and adding channelizing devices on the centerline to protect the work space from opposing traffic.

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Texas Department of Transportation

Traffic Operations Division Standard

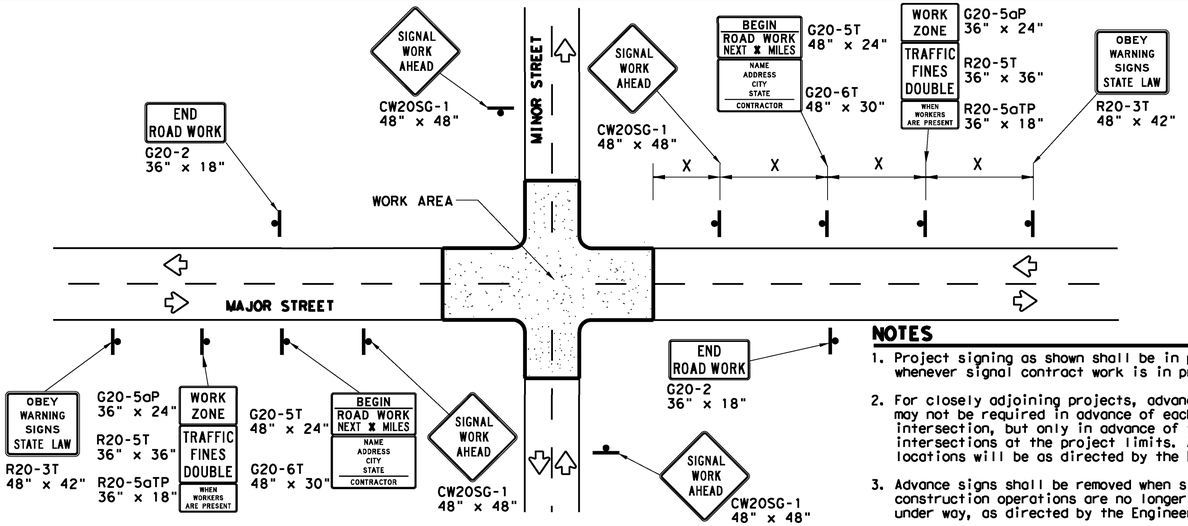
TRAFFIC SIGNAL WORK TYPICAL DETAILS

WZ(BTS-1)-13

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TYPICAL ADVANCE SIGNAL PROJECT SIGNING

FOR LONG TERM and INTERMEDIATE-TERM STATIONARY WORK OPERATIONS

NOTES

1. Project signing as shown shall be in place whenever signal contract work is in progress.
2. For closely adjoining projects, advance signing may not be required in advance of each intersection, but only in advance of the intersections at the project limits. Actual locations will be as directed by the Engineer.
3. Advance signs shall be removed when signal construction operations are no longer under way, as directed by the Engineer.
4. Warning sign spacing shown is typical for both directions.
5. See the Table on sheet 1 of 2 for Typical warning sign spacing.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Signs shall be installed and maintained in a straight and plumb condition.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. Nails shall NOT be used to attach signs to any support.
5. All signs shall be installed in accordance with the plans or as directed by the Engineer.
6. The Contractor shall furnish the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD).
7. The Contractor shall furnish sign supports and substrates listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD), installed as per the manufacturer's recommendations.
8. Temporary signs that have damaged or cracked substrates and/or damaged or marred reflective sheeting shall be replaced as directed by the Engineer.
9. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1".
10. Damaged wood posts shall be replaced. Splicing wood posts will not be allowed.

DURATION OF WORK

1. Work zone durations are defined in Part 6, Section 6G.02 of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

SIGN MOUNTING HEIGHT

1. Sign height of Long-term/Intermediate-term warning signs shall be as shown on Figure 6F-1 of the TMUTCD.
2. Sign height of Short-term/Short Duration warning signs shall be as shown on Figure 6F-2 of the TMUTCD.
3. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered, unless otherwise approved by the Engineer.
2. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night without damaging the sign sheeting. Burlap, or heavy materials such as plywood or aluminum shall not be used to cover signs.
3. Duct tape or other adhesive material shall NOT be affixed to a sign face.
4. Signs and anchor stubs shall be removed and holes back filled upon completion of the work.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the requirements of the DMS and color usage table shown on this sheet.

SIGN SUPPORT WEIGHTS

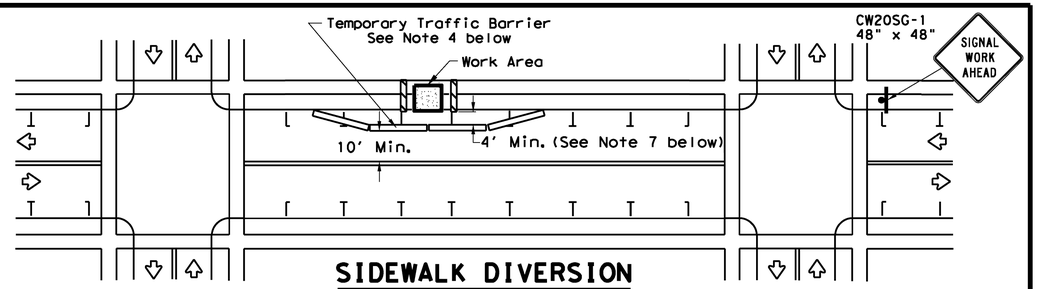
1. Weights used to keep signs from turning over should be sandbags filled with dry, cohesionless material.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects will not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber, such as tire inner tubes, shall not be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fastners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

LEGEND	
	Sign
	Channelizing Devices
	Type 3 Barricade

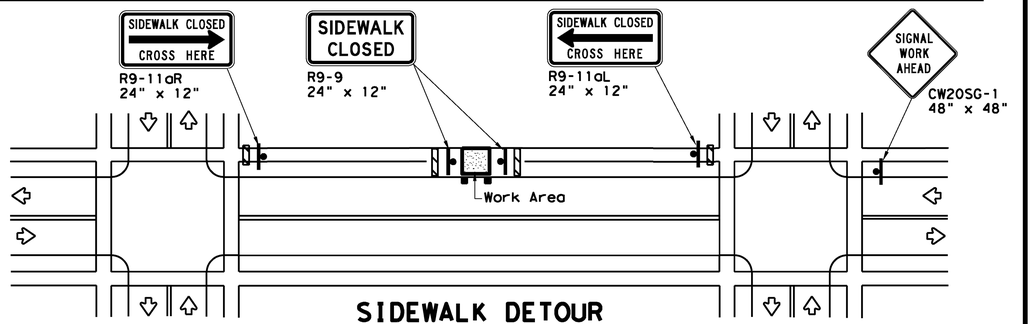
DEPARTMENTAL MATERIAL SPECIFICATIONS	
SIGN FACE MATERIALS	DMS-8300
FLEXIBLE ROLL-UP REFLECTIVE SIGNS	DMS-8310

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B_{FL} OR TYPE C_{FL} SHEETING
WHITE	BACKGROUND	TYPE A SHEETING
BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

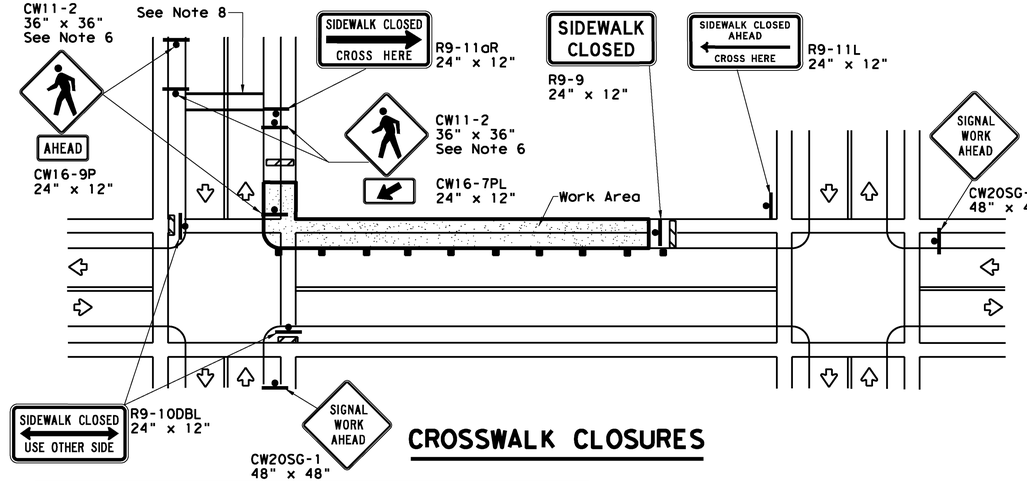
Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found at the following web address:
http://www.txdot.gov/txdot_library/publications/construction.htm



SIDEWALK DIVERSION



SIDEWALK DETOUR



CROSSWALK CLOSURES

PEDESTRIAN CONTROL

1. Holes, trenches or other hazards shall be adequately protected by covering, delineating or surrounding the hazard with orange plastic pedestrian fencing or longitudinal channelizing devices, or as directed by the Engineer.
2. "CROSSWALK CLOSURES" as detailed above will require the Engineer's approval prior to installation.
3. R9 series signs shown may be placed on supports detailed on the BC standards or CWZTCD list, or when fabricated from approved lightweight plastic substrates, they may be mounted on top of a plastic drum at or near the location shown.
4. For speeds less than 45 mph longitudinal channelizing devices may be used instead of traffic barriers when approved by the Engineer. Attenuation of blunt ends and installation of water filled devices shall be as per BC(9) and manufacturer's recommendations.
5. Location of devices are for general guidance. Actual device spacing and location must be field adjusted to meet actual conditions.
6. Where pedestrians with visual disabilities normally use the closed sidewalk Detectable Pedestrian Barricades should be used instead of the Type 3 Barricades shown.
7. The width of existing sidewalk should be maintained if practical.
8. Pavement markings for mid-block crosswalks shall be paid for under the appropriate bid items.
9. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.

SHEET 2 OF 2

Texas Department of Transportation

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TRAFFIC SIGNAL WORK BARRICADES AND SIGNS

WZ(BTS-2)-13

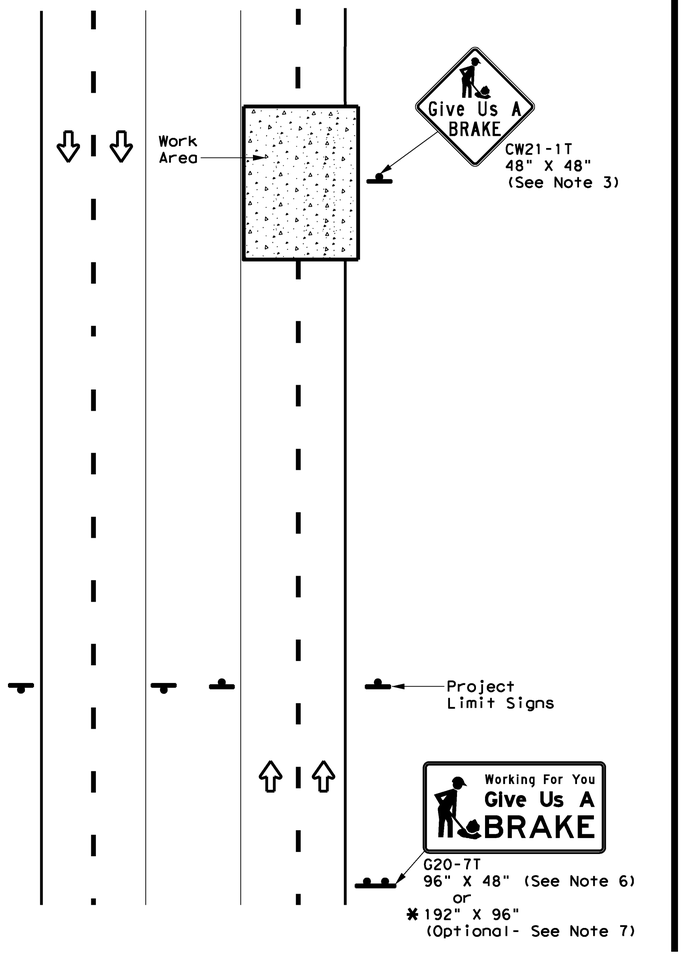
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4-98 3-03				77

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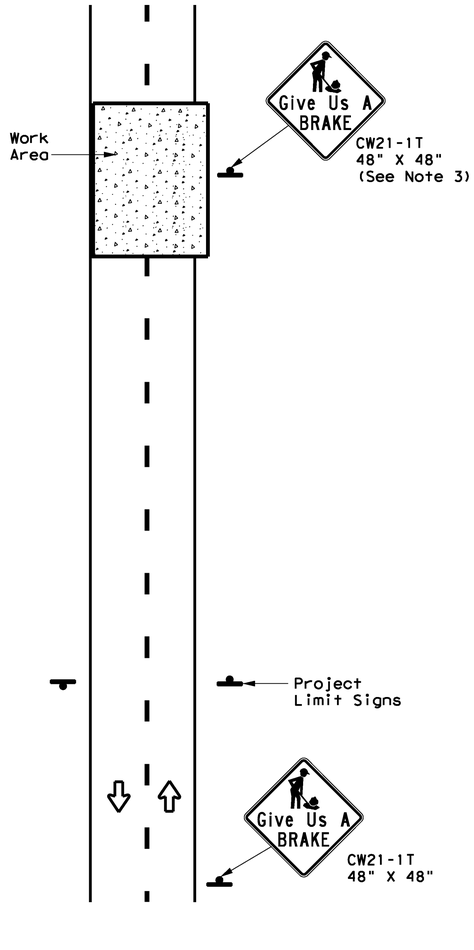
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DIVIDED HIGHWAY



UNDIVIDED HIGHWAY

SIGNS ARE SHOWN FOR ONE DIRECTION OF TRAVEL

* When the optional larger WORKING FOR YOU GIVE US A BRAKE (G20-7T) 192" x 96" sign is required, the locations shall be noted elsewhere in the plans.

SUMMARY OF LARGE SIGNS

BACKGROUND COLOR	SIGN DESIGNATION	SIGN	SIGN DIMENSIONS	REFLECTIVE SHEETING	SQ FT	GALVANIZED STRUCTURAL STEEL			DRILLED SHAFT 24" DIA. (LF)
						Size	(LF) ①	(LF) ②	
Orange	G20-7T	Working For You Give Us A BRAKE	96" X 48"	Type B_{FL} or C_{FL}	32	▲	▲	▲	▲
Orange	G20-7T	Working For You Give Us A BRAKE	192" X 96"	Type B_{FL} or C_{FL}	128	W8x18	16	17	12

▲ See Note 6 Below

LEGEND	
	Sign
	Large Sign
	Traffic Flow

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PLYWOOD SIGN BLANKS	DMS-7100
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B_{FL} OR TYPE C_{FL}
BLACK	LEGEND & BORDERS	NON-REFLECTIVE ACRYLIC FILM

GENERAL NOTES

1. See BC and SMD sheets for additional sign support details.
2. Sign locations shall be approved by the Engineer.
3. For projects more than two miles in length, Give Us a BRAKE signs should be repeated halfway through the project. The Give Us a Brake (CW21-1T) may be used for this purpose.
4. Work zone speed limits are sometimes used in conjunction with GIVE US A BRAKE signing. See BC(3) for location and spacing of construction speed zone signing when required.
5. Give Us a Brake (CW21-1T) signs and supports shall be considered subsidiary to Item 502, "Barricades, Signs and Traffic Handling."
6. The 96" X 48" Working For You Give Us A BRAKE (G20-7T) may use a 1/2" or 5/8" plywood substrate or 0.125" aluminum sheeting substrate and may be supported by two 4" x 6" wood posts with drilled holes for breakaway as per BC(5) and will be subsidiary to Item 502.
7. The Working For You Give Us A BRAKE (G20-7T) 192" X 96" sign shall be paid for under the following specification items:
   Item 636 - Aluminum Signs
   Item 647 - Large Roadside Sign Supports and Assemblies.
   Item 416 - Drilled Shaft Foundations
8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

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WORK ZONE "GIVE US A BRAKE" SIGNS

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6-96 5-98 7-13	DIST	COUNTY		SHEET NO.
8-96 3-03				78

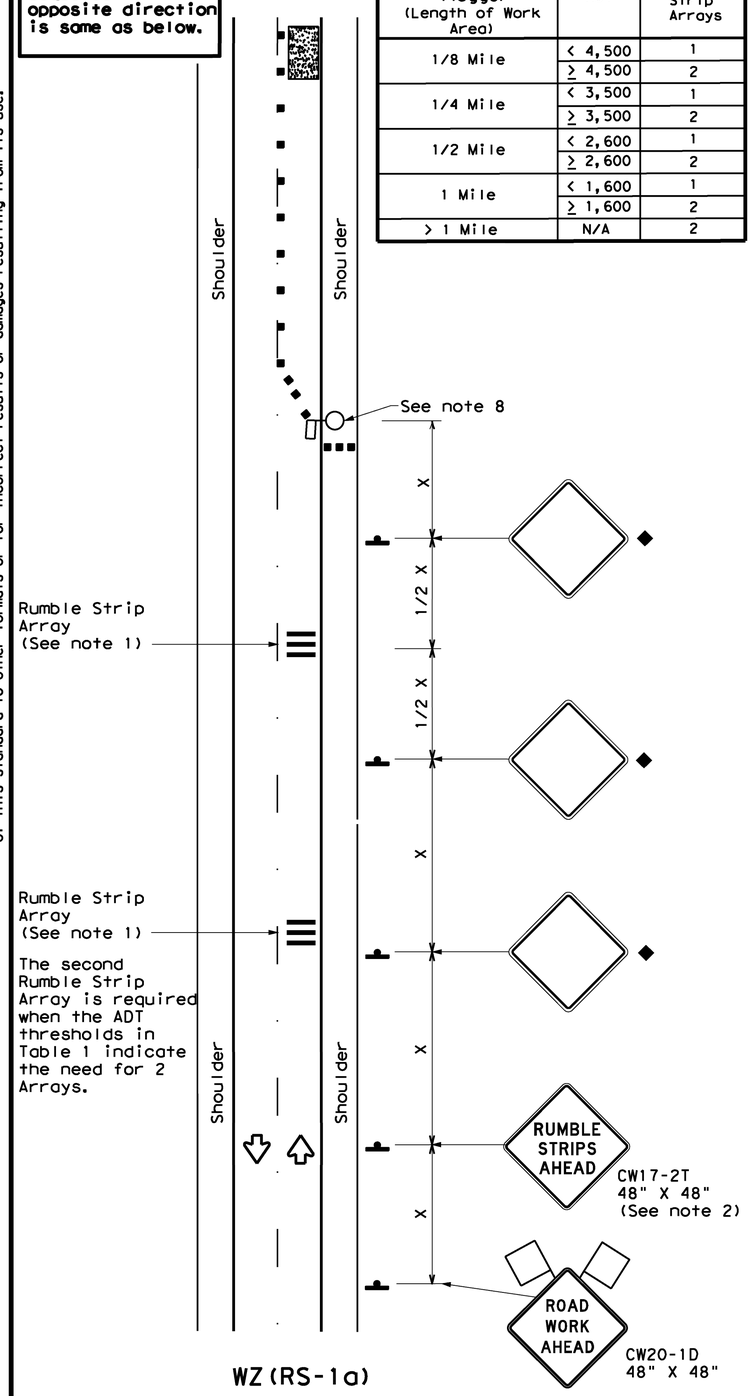
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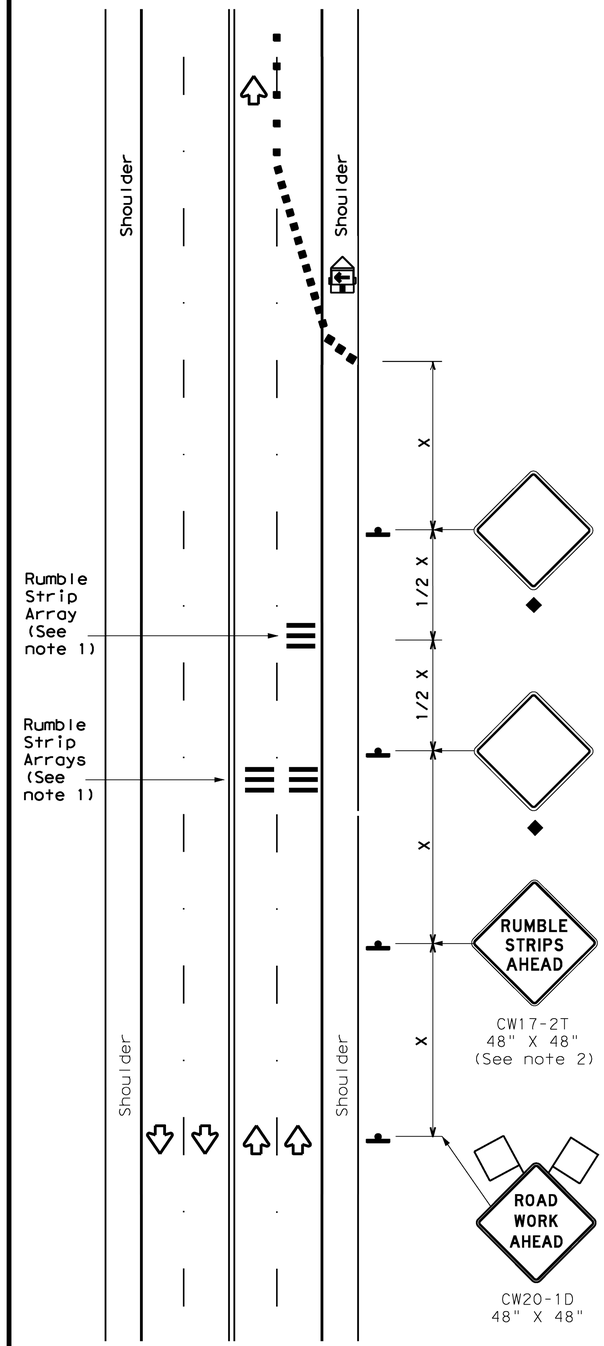
Warning sign and rumble strip sequence in opposite direction is same as below.

TABLE 1		
Flagger to Flagger (Length of Work Area)	ADT	# of Rumble Strip Arrays
1/8 Mile	< 4,500	1
	≥ 4,500	2
1/4 Mile	< 3,500	1
	≥ 3,500	2
1/2 Mile	< 2,600	1
	≥ 2,600	2
1 Mile	< 1,600	1
	≥ 1,600	2
> 1 Mile	N/A	2



WZ(RS-1a)

RUMBLE STRIPS ON ONE-LANE TWO-WAY APPLICATION



WZ(RS-1b)

RUMBLE STRIPS FOR LANE CLOSURE ON CONVENTIONAL ROADWAY

GENERAL NOTES

1. Each Rumble Strip Array should consist of three rumble strips spaced center to center at the spacing shown in Table 2, placed transverse across the lane at locations shown.
2. The CW17-2T "RUMBLE STRIPS AHEAD" sign should be located after the CW20-1D "ROAD WORK AHEAD sign and spaced as shown. If traffic is observed to be queuing, or is expected to queue beyond the Rumble Strips, the CW17-2T sign and the first Rumble Strip Array may be located upstream of the CW20-1D sign as necessary to provide needed warning.
3. Temporary Rumble Strips will be considered subsidiary to Item 502, and shall be a product listed on the Compliant Work Zone Traffic Control Devices.
4. Remove Temporary Rumble Strips before removing the advanced warning signs.
5. Temporary Rumble Strips should not be used on horizontal curves, loose gravel, soft or bleeding asphalt, heavily rutted pavements or unpaved surfaces.
6. Temporary Rumble Strips shall be installed and maintained as per manufacturer's recommendations.
7. This standard sheet shall be used in conjunction with other appropriate TCP standard, TMUTCD typical application or project specific detail for the project.
8. The one-lane two-way application may utilize a flagger, an Automated Flagger Assistance Device (AFAD) or a Portable Traffic Signal (PTS).
9. Replace defective Temporary Rumble Strips as directed by the Engineer.
10. Temporary Rumble Strips may be used on freeways or expressways based on engineering judgment and written direction from the Engineer.

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Panel	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT)
S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

◆ Signs are for illustrative purposes only. Signs required may vary depending on the TCP, TMUTCD Typical Application, or project specific details for the project.

* For posted speeds in excess of 65 MPH, it is recommended that spacing is increased as speed limits increase. Increasing space between rumble strips will improve effectiveness.

TABLE 2	
Speed	Approximate distance between strips in an array
≤ 40 MPH	10'
> 40 MPH & ≤ 55 MPH	15'
= 60 MPH	20'
≥ 65 MPH	* 35' +

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Traffic Safety Division Standard

TEMPORARY RUMBLE STRIPS

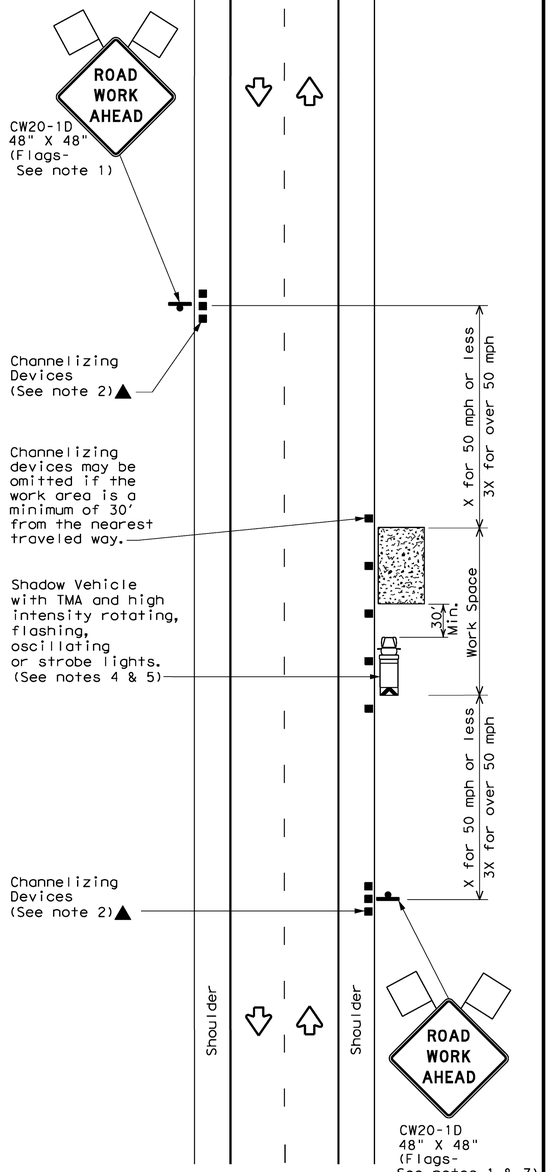
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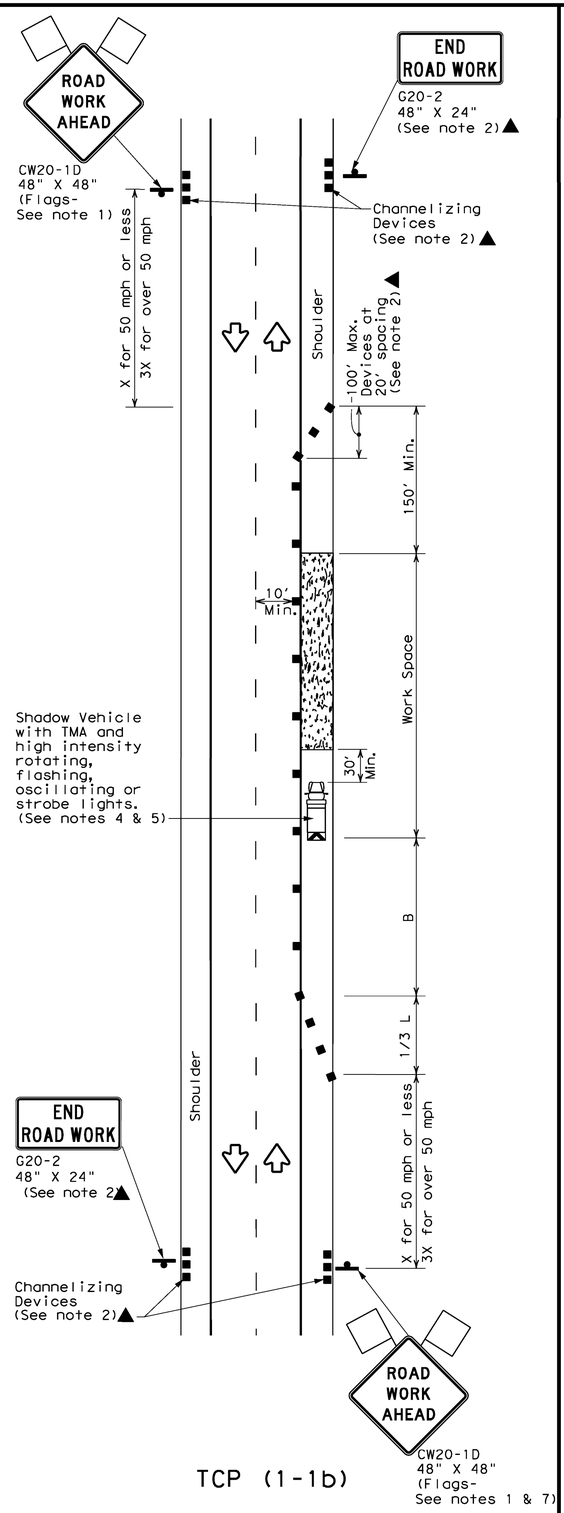
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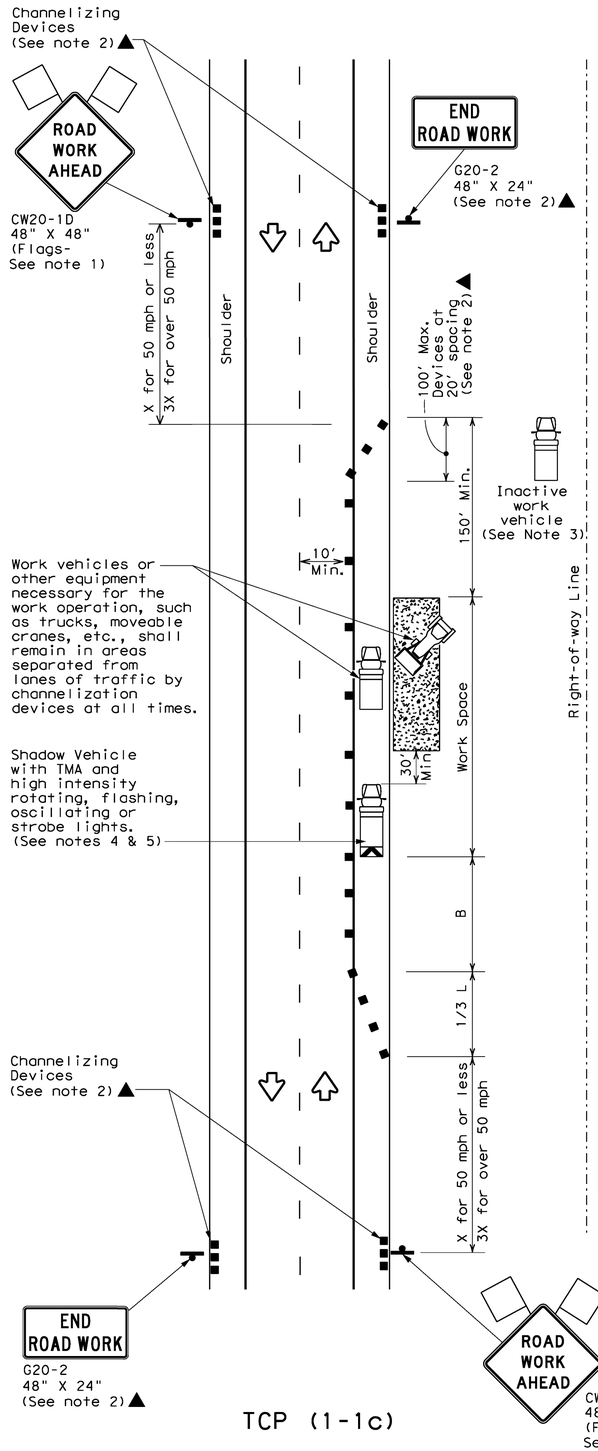
TCP (1-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (1-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (1-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
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* Conventional Roads Only

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L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

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TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

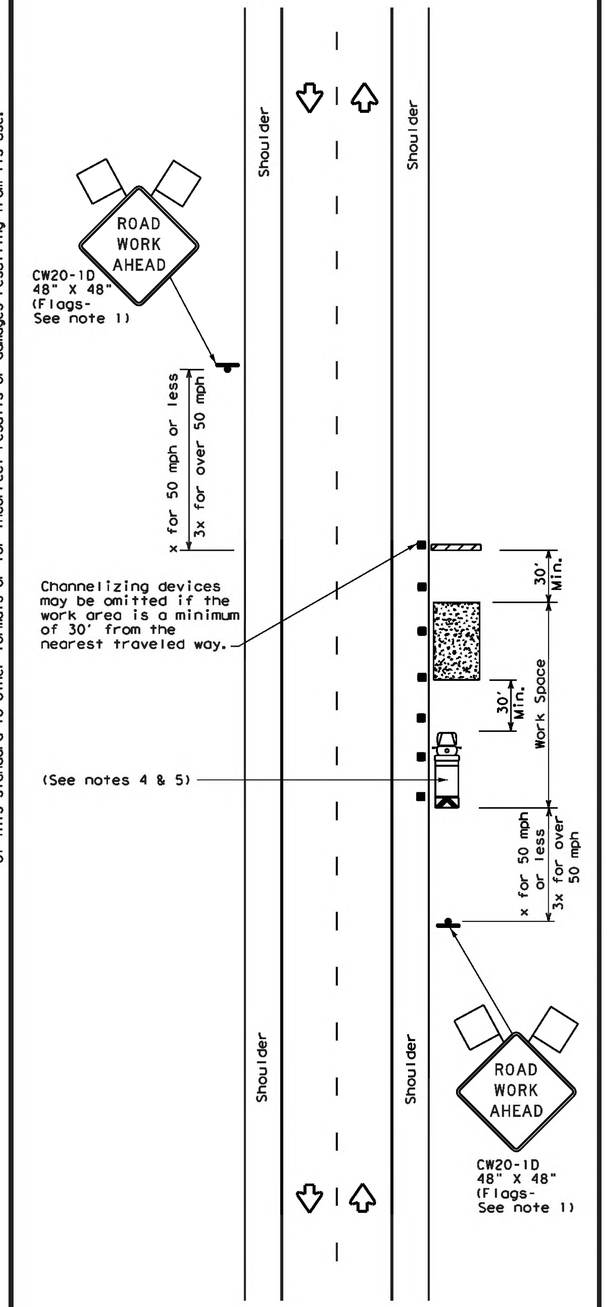
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1-97 2-18				

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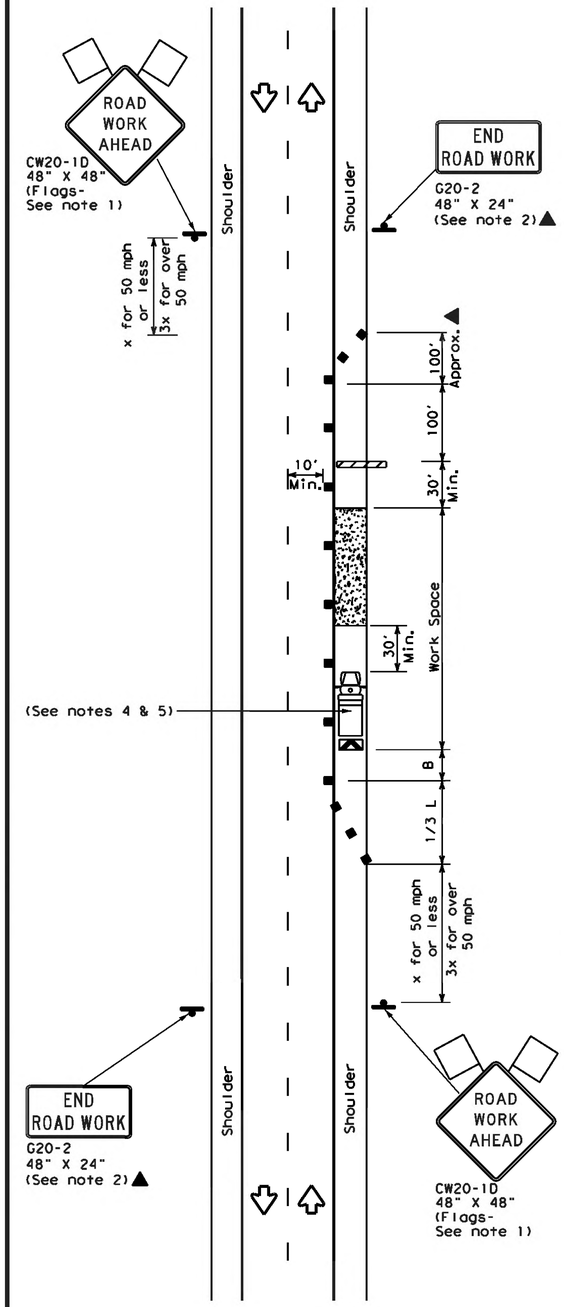
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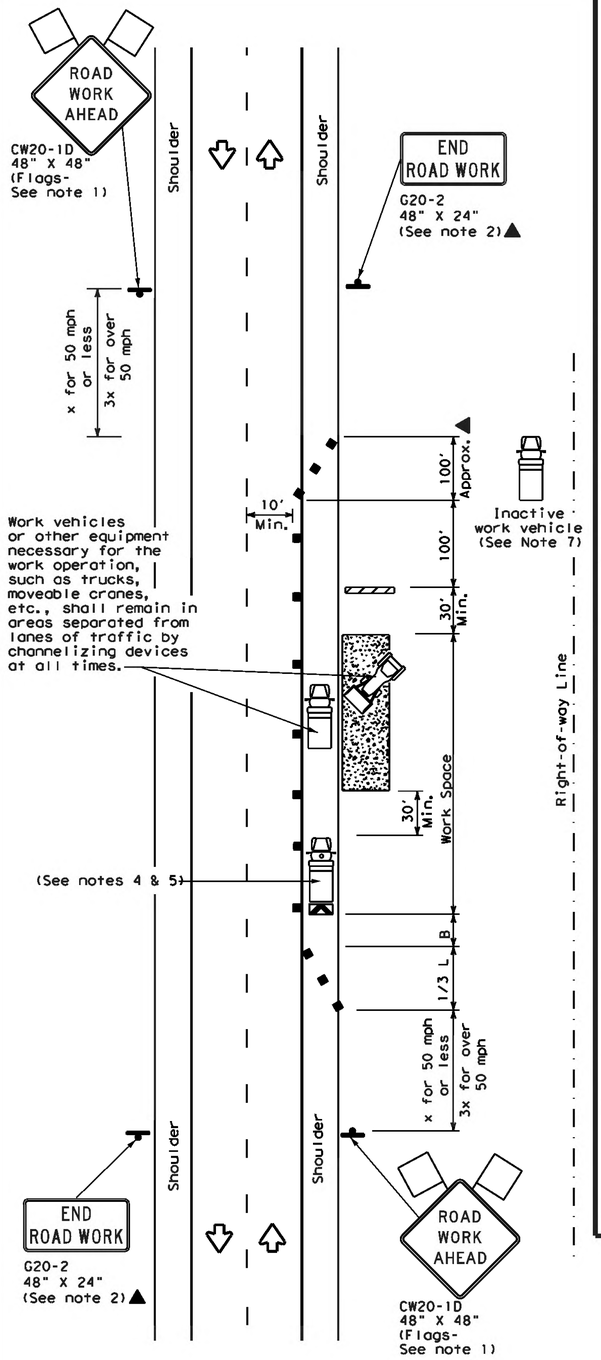
TCP (2-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (2-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (2-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
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L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓	✓	✓

GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated in the plans, or for routine maintenance work, when approved by the Engineer.
3. Stockpiled material should be placed a minimum of 30 feet from nearest traveled way.
4. Shadow Vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.
6. See TCP(5-1) for shoulder work on divided highways, expressways and freeways.
7. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
8. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP(2-1)-18

FILE: tcp2-1-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 2-12 1-97 2-18	DIST	COUNTY		SHEET NO. 81

161

ELECTRICAL SERVICE DATA

Service Pole No.	Sheet No.	Electrical Service Description (see ED (4)-03)	Service Conduit Size	Service Conductors No. / Size	Safety Switch Amps	Main Disconnect		Two-Pole Contactor Amps	Panelbd./ Loadcenter Amp Rating (min)	Circuit No.	Branch Ckt. Bkr. Pole / Amps	Branch Circuit Amps	KVA Load
						Switch Amp/Fuse	Ckt. Bkr. Pole / Amp						
US 281 CAPTAIN BASLER		ELEC SRV TY TY 120/240 000 (NS) GS (L) TS (O)	1 1/4"	3/ #6	N/A	N/A	N/A	N/A					
FM 1419 FM 511		ELEC SRV TY TY 120/240 000 (NS) GS (L) TS (O)	1 1/4"	3/ #6	N/A	N/A	N/A	N/A					
FM 1847 PLAZA ENTRANCE		ELEC SRV TY TY 120/240 000 (NS) GS (L) TS (O)	1 1/4"	3/ #6	N/A	N/A	N/A	N/A					

NOTES:

ENSURE MAIN SERVICE DROP IS BELOW WEATHERHEAD.

BREAKER BOX & METER BOX SHALL BE ATTACHED TO WOOD POLE BY GALVANIZED CHANNEL (SEE DETAIL "B").

BOLT BOX TO GALVANIZED CHANNEL MOUNTED FLUSH WITH POLE.

CONDUIT SHALL BE ATTACHED TO POLE WITH H.D. 2-HOLE STRAPS AND 1½"x1/4" #8 S.S. SCREW OR LAG BOLT.

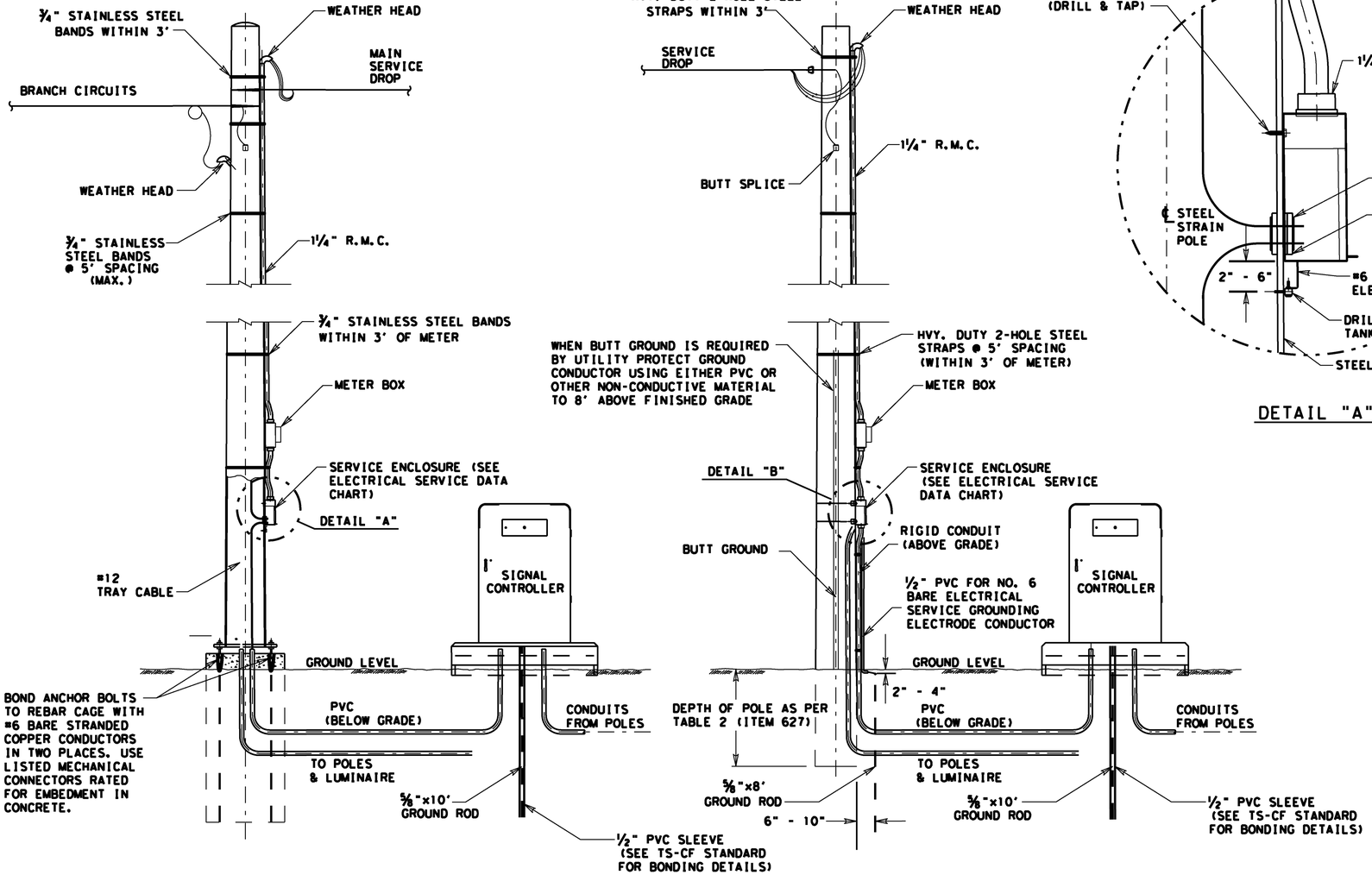
ALL EXPOSED CONDUIT SHALL BE RIGID METAL CONDUIT EXCEPT CONDUIT USED ON ELECTRICAL SERVICE GROUNDING ELECTRODE CONDUCTOR.

WHEN SERVICE IS CONNECTED WITHIN 100' OF THE CONTROLLER, NO PULL BOX SHALL BE USED.

DISTRIBUTION TO LUMINAIRE SHALL BE OUT OF THE SERVICE BREAKER BOX. EACH LUMINAIRE SHALL HAVE A SEPARATE PHOTO CONTROL.

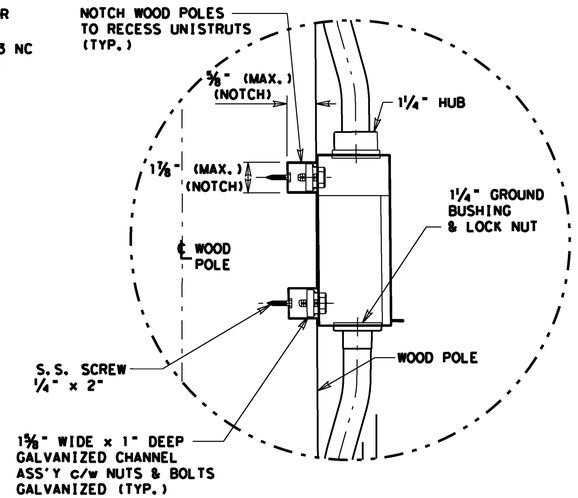
FURNISH & INSTALL 3 PRONG WEATHERPROOF LOCKTYPE BASE WITH PHOTO CELL TO CONTROL ILLUMINATION SIGN WHICH IS ATTACHED TO TRAFFIC SIGNAL SUPPORTS. LOCKBASE & PHOTO CELL SHALL BE INSTALLED ON TRAFFIC SIGNAL POLE NEAREST CABINET.

ALL CONDUIT & CONDUCTORS FROM SERVICE TO CONTROLLER CABINET SHALL BE AS PER PLANS.



ELECTRICAL SERVICE

DETAIL "A"



DETAIL "B"

PHARR DISTRICT STANDARD

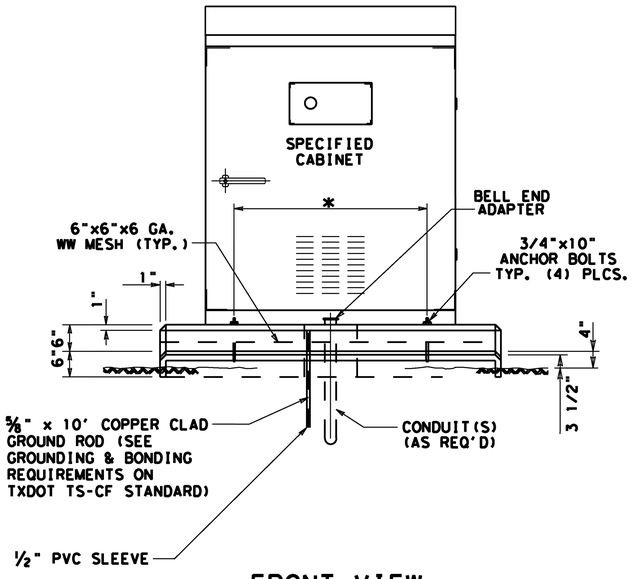
TEXAS DEPARTMENT OF TRANSPORTATION

ELECTRICAL SERVICE DESIGN WITH SIGNAL CONTROLLER

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SHEET 1 OF 1

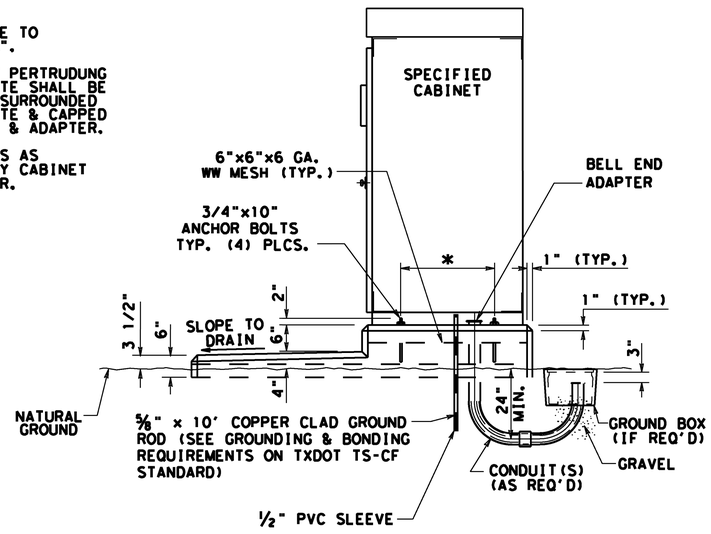
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CK DN: JSL	ORIGINAL	APR. 2010 MAY 2017		TEXAS		82
DW: OG			STATE DIST. NO.	COUNTY	CONTROL NO. / SECTION NO. / JOB NO.	HIGHWAY NO.
CK DW: JSL			21	CAMERON		



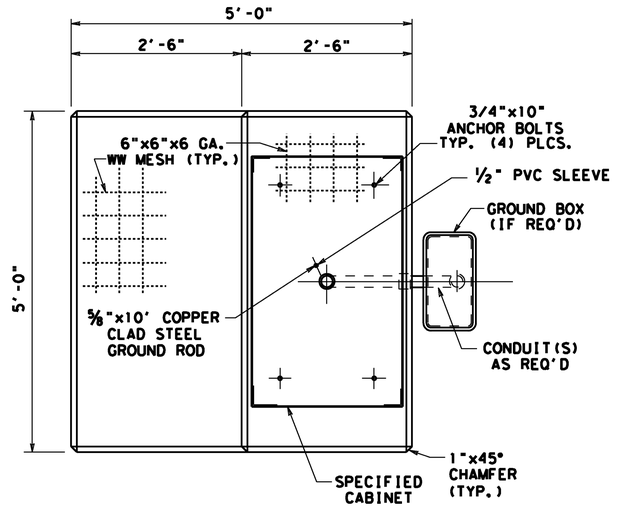
FRONT VIEW

NOTES:

1. ALL CONCRETE TO BE CLASS "A".
2. ALL CONDUIT PERTRUDUNG THRU CONCRETE SHALL BE COMPLETELY SURROUNDED WITH CONCRETE & CAPPED WITH A BELL & ADAPTER.
3. * ANCHOR BOLTS AS SPECIFIED BY CABINET MANUFACTURER.

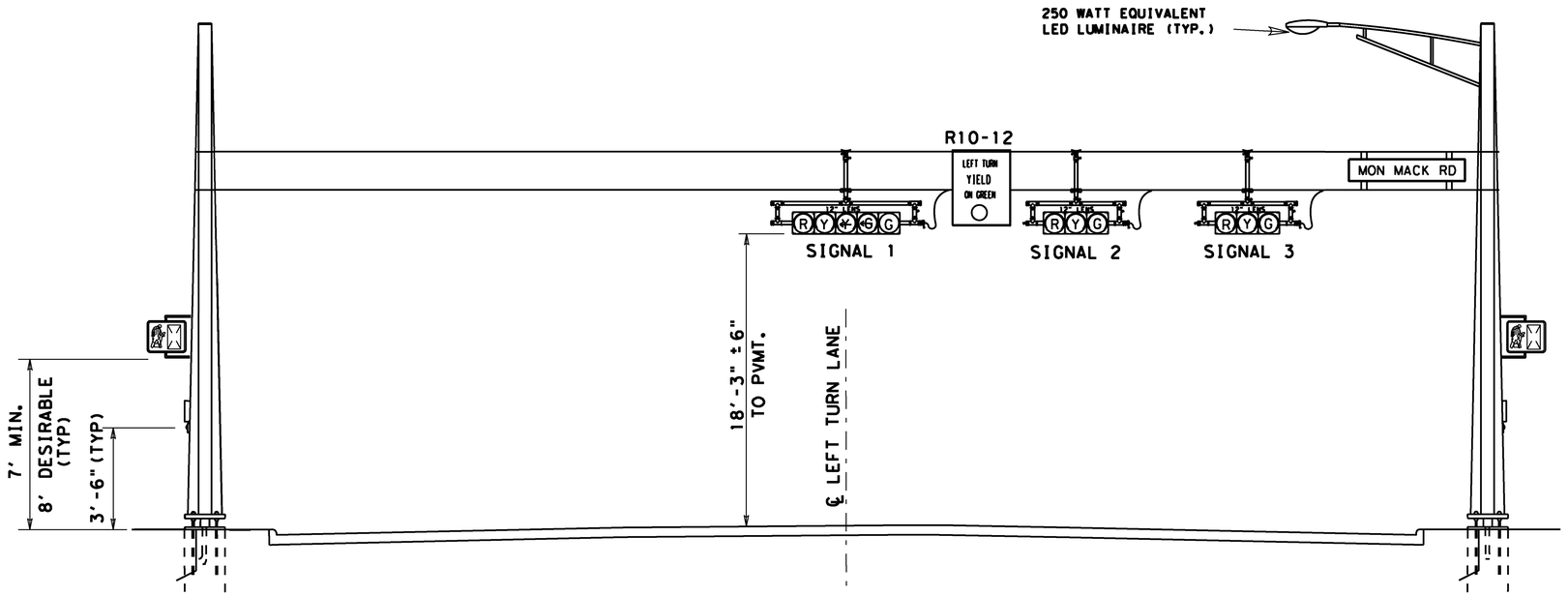


SIDE VIEW



TOP VIEW

DETAIL OF BASE MOUNT CABINET FOUNDATION



ELEVATION VIEW

DISTRICT STANDARD PLANS

TEXAS DEPARTMENT OF TRANSPORTATION

PHARR DISTRICT STANDARD

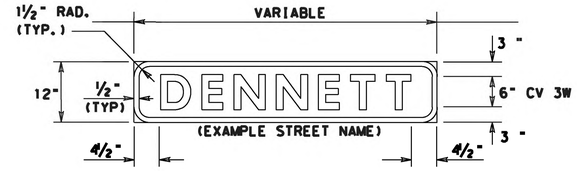
TRAFFIC SIGNAL CONSTRUCTION DETAILS CONTROLLER FOUNDATON & LOOP DETECTOR INSTALLATION

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SHEET 1 OF 3

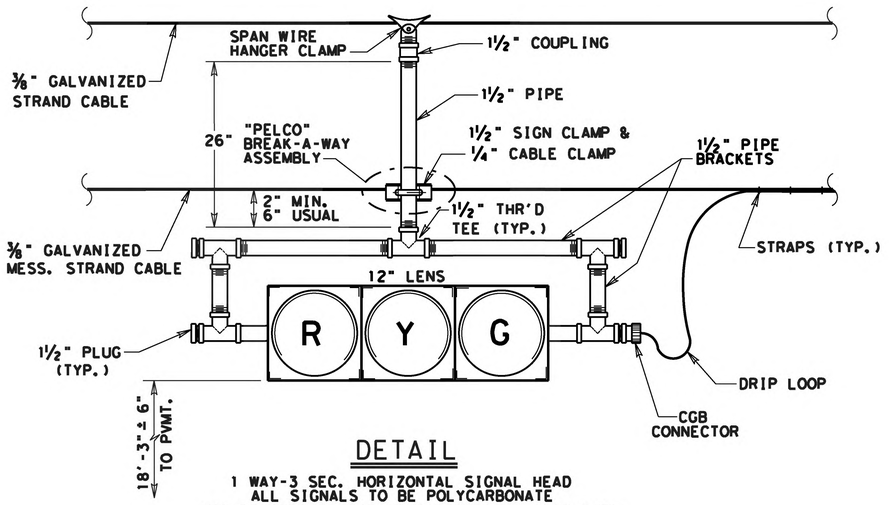
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CK DN: JSL	ORIGINAL	APR. 2010		TEXAS		83
DW: GV	REV. JUL. 2015 AUG 2016 FEB 2020		STATE DIST. NO.	COUNTY	CONTROL NO. / SECTION NO. / JOB NO.	HIGHWAY NO.
CK DW: JSL			PHARR	CAMERON		

D3-1



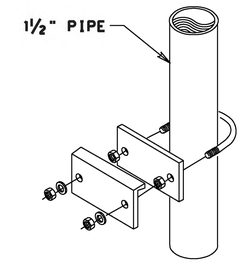
LETTERS & BORDER - WHITE (REFL)
BACKGROUND - GREEN (REFL)
MOUNT TYPE - SPAN WIRE OR MAST ARM

STREET NAME SIGN

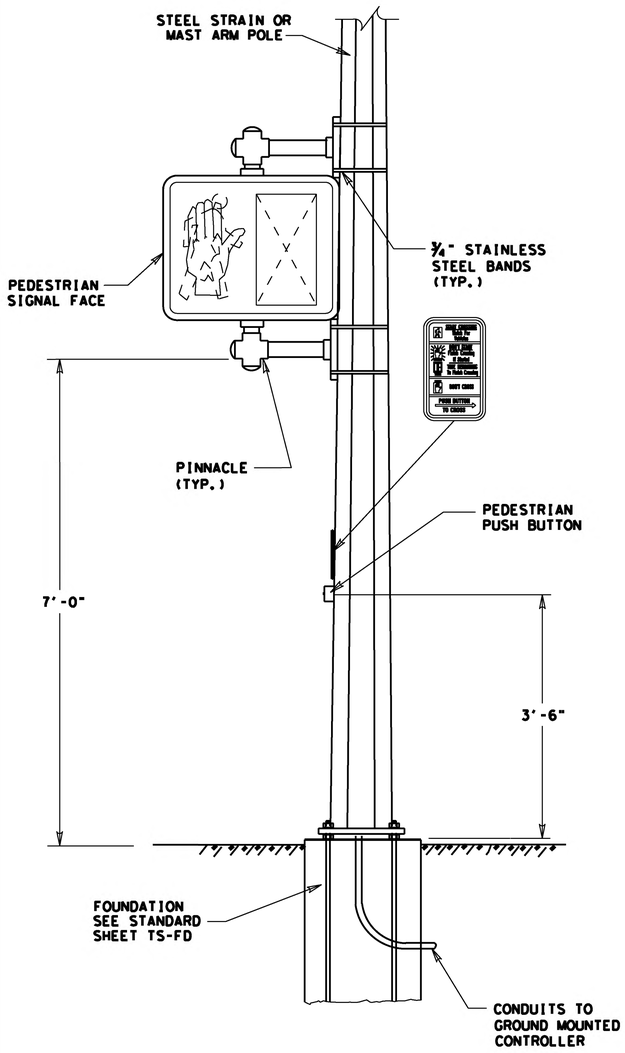


DETAIL

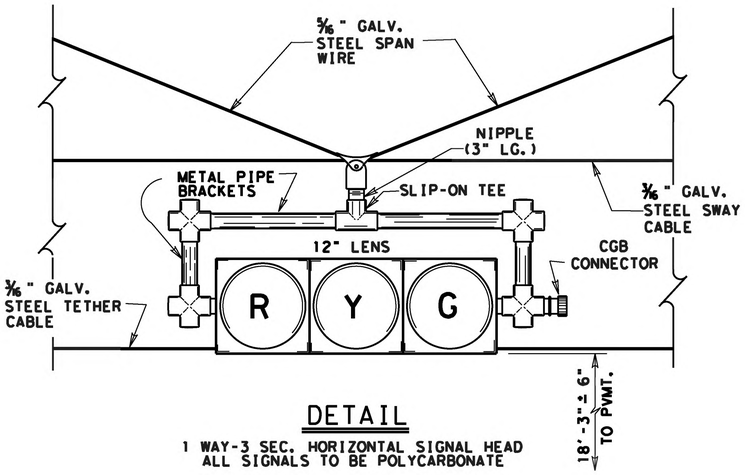
1 WAY-3 SEC. HORIZONTAL SIGNAL HEAD
ALL SIGNALS TO BE POLYCARBONATE
(TO BE USED ON SKEWED INTERSECTIONS OR WHEN SIGNAL POLES ARE NOT SQUARED TO EACH OTHER)



DETAIL-"PELCO" BREAK-A-WAY ASSEMBLY

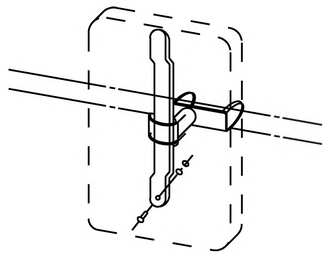


DETAIL-PEDESTRIAN SIGNALS



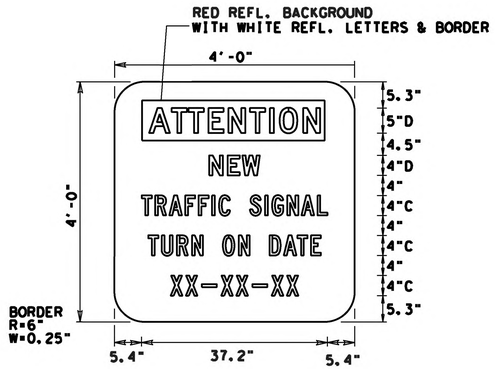
DETAIL

1 WAY-3 SEC. HORIZONTAL SIGNAL HEAD
ALL SIGNALS TO BE POLYCARBONATE

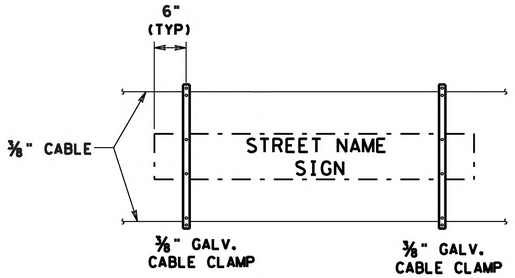


SIGN BRACKET

NOTE: THESE BRACKETS, USED IN PAIRS FOR LONGER SIGN, OR IN SINGLE UNITS FOR SMALLER SIGNS.



SPECIAL SIGN DETAIL



STREET NAME SIGN MOUNTING DETAIL

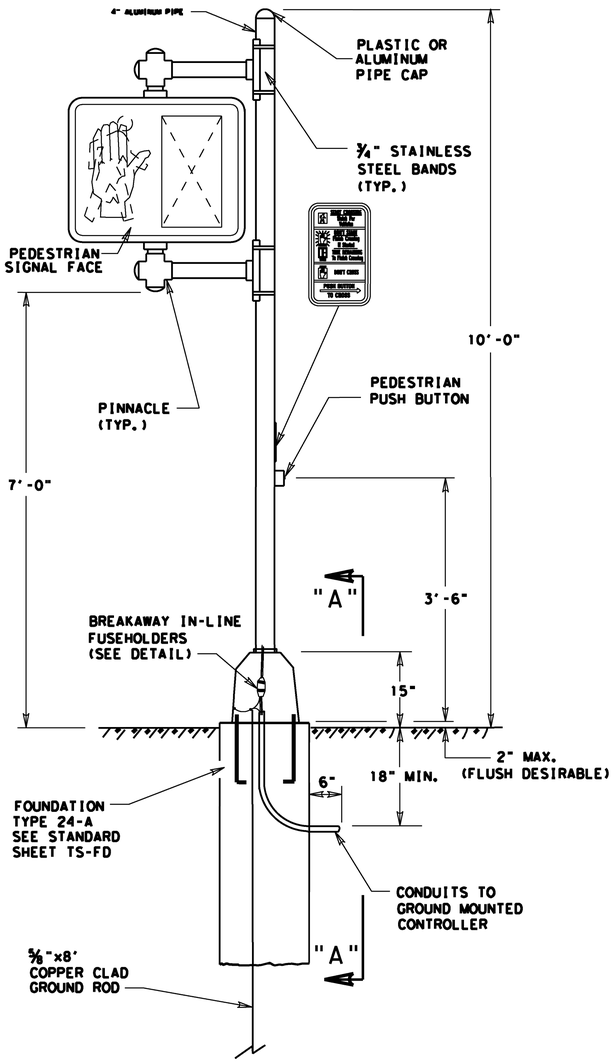
DISTRICT STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
PHARR DISTRICT STANDARD

TRAFFIC SIGNAL CONSTRUCTION DETAILS
MISCELLANEOUS DETAILS

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SHEET 2 OF 3

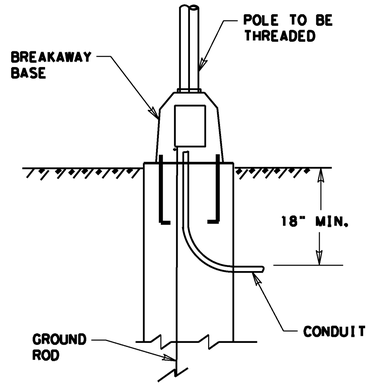
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CK DN: JSL	ORIGINAL	APR. 2010		TEXAS		84
DW: OG	REV.	MAY 2016 AUG 2016	STATE DIST.NO.	COUNTY	CONTROL NO. / SECTION NO. / JOB NO.	HIGHWAY NO.
CK DW: JSL			PHARR	CAMERON		



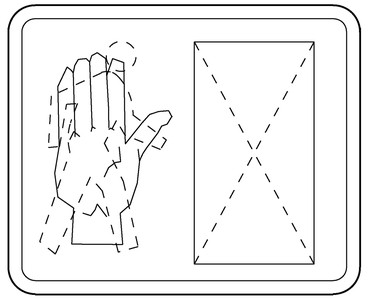
PEDESTAL POLE DETAIL

NOTES:

1. BREAKAWAY ELECTRICAL QUICK-DISCONNECTS SHALL BE WATERTIGHT BUSSMANN HEB SERIES OR EQUAL.
2. DRILL POLE FOR WIRE ENTRY. USE BUSHING OR RUBBER GROMMET TO PROTECT CONDUCTORS.
3. POLE SHAFT SHALL BE ONE PIECE SCHEDULE 40 ALUMINUM PIPE, ASTM B429 OR B221 (ALLOY 6601-T6), DO NOT USE ALUMINUM CONDUIT.



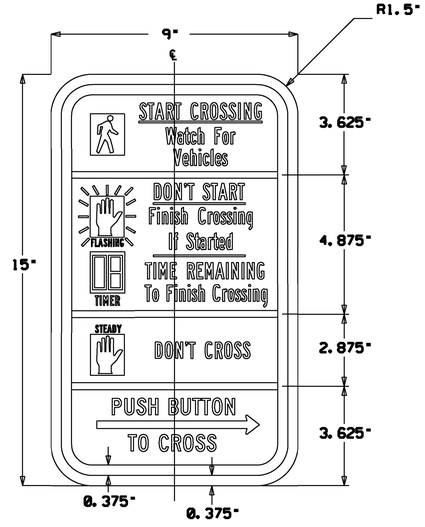
SECTION "A A"

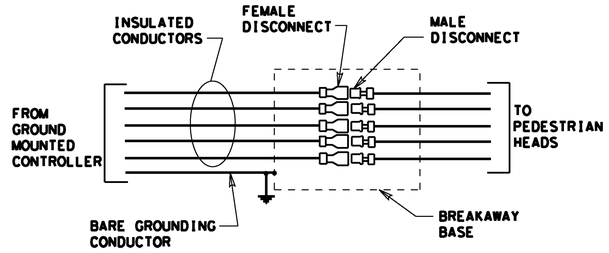


18"x16" LED PEDESTRIAN SIGNAL HEAD w/COUNTDOWN

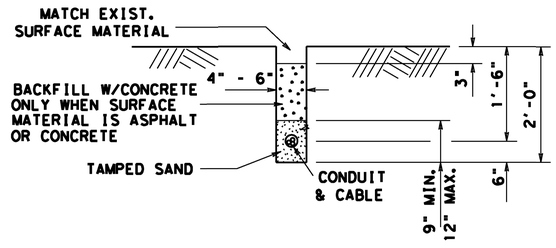
- LEGEND:
  BLACK
- BACKGROUND:
  WHITE (RETROREFLECTIVE)
- 08. HAND SYMBOL:
  ORANGE (RETROREFLECTIVE)
  ON BLACK
- PEDESTRIAN SYMBOL:
  WHITE (RETROREFLECTIVE)
  ON BLACK

NOTE:
REFER TO THE STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD) FOR MORE DETAILS AND DIMENSIONS REGARDING SIGN R10-3e



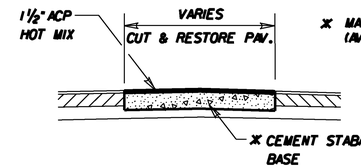


BREAKAWAY IN-LINE FUSEHOLDERS

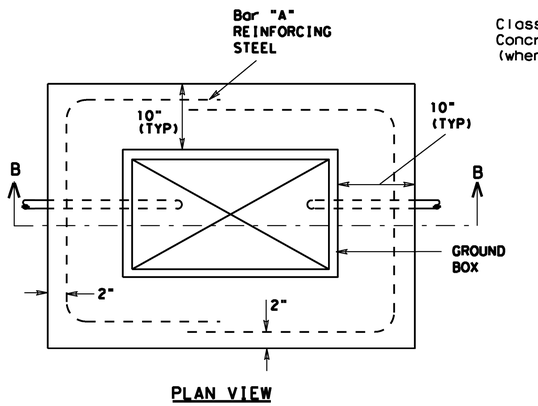


NOTE:
ALL TRENCHES ARE TO BE MADE ONLY PARALLEL TO THE STREET. ALL CONDUIT RUNS CROSSING THE STREET SHALL BE PUSHED AND NO CUTS MADE IN THE SURFACE.

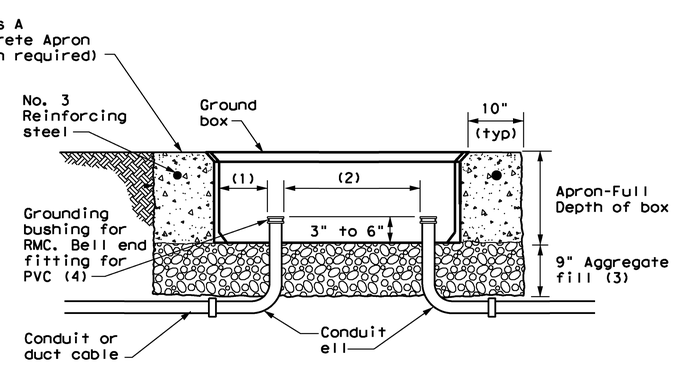
DETAIL - TRENCH LAY CONDUIT



DETAIL - CUT AND RESTORE PAVEMENT



PLAN VIEW



SECTION B-B

APRON FOR GROUND BOXES

(Where required)

DISTRICT STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
PHARR DISTRICT STANDARD

TRAFFIC SIGNAL CONSTRUCTION DETAILS

MISCELLANEOUS DETAILS

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SHEET 3 OF 3

DN: OG	DRAWING	DATE	FED.RD. DIST.NO.	STATE	PROJECT NO.	SHEET NO.
CK DN: JSL	ORIGINAL	APR. 2010		TEXAS		85
DW: OG	REV.	JUL. 2015 MAY 2016 AUG 2016 APR 2017	STATE DIST. NO.	COUNTY	CONTROL NO. / SECTION NO. / JOB NO.	HIGHWAY NO.
CK DW: JSL			PHARR	CAMERON		

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DATE:
FILE:

GENERAL NOTES FOR ALL ELECTRICAL WORK

1. The location of all conduits, junction boxes, ground boxes, and electrical services is diagrammatic and may be shifted to accommodate field conditions.

2. Provide new, unused, and undamaged materials. Ensure that all materials and installations comply with the National Electrical Code (NEC), TxDOT standards and specifications, National Electrical Manufacturers Association (NEMA), and are listed by Underwriters Laboratories (UL) or a Nationally Recognized Testing Lab (NRTL). NRTLs such as CSA Group, Intertek Testing Services, or FM Approvals can be considered equivalent to UL. Where reference is made to NEMA listed devices, International Electrotechnical Commission (IEC) listed devices will not be considered an acceptable equal to NEMA. Faulty fabrication or poor workmanship in any material, equipment, or installation is justification for rejection. Replace or reinstall rejected material or equipment at no additional cost to the Department.

3. Miscellaneous nuts, bolts, and hardware, except for high strength bolts, may be stainless steel when plans specify galvanized, provided the bolt size is 1/2 in. or less in diameter.

4. Provide the following test equipment as required by the Engineer to confirm compliance with the contract and the NEC: voltmeter, ammeter, megohm meter (1000 volt DC), ground resistance tester, torque wrenches, and torque screwdrivers. Ensure all equipment has been properly calibrated within the last year. Provide calibration certification to the Engineer upon request. Operate test equipment during inspection as requested by the Engineer.

5. Install grounding as shown on the plans and in accordance with the NEC. Ensure all metallic conduits, metal poles, luminaires, and metal enclosures are bonded to an equipment grounding conductor. Provide stranded bare copper or green insulated grounding conductors. Ground rods, connectors, and bonding jumpers are subsidiary to the various bid items.

6. When required by the Engineer, notify the Department in writing of materials from the Material Producer List (MPL) intended for use on each project. Prequalified materials are listed on the MPL on TxDOT's website under "Roadway Illumination and Electrical Supplies." No substitutions will be allowed for materials on this list.

CONDUIT

A. MATERIALS

1. Provide conduit, junction boxes, fittings, and hardware per TxDOT Departmental Material Specification DMS-11030, "Conduit" and Item 618, "Conduit" of TxDOT's "Standard Specifications for Construction and Maintenance of Highways, Streets, And Bridges," latest edition. Provide conduits listed under Item 618 on the MPL under "Roadway Illumination and Electrical Supplies." Provide conduit types according to the descriptive code or as shown on the plans. Do not substitute other types of conduits for those shown. Provide Liquidtight Flexible Metal Conduit (LFMC) when flexible conduit is called for on galvanized steel Rigid Metal Conduit (RMC) systems. Provide Liquidtight Flexible Nonmetallic Conduit (LFNC) when flexible conduit is called for on Polyvinyl Chloride (PVC) systems.

2. Provide galvanized steel RMC for all exposed conduits, unless otherwise shown on the plans. Properly bond all metal conduits.

3. Unless otherwise shown on the plans, provide junction boxes with a minimum size as shown in the following table, which applies to the greatest number of conductors entering the box through one conduit with no more than four conduits per box. When a mixture of conductor sizes are present, count the conductors as if all are of the larger size. For situations not applicable to this table, size junction boxes per the NEC.

JUNCTION BOX SIZES

AWG	3 CONDUCTORS	5 CONDUCTORS	7 CONDUCTORS
#1	10" x 10" x 4"	12" x 12" x 4"	16" x 16" x 4"
#2	8" x 8" x 4"	10" x 10" x 4"	12" x 12" x 4"
#4	8" x 8" x 4"	10" x 10" x 4"	10" x 10" x 4"
#6	8" x 8" x 4"	8" x 8" x 4"	10" x 10" x 4"
#8	8" x 8" x 4"	8" x 8" x 4"	8" x 8" x 4"

4. Junction boxes with internal volumes up to 100 cu. in. and that are supported by entering raceways must have threaded entries or hubs identified for the intended purpose and be supported by connection of two or more rigid metal conduits. Secure conduit within 3 ft. of the box or within 18 in. of the box if all conduit entries are on the same side. Mechanically secure all junction boxes with an internal volume greater than 100 cu. in.

5. Provide hot dipped galvanized cast iron or sand cast aluminum outlet boxes for junction boxes containing only 10 AWG or 12 AWG conductors. Do not use die cast aluminum boxes. Size outlet boxes according to the NEC.

6. Do not use Intermediate Metal Conduit (IMC) or Electrical Metallic Tubing (EMT) unless specifically required by the plan sheets. When EMT is called for, provide junction boxes sized as directed above, listed and approved for outdoor use, unless otherwise noted on the plans. Provide junction boxes for IMC conduit systems that meet the same requirements for junction boxes used with RMC systems.

7. Provide PVC junction boxes intended for outdoor use on PVC conduit systems, unless otherwise noted on the plans.

8. Provide PVC elbows, unless otherwise shown in the plans. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the PVC conduit system.

A. MATERIALS (CONTINUED)

9. When galvanized steel RMC elbows are specifically called for in the plans and any portion of the RMC elbow is buried less than 18 in. below grade or bottom of the ground box, ground the RMC elbow with a grounding bushing on a rigid metal extension. Grounding of the rigid metal elbow is not required if the entire RMC elbow is encased in a minimum of 2 in. of concrete. PVC extensions are allowed on these concrete encased rigid metal elbows. Elbows are subsidiary to various bid items.

10. When required, provide High-Density Polyethylene (HDPE) conduit with factory installed internal conductors according to DMS-11060, "Duct Cable." At the Contractor's request and with approval by the Engineer, substitute HDPE conduit with no conductors according to DMS-11030 for PVC conduit bid under Item 618. Provide conduit of the size and schedule as shown on the plans. Do not extend HDPE conduit into ground boxes or foundations. Provide PVC elbows at all ground boxes and foundations.

11. Use two-hole straps or strut straps when supporting 2 in. and larger conduits. On electrical service poles, properly sized stainless steel or hot dipped galvanized strut straps or stand-off straps are allowed on the service riser conduit.

B. CONSTRUCTION METHODS

1. Provide and install expansion joint conduit fittings on all structure-mounted conduits at the structure's expansion joints to allow for movement of the conduit. In addition, provide and install expansion joint fittings on all continuous runs of galvanized steel RMC conduit externally exposed on structures such as bridges at maximum intervals of 150 ft. When requested by the project Engineer, supply manufacturer's specification sheet for expansion joint conduit fittings. Repair or replace expansion joint fittings that do not allow for movement at no additional cost to the Department. Provide the method of determining the amount of expansion to the Engineer upon request. Do not use LFMC or LFNC as a substitute for the required expansion conduit fittings.

2. Space all conduit supports at maximum intervals of 5 ft. Install conduit spacers when attaching metal conduit to surfaces of concrete structures. See "Conduit Mounting Options" on ED(2). Install conduit supports within 3 ft. of all enclosures and conduit terminations.

3. Do not attach conduit supports directly to pre-stressed concrete beams, except as shown specifically in the plans or as approved by the Engineer.

4. Unless otherwise shown on the plans, jack or bore conduit placed beneath existing roadways, driveways, sidewalks, or after the base or surfacing operation has begun. Backfill and compact the bore pits below the conduit per Item 476 "Jacking, Boring, or Tunneling Pipe or Box" prior to installing conduit or duct cable to prevent bending of the connections.

5. When placing conduit in the subgrade of new roadways, backfill all trenches with excavated material unless otherwise noted on the plans. When placing conduit in the subbase of new roadways, backfill all trenches with cement-stabilized base as per requirements of Items: 110, "Excavation;" 400, "Excavation and Backfill for Structures;" 401, "Flowable Backfill;" 402, "Trench Excavation Protection;" and 403, "Temporary Special Shoring."

6. During construction, temporarily cap or plug open ends of all conduit and raceways immediately after installation to prevent entry of dirt, debris and animals. Temporary caps constructed of durable duct tape are allowed. Tightly affix the tape to the conduit opening. Clean out the conduit and prove it clear in accordance with Item 618 prior to installing any conductors.

7. Ensure conduit entry into the top of an enclosure is waterproof by installing conduit sealing hubs or using boxes with threaded bosses. This includes surface mounted safety switches, meter cans, service enclosures, auxiliary enclosures and junction boxes. Grounding bushings on water tight sealing hubs are not required.

8. Fit the ends of all PVC conduit terminations with bushings or bell end fittings. Provide and install a grounding bushing on all metal conduit terminations.

9. Install a bonding jumper from each grounding bushing to the nearest ground rod, grounding lug, or equipment grounding conductor. Ensure all bonding jumpers are the same size as the equipment grounding conductor. Bonding of conduit used as a casing under roadways for duct cable is not required, if the duct extends the full length through the casing.

10. Place conduits entering ground boxes so that the conduit openings are between 3 in. and 6 in. from the bottom of the box. See the ground box detail on sheet ED(4).

11. After completion of conductor installation, immediately seal ends of all conduits emerging from ground with duct seal, expandable foam, or other methods approved by the Engineer. Do not use silicone caulking. Do not use duct tape as a permanent seal.

12. File smooth the cut ends of all mounting strut and conduit. To avoid overspray, paint the field cut ends of all mounting strut and RMC (threaded or non-threaded) with zinc rich paint (94% min. zinc content as specified on DMS-8103 and listed on the MPL for Galvanizing Repair Paints) before installing. Use zinc rich paint to touch up galvanized material as allowed under Item 445 "Galvanizing." Do not paint non-galvanized material with zinc rich paint as an alternative for materials required to be galvanized.

13. For all conduits, ensure the burial depth is 18" min. For conduits placed under a roadway, ensure the burial depth is 24" min.

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS CONDUITS & NOTES

ED(1)-25

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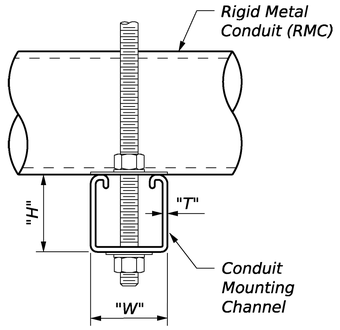
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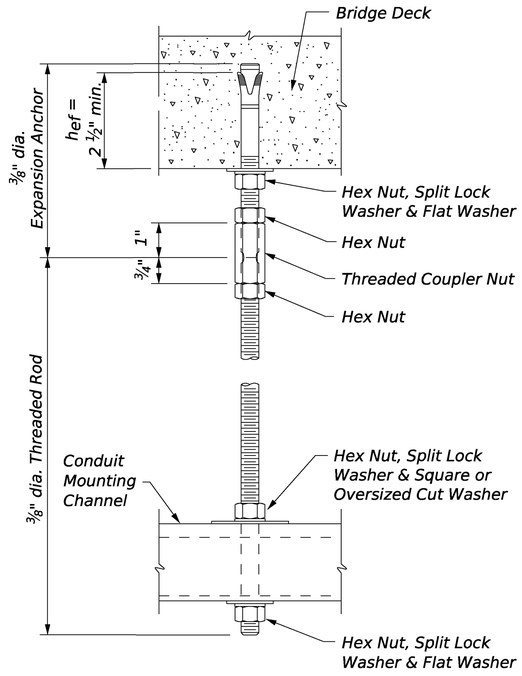
ELECTRIC CONDUIT TO BRIDGE DECK ATTACHMENT

HANGER ASSEMBLY DETAIL

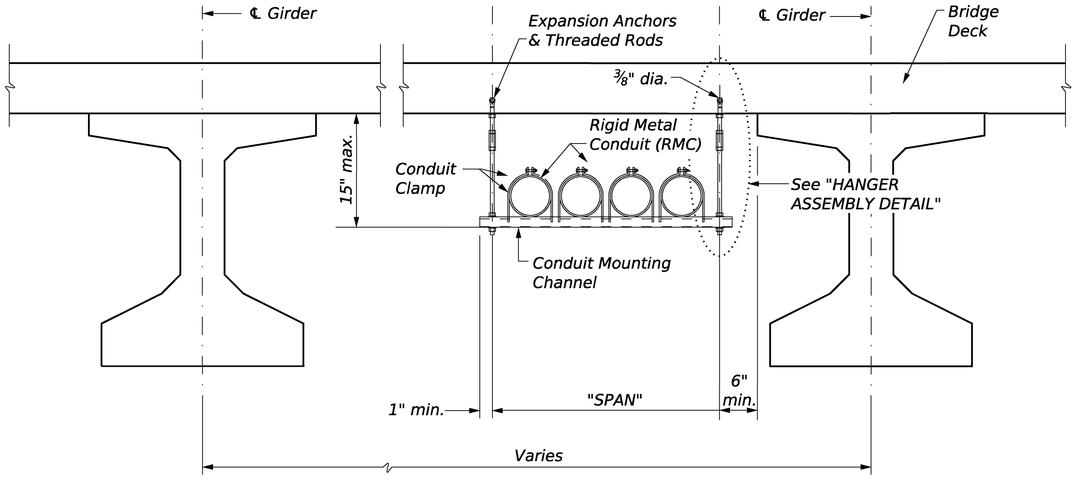
CONDUIT MOUNTING CHANNEL		
"SPAN"	"W" x "H"	"T"
less than 2'	1 5/8" x 1 3/8"	12 ga.
2'-0" to 2'-6"	1 5/8" x 1 5/8"	12 ga.
>2'-6" to 3'-0"	1 5/8" x 2 7/16"	12 ga.

NOTE: Channels with round or short slotted hole patterns are allowed, provided the load carrying capacity is not reduced by more than 15%.



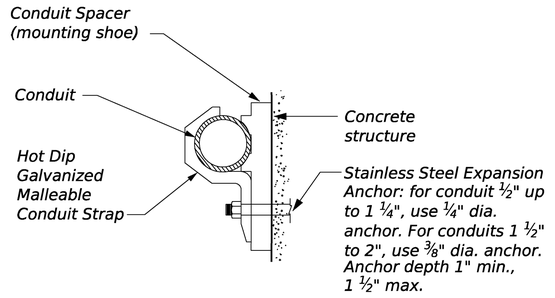


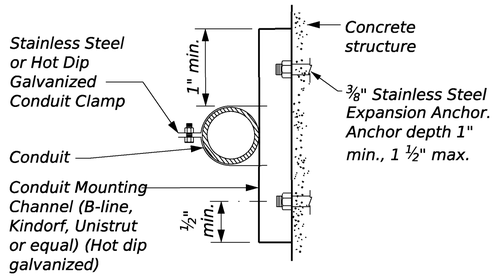
CONDUIT HANGING DETAIL



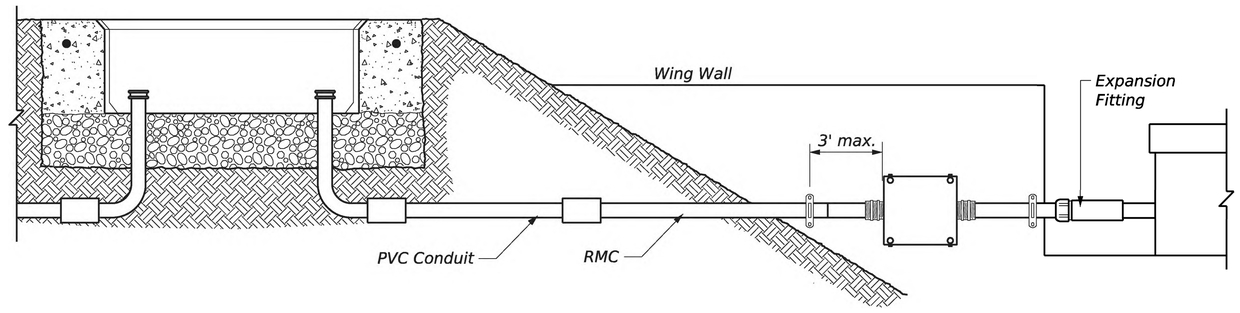
CONDUIT MOUNTING OPTIONS

ATTACHMENT TO CONCRETE SURFACES - SEE ED(1), CONDUIT, NOTE B.2





TYPICAL CONDUIT ENTRY TO BRIDGE STRUCTURE DETAIL



EXPANSION ANCHOR NOTES FOR BRIDGE DECK ATTACHMENT:

1. Use torque controlled mechanical expansion anchors that are approved for use in cracked concrete by the International Code Council, Evaluation Service (ICC-ES). The chosen anchor product shall have a designated ICC-ES Evaluation Report number, and its approval status shall be maintained on the ICC-ES website under Division 031600 for Concrete Anchors.

2. Unless otherwise approved by the Engineer: do not use adhesive anchors; do not use expansion anchors that are not included in the ICC-ES approval list; and do not use expansion anchors that are only approved for use in uncracked concrete.

3. Use anchors manufactured with stainless steel expansion wedges. Anchors manufactured with carbon steel expansion wedges are not allowed. Anchor bodies can be either zinc-plated carbon steel or stainless steel. Provide only stainless steel anchor bodies and expansion wedges for applications in marine environments.

4. Install anchors as shown on the plans and in accordance with the anchor manufacturer's published installation instructions. Arrange a field demonstration test to evaluate the procedures and tools. The test shall be witnessed and approved by the Engineer prior to furnishing anchors on the structure.

5. Prior to hole drilling, use rebar locator to ensure clearing of existing deck strands or reinforcement. Install anchors to ensure a minimum effective embedment depth, (h_{ef}), as shown. Increase (h_{ef}) as needed to ensure sufficient thread length for proper torquing and tightening of anchors.

6. Use anchors of at least 1600 lbs. tensile capacity (minimum of steel, concrete breakout, and concrete pullout strengths as determined by ACI 318 Appendix D) at the required minimum embedment depth (h_{ef}). No lateral loads shall be introduced after conduit installation.

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS CONDUIT SUPPORTS

ED(2)-25

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ELECTRICAL CONDUCTORS

A. MATERIAL INFORMATION

1. Provide Type XHHW insulated copper conductors in accordance with Departmental Material Specification DMS-11040, "Conductors" and Item 620, "Electrical Conductors." Provide conductors as listed on the Material Producer List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies" Item 620.

2. Identify grounded (neutral) conductors with white insulation. Identify grounding conductors (ground wires) with green insulation or bare conductors. Identify ungrounded (hot) conductors with any color insulation except green, white, or gray. Keep color scheme consistent throughout the wiring system. Identify conductors 6 American Wire Gauge (AWG) and smaller by continuous color jacket. Identify electrical conductors 4 AWG and larger by continuous color jacket or by colored tape. When identifying conductors with colored tape, mark at least 6 in. of the conductor's insulation with half laps of tape at each accessible location.

3. Insulated grounding conductors may be substituted for bare conductors, unless otherwise shown in the plans. Insulated grounding conductors must be color coded green in accordance with Note 2.

4. Provide a 6 AWG bare solid copper grounding electrode conductor to bond the electrical service equipment to the concrete encased grounding electrode or the ground rod at the service location. Connect the grounding electrode conductor to the ground rod with a UL listed connector in accordance with DMS-11040. Connect the grounding electrode conductor to the concrete encased grounding electrode as shown in the plans.

5. Where two or more circuits are present in one conduit or enclosure, permanently label the conductors of each branch circuit by attaching a non-metallic, weather resistant tag around both circuit conductors at each accessible location. Provide one-piece tags with two $\frac{3}{16}$" straps, large enough to indicate circuit number, letter, or other identification as shown in the plans. Print circuit identification on the tag with a permanent marker.

6. Use listed compression connectors, mechanical lugs, terminal blocks, or split bolt connectors for splicing as specified in DMS-11040. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Provide UL listed gel-filled insulating splice covers. Splicing materials, insulating materials, breakaway disconnects, splice covers, and fuse holders are subsidiary to various bid items.

B. CONSTRUCTION METHODS

1. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the conduit system.

2. Leave 2 ft. to 3 ft. of length for each conductor up to the splice in ground boxes. Leave 3 ft. to 4 ft. of length for each conductor in ground boxes when pulled through with no splice. Leave 1 ft. to 1.5 ft. of length for each conductor at enclosures and pole bases. Leave 1.5 ft. to 3 ft. of length as required by electric utility for conductors exiting weatherheads.

3. Make splices only in junction boxes, ground boxes, pole bases, or electrical enclosures and use only listed compression connectors, mechanical lugs, terminal blocks, or split bolt connectors. Insulate splices with heavy wall heat shrink tubing or gel-filled insulating splice covers to provide a watertight splice. Overlap conductor insulation with heat shrink tubing a minimum of 2 in. past both sides of the splice. Where heat shrink tubing may not shrink sufficiently to provide a watertight seal around the individual conductors, prior to heating the tubing, increase the diameter of the conductor insulation using hot melt adhesive tape to provide a watertight seal between each conductor and the heat shrink tubing. Ensure the tape extends past the heat shrink tubing. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Heat shrink tubing that appears to have been burned or overheated is considered defective and must be replaced.

4. Size and install gel-filled insulating splice covers according to manufacturer's specifications when used in place of heat shrink tubing.

5. Wire nuts with factory applied waterproof sealant may be used for 8 AWG or smaller conductors in above ground junction boxes, but not in pole bases or ground boxes. Install wire nuts in an upright position to prevent the accumulation of water.

6. Support conductors in illumination poles with a J-hook at the top of the pole.

7. When terminating conductors, remove the insulation and jacketing material without nicking the individual strands of the conductor. Conductors with nicked individual conductor strands or removed strands will be considered damaged.

8. Replace conductors and cables that are damaged or that fail an insulation resistance test at no additional cost to the Department.

9. Do not repair damaged conductors with duct tape, electrical tape, or wire nuts. Use only approved splicing methods.

B. CONSTRUCTION METHODS (CONTINUED)

10. Do not terminate more than one conductor under a single lug unless it is rated for multiple conductors. Do not exceed the lug's listing for maximum number and size of conductors allowed.

11. Follow manufacturer's instructions when terminating conductors to breakaway connectors. Properly torque threaded connections. Proper terminations are critical to the safe operation of breakaway devices. Trim waterproofing boots on breakaway connectors to fit snugly around the conductor to ensure a waterproof connection. Only one conductor may enter a single opening in a boot. Provide waterproof boots with the correct number of openings. Leave unused openings factory sealed. Use prequalified breakaway connectors as shown on the MPL.

12. Provide and install a separate stranded equipment grounding conductor (EGC) in all conduits that contain circuit wiring of 50 volts or more. Unless shown elsewhere, size the EGC to be the same size as the largest current carrying conductor in the conduit. Bond all EGCs together at every accessible location. For ITS installations, bond and ground metal ground box covers and other metal equipment as shown on ITS standards.

C. TEMPORARY WIRING

1. Install temporary conductors and electrical equipment in accordance with the NEC article "Temporary Installations" and Department standard sheets.

2. Provide a ground fault circuit interrupter (GFCI) for powering portable electrical equipment, power tools, ice machines, ice storage bins and refrigerators located outdoors at grade. GFCI may be any one of the following: molded cord and plug set, receptacle, or circuit breaker type.

3. Use listed wire nuts with factory applied sealant for temporary wiring where approved.

4. Enclose conductor splices within a listed enclosure or ground box, or ensure the splices are more than 10 ft. above grade vertically and more than 5 ft. horizontally from any metal structure. When installing temporary conductors in areas subject to vehicle traffic or mobile construction equipment, ensure the vertical clearance to ground is at least 18 ft. when measured at the lowest point. Ground messenger wires that support power conductors in conformance with the NEC.

5. Protect and when necessary repair any existing electrical conduits uncovered during the construction process in a timely manner and in conformance with the NEC.

GROUND RODS & GROUNDING ELECTRODES

A. MATERIAL INFORMATION

1. Provide and install a grounding electrode at electrical services. Provide ground rods according to DMS-11040 and the plans. Larger diameter or longer length rods may be called for in some locations. Concrete encased grounding electrodes may be called for in some locations including electrical services — see plan sheets.

B. CONSTRUCTION METHODS

1. Furnish and install ground rods in soil, concrete, or both, as called for in the plans. For ground rods installed in concrete, ensure the connection of the conductor to the ground rod is readily accessible for inspection or repairs. For ground rods installed in soil, ensure that the upper end is between 2 to 4 in. below finished grade.

2. Do not place ground rods in the same drilled hole as a timber or concrete pole.

3. Install ground rods so the imprinted part number is at the upper end of the rod.

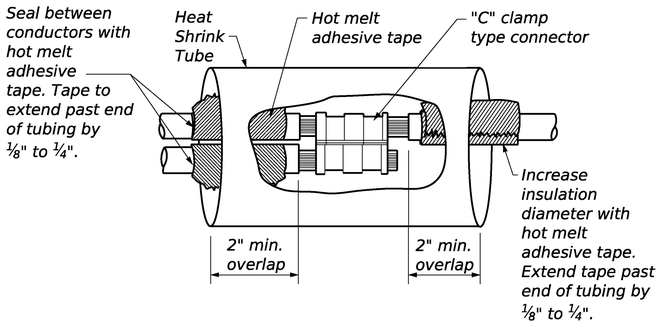
4. Remove all non-conductive material such as concrete splatter from the rod at the clamp location.

5. Route all conductors as short and straight as possible for connection to lightning protection ground rods. When a bend is required, ensure a minimum radius bend of 4 in.

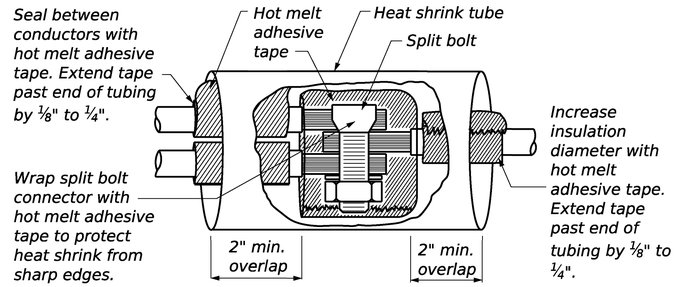
6. Unless otherwise called for in the plans, protect grounding electrode conductors with non-metallic conduit. When protecting grounding electrode conductors with metal conduit, provide and install a grounding bushing and properly sized bonding jumper on each end of the metal conduit.

7. Written authorization is required before installing a ground rod in a horizontal trench for rocky soil or a solid rock bottom.

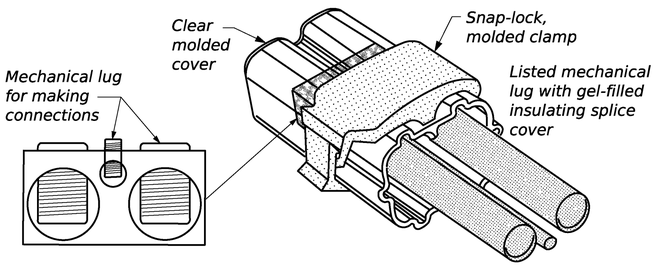
COMPRESSION SPLICE
OPTION 1



SPLIT BOLT SPLICE
OPTION 2



GEL-FILLED INSULATED SPLICE
OPTION 3



Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS CONDUCTORS

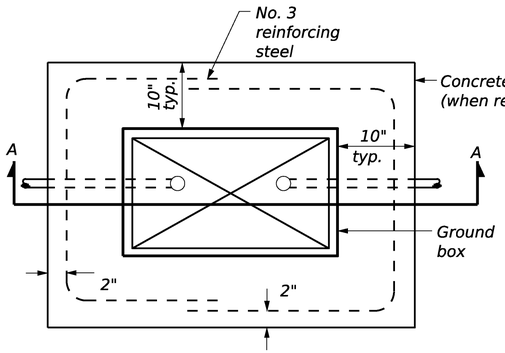
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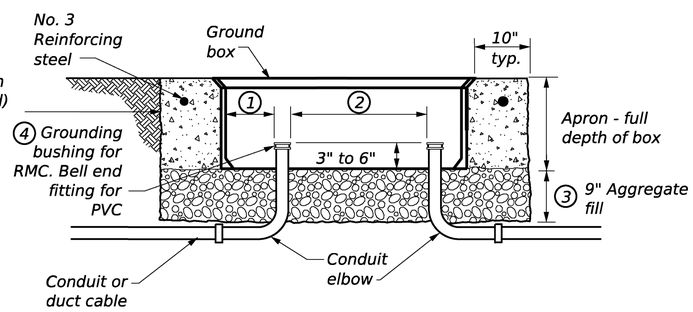
71C

APRON FOR GROUND BOX

PLAN VIEW



SECTION A - A



SECTION A - A NOTES:

1. *Uniformly space ends of conduits within the ground box. Position ends of conduits so that ground box walls do not interfere with the installation of grounding bushings or bell end fittings.*
2. *Maintain sufficient space between conduits to allow for proper installation of bushing.*
3. *Place aggregate under the box, not in the box. Aggregate should not encroach on the interior volume of the box.*
4. *Install a grounding bushing on the upper end of all RMC terminating in a ground box. Ground RMC elbows when any part of the elbow is less than 18 in. below the bottom of the ground box. Install a PVC bushing or bell end fitting on the upper end of all PVC conduits terminating in a ground box.*

GROUND BOXES	
TYPE	OUTSIDE DIMENSIONS (Width x Length X Depth)
A	12" X 23" X 11"
B	12" X 23" X 22"
C	16" X 29" X 11"
D	16" X 29" X 22"
E	12" X 23" X 17"

NOTES:

A. MATERIALS

1. *Provide polymer concrete ground boxes measuring 16 in. x 30 in. x 24 in. (W x L x D) or smaller in accordance with Departmental Material Specification DMS-11070, "Ground Boxes" and Item 624, "Ground Boxes."*
2. *Provide Type A, B, C, D, and E ground boxes as shown in the plans and as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Item 624.*
3. *Ensure ground box cover is correctly labeled in accordance with DMS-11070.*
4. *Provide larger ground boxes in accordance with Item 624 and as shown in the plans.*

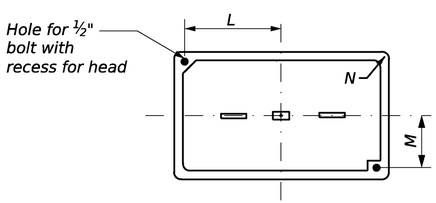
B. CONSTRUCTION METHODS

1. *Before setting ground box and after placing and capping conduits, lay an aggregate bed a minimum of 9 in. deep that extends 10 in. beyond the sides of the ground box. Provide coarse aggregate sized 3/4 in. to 2 in., with no more than 20% material passing through a no. 8 sieve, and as defined by the current ASTM C33/33M standard. Clean aggregate and dirt from conduits according to Item 618.*
2. *Cast ground box aprons in place. Reinforcing steel may be field bent. Ensure the depth of concrete for the apron extends from finished grade to the top of the aggregate bed under the box. Ground box aprons, including concrete and reinforcing steel, are subsidiary to ground boxes when called for by descriptive code.*
3. *Keep bolt holes in the box clear of dirt. Bolt covers down when not working in ground boxes.*
4. *Install all conduits and elbows in a professional and skillful manner. Uniformly space conduits so grounding bushings and bell end fittings can easily be installed.*
5. *Temporarily seal all conduits in the ground box until conductors are installed.*
6. *Permanently seal conduits immediately after the completion of conductor installation. Permanently seal the ends of all conduits with duct seal, expandable foam, or other method as approved. Do not use duct tape as a permanent conduit seal. Do not use silicone caulk as a sealant.*
7. *Bond all equipment grounding conductors in a ground box together with listed connectors.*
8. *When a Type B or D ground box is stacked to meet volume requirements, an appropriately sized hole may be cut for conduit entry in the side wall at least 18 in. below grade.*
9. *If an existing ground box in the contract has a metal cover, bond the cover to the equipment grounding conductor with a 3 ft. long stranded bonding jumper that is the same size as the grounding conductor. The bonding jumper is subsidiary to various bid items. Verify existing ground boxes with metal covers are shown on the plans, with notes fully describing the work required.*
10. *If other ground boxes with metal covers are within the project limits but are not part of the contract, the Engineer may direct the Contractor to bond the metal covers, identifying the specific boxes in writing. This work will be paid for separately.*
11. *Bond metal ground box covers to the grounding conductor with a tank ground type lug.*

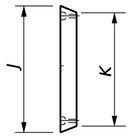
GROUND BOX COVERS								
TYPE	DIMENSIONS							
	H	I	J	K	L	M	N	P
A, B & E	23 ¼"	23"	13 ¾"	13 ½"	9 ⅞"	5 ⅛"	1 ⅜"	2"
C & D	30 ½"	30 ¼"	17 ½"	17 ¼"	13 ¼"	6 ¾"	1 ⅜"	2"

GROUND BOX COVER

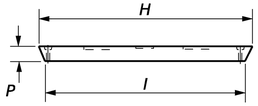
PLAN VIEW



END



SIDE



Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS GROUND BOXES

ED(4)-25

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ELECTRICAL SERVICES NOTES

1. Provide electrical services in accordance with Electrical Details standard sheets, Departmental Material Specification (DMS)-11080, "Electrical Services" and Item 628, "Electrical Services." Provide electrical service types A, C, and D, as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Item 628. Provide other service types as detailed on the plans.

2. Coordinate with the Engineer and the utility provider for metering and compliance with utility requirements. Primary line extensions, connection charges, meter charges, and other charges by the utility company to provide power to the location are paid for in accordance with Item 628. Get approval for the costs associated with these charges prior to engaging the utility company to do the work. Consult with the utility provider to determine costs and requirements, and coordinate the work as approved.

3. Provide a Master Lock, Model No. 2, M1, or 6121, keyed to code 2195. Master Lock 2195 keys and locks become property of the Department. Unless otherwise approved, do not energize electrical service equipment until locks are installed.

4. Enclosures with external disconnects that de-energize all equipment inside the enclosure do not need a dead front trim. Protect incoming line terminations from incidental contact as required by the NEC.

5. When galvanized is specified for nuts, screws, bolts or miscellaneous hardware, stainless steel may be used.

6. Provide wiring and electrical components rated for 75°C. Provide red, black, and white colored XHHW service entrance conductors of minimum size 6 American Wire Gauge (AWG). Identify conductors per ED(3). Ensure each service entrance conductor exits through a separately bushed non-metallic opening in the weatherhead. The lengths of the conductors outside the weatherhead are to be 1.5 ft. to 3 ft. as required by electric utility.

7. Provide rigid metal conduit (RMC) for all conduits on service, except for the ½ in. PVC conduit containing the electrical service grounding electrode conductor. Size the service entrance conduit as shown in the plans. Ensure conduit for branch circuit entry to enclosure is the same size as shown on the layout sheets for branch circuit conduit. Extend all rigid metal conduits a minimum of 6 in. underground and then couple to the type and schedule of the conduit shown on the plans. Install a grounding bushing on the RMC where it terminates in the service enclosure.

8. Use of liquidtight flexible metal conduit (LFMC) is allowed between the meter and service enclosure when they are mounted 90 to 180 degrees from each other. Size this LFMC the same size as the service entrance conduit. LFMC must not exceed 3 ft. in length. Strap LFMC within 1 ft. of each end. Terminate each end of the LFMC with a grounding bushing or fitting. The LFMC must contain a grounded (neutral) conductor. Ensure bends in LFMC do not exceed 180 degrees. A pull test is required on all installed conductors, with at least 6 in. of free conductor movement demonstrated to the satisfaction of the Engineer.

9. Ensure all mounting hardware and installation details of services conform to utility company specifications.

10. Provide the following documents in the electrical service document pocket: schematic drawing unique to the service from the UL 508 shop; plan sheet showing Electrical Service Data Chart for the service; plan sheets for the circuits powered by the service; and red lined plan sheets if installation differs from the original design. Reduce larger sheets to 8 ½ in. x 11 in. and laminate all documents.

11. When providing an "Off The Shelf" Type D or Type T service, provide laminated plan sheets detailing equipment and branch circuits supplied by that service. Reduce 11 in. x 17 in. plan sheets to 8 ½ in. x 11 in. before laminating. When the enclosure has no door pocket, deliver these drawings to the Engineer before completion of the work.

12. Do not install conduit in the back wall of a service enclosure where it would penetrate the equipment mounting panel inside the enclosure. Provide grounding bushings on all metal conduits, and terminate bonding jumpers to grounding bus. Grounding bushings are not required when the end of the metal conduit is fitted with a watertight conduit hub or meter hub.

MAIN DISCONNECT & BRANCH CIRCUIT BREAKERS

1. Field drill flange-mounted remote operator handle, if needed, to ensure handle is lockable in both the "On" and "Off" positions.

2. When the utility company provides a transformer larger than 50 KVA, verify that the available fault current is less than the circuit breaker's ampere interrupting capacity (AIC) rating and provide documentation from the electric utility provider to the Engineer.

PHOTOELECTRIC CONTROL

1. Provide photocell as listed on the MPL. Move, adjust, or shield the photocell from stray or ambient night time light to ensure proper operation. Mount photocell facing north when practical. Mount top of pole photocells as shown on Top Mounted Photocell Detail.

ELECTRICAL SERVICE DATA (EXAMPLE)*

ELEC. SERVICE ID	PLAN SHEET NUMBER	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE **	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN CKT. BKR. POLE/AMPS	LIGHTING CONTACTOR AMPS	PANELBOARD/ LOADCENTER AMP RATING	BRANCH CIRCUIT ID	BRANCH CKT. BKR. POLE/AMPS	BRANCH CIRCUIT AMPS	KVA LOAD
SB 183	289	ELC SRV TY A 240/480 100(SS)AL(E)SF(U)	2"	3/#2	100	2P/100	2P/100	N/A	Lighting NB	2P/40	26	28.1
									Lighting SB	2P/40	25	
									Underpass	1P/20	15	
NB Access	30	ELC SRV TY D 120/240 060(NS)SS(E)TS(O)	1 ¼"	3/#6	N/A	2P/60	2P/30	100	Sig. Controller	1P/30	23	5.3
									Luminaires	2P/20	9	
									CCTV	1P/20	3	
2nd & Main	58	ELC SRV TY T 120/240 000(NS)GS(N)SP(O)	1 ¼"	3/#6	N/A	N/A	N/A	70	Flashing Beacon 1	1P/20	4	1.0
									Flashing Beacon 2	1P/20	4	

* Example only, not for construction. All new electrical services must have electrical service data chart specific to that service as shown in the plans.

** Verify service conduit size with utility. Size may change due to utility meter requirements. Ensure conduit size meets the National Electrical Code.

ELECTRICAL SERVICE BID ITEM DESCRIPTIONS

ELEC SERV TY X XXX/XXX XXX(XX)XX(X)XX(X)

SCHEMATIC TYPE

SERVICE VOLTAGE

DISCONNECT AMP RATING
NOTE: 000 indicates main lug only, typically Type T

SAFETY SWITCH
(SS) = Safety Switch Ahead of Meter - Check with Utility
(NS) = No Safety Switch Ahead of Meter - Check with Utility

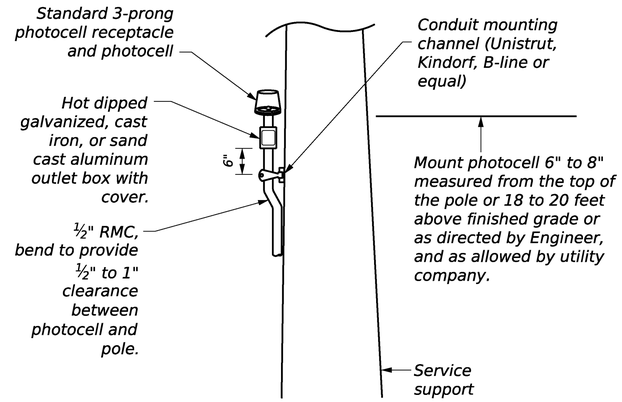
ENCLOSURE TYPE
GS = Galvanized steel ("off the shelf")
SS = Stainless steel (Custom Enclosure) - See MPL
AL = Aluminum (Custom Enclosure) - See MPL

PHOTOCELL MOUNTING LOCATION
(E) = Inside Service/Enclosure Mounted
(T) = Top of pole
(L) = Luminaire mounted
(N) = None - No Photocell or Lighting Contactor Required

SERVICE SUPPORT TYPE
GC = Granite concrete
OC = Other concrete
TP = Timber pole
SP = Steel pole
SF = Steel frame
OT = Pole by others or paid for separately
EX = Existing pole
TS = Service on traffic signal pole
PS = Pedestal Service

SERIVCE FEED
O = Overhead Service Feed from Utility
U = Underground Service Feed from Utility

TOP MOUNTED PHOTOCELL



Install conduit strap maximum 3 ft. from box. Spacing between straps supporting conduit is 5 ft. maximum.

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS SERVICE NOTES & DATA

ED(5)-25

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REVISIONS				
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				90

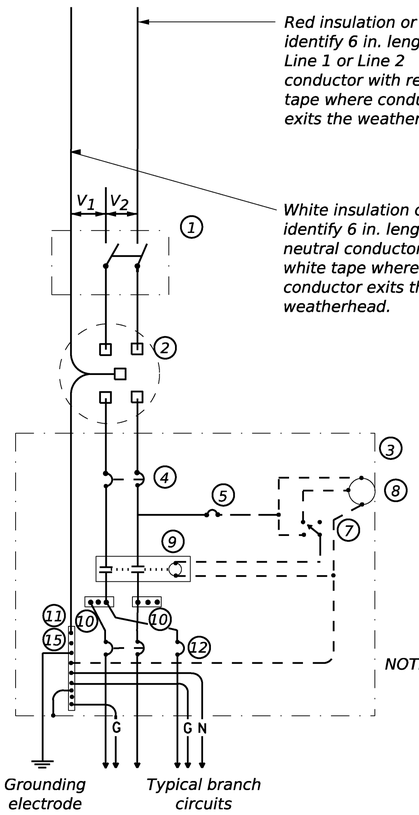
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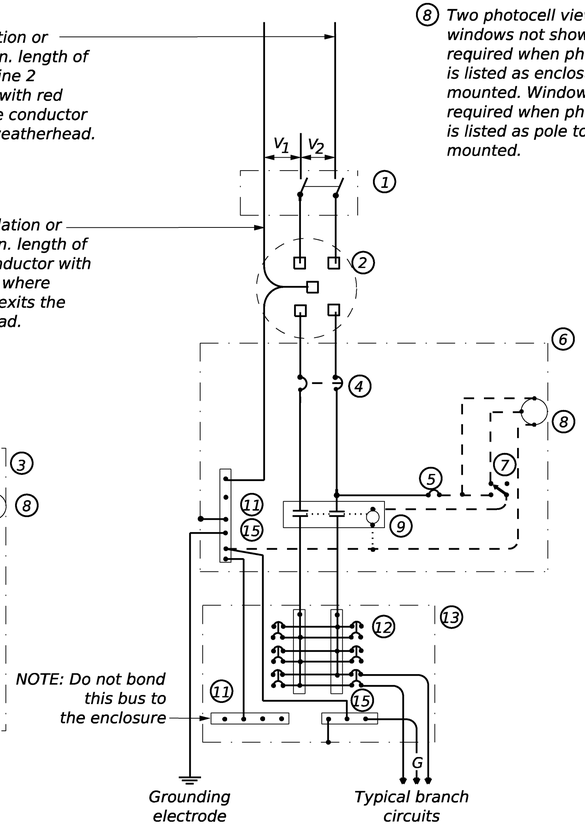
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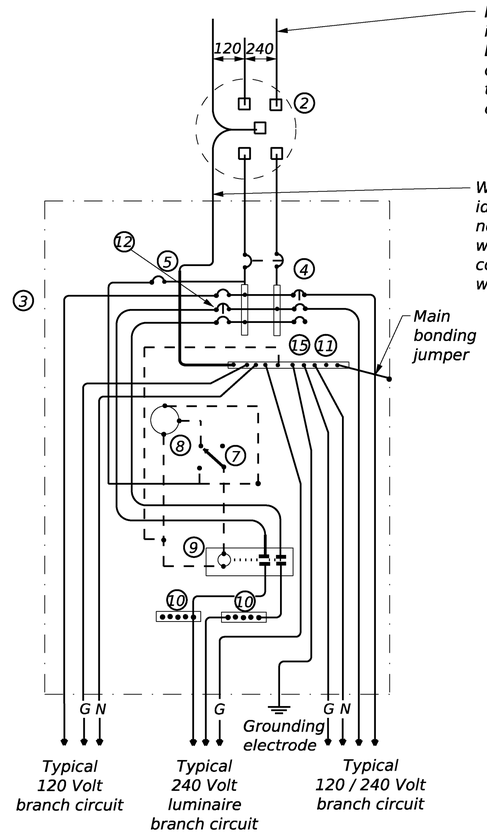
TYPE A
THREE WIRE



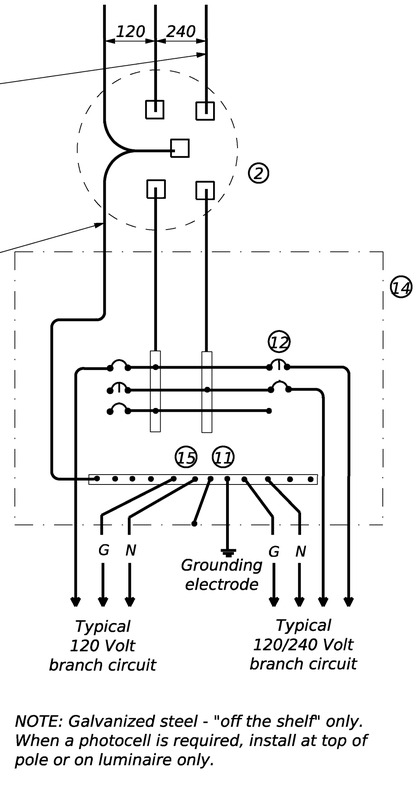
TYPE C
THREE WIRE



TYPE D - CUSTOM
120/240 VOLTS - THREE WIRE



TYPE T
120/240 VOLTS - THREE WIRE



NOTE: Galvanized steel - "off the shelf" only. When a photocell is required, install at top of pole or on luminaire only.

WIRING LEGEND	
———	Power Wiring
- - - -	Control Wiring
—N—	Neutral Conductor
—G—	Equipment grounding conductor (always required)

SCHEMATIC NOTES:

1. Safety Switch (when required)
2. Meter (when required - verify with electric utility provider)
3. Service Assembly Enclosure
4. Main Disconnect Breaker (See Electrical Service Data)
5. Circuit Breaker, 15 Amp (Control Circuit)
6. Auxiliary Enclosure
7. Control Station ("H-O-A" Switch)
8. Photo Electric Control (enclosure-mounted shown)
9. Lighting Contactor
10. Power Distribution Terminal Blocks
11. Neutral Bus
12. Branch Circuit Breaker (See Electrical Service Data)
13. Separate Circuit Breaker Panelboard
14. Load Center
15. Ground Bus

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS SERVICE SCHEMATICS AND NOTES

ED(6)-25

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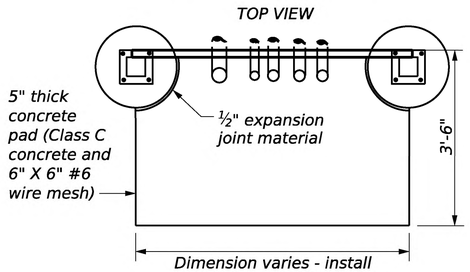
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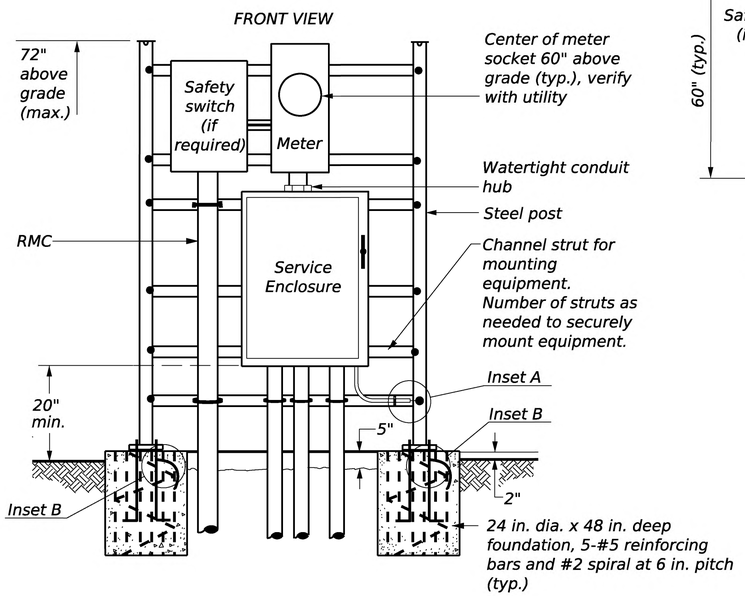
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SUPPORT TYPE STEEL POLE (SP) AND STEEL FRAME (SF) NOTES:

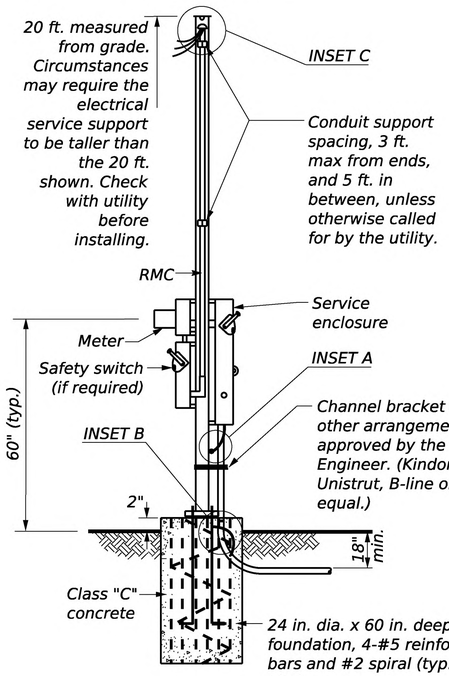
1. Provide steel pole and steel frame supports as per TxDOT Departmental Material Specification DMS-11080, "Electrical Services." Mount all equipment and conduit on 12 gauge galvanized steel or stainless steel channel strut, 1 ½ in. or 1 ⅝ in. wide by 1 in. to 3 ¾ in. deep Unistrut, Kindorf, B-line or equal. Drill, tap, and bolt or weld all channel and hardware to vertical members as approved. Do not stack channel. File smooth and paint field-cut ends of all channel with zinc-rich paint before installing.
2. Install a one point rack or eye bolt bracket 6 in. to 12 in. below the weatherhead as an overhead service drop anchoring point for the electric utility. Attaching bolt must pass through the pole and use a nut, washer, and locking washer on the other size. Self-tapping screws or lag bolts are not allowed.
3. Provide and install galvanized ¾ in. x 18 in. x 4 in. (dia. x length x hook length) anchor bolts for underground service supports. Provide and install galvanized ¾ in. x 56 in. x 4 in. anchor bolts for overhead service supports. Ensure anchor bolts have 3 in. of thread, with 3 ¼ in. to 3 ½ in. of the exposed anchor bolt projecting above finished foundation. Provide and install leveling nuts for all anchor bolts.
4. Use Class C concrete for foundations. Ensure reinforcing steel is Grade 60 with 3 in. of unobstructed concrete cover.
5. Shop drawings are not required for service support structure unless specifically stated elsewhere or directed by the Engineer.
6. Avoid contact of the service drop and service entrance conductors with the metal pole to prevent abrasion of the insulated conductors.
7. Placement of the meter and service enclosure may vary based on the installation of a safety switch.
8. Drill and tap steel poles and frames for ½ in. x 13 UNC tank ground fitting. For steel pole service supports, provide and install tank ground fitting 4 in. to 6 in. directly below the electrical service enclosure. Provide properly sized hole through the bottom of the enclosure for the service grounding electrode conductor. Ensure electrical service grounding electrode conductor is as short and straight as possible from the enclosure to the tank ground fitting.
9. For steel frame service supports, provide and install tank ground fitting on steel frame post. Install service grounding electrode conductor in a non-metallic conduit or tubing from the enclosure to the steel frame post. Connect electrical service grounding electrode conductor to the tank ground fitting. See SF, SP details and Inset A for more information.
10. Provide and install grounding bushings where RMC terminates in the enclosure. Grounding bushings are not required when RMC is fitted into a watertight conduit hub or meter hub.
11. If steel pole or frame is painted, bond each separate painted piece with a bonding jumper and lugs screwed into tapped holes.
12. Provide ¼ in. x 20 UNC machine screws for bonding. Do not use sheet metal screws. Remove all non-conductive material at contact points. Terminate bonding jumpers with listed devices. Install 6 AWG or larger stranded copper bonding jumpers. Make up all threaded bonding connections wrench-tight.
13. Bond one of the anchor bolts to the rebar cage with 6 AWG bare stranded copper conductor. Use listed mechanical connectors rated for embedment in concrete. See Inset B.

TYPE SF(U)
UNDERGROUND SERVICE

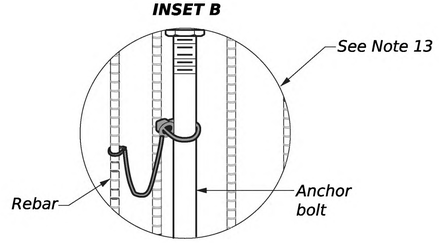




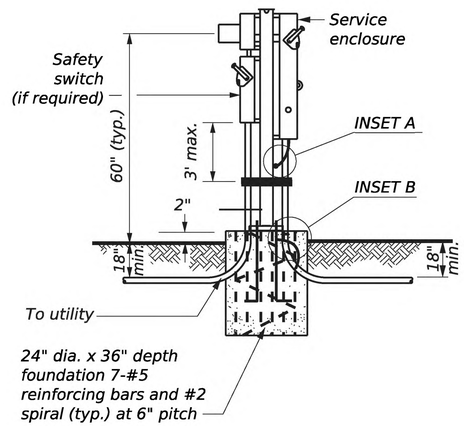
TYPE SP(O)
OVERHEAD SERVICE



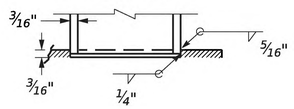
INSET B



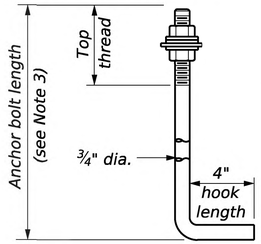
TYPE SP(U)



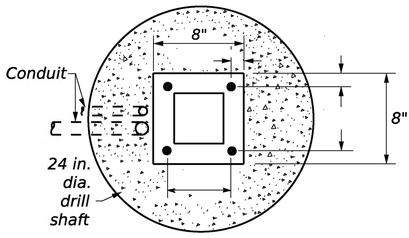
BOTTOM OF POLE DETAIL
TYPES SF & SP



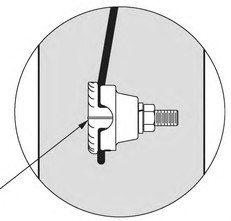
HOOKED ANCHOR DETAIL



BASE PLATE DETAIL

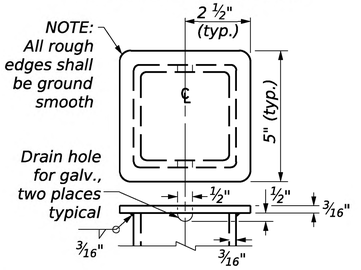


INSET A
FRONT VIEW

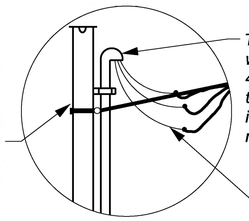


Drill, tap, and thread ½" x 13 UNC. Install tank ground fitting, connect electrical service grounding electrode conductor. See Note 8.

POLE TOP PLATE DETAIL



INSET C
SIDE VIEW



Identify conductors red, black, and white as specified in ED(3), Electrical Conductors, Note A.2. Provide 1.5 ft. to 3 ft. of conductor length as required by electric utility.

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS SERVICE SUPPORT TYPES SF & SP

ED(7)-25

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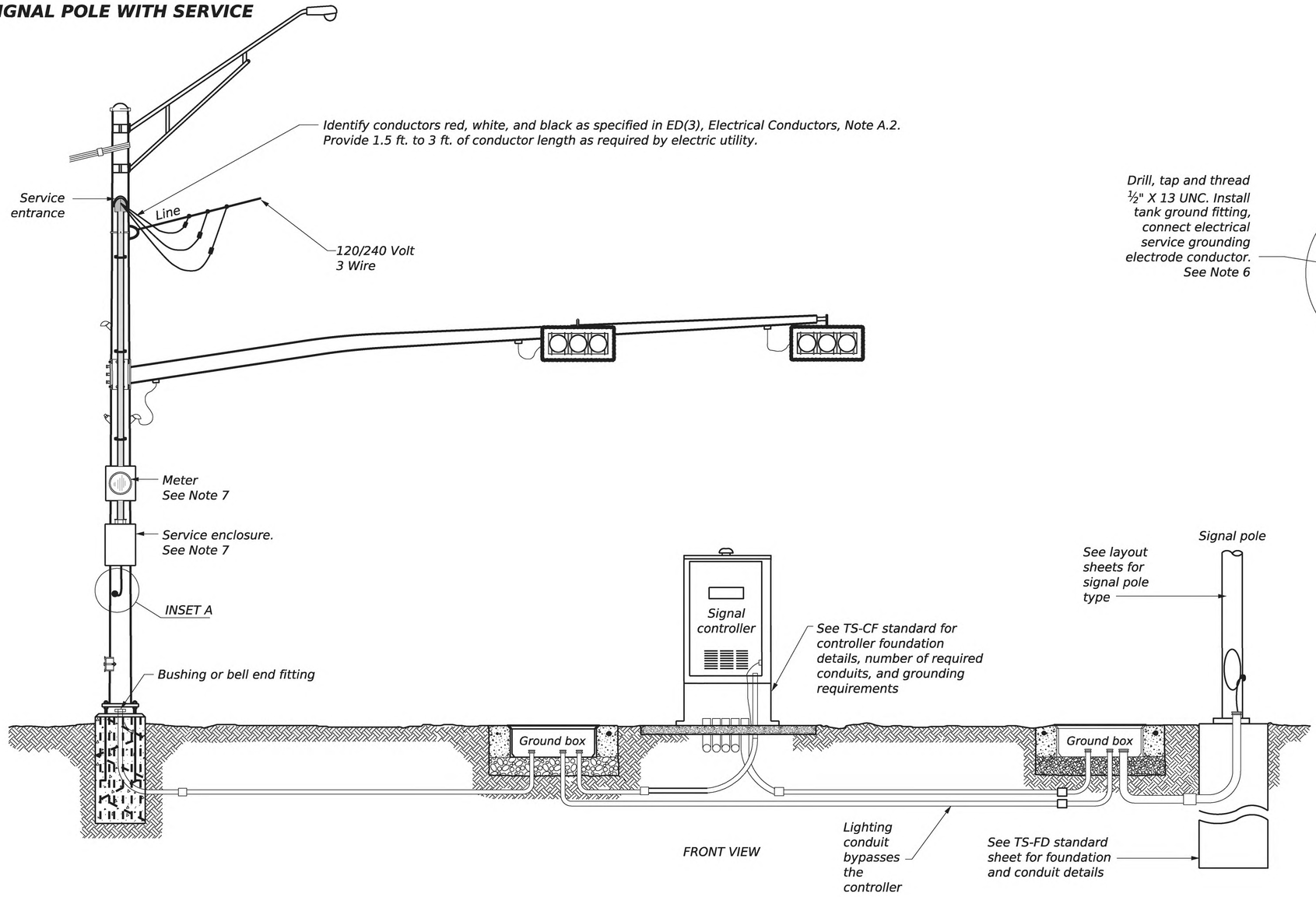
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NOTES:

1. Do not pass luminaire conductors through the signal controller cabinet.
2. Include an equipment grounding conductor in all conduits throughout the electrical system. Bond all exposed metal parts to the grounding conductor.
3. Provide roadway luminaires, when required, in accordance with Item 610, "Roadway Illumination Assemblies," except for performance testing of luminaires. Test installed roadway luminaires for proper operation as a part of the associated traffic signal system test.
4. Ground internally lighted street name (ILSN) signs to the pole with a 12 AWG green XHHW conductor.
5. Bond anchor bolts to rebar cage in two locations using #3 bars or 6 AWG stranded copper conductors. Use listed mechanical connectors rated for embedment in concrete. See TXDOT standard TS-FD for further details.
6. Drill and tap signal poles for ½ in. x 13 UNC tank ground fitting. Provide and install tank ground fitting 4 in. to 6 in. directly below electrical service enclosure. Provide properly sized hole through the bottom of the enclosure for the service grounding electrode conductor. Connect the electrical service grounding electrode conductor to the tank ground fitting. Ensure electrical service grounding electrode conductor is as short and straight as possible from the enclosure to the tank ground fitting. See Inset A detail for further information. Size service entrance conduit and branch circuit conduit as shown in the plans.
7. Mount electrical service enclosure and meter to signal pole with stainless steel bands. Ensure bands are at least ¾ in. wide. Secure enclosures to bands using two-bolt brackets. Install brackets near top and bottom of each enclosure. Install properly sized stainless steel washers on each bolt in the enclosure. Band or drill and tap properly sized stand-off straps to signal pole for attaching conduit.
8. Lock all enclosures and bolt down all ground box covers before applying power to the signal installation.
9. Terminate conduits entering the top of enclosures with a watertight conduit hub or meter hub. Install a grounding bushing on all metal conduits not connected to conduit-sealing hub or threaded boss. Bond the grounding bushing to the ground bus with a bonding jumper. Seal all conduits entering enclosures with duct seal or expanding foam. Do not use silicone to seal conduit ends.

SIGNAL POLE WITH SERVICE



FRONT VIEW

INSET A

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS TYPICAL TRAFFIC SIGNAL SYSTEM DETAILS

ED(8)-25

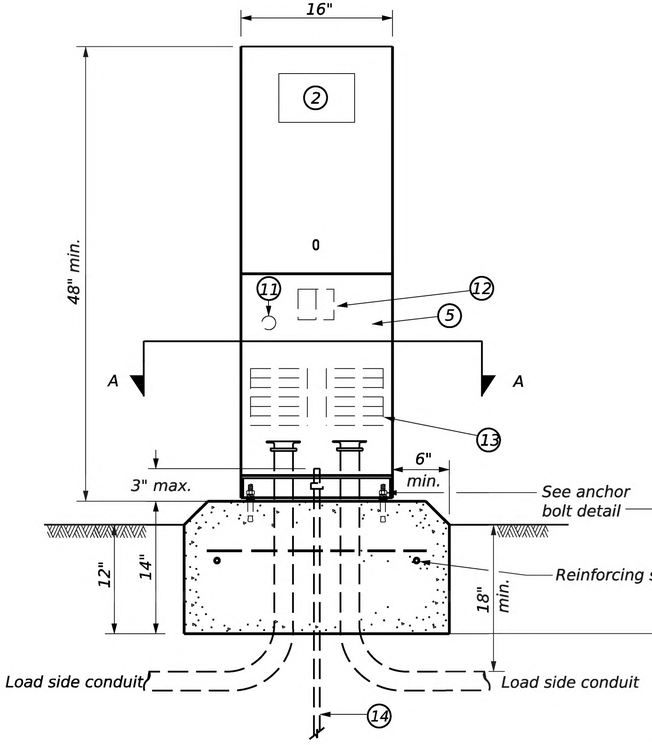
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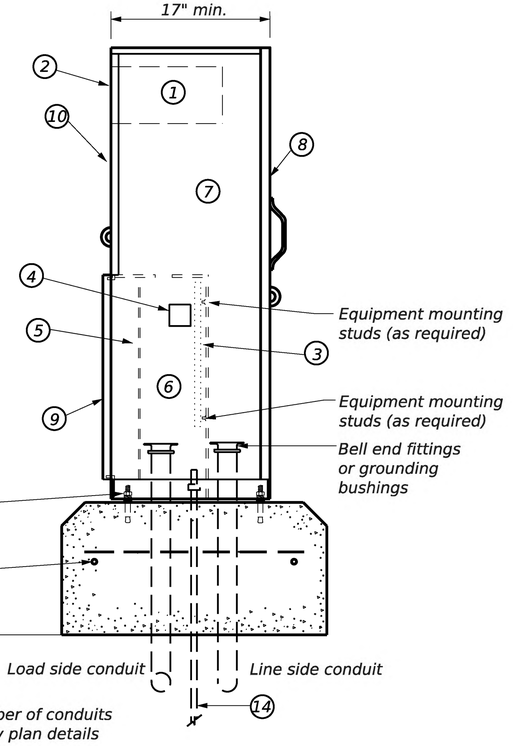
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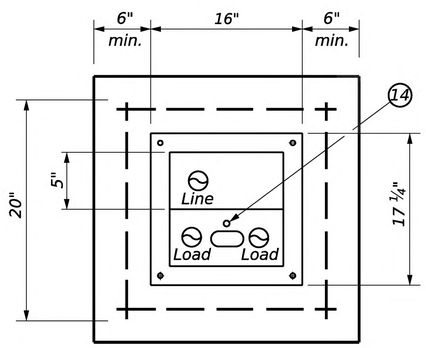


SIDE VIEW

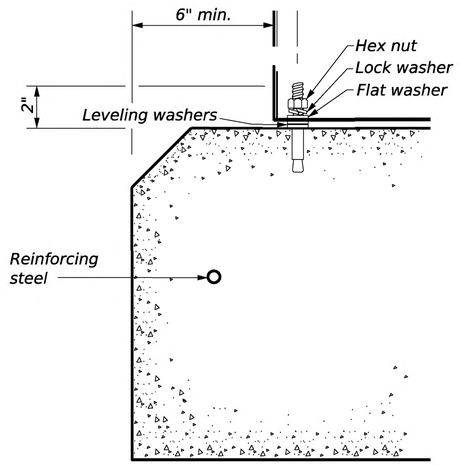


NOTE: Type D shown, Type A similar except that Type A shall have circuit breakers (CB) mounted on an equipment mounting panel. CB handles shall protrude through hinged deadfront trim.

SECTION A-A



ANCHOR BOLT DETAIL



DETAIL CALLOUTS:

1. Meter socket (when required)
2. Meter socket window (when required)
3. Equipment mounting panel
4. Photoelectric control window (when required)
5. Hinged deadfront trim
6. Load side conduit area
7. Line side conduit area
8. Utility access door, with handle
9. Pedestal door
10. Hinged meter access
11. Control station (H-O-A switch)
12. Main disconnect
13. Branch circuit breakers
14. Copper clad ground rod (in load side of cabinet) - 5/8" x 10'

NOTES:

1. *Manufacture pedestal electrical services in accordance with Departmental Material Specifications DMS-11080, "Electrical Services," DMS-11085, "Electrical Services-Pedestal (PS)" and Item 628, "Electrical Services." Provide pedestal electrical services listed on the Material Producer list (MPL) under "Roadway Illumination and Electrical Supplies," Item 628. Ensure all mounting hardware and installation details of services meet utility company specifications. Contact the local utility company for approval of pedestal details prior to installing the electrical pedestal service. Submit any changes required by the utility company prior to manufacturing the pedestal enclosure.*
2. *When a meter socket is required, provide a socket with a 100 amp (minimum) rating that complies with local utility requirements.*
3. *Provide concrete for pedestal service foundations in accordance with Item 656, "Foundations for Traffic Control Devices" except that concrete will not be paid for directly but is considered subsidiary to Item 628.*
4. *Provide #4 reinforcing steel for foundations in accordance with Item 440, "Reinforcement for Concrete."*
5. *Install ½ in. X 2 1/16 in. minimum length concrete single expansion type anchors for mounting pedestal enclosure to foundation. Match anchor location to mounting holes in each corner of enclosure. Secure each of the four corners of the pedestal enclosure to the anchors in the foundation with a ½ in. galvanized or stainless steel machine thread bolt, a properly sized locknut and a flat washer.*
6. *Finish top of concrete foundation in a professional and skillful manner. If leveling washers are used, ensure no more than ⅛ in. of gap exists at any corner. Do not exceed a maximum dip or rise in the foundation of ⅛ in. per foot. Ensure the top of the service enclosure is level front to back and side to side within ¼ in. Repair rocking or movement of the service enclosure at no additional cost to the Department.*
7. *Do not use liquidtight flexible metal conduit (LFMC) on pedestal services.*
8. *Ensure all elbows in the foundation are sized to meet utility provider's conduit requirements for underground conduit and feeders. PVC conduit extensions may be installed provided the ends of the rigid metal conduits are more than 2 in. below the top of the concrete foundation. Where extension conduits are metal, grounding bushings must be installed with a properly terminated bonding jumper.*

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS
PEDESTAL SERVICE TYPE PS

ED(9)-25

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GENERAL NOTES:

1. For overhead services, install a one point rack or eye bolt bracket 6 in. to 12 in. below the weatherhead as a service drop anchoring point for the electric utility. Attaching bolt must pass through the pole and use a nut, washer, and locking washer on the other side. Self-tapping screws or lag bolts are not permitted.
2. Identify service entrance conductors red, white, and black as specified in ED(3), Electrical Conductors, Note A.2. Provide 1.5 ft. to 3 ft. of conductor length as required by electric utility.
3. Install Type A and Type C services so that the center of the grip of the service's external disconnect handle in the on position is no more than 6 ft. 7 in. above grade.

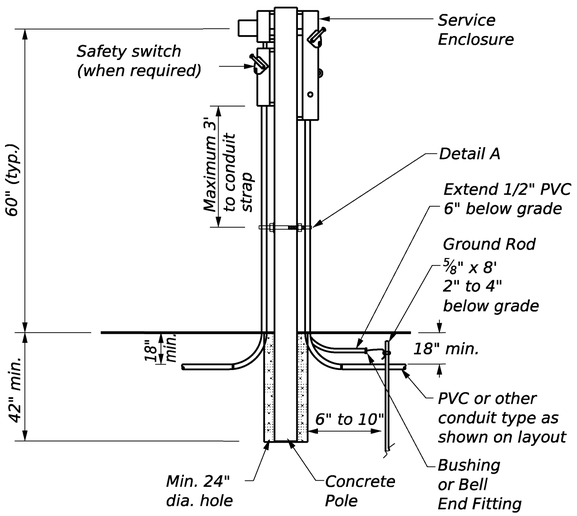
GRANITE CONCRETE (GC) & OTHER CONCRETE (OC) SERVICE NOTES

1. Ensure electrical service support structures bid as type Granite Concrete (GC) or Other Concrete (OC) meet the requirements of DMS-11080, "Electrical Services."
2. Provide prestressed concrete poles suitable for direct embedment into the ground without special foundations.
3. Verify poles are marked as required on DMS-11080. Location of marking should be approximately 4 ft. above final grade. Use the two-point pickup locations when handling pole in horizontal position, and one-point pickup location for use in raising the pole to a vertical position. These marks are small but conspicuous.
4. Embed poles 42 in. or 10% of the length plus 2 ft., whichever is greater.
5. Furnish and install galvanized or stainless steel channel strut 1 ½ in. or 1 ⅝ in. wide by 1 in. up to 3 ¾ in. deep (Unistrut, Kindorf, B-line or equal). Attach channel strut with stainless steel concrete anchors (max. 1 in. depth), square U-bolts or back to back channel strut with long bolts, or other secure mounting as approved by the Engineer. Ensure bolts are galvanized in accordance with ASTM A153. Do not stack channel struts.

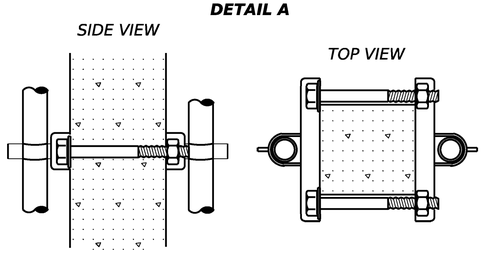
TIMBER POLE (TP) SERVICE NOTES

1. Ensure electrical service support is a class 5 treated timber pole as per Item 627, "Treated Timber Poles." Embed timber pole to depth required in Item 627.
2. Gain pole as required to provide flat surface for each channel. Gain timber pole to ⅝ in. max. depth and 1 ⅞ in. max. height. Gain pole in a professional and skillful manner.
3. Mount meter and service equipment on stainless steel or galvanized channel (Unistrut, Kindorf, or equal). Provide channel sized 1 in. to 3 ¾ in. maximum depth, and 1 ½ in. to 1 ⅝ in. maximum width. File smooth the cut ends of galvanized channel and paint with zinc rich paint before installing on pole. Secure each channel section to timber pole with two galvanized or stainless steel lag bolts, ¼ in. minimum diameter by 1 ½ in. minimum length. Use a galvanized or stainless steel flat washer on each lag bolt. Do not stack channel.
4. When excess length must be trimmed from poles, trim from the top end only.
5. Install point of attachment below weatherhead.

TYPES GC(U) & OC(U)
UNDERGROUND SERVICE

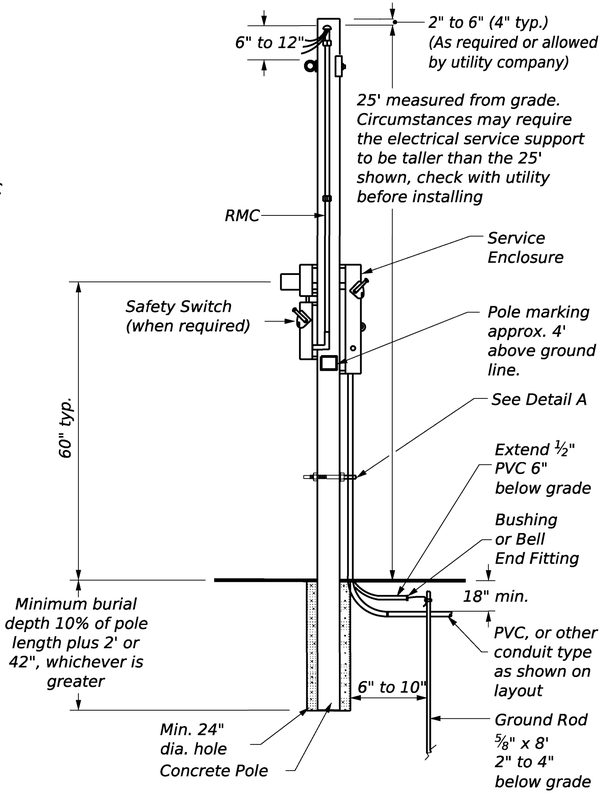


DETAIL A

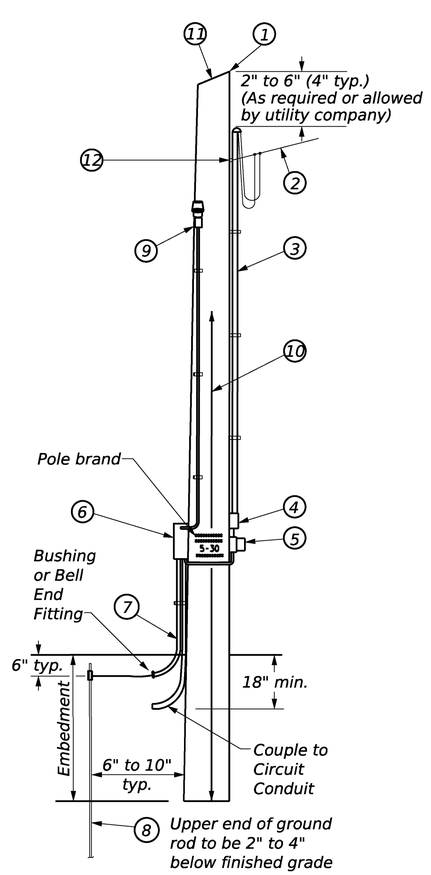


See GC & OC Note 5. Before installing channel that has been cut, file sharp edges and paint with zinc-rich paint. Ensure there is no paint splatter on the pole.

TYPES GC(O) & OC(O)
OVERHEAD SERVICE



TYPE TP(O)
OVERHEAD SERVICE



DETAIL CALLOUTS:

1. Class 5 pole, height as required
2. Service drop from utility company (attached below weatherhead)
3. Service conduit (RMC) and service entrance conductors - one red, one black, one white (see Electrical Service Data)
4. Safety switch (when required)
5. Meter (when required)
6. Service enclosure
7. 6 AWG solid bare copper grounding electrode conductor in ½ in. PVC to ground rod - extend conduit 6 in. underground.
8. ⅝ in. x 8 ft. copper clad ground rod - drive ground rod to a depth of 2 in. to 4 in. below grade.
9. See pole-top mounted photocell detail on ED(5).
10. When required by the serving utility provide bare 6 AWG copper conductor. Run wire from pole top to butt wrap or copper butt plate. Protect conductor with non-conductive material to a height of 8 ft. above finished grade.
11. When required by utility, cut top of pole at an angle to enhance rain run off.
12. Point of attachment (typ.)

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS SERVICE SUPPORT TYPES GC, OC, & TP

ED(10)-25

FILE: ed10-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS 4-98 10-14 12-00 4-25 3-03	DIST	COUNTY		SHEET NO. 95

71K

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DATE:
FILE:

NOTES:

1. Provide duct cable in accordance with Departmental Material Specification DMS-11060, "Duct Cable" and Special Specification 6000, "Duct Cable." Provide duct cable as listed on the Material Producer List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Special Specification 6000 - Duct Cable. Provide and install duct cable according to NEC Article 354, Nonmetallic Underground Conduit with Conductors (NUCC).

2. Provide High-Density Polyethylene (HDPE) conduit in accordance with DMS-11030 and Item 618, "Conduit." Provide HDPE as listed on the MPL on the Department web site under "Roadway Illumination and Electrical Supplies," Item 618.

3. Supply duct cable with a minimum 2 in. diameter, unless otherwise shown in the plans. Provide duct cable and HDPE conduit as shown by descriptive code or on the plans. Bend duct cable and HDPE conduit as recommended by the manufacturer, with a minimum bending radius of 26 in. for 2 in. duct. Follow manufacturers' recommendations when handling duct cable and HDPE conduit reels and during installation of duct cable and HDPE conduit.

4. Do not splice conductors within duct cable or HDPE conduit. Couple duct cable and HDPE entering a ground box or foundation to a PVC elbow. When galvanized steel rigid metal conduit (RMC) elbows are called for in the plans and any portion of the RMC elbow is buried less than 18 in. from possible contact, ground the RMC elbow.

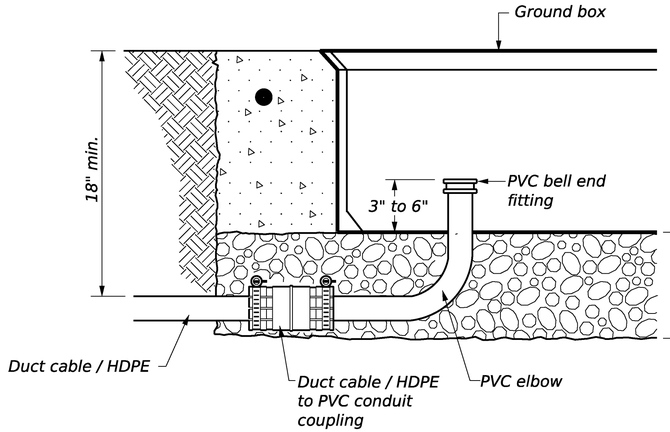
5. When conduit casing is called for in the plans, extend duct cable or HDPE conduit through the conduit casing in one continuous length without connection to the casing.

6. Seal the ends of duct cable or HDPE conduit with duct seal, expandable foam, or other approved method after installation.

7. Provide minimum cover of 24 in. under roadways, 18 in. in other locations, or as shown on the plans.

8. Furnish and install listed fittings to couple duct cable or HDPE conduit to other types of conduit. Duct cable and HDPE conduit may be field-threaded and spliced with PVC or RMC threaded couplings; connected with listed tie-wrap fittings; connected using listed couplings made of HDPE with stainless steel external banding clamps and locking rings; connected with approved electrofusion conduit couplings; or connected using an approved chemical fusion method using an epoxy or adhesive specifically designed for HDPE couplings and connectors. Install connectors in accordance with manufacturer's instructions. Do not use PVC glue on HDPE. Do not use water pipe fittings, or connect conduit with heat shrink tubing.

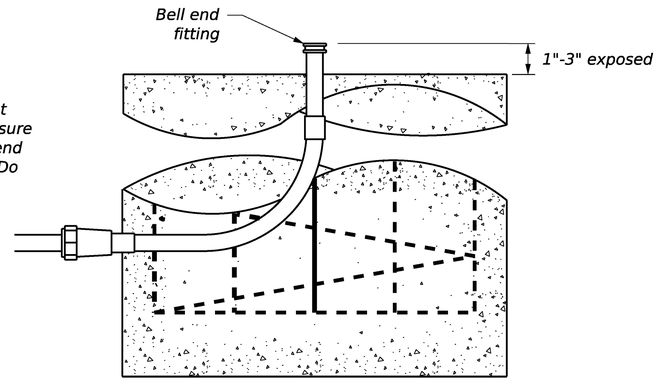
DUCT CABLE / HDPE AT GROUND BOX



When the upper end of an RMC elbow does not enter the ground box,it may be extended with a SCH-40 PVC conduit nipple and bell end, provided there is a minimum of 18 in. of cover over all parts of the elbow. If not, a rigid extension and ground bushing is required.

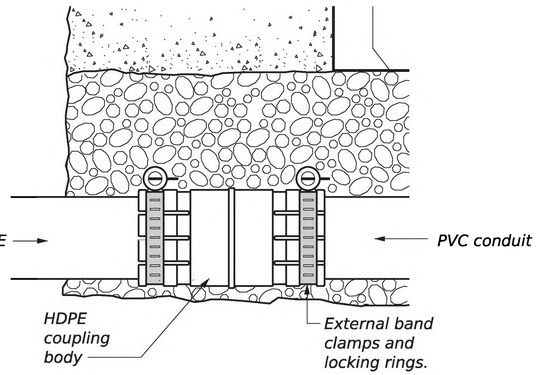
Bed of aggregate is to be a minimum of 9 in. deep, placed under and not in the ground box. Ensure the aggregate does not encroach into the interior of the box.

DUCT CABLE / HDPE AT FOUNDATION

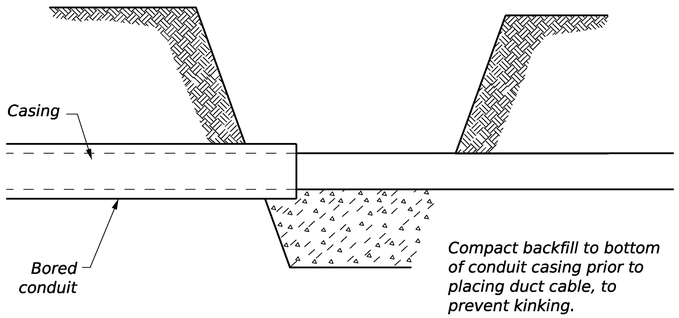


Couple duct to conduit elbow at foundations. Ensure conductors extend into pole base. Do not splice conductors in conduit.

DUCT CABLE / HDPE TO PVC



BORE PIT DETAIL



Compact backfill to bottom of conduit casing prior to placing duct cable, to prevent kinking.

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS DUCT CABLE/ HDPE CONDUIT

ED(11)-25

FILE: ed11-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS 4-98 10-14 12-00 4-25 3-03	DIST	COUNTY		SHEET NO. 96

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NOTES:

A. MATERIALS

1. Provide polymer concrete or fiberglass reinforced plastic (FRP) battery box and cover in accordance with Departmental Material Specification DMS-11071, "Battery Box Ground Boxes." Battery box will accommodate up to 4 batteries, each measuring 8 in. x 13.5 in. x 10 in. (W x L x D). Label battery box cover in accordance with DMS-11071.

2. Supply marine grade batteries with covers. Secure the batteries to the stainless steel rack in the bottom of the ground box with tie down straps.

B. CONSTRUCTION METHODS

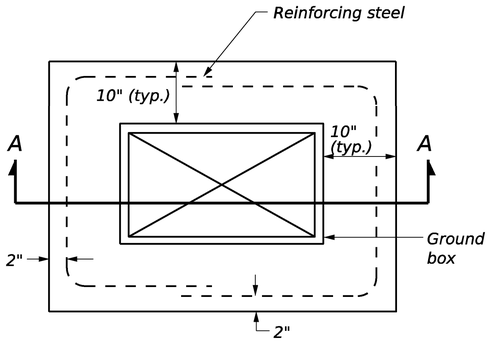
1. Ensure conduit entry will not interfere with placement of the batteries in the battery box.

2. Before setting battery box and after placing and capping conduits, lay an aggregate bed a minimum of 9 in. deep that extends 10 in. beyond the sides of the box. Provide coarse aggregate size 3/4 in. to 2 in., with no more than 20% material passing through a no. 8 sieve, and as defined by the current ASTM C33/33M standard. Clean aggregate and dirt from conduits according to Item 618.

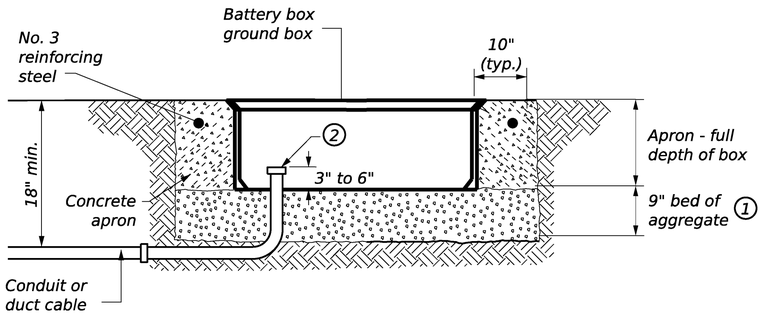
3. Cast battery box aprons in place. Reinforcing steel may be field bent. Ensure the depth of concrete for the apron extends from finished grade to the top of the aggregate bed under the box. Battery box ground box aprons, including concrete and reinforcing steel, are subsidiary to battery box ground boxes when called for by descriptive code.

4. Bolt covers down when not working in battery box ground boxes. Keep bolt holes in the box clear of dirt.

APRON FOR BATTERY BOX GROUND BOXES



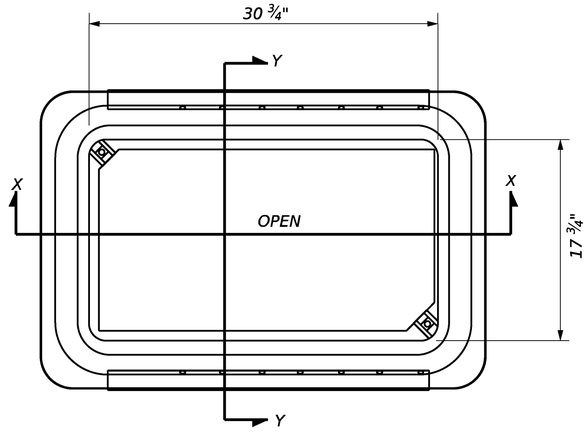
PLAN VIEW

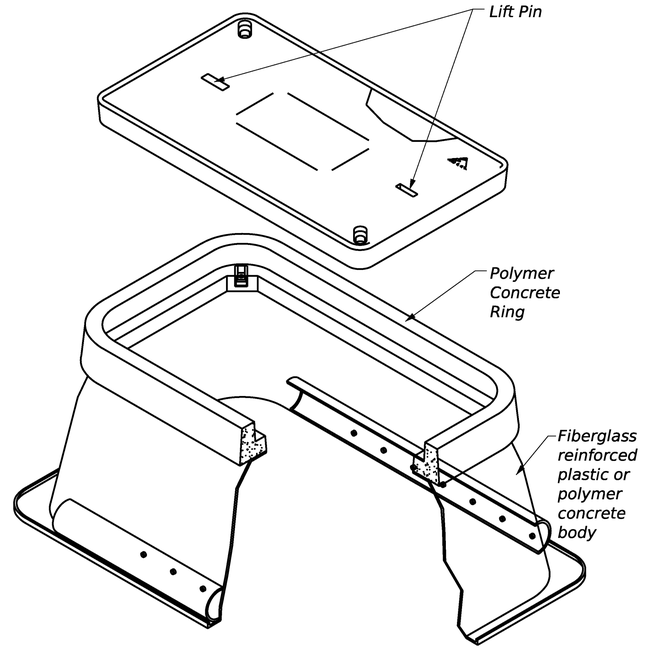


SECTION A - A

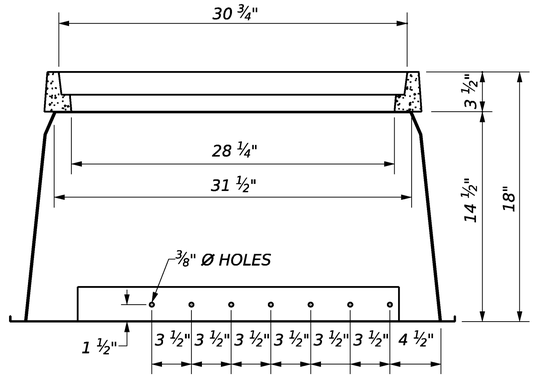
1. Place aggregate under the box and not in the box. Aggregate should not encroach on the interior volume of the box.
2. Install bushing or bell end fitting on ends of all conduit entering the box.

BATTERY BOX TOP VIEW

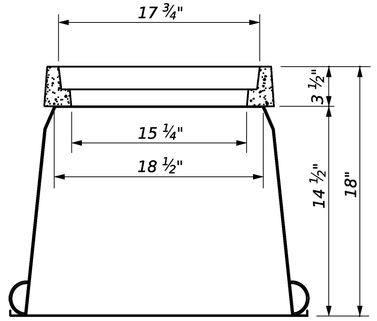




SECTION X-X



SECTION Y-Y



Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS BATTERY BOX GROUND BOXES

ED(12)-25

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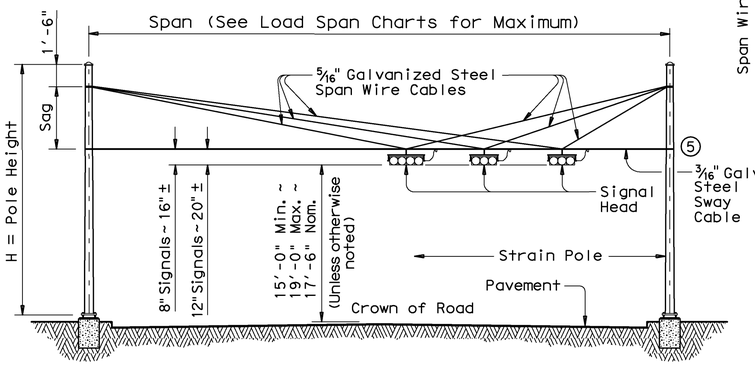
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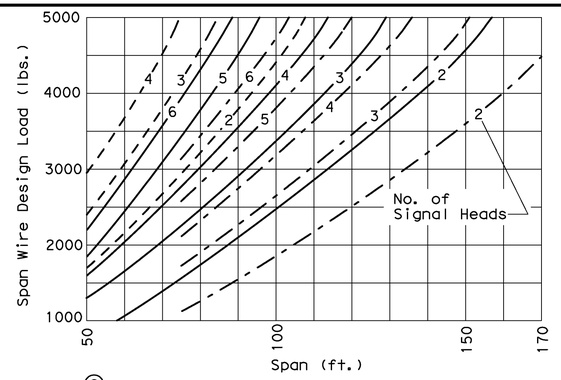
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STRAIN POLE DESCRIPTION	Pole Type	Found-ation Type	Maximum Permissible Span Wire Load (lbs.)
26′ Pole	A	36-A	4900
30′ Pole	B	36-A	4300
30′ Pole with Lum.	B	36-A	4000
30′ Pole with 20′ Mast Arm	C	36-B	4400
30′ Pole with 24′ Mast Arm	C	36-B	4000
30′ Pole with 28′ Mast Arm	C	36-B	3600
30′ Pole with 32′ Mast Arm	C	36-B	3300
30′ Pole with 36′ Mast Arm	C	36-B	2900
30′ Pole with 20′ Mast Arm & Lum.	C	36-B	4100
30′ Pole with 24′ Mast Arm & Lum.	C	36-B	3800
30′ Pole with 28′ Mast Arm & Lum.	C	36-B	3400
30′ Pole with 32′ Mast Arm & Lum.	C	36-B	3000
30′ Pole with 36′ Mast Arm & Lum.	C	36-B	2500
34′ Pole	D	36-B	5200
34′ Pole with Lum.	D	36-B	4900

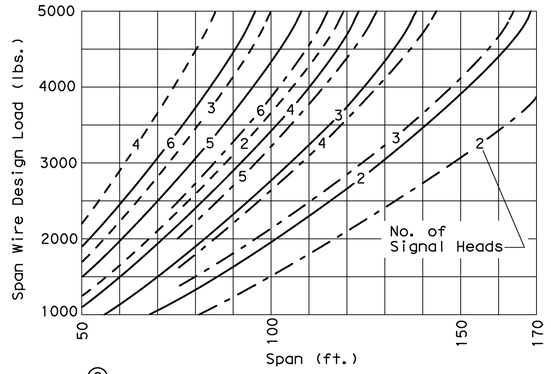
② Numbers on Load Span Charts indicate the number of signal heads on the span. The total span wire design load is based on one 5-section head and one or more additional 3-section head(s). Design wind pressures on cables are assumed as 1.6 lb/ft. Weight of span wire cables (one per signal head) is assumed as 0.65 lb/ft which includes an allowance for conductor cables and miscellaneous hardware. The effect of the sway cable on load distribution is ignored as it is assumed to break at design wind conditions. When a pole supports 2 spans, the span wire design loads for both spans should be added vectorially to determine the design load for that pole.



STRAIN POLE ELEVATIONS HORIZONTAL SIGNALS



② SIGNALS WITH 12-INCH LENS

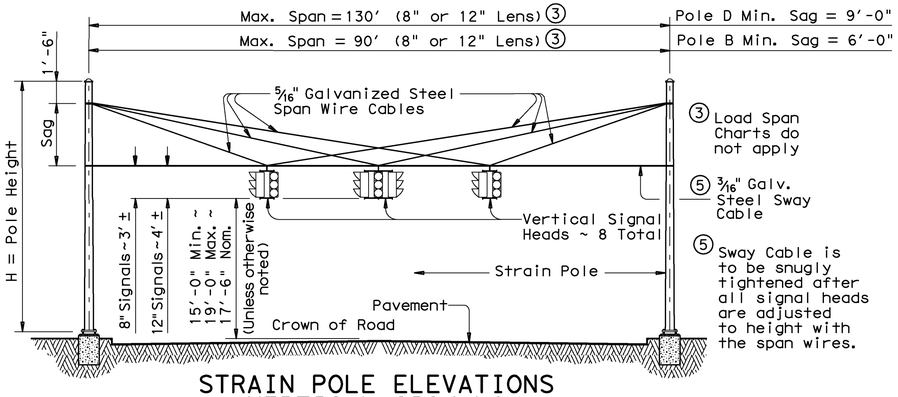


② SIGNALS WITH 8-INCH LENS

Signal Head Type	Wt. Per Head	Wind Area ◆
5-Section, 12" Lens	125 lbs	9.6 sq. ft.
5-Section, 8" Lens	70 lbs	4.8 sq. ft.
3-Section, 12" Lens	75 lbs	5.64 sq. ft.
3-Section, 8" Lens	45 lbs	3.0 sq. ft.

◆ Effective projected design wind area (actual area times drag coefficient)

- - - - - - - Sag = 4′-6" (26′ or 30′ Pole)
——————— Sag = 8′-0" (30′ or 34′ Pole)
— — — — Sag = 11′-6" (34′ Pole)



STRAIN POLE ELEVATIONS VERTICAL SIGNALS

(Mast arms are not used with vertical signals)

Pole Type	ROUND POLES D_B in.	ROUND POLES D_T in.	ROUND POLES ④thk in.	ROUND POLES H ft.	POLYGONAL POLES D_B in.	POLYGONAL POLES D_T in.	POLYGONAL POLES ④thk in.	POLYGONAL POLES H ft.
A	12.5	8.9	.239	26	13.0	9.0	.239	26
B	13.5	9.3	.239	30	14.0	9.0	.239	30
C	15.5	11.3	.239	30	16.0	11.0	.239	30
D	15.5	10.7	.239	34	16.0	11.0	.239	34

D_B = Pole Base O.D. D_T = Pole Top O.D. H = Pole Height

④ Thickness shown are minimum, thicker materials may be used.

SHIPPING PARTS LIST

Poles (Without Traffic Signal Arm)

Pole Type	Strain poles with Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap, 2 clamp-on simplex and 1 pipe plug.			Strain poles without Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap and 1 pipe plug.		
	Description	Designation	Quantity	Description	Designation	Quantity
A				26′ Strain Pole	SP 26 A-100	
B	30′ Strain Pole	SPL 30 B-100		30′ Strain Pole	SP 30 B-100	
D	34′ Strain Pole	SPL 34 D-100		34′ Strain Pole	SP 34 D-100	

Poles (With Traffic Signal Arm)

Pole Type	Strain poles with Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap, clamp-on simplex and 3 pipe plugs.			Strain poles without Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap and 3 pipe plugs.		
	Description	Designation	Quantity	Description	Designation	Quantity
C	30′ SPw/TS Arm	SPL 30 C-100		30′ SPw/TS Arm	SP 30 C-100	

Traffic Signal Arms (For Type C poles)

Nominal Arm Length	Type I Arm (1 Signal): Ship each Type I Arm with the following hardware attached: 2 CGB Connectors, 1 clamp with bolts and washers		Type II Arm (2 Signals): Ship each Type II Arm with the following hardware attached: ① 1 Bracket Assembly, 3 CGB Connectors and 1 clamp with bolts and washers		Type III Arm (3 Signals): Ship each Type III Arm with the following hardware attached: ① 2 Bracket Assemblies, 4 CGB Connectors and 1 clamp with bolts and washers	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24 II -100			
28	28I-100		28 II -100			
32			32 II -100		32 III -100	
36			36 II -100		36 III -100	

Anchor Bolt Assemblies (1 per pole)

Templates may be removed for shipment.

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
1 3/4"	3′-10"	
2"	4′-3"	

Each Anchor Bolt Assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Luminaire Arms

Nominal Arm Length	Quantity
8′ Arm	

① See Sheet "DMA-100"

SHEET 1 OF 2

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES STRAIN POLE ASSEMBLIES

(100 MPH WIND ZONE)

SP-100(1)-12

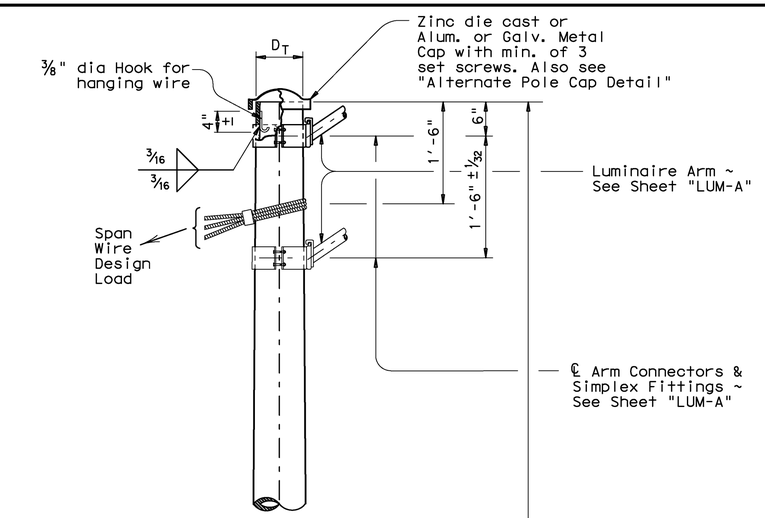
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REVISIONS: 6-96, 1-12	CONT	SECT	JOB	HIGHWAY
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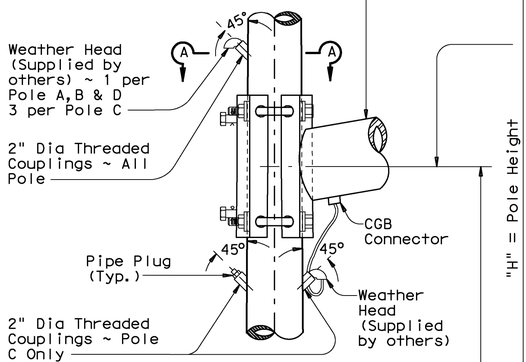
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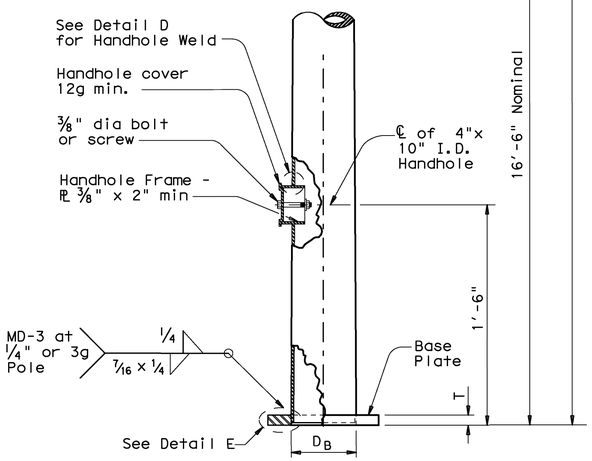
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DETAIL A

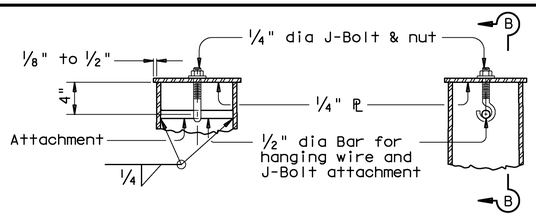


DETAIL B



DETAIL C

POLE ELEVATION



SECTION B-B

ALTERNATE POLE CAP DETAIL

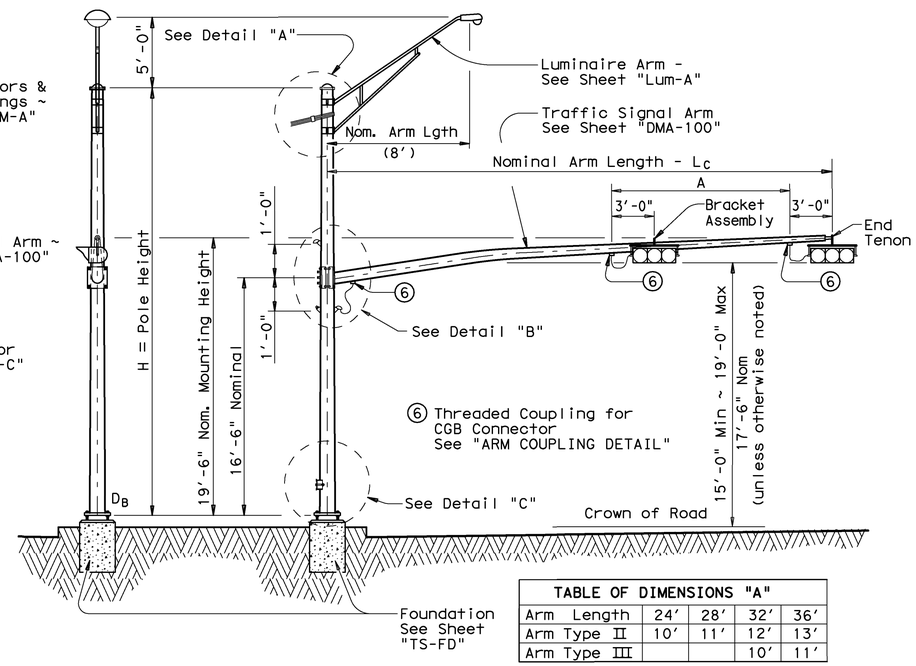
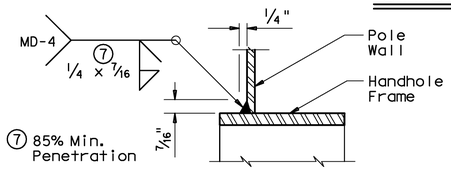
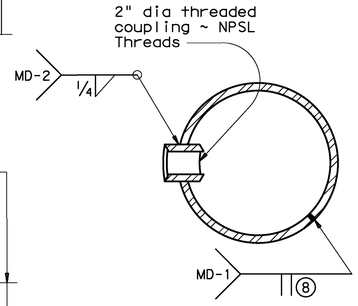


TABLE OF DIMENSIONS "A"				
Arm Length	24′	28′	32′	36′
Arm Type II	10′	11′	12′	13′
Arm Type III			10′	11′

STRUCTURE ASSEMBLY

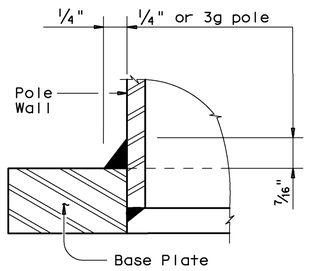


DETAIL D



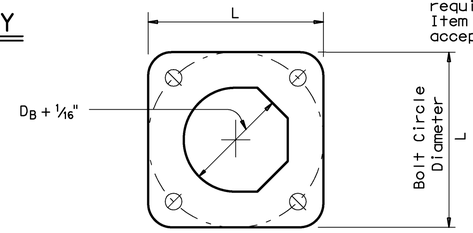
SECTION A-A

(Pole Coupling and Seam Weld Details)

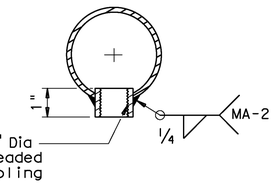


DETAIL E

⑧ 60% Min. penetration, except 100% penetration within 6" of circumferential base welds.



BASE PLATE PLAN



ARM COUPLING DETAIL

MATERIALS	
Round Shafts or Polygonal Shafts ⑨	ASTM A595 Gr.A, A588, A1008 HSLAS Gr.50 Class 2, A1011 HSLAS Gr.50 Class 2, A572 Gr.50 or A1011 SS Gr.50 ⑩
Plates ⑨	ASTM A36, A588, or A572 Gr.50
Connection Bolts	ASTM A325 except where noted
Pin Bolts	ASTM A325
Pipe ⑨	ASTM A53 Gr.B, A501, A1008 HSLAS-F Gr.50, A1011 HSLAS-F Gr.50
Steel Cable	ASTM A475, 7 Wire Utilities Grade
Misc. Hardware	Galvanized steel or stainless steel or as noted

⑨ ASTM A572, A1008 HSLAS, A1011 HSLAS, A1008 HSLAS-F, A1011 HSLAS-F, or A1011 SS may have higher yield strengths but shall not have less elongation than the grade indicated.

⑩ ASTM A1011 SS Gr.50 shall also have a minimum elongation of 18 percent in 8 inches or 23 percent in 2 inches. Material thickness in excess of those stipulated under A1011 SS will be acceptable providing the material meets all other A1011 SS requirements and the requirements of this item.

GENERAL NOTES

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 100 mph plus a 1.3 gust factor. The maximum permissible span wire design loads tabulated are calculated at a stress load of 1.4 times the basic allowable stress. A simultaneous wind on the pole, mast arm, and luminaire is also included.

See standard sheet "DMA-100" for details of clamp-on traffic signal arms, sheet "MA-C" for traffic signal arm connection details, sheet "LUM-A" for luminaire arm and connection details, and sheet "TS-FD" for anchor bolt and foundation details.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing", after fabrication.

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

Foundation Type	Anchor Bolt Diameter	Bolt Hole Diameter	Bolt Circle Diameter	Base PL Dim. L x T
36-A	1 3/4"	2"	19"	19" x 1 3/4"
36-B	2"	2 1/4"	21"	21" x 2"

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES STRAIN POLE ASSEMBLIES

(100 MPH WIND ZONE)

SP-100(2)-12

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DN: MS	CK: JSY	DW: BR	CK: JSY
REVISIONS	CONT	SECT	JOB	HIGHWAY
6-96 1-12				
	DIST	COUNTY		SHEET NO.
				99

121B

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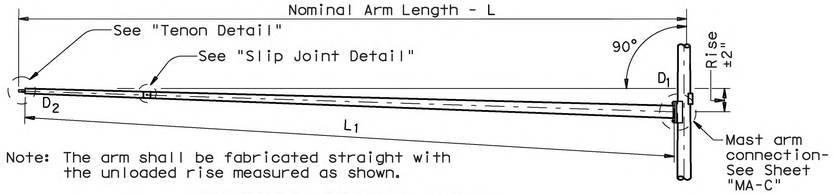
Arm Length	ROUND POLES					POLYGONAL POLES					Foundation Type
	D_B	D_{19}	D_{24}	D_{30}	① thk	D_B	D_{19}	D_{24}	D_{30}	① thk	
ft.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
20	12.0	9.3	8.6	7.8	.239	12.5	9.5	8.7	7.8	.239	36-A
24	12.0	9.3	8.6	7.8	.239	13.0	10.0	9.2	8.3	.239	36-A
28	12.0	9.3	8.6	7.8	.239	13.5	10.5	9.7	8.8	.239	36-A
32	13.0	10.3	9.6	8.8	.239	14.0	11.0	10.2	9.3	.239	36-A
36	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
40	14.0	11.3	10.6	9.8	.239	16.0	13.0	12.2	11.3	.239	36-B
44	14.5	11.8	11.1	10.3	.239	16.5	13.5	12.7	11.8	.239	36-B

Arm Length	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	① thk	Rise	L_1	D_1	② D_2	① thk	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	8.0	5.3	.179	1'-8"	19.1	8.0	3.5	.179	1'-7"
24	23.1	9.0	5.8	.179	1'-9"	23.1	9.0	3.5	.179	1'-8"
28	27.1	9.5	5.7	.179	1'-10"	27.1	10.0	3.5	.179	1'-9"
32	31.0	9.5	5.2	.239	1'-11"	31.0	9.5	3.5	.239	1'-10"
36	35.0	10.0	5.1	.239	2'-0"	35.0	10.0	3.5	.239	1'-11"
40	39.0	10.5	5.1	.239	2'-3"	39.0	11.0	3.5	.239	2'-1"
44	43.0	11.0	5.1	.239	2'-8"	43.0	11.5	4.0	.239	2'-3"

D_B = Pole Base O.D.
D_{19} = Pole Top O.D. with no Luminaire and no ILSN
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L = Nominal Arm Length

① Thickness shown are minimums, thicker materials may be used.

② D_2 may be increased by up to 1" for polygonal arms.



Note: The arm shall be fabricated straight with the unloaded rise measured as shown.

TRAFFIC SIGNAL ARM

(Fixed Mount)

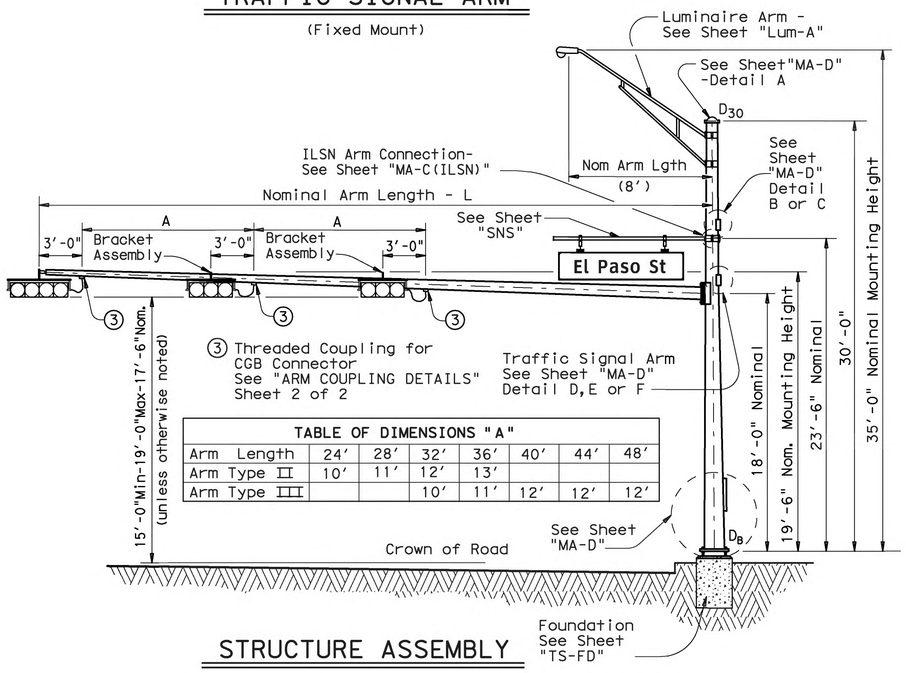


TABLE OF DIMENSIONS "A"

Arm Length	24'	28'	32'	36'	40'	44'	48'
Arm Type II	10'	11'	12'	13'			
Arm Type III			10'	11'	12'	12'	12'

STRUCTURE ASSEMBLY

SHIPPING PARTS LIST

Ship each pole with the following attached: enlarged hand hole, pole cap, fixed-arm connection bolts and washers and any additional hardware listed in the table.

Nominal Arm Length	30' Poles With Luminaire		24' Poles With ILSN		19' Poles With No Luminaire and No ILSN	
	Above hardware plus: One (or two if ILSN attached) small hand hole, clamp-on simplex		Above hardware plus one small hand hole		See note above	
ft	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20L-100	1	20S-100		20-100	
24	24L-100	3	24S-100		24-100	
28	28L-100	2	28S-100		28-100	
32	32L-100	1	32S-100		32-100	
36	36L-100	4	36S-100		36-100	
40	40L-100	1	40S-100		40-100	
44	44L-100	6	44S-100		44-100	

Traffic Signal Arms (1 per pole) Ship each arm with the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal)		Type II Arm (2 Signals)		Type III Arm (3 Signals)	
	1 CGB connector		1 Bracket Assembly and 2 CGB Connectors		2 Bracket Assemblies and 3 CGB Connectors	
ft	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100	1				
24	24I-100		24II-100	3		
28	28I-100		28II-100	2		
32			32II-100	1	32III-100	
36			36II-100	3	36III-100	1
40					40III-100	1
44					44III-100	6

Luminaire Arms (1 per 30' pole)

Nominal Arm Length	Quantity
8' Arm	19

ILSN Arm (Max. 2 per pole) Ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7' Arm	8
9' Arm	12

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
1 ½"	3'-4"	
1 ¾"	3'-10"	11
2"	4'-3"	7

Each anchor bolt assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Templates may be removed for shipment.

SHEET 1 OF 2

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER

F-14592

3/20/2026

Keti Hristova

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES

SINGLE MAST ARM ASSEMBLY (100 MPH WIND ZONE)

SMA-100(1)-12

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REVISIONS
5-96
11-99
1-12

CONT	SECT	JOB	HIGHWAY

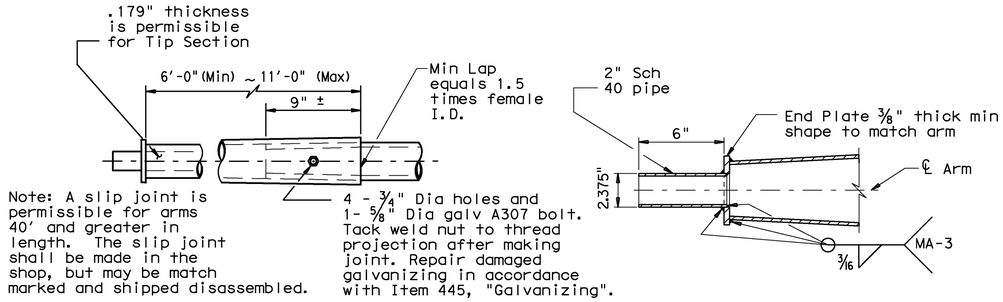
DIST	COUNTY	SHEET NO.
		100

123A

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SLIP JOINT DETAIL

TENON DETAIL

VIBRATION WARNING

Mast Arms of SMA and DMA structures and clamp-on Arms of LMA structures of approximately 40 ft or longer are subject to harmonic vertical vibrations in light wind conditions due to the aeroelastic characteristics of a few of the myriads of possible combinations of the following: signal numbers, weights and positions; existence/solidity of backplates; presence of additional attachments to the arm, such as signs and cameras; arm-wind orientation; and arm-pole stiffness.

Such vibrations may cause fatigue damage to the structure and may lead to galloping in moderate wind conditions which may further damage the structure and alarm the public. Tests have indicated that when wind is blowing toward the back side of signal heads having un-vented backplates attached the probability of unacceptable harmonic vibration and/or galloping is rather high.

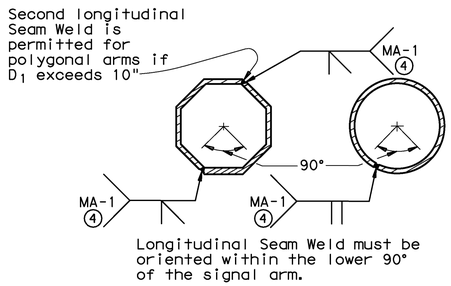
If backplates are not required for improved visibility they should not be applied to the signal heads or, if they must be applied, they should be vented as a first and inexpensive measure to mitigate vibrations.

The traffic signal mast arms shall be visually inspected in 5 to 20 mph wind conditions after installation of signal heads and any attachments, including any required backpates. If vertical movements with a total excursion (maximum upward excursion to maximum downward excursion) of more than approximately 8" are observed at the arm tip, a damping plate shall be fitted to the arm. See "Damping Plate Mounting Details" on standard sheet, MA-DPD-10.

This visual inspection shall be repeated after each modification of the structure that could affect its aeroelastic response. Excessive vibrations shall not be allowed to continue for more than two days.

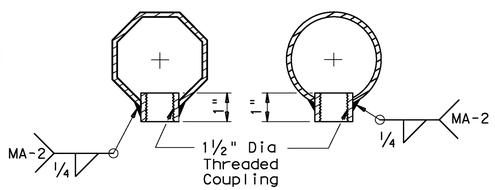
Stainless steel bands (or Cables) and cast bracket as in "Astro-Brac", "Sky Bracket" or "Easy Bracket" with 1 ½" Dia Threaded Coupling.

BRACKET ASSEMBLY



ARM WELD DETAIL

④ 60% Min. penetration
100% pemetration within 6" of circumferential base welds.



ARM COUPLING DETAILS

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 100 mph plus a 1.3 gust factor.

Poles are designed to support one 8'-0" luminaire arm, one 9'-0" internally lighted street name sign and one traffic signal arm with a length as tabulated. The specified luminaire load applied at the end of the luminaire arm equals 60 lbs vertical dead load plus the horizontal wind load on an effective projected area of 1.6 sq ft. The specified internally lighted street name sign load applied 4.5 ft from the centerline of the pole equals 85 lbs vertical dead load plus horizontal wind load on an effective projected area of 11.5 sq ft. The specified signal load applied at the end of the traffic signal arm equals 180 lbs vertical dead load plus the horizontal wind load on an effective projected area of 32.4 sq ft (actual area times drag coefficient).

See Standard Sheet "MA-D" for pole details, "MA-C" for traffic signal arm connection details, "MA-C (ILSN)" for internally lighted street name sign arm connection details, "LUM-A" for luminaire arm and connection details, "SNS" for internally lighted street name sign details, and "TS-FD" for anchor bolt and foundation details. See "MA-C" for material specifications.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing", after fabrication.

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES

SINGLE MAST ARM ASSEMBLY

(100 MPH WIND ZONE)

SMA-100(2)-12

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1-12

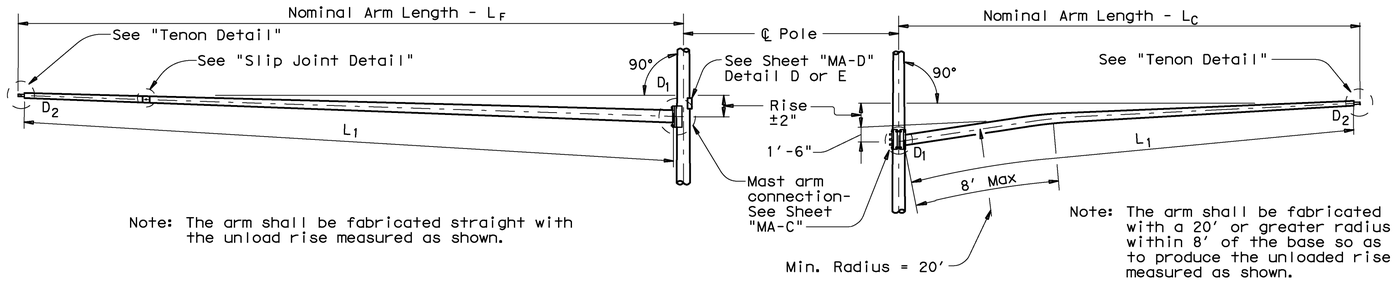
CONT	SECT	JOB	HIGHWAY

DIST	COUNTY	SHEET NO.
		101

123B

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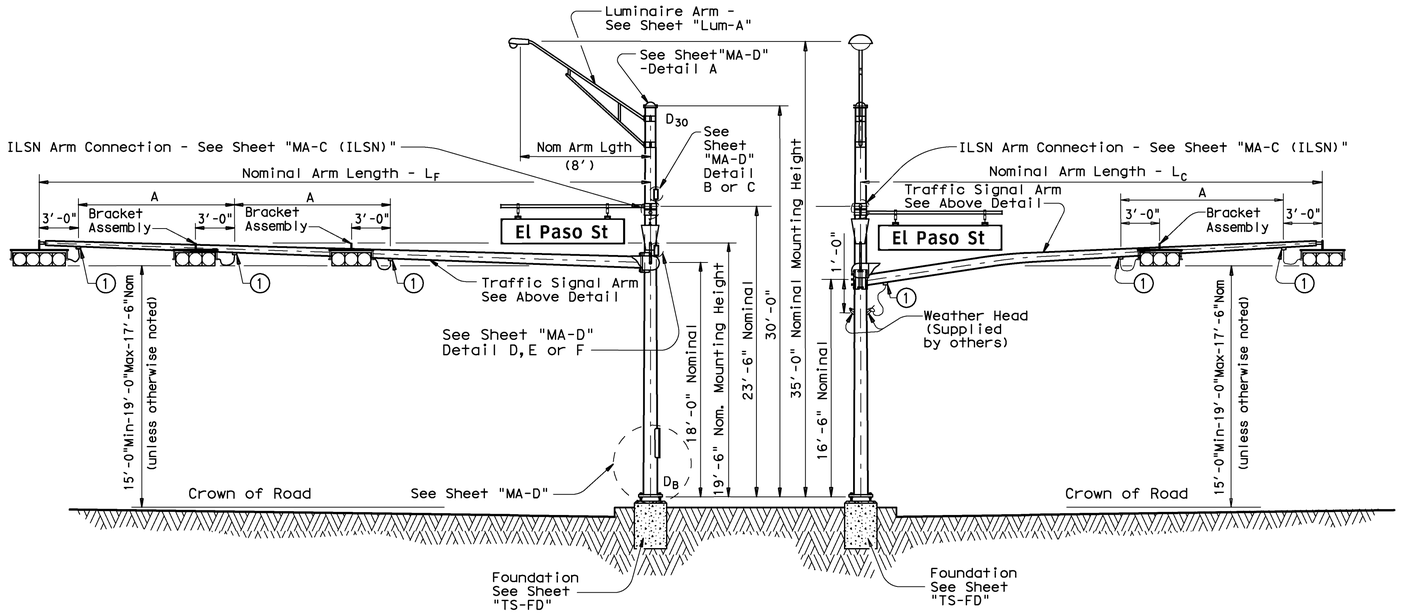


Note: The arm shall be fabricated straight with the unload rise measured as shown.

Note: The arm shall be fabricated with a 20' or greater radius within 8' of the base so as to produce the unloaded rise measured as shown.

FIXED MOUNT TRAFFIC SIGNAL ARM

CLAMP-ON TRAFFIC SIGNAL ARM



ELEVATION

(Showing fixed mount arm)

STRUCTURE ASSEMBLY

① Threaded Coupling for CGB Connector See "ARM COUPLING DETAILS" Sheet 2 of 3

ELEVATION

(Showing clamp mount arm)

TABLE OF DIMENSIONS "A"						
Arm Length	24'	28'	32'	36'	40'	44'
Arm Type II	10'	11'	12'	13'		
Arm Type III			10'	11'	12'	12'

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 100 mph plus a 1.3 gust factor. Designs are based on an arm included angle of 90 degrees or more. Angles of less than approximately 75 degrees will require a special design.

Poles are designed to support one 8'-0" luminaire arm, two 9'-0" internally lighted street name signs and two traffic signal arms with length combinations as tabulated. The specified luminaire load applied at the end of luminaire arm equals 60 lbs vertical dead load plus the horizontal wind load on an effective projected area of 1.6 sq ft. The specified internally lighted street name sign applied 4'-6" from the centerline of the pole equals 85 lbs vertical dead load plus the horizontal wind load on an effective projected area of 11.5 sq ft. The specified signal load applied at the end of the traffic signal arm equals 180 lbs vertical dead load plus the horizontal wind load on an effective projected area of 32.4 sq ft (actual area times drag coefficient).

See Standard Sheet "MA-D" for pole details, "MA-C" for traffic signal arm connection details, "MA-C (ILSN)" for internally lighted street name sign arm connection details, "LUM-A" for luminaire arm and connection details, "SNS" for internally lighted street name sign details, and "TS-FD" for anchor bolt and foundation details. See "MA-C" for material specifications.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing", after fabrication.

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
DUAL MAST ARM ASSEMBLY
(100 MPH WIND ZONE)
DMA-100 (1)-12

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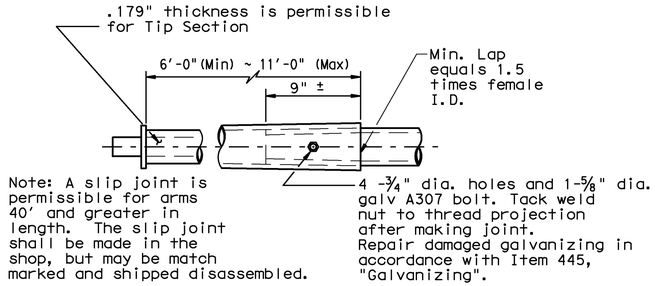
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REVISIONS	CONT	SECT	JOB	HIGHWAY
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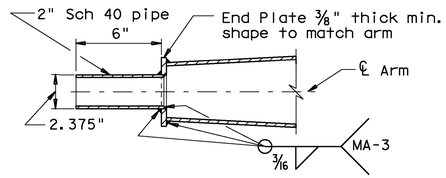
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		102

125A

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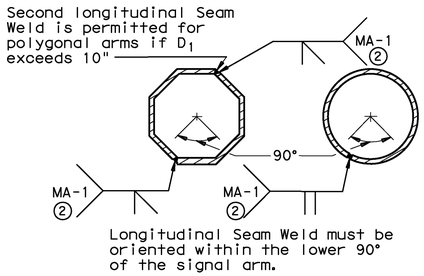
SLIP JOINT DETAIL



TENON DETAIL

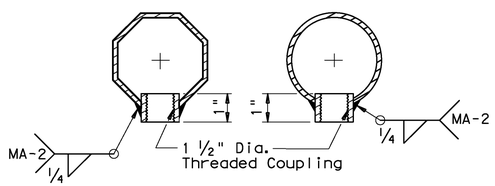
Stainless steel bands (or Cables) and cast bracket as in "Astro-Brac", "Sky Bracket" or "Easy Bracket" with 1 ½" Dia Threaded Coupling.

BRACKET ASSEMBLY



ARM WELD DETAIL

②60% Min. penetration
100% pemetration within 6" of circumferential base welds.



ARM COUPLING DETAILS

VIBRATION WARNING

Mast Arms of SMA and DMA structures and clamp-on Arms of LMA structures of approximately 40 ft or longer are subject to harmonic vertical vibrations in light wind conditions due to the aeroelastic characteristics of a few of the myriads of possible combinations of the following: signal numbers, weights and positions; existence/solidity of backplates; presence of additional attachments to the arm, such as signs and cameras; arm-wind orientation; and arm-pole stiffness.

Such vibrations may cause fatigue damage to the structure and may lead to galloping in moderate wind conditions which may further damage the structure and alarm the public. Tests have indicated that when wind is blowing toward the back side of signal heads having un-vented backplates attached the probability of unacceptable harmonic vibration and/or galloping is rather high.

If backplates are not required for improved visibility they should not be applied to the signal heads or, if they must be applied, they should be vented as a first and inexpensive measure to mitigate vibrations.

The traffic signal mast arms shall be visually inspected in 5 to 20 mph wind conditions after installation of signal heads and any attachments, including any required backpates. If vertical movements with a total excursion (maximum upward excursion to maximum downward excursion) of more than approximately 8" are observed at the arm tip, a damping plate shall be fitted to the arm. See "Damping Plate Mounting Details" on standard sheet, MA-DPD-10.

This visual inspection shall be repeated after each modification of the structure that could affect its aeroelastic response. Excessive vibrations shall not be allowed to continue for more than two days.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
DUAL MAST ARM ASSEMBLY
(100 MPH WIND ZONE)
DMA-100 (2)-12

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05-96				
1-12	DIST	COUNTY		SHEET NO.
				103

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125B

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SHIPPING PARTS LIST

Ship each pole with the following attached: enlarged hand hole, pole cap, fixed arm connection bolts and washers and any additional hardware listed in the table.

Nominal Arm Length		30′ Poles With Luminaire		24′ Poles With ILSN		19′ Poles With no Luminaire and no ILSN	
		See note above plus: one (or two if ILSN attached) small hand hole, clamp-on simplex		See note above plus one small hand hole		See note above	
LF ft.	Lc ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20	2020L-100		2020S-100		2020-100	
24	20	2420L-100		2420S-100		2420-100	
	24	2424L-100		2424S-100		2424-100	
28	20	2820L-100		2820S-100		2820-100	
	24	2824L-100		2824S-100		2824-100	
	28	2828L-100		2828S-100		2828-100	
32	20	3220L-100		3220S-100		3220-100	
	24	3224L-100		3224S-100		3224-100	
	28	3228L-100		3228S-100		3228-100	
	32	3232L-100		3232S-100		3232-100	
36	20	3620L-100		3620S-100		3620-100	
	24	3624L-100		3624S-100		3624-100	
	28	3628L-100		3628S-100		3628-100	
	32	3632L-100		3632S-100		3632-100	
	36	3636L-100		3636S-100		3636-100	
40	20	4020L-100		4020S-100		4020-100	
	24	4024L-100		4024S-100		4024-100	
	28	4028L-100		4028S-100		4028-100	
	32	4032L-100		4032S-100		4032-100	
	36	4036L-100		4036S-100		4036-100	
44	20	4420L-100		4420S-100		4420-100	
	24	4424L-100		4424S-100		4424-100	
	28	4428L-100		4428S-100		4428-100	
	32	4432L-100		4432S-100		4432-100	
	36	4436L-100		4436S-100		4436-100	

Traffic Signal Arms (Fixed Mount) (1 per pole) Ship each arm w/ the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal) 1 CGB connector		Type II Arm (2 Signals) 1 Bracket Assembly and 2 CGB Connectors		Type III Arm (3 Signals) 2 Bracket Assemblies and 3 CGB Connectors	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100			
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100		36III-100	
40					40III-100	
44					44III-100	

Traffic Signal Arms (Clamp-On Mount) (1 per pole) Ship each arm w/ the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal) 2 CGB connector and 1 clamp w/bolts and washers		Type II Arm (2 Signals) 1 Bracket Assembly, 3 CGB Connectors, and 1 clamp w/bolts and washers		Type III Arm (3 Signals) 2 Bracket Assembly, 4 CGB Connectors, and 1 clamp w/bolts and washers	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100			
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100		36III-100	

Luminaire Arms (1 per 30′ pole)

Nominal Arm Length	Quantity
8′ Arm	

ILSN Arm (1 or 2 per pole) ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7′ Arm	
9′ Arm	

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
1 ¾"	3′-10"	
2"	4′-3"	
2 ¼"	4′-9"	

Each anchor bolt assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Templates may be removed for shipment.

ARMS		ROUND POLES					POLYGONAL POLES					Foundation Type
LF	Lc	D_B	D_{19}	D_{24}	D_{30}	③ thk	D_B	D_{19}	D_{24}	D_{30}	③ thk	
ft.	ft.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
20	20	12.0	9.3	8.6	7.8	.239	13.5	10.5	9.7	8.8	.239	36-A
24	20	12.5	9.8	9.1	8.3	.239	13.5	10.5	9.7	8.8	.239	36-A
	24	12.5	9.8	9.1	8.3	.239	14.0	11.0	10.2	9.3	.239	36-A
28	20	13.0	10.3	9.6	8.8	.239	14.5	11.5	10.7	9.8	.239	36-A
	24	13.0	10.3	9.6	8.8	.239	15.0	12.0	11.2	10.3	.239	36-A
	28	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
32	20	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
	24	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
	28	14.0	11.3	10.6	9.8	.239	15.5	12.5	11.7	10.8	.239	36-B
	32	14.0	11.3	10.6	9.8	.239	15.5	12.5	11.7	10.8	.239	36-B
36	20	14.0	11.3	10.6	9.8	.239	15.5	12.5	11.7	10.8	.239	36-B
	24	14.0	11.3	10.6	9.8	.239	16.0	13.0	12.2	11.3	.239	36-B
	28	14.5	11.8	11.1	10.3	.239	16.0	13.0	12.2	11.3	.239	36-B
	32	14.5	11.8	11.1	10.3	.239	16.0	13.0	12.2	11.3	.239	36-B
	36	14.5	11.8	11.1	10.3	.239	16.5	13.5	12.7	11.8	.239	36-B
40	20	14.5	11.8	11.1	10.3	.239	16.5	13.5	12.7	11.8	.239	36-B
	24	15.0	12.3	11.6	10.8	.239	16.5	13.5	12.7	11.8	.239	36-B
	28	15.0	12.3	11.6	10.8	.239	17.0	14.0	13.2	12.3	.239	42-A
	32	15.0	12.3	11.6	10.8	.239	17.0	14.0	13.2	12.3	.239	42-A
	36	15.5	12.8	12.1	11.3	.239	17.5	14.5	13.7	12.8	.239	42-A
44	20	15.5	12.8	12.1	11.3	.239	17.5	14.5	13.7	12.8	.239	42-A
	24	15.5	12.8	12.1	11.3	.239	17.5	14.5	13.7	12.8	.239	42-A
	28	16.0	13.3	12.6	11.8	.239	18.0	15.0	14.2	13.3	.239	42-A
	32	16.0	13.3	12.6	11.8	.239	18.0	15.0	14.2	13.3	.239	42-A
	36	16.0	13.3	12.6	11.8	.239	18.0	15.0	14.2	13.3	.239	42-A

Arm L_F or L_C	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	③ thk	Rise	L_1	D_1	④ D_2	③ thk	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	8.0	5.3	.179	1′-8"	19.1	8.0	3.5	.179	1′-7"
24	23.1	9.0	5.8	.179	1′-9"	23.1	9.0	3.5	.179	1′-8"
28	27.1	9.5	5.7	.179	1′-10"	27.1	10.0	3.5	.179	1′-9"
32	31.0	9.5	5.2	.239	1′-11"	31.0	9.5	3.5	.239	1′-10"
36	35.0	10.0	5.1	.239	2′-0"	35.0	10.0	3.5	.239	1′-11"
40	39.0	10.5	5.1	.239	2′-3"	39.0	11.0	3.5	.239	2′-1"
44	43.0	11.0	5.1	.239	2′-8"	43.0	11.5	4.0	.239	2′-3"

D_B = Pole Base O.D.
D_{19} = Pole Top O.D. with no Luminaire and no ILSN
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L_F = Fixed Arm Length
L_C = Clamp-on Arm Length (36′ Max)

③ Thickness shown are minimums, thicker materials may be used.

④ D_2 may be increased by up to 1.0" for polygonal arms.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
DUAL MAST ARM ASSEMBLY
(100 MPH WIND ZONE)
DMA-100 (3)-12

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DN: MS	CK: JSY	DW: MMF	CK: JSY

REVISIONS
5-96
1-12

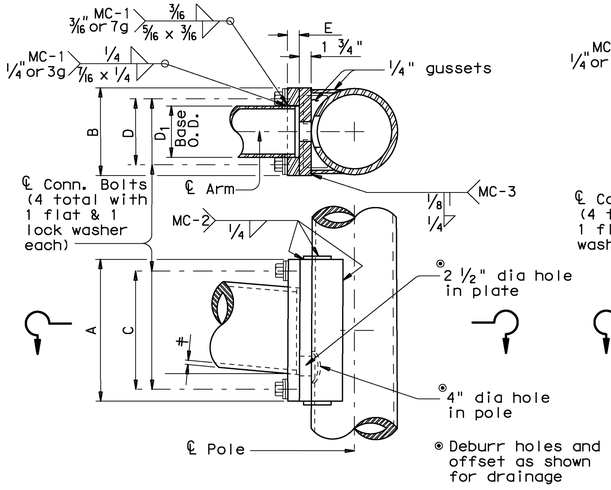
CONT	SECT	JOB	HIGHWAY
DIST	COUNTY		SHEET NO.
			104

125C

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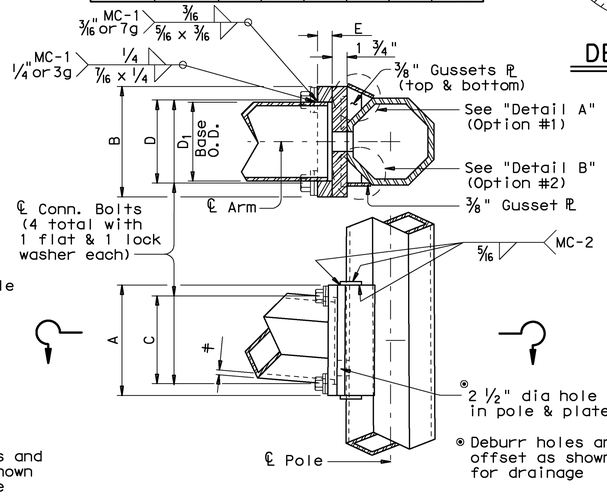
ARM SIZE D_1	ARM SIZE ǂ	A	B	C	D	E	CONN BOLT DIA
in.	in.	in.	in.	in.	in.	in.	in.
6.5	.179	12	9	9	6	1 ¾	1
7.5	.179	13	9	10	6	1 ¾	1
8.0	.179	14	10	11	7	2	1 ¼
9.0	.179	16	11	13	8	2	1 ¼
9.5	.179	17	12	14	9	2	1 ¼
9.5	.239	18	12	15	9	2	1 ¼
10.0	.239	18	12	15	9	2	1 ¼
10.5	.239	18	13	15	10	3	1 ½
11.0	.239	18	13	15	10	3	1 ½



FIXED MOUNT DETAIL 1

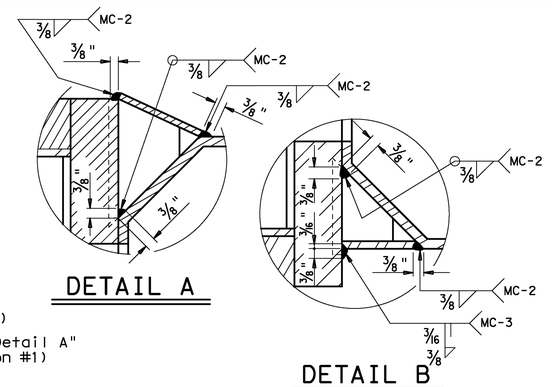
ARM SIZE D_1	ARM SIZE ǂ	A	F	CONN. BOLTS No.	CONN. BOLTS Dia	PIN BOLTS No.	PIN BOLTS Dia
in.	in.	in.	in.	ea.	in.	ea.	in.
6.5	.179	12	6	4	1	2	⅝
7.5	.179	14	8	4	1	2	⅝
8.0	.179	14	8	4	1	2	⅝
9.0	.179	16	10	4	1	2	⅝
9.5	.179	18	12	4	1 ¼	3	⅝
9.5	.239	18	12	4	1 ¼	3	⅝
10.0	.239	18	12	4	1 ¼	3	⅝

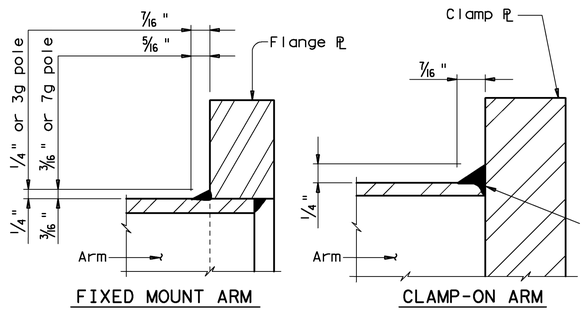
ARM SIZE D_1	ARM SIZE ǂ	A	B	C	D	E	CONN BOLT DIA
in.	in.	in.	in.	in.	in.	in.	in.
7.0	.179	11	11	8	8	1 ¾	1 ¼
7.5	.179	11	11	8	8	1 ¾	1 ¼
8.0	.179	11	11	8	8	2	1 ¼
9.0	.179	13	13	10	10	2	1 ¼
10.0	.179	13	13	10	10	2	1 ¼
9.5	.239	13	13	10	10	2	1 ¼
10.0	.239	14	14	11	11	2	1 ½
11.0	.239	14	14	11	11	3	1 ½
11.5	.239	14	14	11	11	3	1 ½



FIXED MOUNT DETAIL 2

ARM SIZE D_1	ARM SIZE ǂ	A	F	T	CONN. BOLTS No.	CONN. BOLTS Dia	PIN BOLTS No.	PIN BOLTS Dia
in.	in.	in.	in.	in.	ea.	in.	ea.	in.
7.0	.179	12	6	¾	4	¾	2	⅝
7.5	.179	14	8	¾	4	¾	2	⅝
8.0	.179	14	8	¾	4	¾	2	⅝
9.0	.179	16	10	⅞	4	1	2	⅝
10.0	.179	18	10	⅞	4	1	2	⅝
9.5	.239	18	10	1	6	1	3	⅝
10.0	.239	18	10	1	6	1	3	⅝





ARM BASE WELD DETAILS

ARM SIZE D_1	ARM SIZE ǂ	A	F	CONN. BOLTS No.	CONN. BOLTS Dia	PIN BOLTS No.	PIN BOLTS Dia
in.	in.	in.	in.	ea.	in.	ea.	in.
6.5	.179	12	6	4	1	2	⅝
7.5	.179	14	8	4	1	2	⅝
8.0	.179	14	8	4	1	2	⅝
9.0	.179	16	10	4	1	2	⅝
9.5	.179	18	12	6	1	3	⅝
9.5	.239	18	12	6	1	3	⅝
10.0	.239	18	12	6	1	3	⅝

MATERIALS	
Round Shafts or Polygonal Shafts ①	ASTM A595 Gr.A, A588, A1008 HSLAS Gr.50 Class 2, A1011 HSLAS Gr.50 Class 2, A572 Gr.50 or A1011 SS Gr.50 ②
Plates ①	ASTM A36, A588, or A572 Gr.50
Connection Bolts	ASTM A325 or A449, except where noted
Pin Bolts	ASTM A325
Pipe ①	ASTM A53 Gr.B, A501, A1008 HSLAS-F Gr.50, A1011 HSLAS-F Gr.50
Misc. Hardware	Galvanized steel or stainless steel or as noted

① ASTM A572, A1008 HSLAS, A1011 HSLAS, A1008 HSLAS-F, A1011 HSLAS-F or A1011 SS may have higher yield strengths but shall not have less elongation than the grade indicated.

② ASTM A1011 SS Gr.50 material shall also have a minimum elongation of 18 percent in 8 inches or 23 percent in 2 inches. Material thickness in excess of those stipulated under A1011 SS will be acceptable providing the material meets all other A1011 SS requirements and the requirements of this item.

GENERAL NOTES:

Clamp-on details are used for the second arm on dual mast arm assemblies. A Maximum 1 ½" wide vertical slotted hole shall be cut in the front clamp plate to facilitate drainage during galvanizing. The slot shall be centered behind the arm and shall be no longer than the arm diameter minus 1"

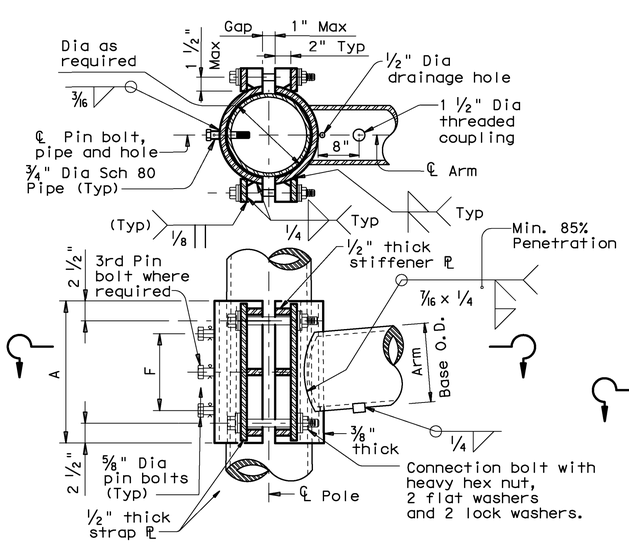
Fixed mount details are used for single mast arm assemblies and for the first arm on dual mast arm assemblies.

Where duplicate parts occur on a detail, welds shown for one part shall apply to all similar parts on the detail.

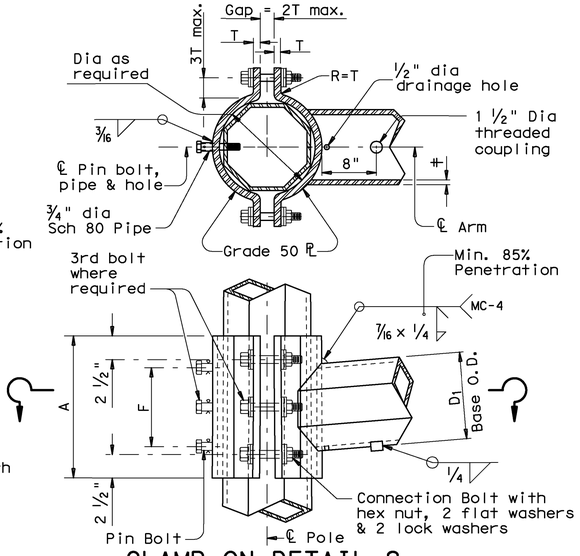
Pin bolts are required to prevent rotation of clamp-on arms under design wind forces.

NOTE:

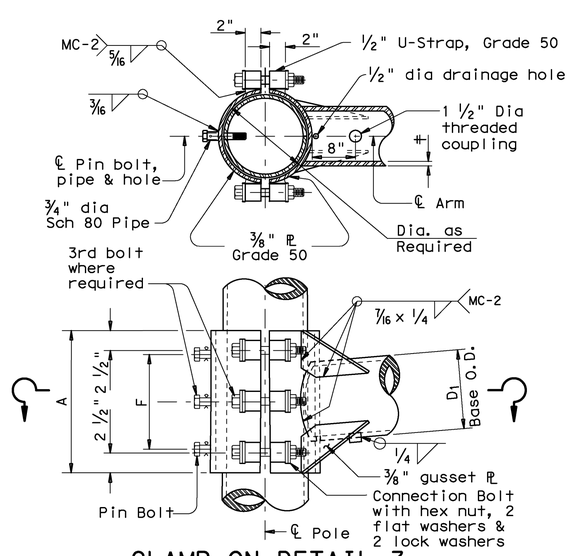
Pin bolts shall be A325 with threads excluded from the shear plane. Pin bolt and ¾" dia pipe shall have 5/16" dia holes for a ⅛" dia galvanized cotter pin. Back clamp plate shall be furnished with a ¾" dia hole for each pin bolt. An 11/16" dia hole for each pin bolt shall be field drilled through the pole after arm orientations have been approved by the Engineer.



CLAMP-ON DETAIL 1



CLAMP-ON DETAIL 2



CLAMP-ON DETAIL 3

Texas Department of Transportation
Traffic Operations Division

STANDARD ASSEMBLY FOR TRAFFIC SIGNAL SUPPORT STRUCTURES

MAST ARM CONNECTIONS

MA-C-12

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DN: MS	CK: JSY	DW: MMF	CK: JSY

REVISIONS: 5-96, 5-09, 1-12

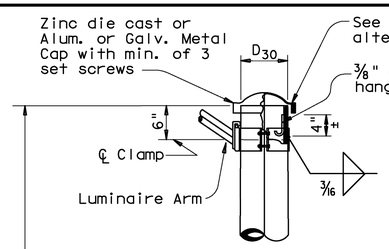
CONT	SECT	JOB	HIGHWAY

DIST	COUNTY	SHEET NO.
		105

126A

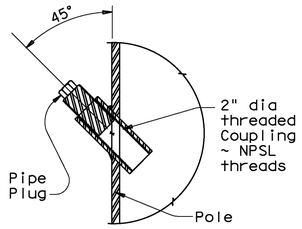
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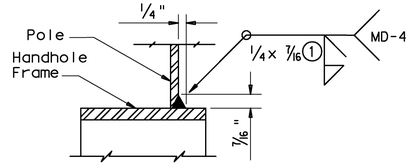


DETAIL A

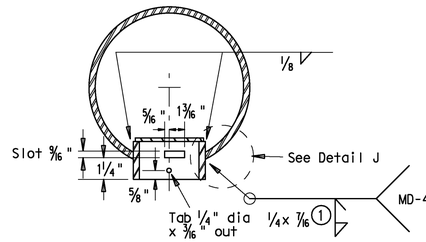
(for pole with luminaire)



POLE COUPLING DETAIL

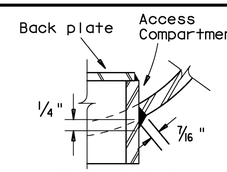


DETAIL G

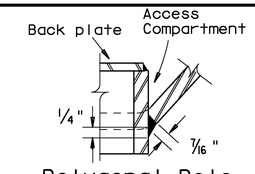


SECTION X-X

Opening for access compartment shall be no more than 1/16 inch wider than the access compartment itself.

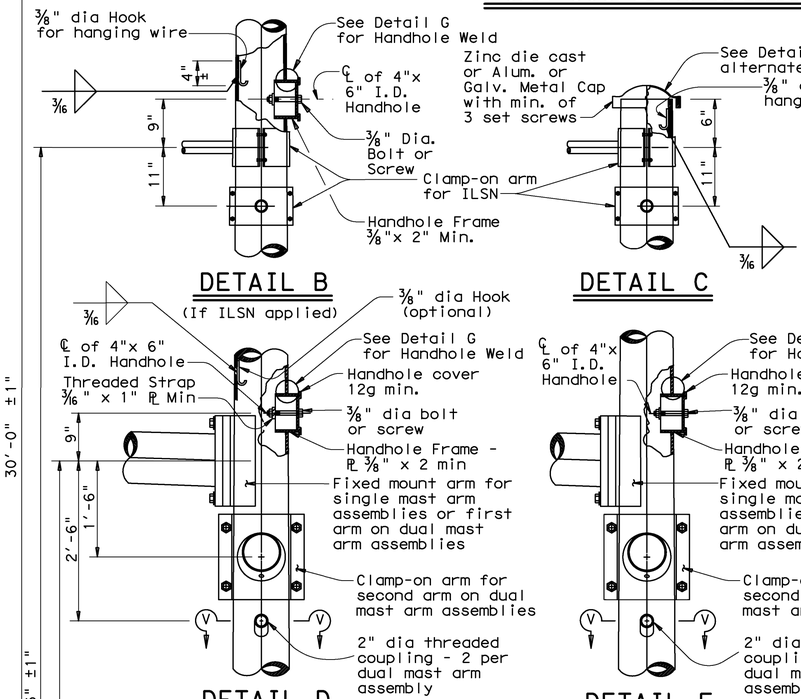


Round Pole



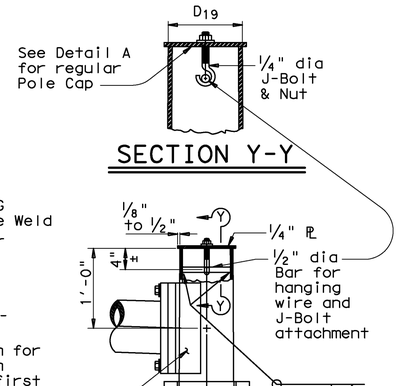
Polygonal Pole

DETAIL J

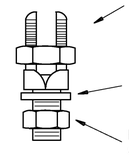


DETAIL B

DETAIL C



SECTION Y-Y



COPPER GROUND CONNECTOR

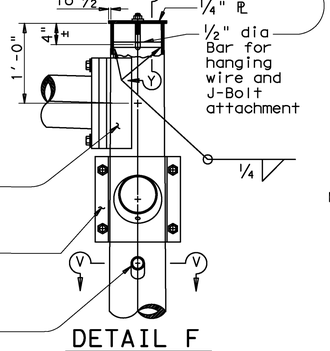
ACCESS COMPARTMENT

DETAIL D

(for 30' pole with luminaire and ILSN sign)

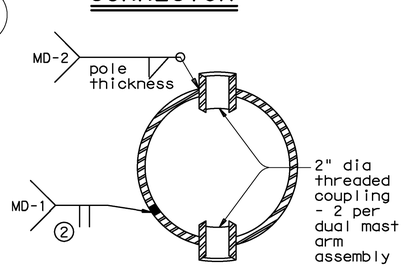
DETAIL E

(for 24' pole with ILSN sign and no luminaire)



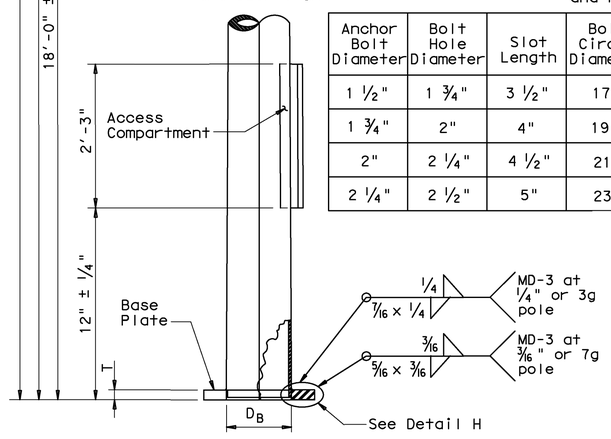
DETAIL F

(for 19' pole with no ILSN sign and no luminaire)

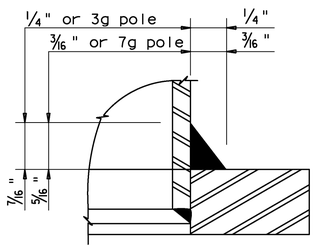


SECTION V-V

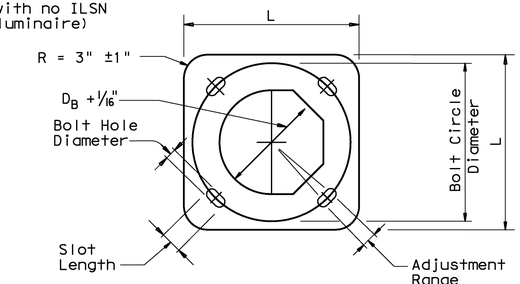
Anchor Bolt Diameter	Bolt Hole Diameter	Slot Length	Bolt Circle Diameter	Base ℞ Dim. L x T	Adjust. Range
1 1/2"	1 3/4"	3 1/2"	17"	18" x 1 1/2"	13.4°
1 3/4"	2"	4"	19"	20" x 1 3/4"	13.5°
2"	2 1/4"	4 1/2"	21"	22" x 2"	13.6°
2 1/4"	2 1/2"	5"	23"	24" x 2 1/4"	13.7°



POLE ELEVATION



DETAIL H



BASE PLATE PLAN

(1) 85% Min. penetration

(2) 60% Min. penetration 100% pemetration within 6" of circumferential base welds.

NOTES:

1. The cover shall be one piece formed from ABS plastic, shall be a pearl gray color, and shall be suitable for exposure to harsh sunlight and extreme weather. Cover shall latch with two screw latches and shall fit tightly to the enclosure ring to create a rainproof seal. Latch screws shall be 1/4-20 stainless flat socket head screws with tamper proof feature.
2. The pole manufacturer shall provide with each pole a separate kit consisting of: one cover with two latching assemblies, two terminal strips (Marathon #985GP12CU or approved equal), four #8-32 x 1 1/4" self tapping type "F" stainless steel pan head screws, and one ground connector (Blackburn TTC, Burndy KC22J12T13, or Ilsco SSS-5). The traffic signal contractor shall install the kit items in the field.
3. The screw hole spacing on the enclosure back plate shall be for two Marathon #985GP12 terminal strips, one Marathon #985GP06CU terminal strip, and one Bussmann #BM6032B fuse block.
4. Install one Bussmann #BM6032B, Littelfuse #L60030M-2C, or Ferraz-Shawmut #30352 fuse block for poles where luminaires are to be installed.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES MAST ARM POLE DETAILS

MA-D-12

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DN: MS	CK: JSY	DW: FDN	CK: CAL

REVISIONS
8-99
1-12

CONT	SECT	JOB	HIGHWAY

DIST	COUNTY	SHEET NO.
		106

127

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FOUNDATION DESIGN TABLE

FDN TYPE	DRILLED SHAFT DIA	REINFORCING STEEL		EMBEDDED DRILLED SHAFT LENGTH-ft ④, ⑤, ⑥			ANCHOR BOLT DESIGN ①				FOUNDATION DESIGN LOAD ②		TYPICAL APPLICATION
		VERT BARS	SPIRAL & PITCH	TEXAS CONE PENETROMETER N blows/ft			ANCHOR BOLT DIA	Fy (ksi)	BOLT CIR DIA	ANCHOR TYPE	MOMENT K-ft	SHEAR Kips	
				10	15	40							
24-A	24"	4- #5	#2 at 12"	5.7	5.3	4.5	¾"	36	12 ¾"	1	10	1	Pedestal pole, pedestal mounted controller.
30-A	30"	8- #9	#3 at 6"	11.3	10.3	8.0	1 ½"	55	17"	2	87	3	Mast arm assembly. (see Selection Table)
36-A	36"	10- #9	#3 at 6"	13.2	12.0	9.4	1 ¾"	55	19"	2	131	5	Mast arm assembly. (see Selection Table) 30' strain pole with or without luminaire.
36-B	36"	12- #9	#3 at 6"	15.2	13.6	10.4	2"	55	21"	2	190	7	Mast arm assembly. (see Selection Table) Strain pole taller than 30' & strain pole with mast arm
42-A	42"	14- #9	#3 at 6"	17.4	15.6	11.9	2 ¼"	55	23"	2	271	9	Mast arm assembly. (see Selection Table)

NOTES:

① Anchor bolt design develops the foundation capacity given under Foundation Design Loads.

② Foundation Design Loads are the allowable moments and shears at the base of the structure.

③ Foundations may be listed separately or grouped according to similarity of location and type. Quantities are for the Contractor's information only.

④ Field Penetrometer readings at a depth of approximately 3 to 5 feet may be used to adjust shaft lengths.

⑤ If rock is encountered, the Drilled Shaft shall extend a minimum of two diameters into solid rock.

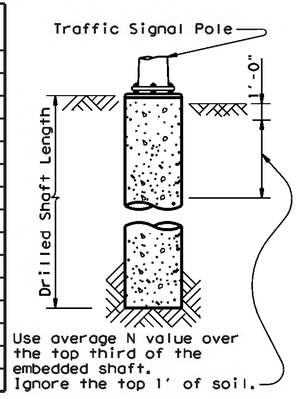
⑥ Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

FOUNDATION SUMMARY TABLE ③

LOCATION IDENTIFICATION	AVG. N BLOW /ft.	FDN TYPE	NO. EA	DRILLED SHAFT LENGTH ⑥ (FEET)				
				24-A	30-A	36-A	36-B	42-A
International Blvd @ E. Elizabeth St - W. University Blvd								
P2, P3 P4	10	24-A	3	18				
International Blvd @ E. Washington Street								
P1	10	36-B	1				16	
P2	10	36-A	1			14		
P4, P5 P6	10	24-A	3	18				
International Blvd @ E. Adams Street								
P2	10	36-B	1				16	
P3, P4	10	36-A	2			28		
P5, P6, P7 P8	10	24-A	4	24				
International Blvd @ E. Jefferson Street								
P2, P3	10	36-B	2				32	
P4, P5, P6	10	24-A	3	18				
P7, P8	10	24-A	2	12				
International Blvd @ E. Monroe S/Riddely Rd								
P3, P4	10	36-A	2			28		
P5, P6, P7, P8	10	24-A	4	24				
International Blvd @ E. Jackson Street								
P1, P3	10	36-B	2				32	
P2, P4	10	36-A	2			28		
P5, P6, P7, P8	10	24-A	4	24				
International Blvd @ E. Tayler Street								
P2	10	36-A	1			14		
P3	10	36-B	1				16	
P4, P5, P6, P7, P8	10	24-A	5	30				
TOTAL DRILLED SHAFT LENGTHS				168		112	112	

FOUNDATION SELECTION TABLE FOR STANDARD MAST ARM PLUS ILSN SUPPORT ASSEMBLIES (ft)

		FDN 30-A	FDN 36-A	FDN 36-B	FDN 42-A
80 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH	32'	48'		
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS	24' X 24'			
		28' X 28'			
		32' X 28'	32' X 32'		
			36' X 36'		
			40' X 36'		
			44' X 28'	44' X 36'	
100 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH		36'	44'	
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS		24' X 24'		
			28' X 28'		
			32' X 24'	32' X 32'	
				36' X 36'	
				40' x24'	40' X 36'
					44' x 36'



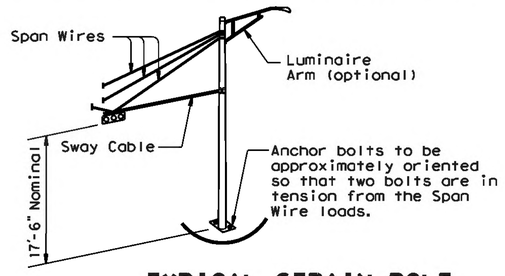
Use average N value over the top third of the embedded shaft. Ignore the top 1' of soil.

ANCHOR BOLT & TEMPLATE SIZES

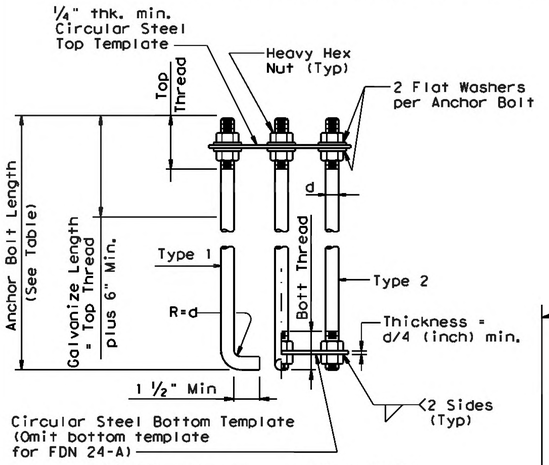
BOLT DIA IN.	⑦ BOLT LENGTH	TOP THREAD	BOTTOM THREAD	BOLT CIRCLE	R2	R1
¾"	1'-6"	3"	—	12 ¾"	7 ⅛"	5 ⅝"
1 ½"	3'-4"	6"	4"	17"	10"	7"
1 ¾"	3'-10"	7"	4 ½"	19"	11 ¼"	7 ¾"
2"	4'-3"	8"	5"	21"	12 ½"	8 ½"
2 ¼"	4'-9"	9"	5 ½"	23"	13 ¾"	9 ¼"

⑦ Min dimensions given, longer bolts are acceptable.

EXAMPLE:
1. For 80mph design wind speed, foundation 30-A can support up to a 32' arm with another arm up to 28'
2. For 100mph design wind speed, foundation 36-A can support a single 36' mast arm.

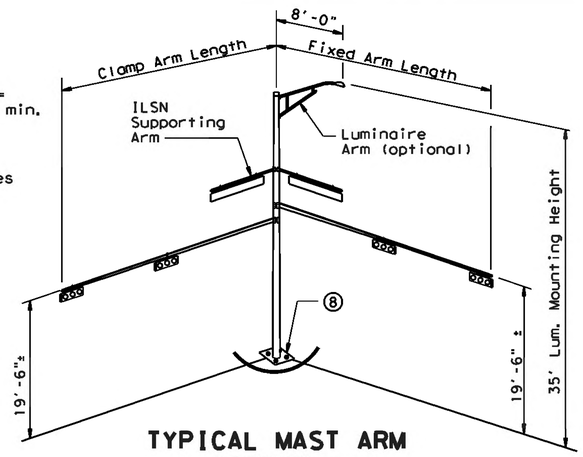


TYPICAL STRAIN POLE ASSEMBLY



HOOKED ANCHOR (TYPE 1) NUT ANCHOR (TYPE 2)

ANCHOR BOLT ASSEMBLY



TYPICAL MAST ARM ASSEMBLY

⑧ Orient anchor bolts orthogonal with the fixed arm direction to ensure that two bolts are in tension under dead load.

FOUNDATION DETAILS

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and interim revisions thereto.

Reinforcing steel shall conform to Item 440, "Reinforcing Steel".

Concrete shall be Class "C".

Threads for anchor bolts and nuts shall be rolled or cut threads of 8UN series up to 2" in diameter or UNC series for all sizes. Bolts and nuts shall have Class 2A and 2B fit tolerances. Galvanized nuts shall be tapped after galvanizing.

Anchor bolts that are larger than 1" in diameter shall conform to "alloy steel" or "medium-strength mild steel" per Item 449, "Anchor Bolts". Anchor bolts that are 1" in diameter or less shall conform to ASTM A36. Galvanize a minimum of the top end thread length plus 6" for all anchor bolts unless otherwise noted. Exposed washers and exposed nuts shall be galvanized. All galvanizing shall be in accordance with Item 445, "Galvanizing".

Templates and embedded nuts need not be galvanized. Lubricate and tighten anchor bolts when erecting the structure in accordance with Item 449, "Anchor Bolts".

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER

F-14592
3/20/2026

Keti Hristova

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL POLE FOUNDATION

TS-FD-12

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DN: MS	CK: JSY	DW: MAO/MMF	CK: JSY/TEB
REVISIONS	CONT	SECT	JOB	HIGHWAY
5-96				
11-98				
1-12				
	DIST	COUNTY	SHEET NO.
			107

DATE:
FILE:

128

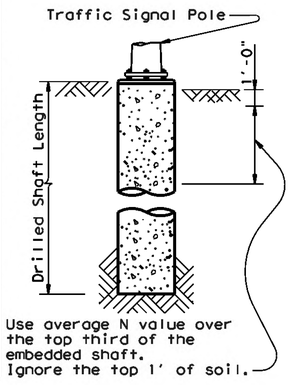
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FDN TYPE	DRILLED SHAFT DIA	REINFORCING STEEL		EMBEDDED DRILLED SHAFT LENGTH-ft ④, ⑤, ⑥			ANCHOR BOLT DESIGN ①				FOUNDATION DESIGN LOAD ②		TYPICAL APPLICATION
		VERT BARS	SPIRAL & PITCH	TEXAS CONE PENETROMETER N blows/ft			ANCHOR BOLT DIA	Fy (ksi)	BOLT CIR DIA	ANCHOR TYPE	MOMENT K-ft	SHEAR Kips	
				10	15	40							
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36-B	36"	12- #9	#3 at 6"	15.2	13.6	10.4	2"	55	21"	2	190	7	Mast arm assembly. (see Selection Table) Strain pole taller than 30' & strain pole with mast arm
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	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS	24' X 24'			
		28' X 28'			
		32' X 28'	32' X 32'		
			36' X 36'		
			40' X 36'		
			44' X 28'	44' X 36'	
100 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH		36'	44'	
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS		24' X 24'		
			28' X 28'		
			32' X 24'	32' X 32'	
				36' X 36'	
				40' x24'	40' X 36'
					44' x 36'



NOTES:

① Anchor bolt design develops the foundation capacity given under Foundation Design Loads.

② Foundation Design Loads are the allowable moments and shears at the base of the structure.

③ Foundations may be listed separately or grouped according to similarity of location and type. Quantities are for the Contractor's information only.

④ Field Penetrometer readings at a depth of approximately 3 to 5 feet may be used to adjust shaft lengths.

⑤ If rock is encountered, the Drilled Shaft shall extend a minimum of two diameters into solid rock.

⑥ Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

ANCHOR BOLT & TEMPLATE SIZES

BOLT DIA IN.	⑦ BOLT LENGTH	TOP THREAD	BOTTOM THREAD	BOLT CIRCLE	R2	R1
¾"	1'-6"	3"	—	12 ¾"	7 ⅛"	5 ⅝"
1 ½"	3'-4"	6"	4"	17"	10"	7"
1 ¾"	3'-10"	7"	4 ½"	19"	11 ¼"	7 ¾"
2"	4'-3"	8"	5"	21"	12 ½"	8 ½"
2 ¼"	4'-9"	9"	5 ½"	23"	13 ¾"	9 ¼"

⑦ Min dimensions given, longer bolts are acceptable.

FOUNDATION SUMMARY TABLE ③

LOCATION IDENTIFICATION	AVG. N BLOW /ft.	FDN TYPE	NO. EA	DRILLED SHAFT LENGTH ⑥ (FEET)				
				24-A	30-A	36-A	36-B	42-A
International Blvd @ E. Polk Street								
P1, P2, P3	10	36-A	3			42		
P5, P6, P7, P8	10	24-A	4	24				
SUBTOTAL				24		42		
TOTAL DRILLED SHAFT LENGTHS				192		154	112	

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and interim revisions thereto.

Reinforcing steel shall conform to Item 440, "Reinforcing Steel".

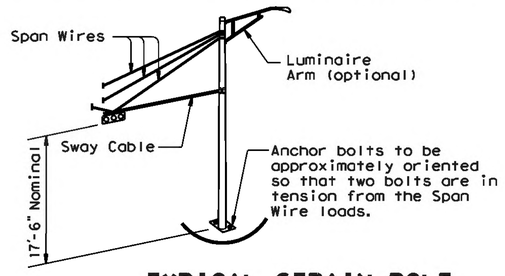
Concrete shall be Class "C".

Threads for anchor bolts and nuts shall be rolled or cut threads of 8UN series up to 2" in diameter or UNC series for all sizes. Bolts and nuts shall have Class 2A and 2B fit tolerances. Galvanized nuts shall be tapped after galvanizing.

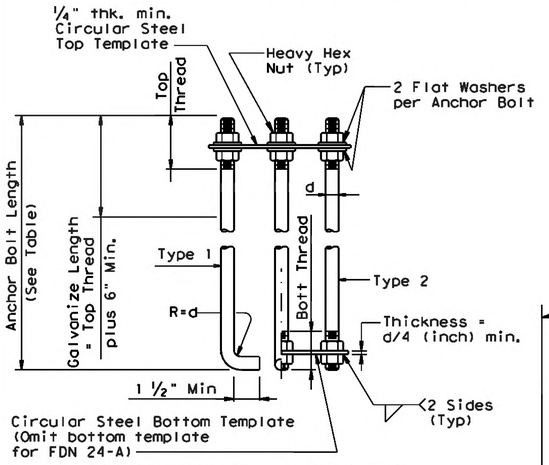
Anchor bolts that are larger than 1" in diameter shall conform to "alloy steel" or "medium-strength mild steel" per Item 449, "Anchor Bolts". Anchor bolts that are 1" in diameter or less shall conform to ASTM A36. Galvanize a minimum of the top end thread length plus 6" for all anchor bolts unless otherwise noted. Exposed washers and exposed nuts shall be galvanized. All galvanizing shall be in accordance with Item 445, "Galvanizing".

Templates and embedded nuts need not be galvanized. Lubricate and tighten anchor bolts when erecting the structure in accordance with Item 449, "Anchor Bolts".

EXAMPLE:
1. For 80mph design wind speed, foundation 30-A can support up to a 32' arm with another arm up to 28'
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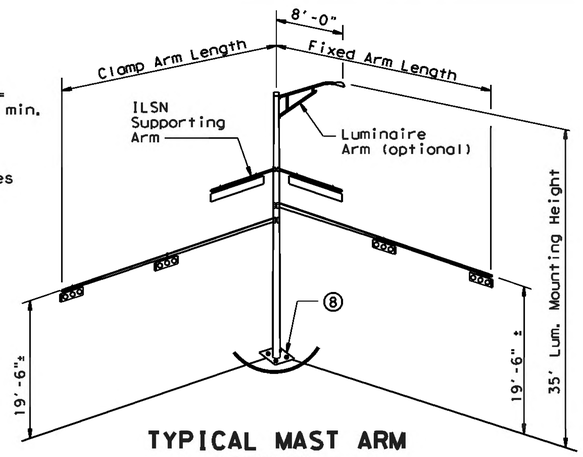


TYPICAL STRAIN POLE ASSEMBLY

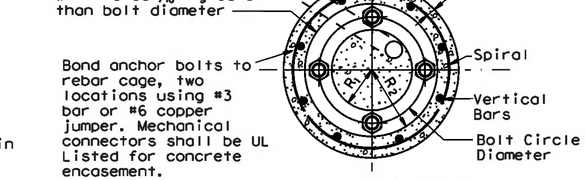


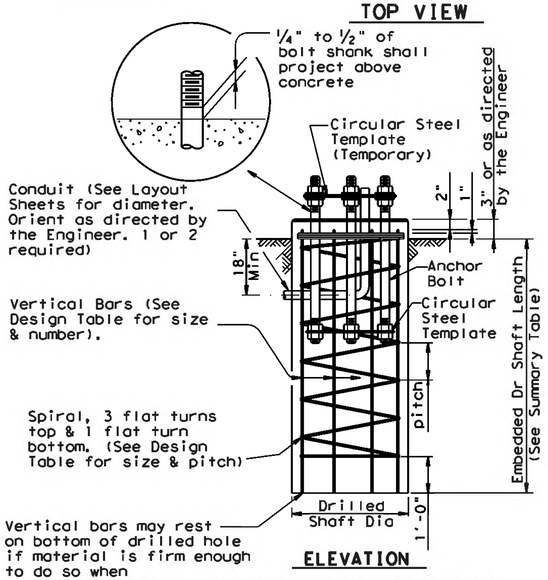
ANCHOR BOLT ASSEMBLY

⑧ Orient anchor bolts orthogonal with the fixed arm direction to ensure that two bolts are in tension under dead load.



TYPICAL MAST ARM ASSEMBLY





FOUNDATION DETAILS

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
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REGISTERED PROFESSIONAL ENGINEER

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3/20/2026

Keti Hristova

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL POLE FOUNDATION

TS-FD-12

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REVISIONS	CONT	SECT	JOB	HIGHWAY
5-96 11-98 1-12				
	DIST	COUNTY		SHEET NO.
				108

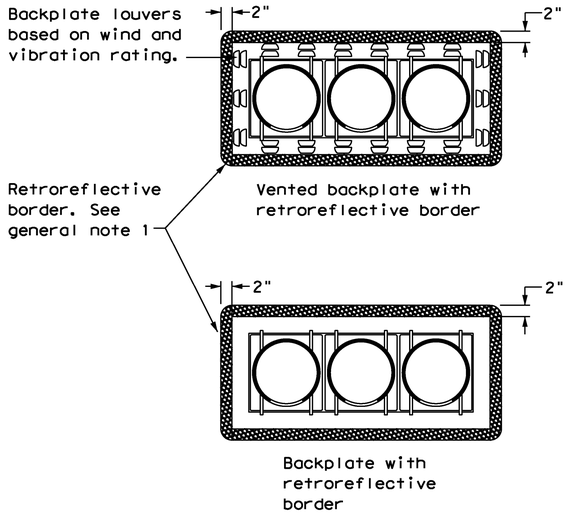
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128

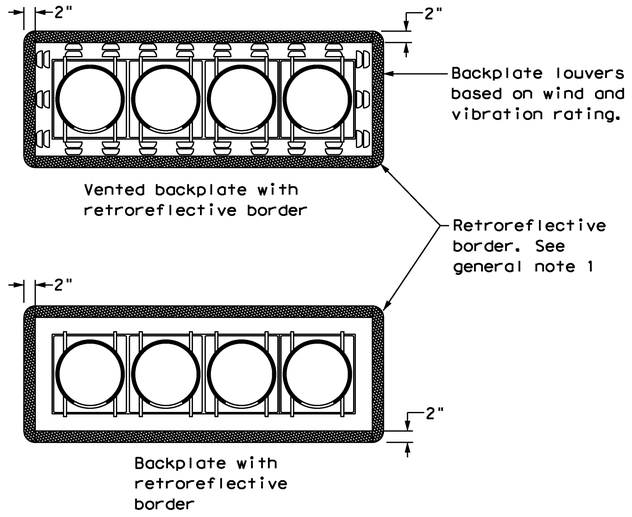
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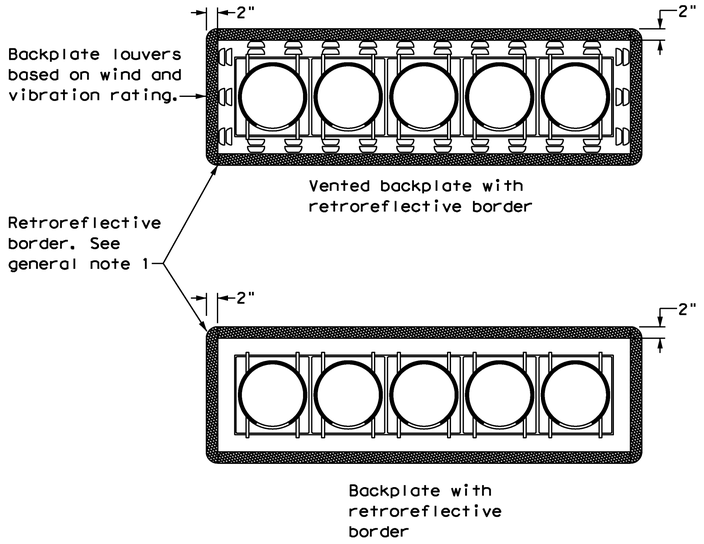
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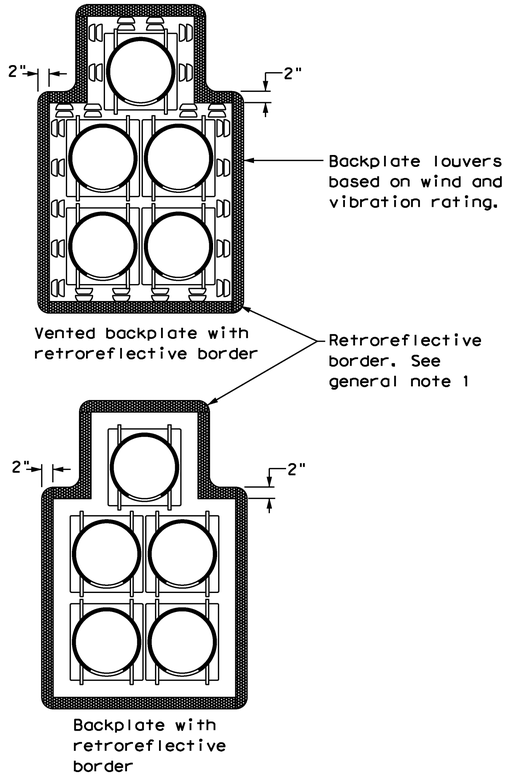
THREE-SECTION HEAD
HORIZONTAL OR VERTICAL



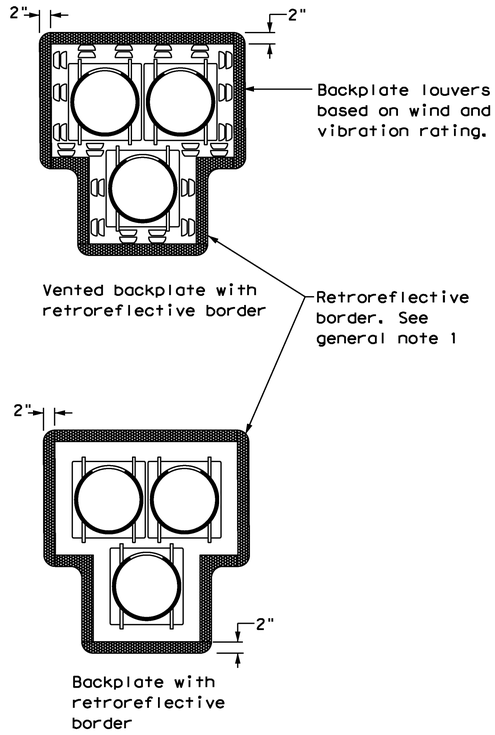
FOUR-SECTION HEAD
HORIZONTAL OR VERTICAL



FIVE-SECTION HEAD
HORIZONTAL OR VERTICAL



FIVE-SECTION HEAD
CLUSTER



PEDESTRIAN HYBRID
BEACON

GENERAL NOTES:

1. Backplates are optional for traffic signals and pedestrian hybrid beacons. When backplates are used, a 2-inch wide fluorescent yellow AASHTO Type B_{FL} or C_{FL} retroreflective border conforming to TxDOT DMS-8300 is required. Place on all approaches when used.
2. Signal head and backplate compatability must be verified by the contractor prior to installation.
3. When using backplates on signal heads, venting is preferred to reduce cyclic vibration stress.
4. When a vented backplate is used, the retroreflective border must not be placed over the louvers.
5. This standard sheet applies to all signal heads with backplates, including but not limited to:
   - Pole mounted
   - Overhead mounted
   - Span wire mounted
   - Mast arm mounted
   - Vertical signal heads
   - Horizontal signal heads
   - Clustered signal heads
   - Pedestrian hybrid beacons

Texas Department of Transportation

Traffic Safety Division Standard

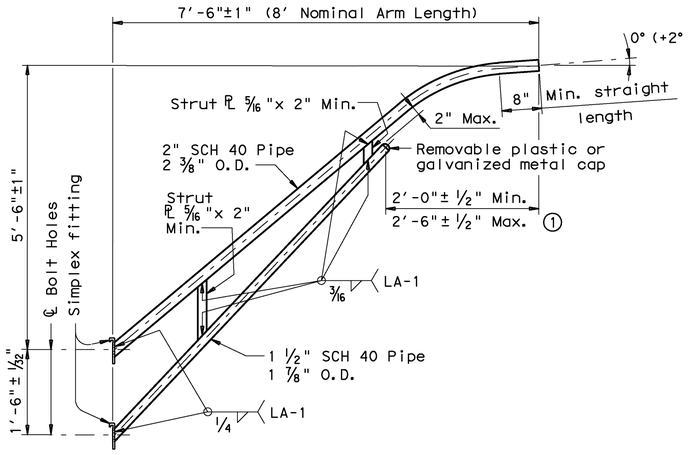
TRAFFIC SIGNAL HEAD WITH BACKPLATE
TS-BP-20

FILE: ts-bp-20.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT June 2020	CONT	SECT	JOB	HIGHWAY
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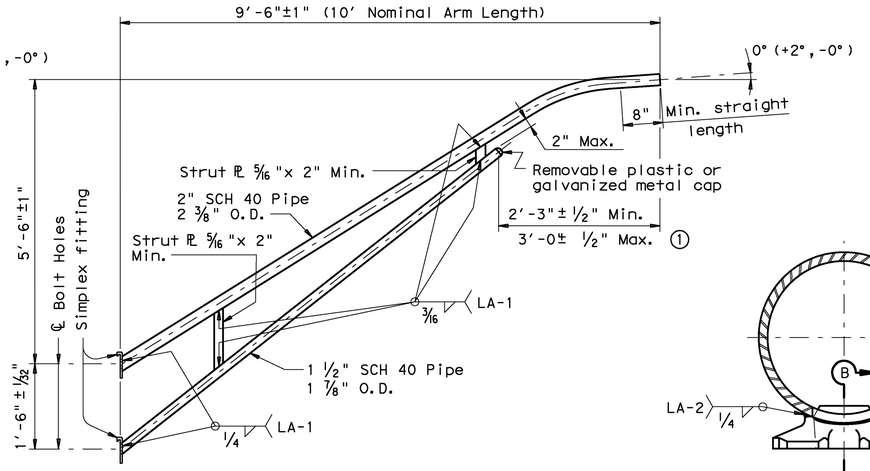
134

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DATE:
FILE:



8-FOOT LUMINAIRE ARM



10-FOOT LUMINAIRE ARM

DIRECT ATTACHMENT DETAIL

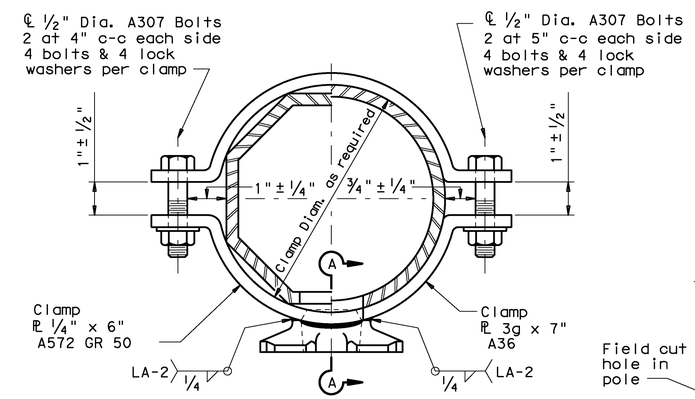
MATERIALS	
Pole or Arm Simplex	ASTM A27 Gr.65-35 or A148 Gr.80-50, A576 Gr.1021 (3), or A36 (Arm only)
Arm Pipes	ASTM A53 Gr.B, A501, A1008 HSLAS-F Gr.50 (4), or A1011 HSLAS-F Gr.50 (4)
Arm Strut Plates (2)	ASTM A36, A572 Gr.50 (4), or A588
Misc.	ASTM designations as noted

(1) Dimensional limits are given to show acceptable variation in design. All of a Fabricator's production of a particular arm length shall have the same dimensions within specified tolerances.

(2) Any of the materials listed for plates may be used where the drawings do not specify a particular ASTM designation.

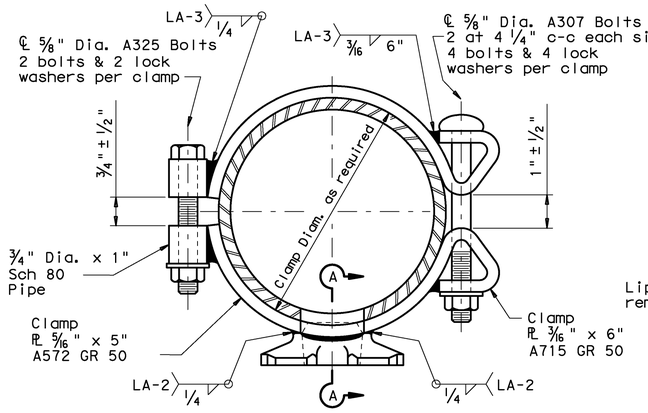
(3) A576 must be suitable for forging and also meet minimum tensile strength of 65 ksi, minimum yield of 35 ksi, and elongation in 2 inches of 22 percent.

(4) ASTM A572, A1008 HSLAS-F, and A1011 HSLAS-F may have higher yield strengths but shall not have less elongation than the grade indicated.



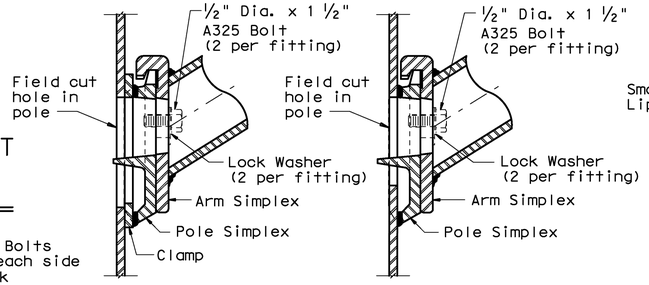
CLAMP ATTACHMENT DETAIL NO. 1 (HALF SECTION)

CLAMP ATTACHMENT DETAIL NO. 2 (HALF SECTION)



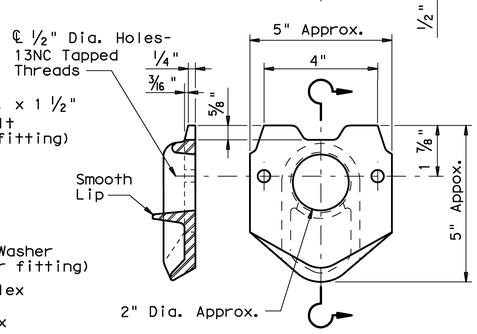
CLAMP ATTACHMENT DETAIL NO. 3 (HALF SECTION)

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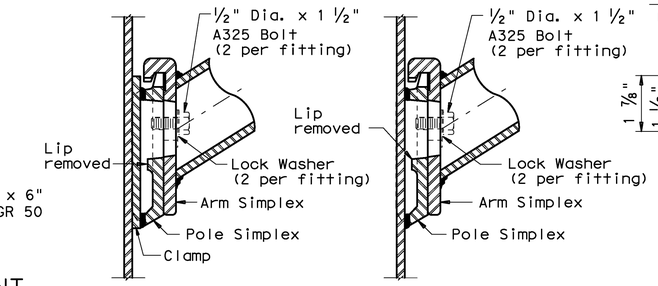


UPPER SIMPLEX FITTING

UPPER SIMPLEX FITTING



POLE SIMPLEX DETAIL

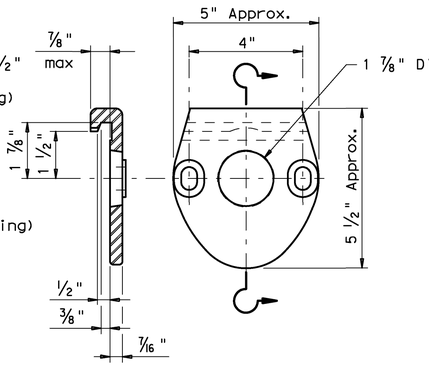


LOWER SIMPLEX FITTING

LOWER SIMPLEX FITTING

SECTON A-A

SECTON B-B



ARM SIMPLEX DETAIL

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Revisions thereto. Design Wind Speed equals 90 mph plus a 1.3 gust factor. Arms are designed to support a 60 lb. luminaire having an effective projected area (actual area times drag coefficient) of 1.6 sq. ft.

Materials and fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. In the absense of specified Fabricaton tolerances, dimensions shall be within the tolerances generally obtainable in normal fabrication practice.

Unless otherwise noted, all parts shall be galvanized after fabrication in accordance with Item 445, "Galvanizing".

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

Each pole simplex fitting shall be supplied with 2 ASTM A325 bolts and 2 lock washers of the size specified. The bolts and lock washers shall be secured to the pole with the other hardware items called for in the plans. When clamp attachment is specified, the Fabricator shall ship the clamp assembly securely attached to the pole at the location shown on the plans.

If clamp assemblies are ordered without poles, the Fabricator shall ship one upper and one lower clamp assembly together in a single package, including all nuts and washers required for the clamps and simplex fittings.

Texas Department of Transportation
Traffic Operations Division

STANDARD ASSEMBLY DRAWINGS FOR LUMINAIRE SUPPORT STRUCTURES

ARM DETAILS

LUM-A-12

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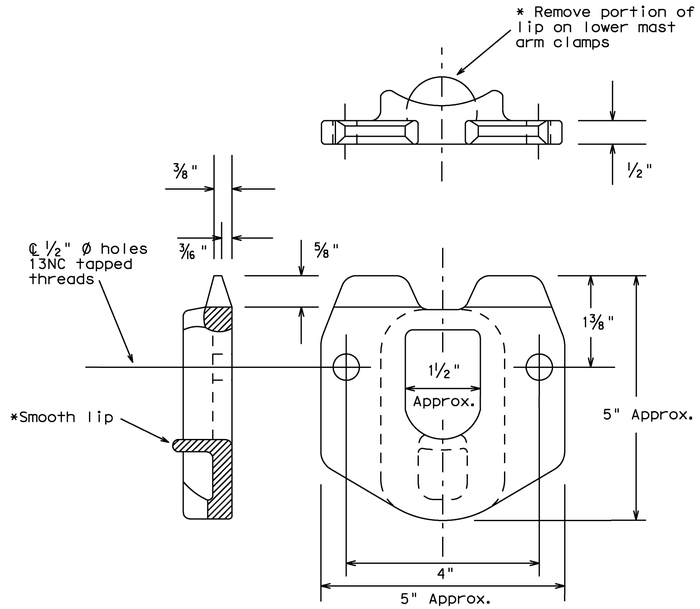
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REVISIONS
5-96
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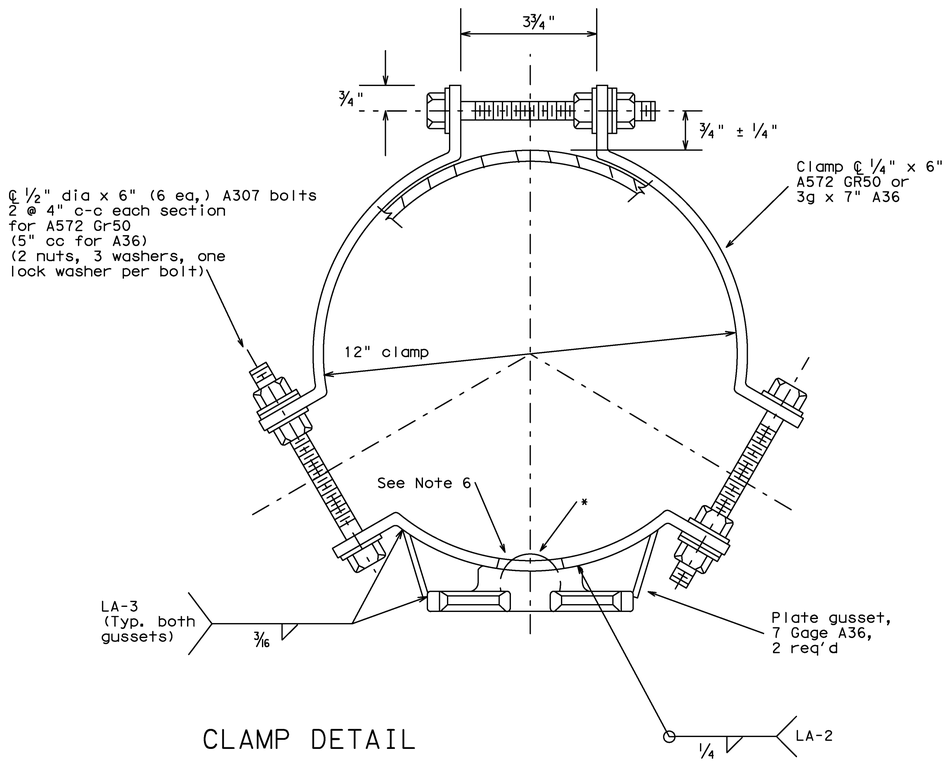
CONT	SECT	JOB	HIGHWAY
DIST	COUNTY		SHEET NO.
			110

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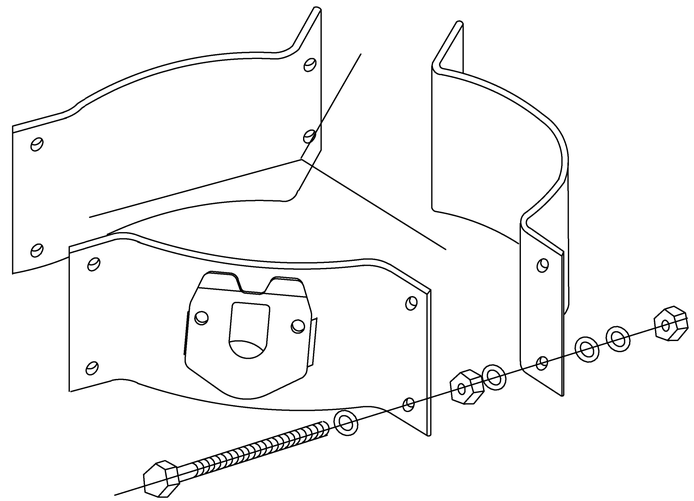
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POLE SIMPLEX DETAILS



CLAMP DETAIL



PROJECTION

OTHER MATERIALS:

1. Pole simplex shall be ASTM A27 GR65-35 or A148 GR80-50 or A576 GR1021. ASTM A576 must be suitable for forging and also meet minimum tensile of 65ksi, minimum yield of 35ksi, and a minimum elongation of 22 percent in 2 inches.
2. Welded tabs and backplates shall be ASTM A-36 steel or better.
3. Nylon insert locknuts shall conform to ASTM A563.

GENERAL NOTES:

1. Materials and fabrication shall be in accordance with Standard Sheet "MA-C" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. In the absence of specified fabrication tolerances, dimensions shall be within the tolerances generally obtainable in normal fabrication practice.
2. All parts shall be galvanized after fabrication in accordance with Item 445, "Galvanizing". The throat of the Simplex shall be made free of all rough or sharp edges resulting from the galvanizing process.
3. Each simplex fitting shall be supplied with 2 ASTM A325 bolts, 1/2in. X 1 1/2in. and 2 lock washers. The bolts and lock washers shall be secured to the clamp with the other hardware items. The Fabricator shall ship clamp assembly together in a single package, including all bolts, nuts, and washers required for the clamp and simplex fitting.
4. Design conforms to 1994 AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" and interim revisions thereto. Design Wind Speed equals 80 mph plus a 1.3 gust factor. Clamps are designed to support a 60 lb. luminaire having an effective projected area (actual area times drag coefficient) of 1.6 sq.ft.,12 ft. maximum arm length.
5. Each assembly shall consist of one upper piece simplex fitting having a smooth lip and one lower piece simplex fitting with the lip removed.
6. Approximately 2 in. diameter hole in upper mast arm clamp.

For 8.9 - 12 inch diameter Signal Poles
(Two req'd for each mast arm)

Texas Department of Transportation
Traffic Operations Division

CLAMP ON FITTING ASSEMBLY FOR LUMINAIRE MAST ARM

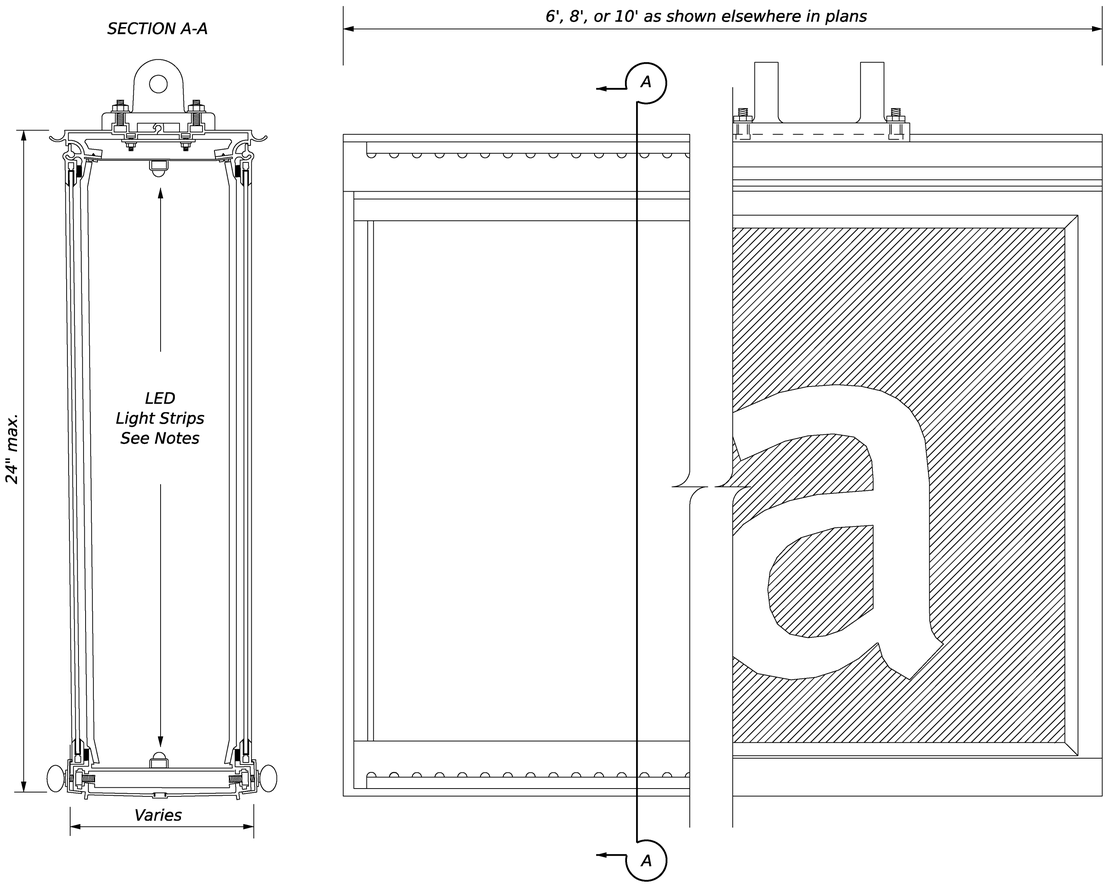
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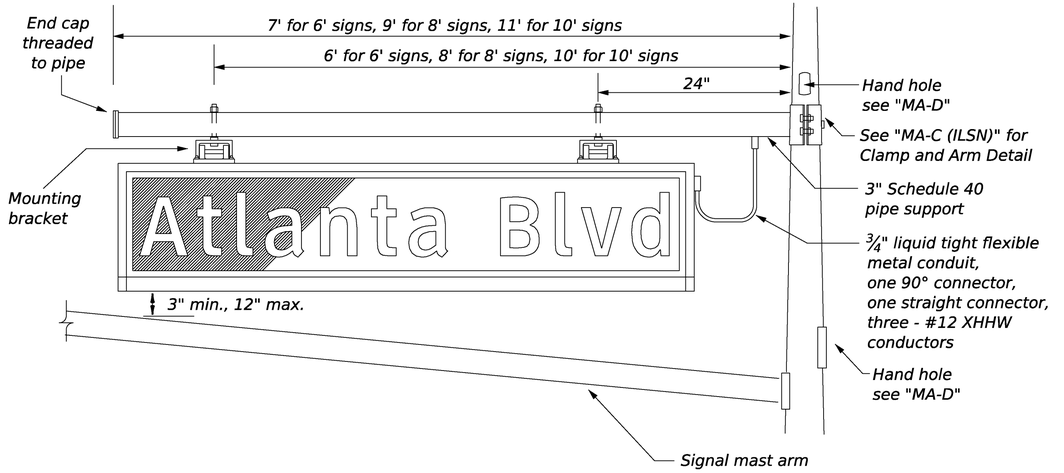
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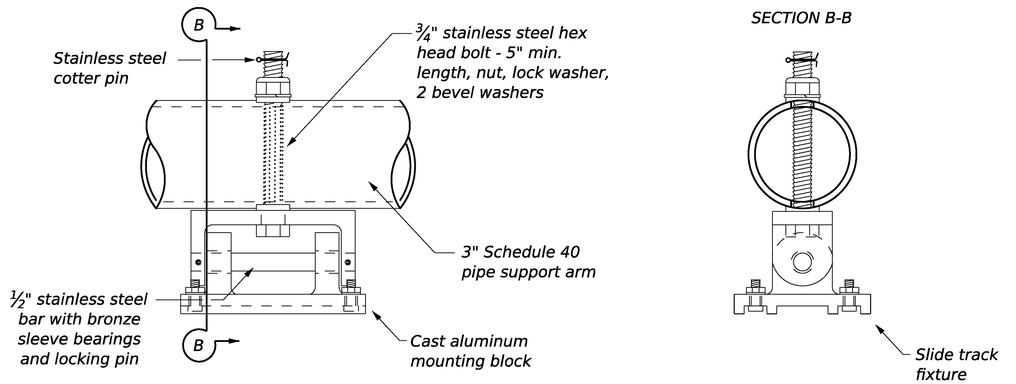
ILSN SIGN



SIGN MOUNTING



MOUNTING BRACKET



ILSN SIGN NOTES:

1. The maximum area of the sign shall not exceed 20 sq.ft.
2. Sign message shall be as shown elsewhere in the plans.
3. See Special Specification, "LED Internally Lighted Street Name Signs" for additional details.
4. Ensure letter font type and letter height are in accordance with the Standard Highway Sign Designs for Texas, D3-1 Overhead Mount.
5. Sign housing and LED configuration may vary by manufacturer.

ILSN SIGN BID ITEM DESCRIPTIONS

ILSN (X X)

INTERNALLY LIGHTED STREET NAME SIGN

SIGN LENGTH
- 6 = 6 ft.
- 8 = 8 ft.
- 10 = 10 ft.

FACES
- S = Single
- D = Double

Texas Department of Transportation

Traffic Safety Division Standard

INTERNALLY LIGHTED STREET NAME (ILSN) SIGN

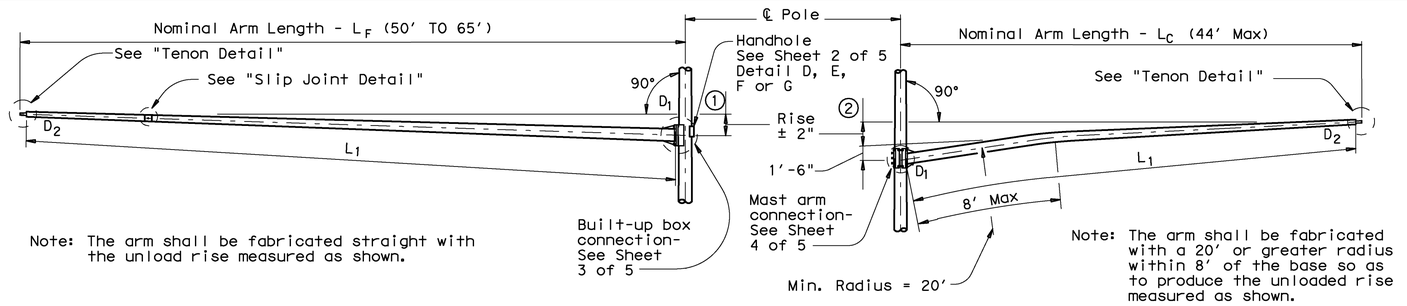
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Note: The arm shall be fabricated straight with the unload rise measured as shown.

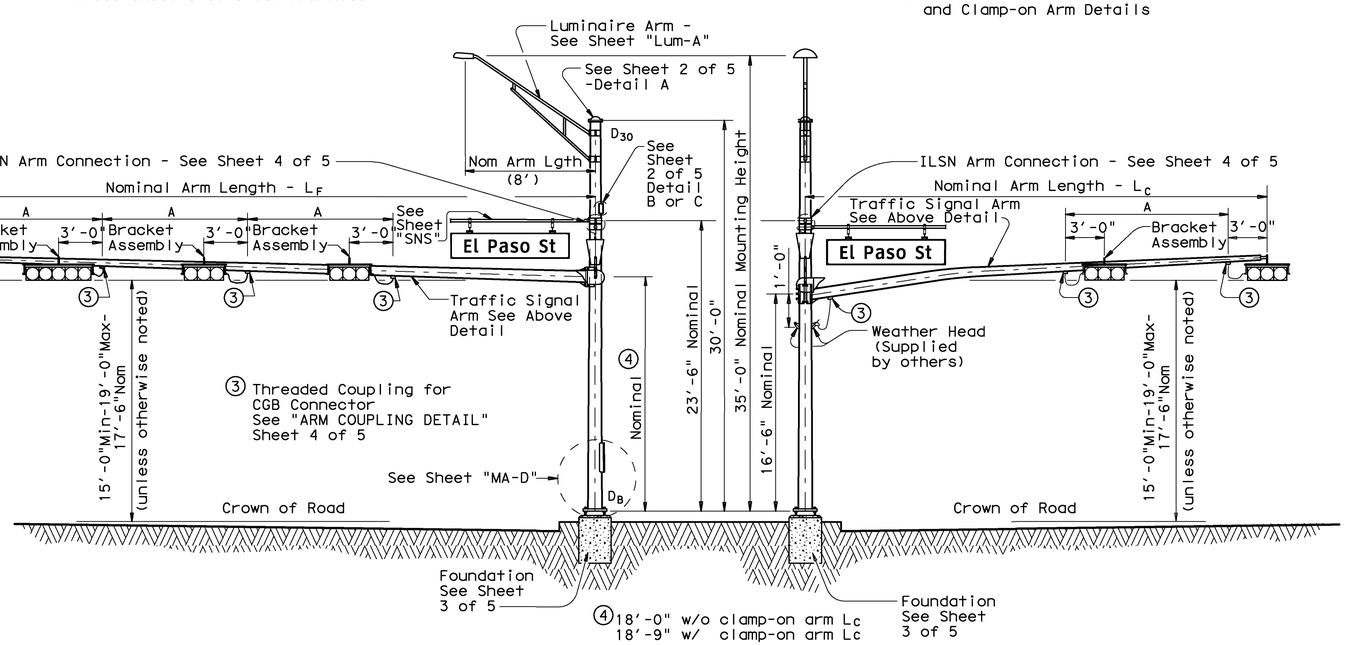
Note: The arm shall be fabricated with a 20' or greater radius within 8' of the base so as to produce the unloaded rise measured as shown.

FIXED MOUNT TRAFFIC SIGNAL ARM

① See Sheet 3 of 5 for Arm Rise

CLAMP-ON TRAFFIC SIGNAL ARM (IF REQUIRED)

② See Sheet 4 of 5 for Arm Rise and Clamp-on Arm Details

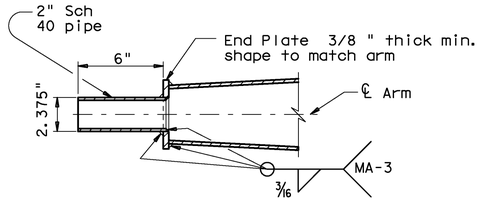


ELEVATION
(Showing fixed mount arm)

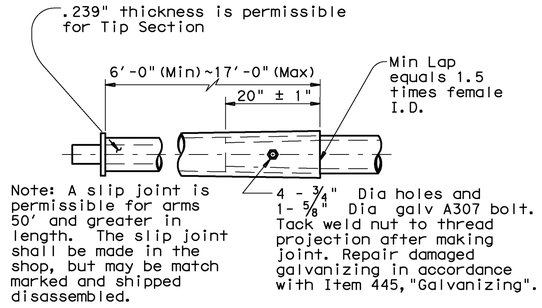
STRUCTURE ASSEMBLY

ELEVATION
(Showing clamp-on arm)

TABLE OF DIMENSIONS "A"										
Arm Length	24'	28'	32'	36'	40'	44'	50'	55'	60'	65'
Arm Type II	10'	11'	12'	13'						
Arm Type III			10'	11'	12'	12'				
Arm Type IV							12'	12'	12'	12'



TENON DETAIL



Note: A slip joint is permissible for arms 50' and greater in length. The slip joint shall be made in the shop, but may be match marked and shipped disassembled.

Tack weld nut to thread projection after making joint. Repair damaged galvanizing in accordance with Item 445,"Galvanizing".

SLIP JOINT DETAIL(FIXED MOUNT ARM)

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed can be either 100 mph or 80 mph plus a 1.3 gust factor. If clamp-on traffic signal is required, designs are based on an arm included angle of 90 degrees or more. Angles of less than approximately 75 degrees will require a special design.

Poles are designed to support one 8'-0" luminaire arm, two 9'-0" internally lighted street name (ILSN) signs and two traffic signal arms with limited length combinations.

Each arm with its related attachment is shown below

Arm	Equivalent DL ⑤	WL EPA ⑤⑥
8' Luminaire Arm	Luminaire 60 lbs	1.6 sq ft
9' ILSN Arm	Sign 85 lbs	11.5 sq ft
50' to 65' Fixed Mount Arm	Signal Loads 310 lbs	52 sq ft
Up to 44' Clamp-on Arm	Signal Loads 180 lbs	32.4 sq ft

⑤ Equivalent dead load plus horizontal wind load applied at the end of arm except ILSN arm, which applied 4.5' from the centerline of the pole.

⑥ Effective projected area (actual area times drag coefficient) for the application of horizontal wind load.

Except as noted in Sheet 1 thru 5 of 5, other details not covered shall refer to Standard Sheet "MA-D" for pole details, "LUM-A" for luminaire arm and connection details, "SNS" for internally lighted street name sign details, and "TS-FD" for anchor bolt and foundation details.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Material, fabrication tolerances, and shipping practices shall also meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing" after fabrication.

Deviations from the details and dimensions shown herein require submission of shop drawings in accordance with the Item 441, "Steel Structures". Alternate designs are not acceptable.

Installation of damping plate for the long mast arm is not recommended.

Provision of the bracket assembly used to support the traffic signal heads shall be under the direction of the Engineer for approval.

Design also conforms to NCHRP Report 412 for fatigue resistance except that there are no stiffeners at the base plate. TxDOT is conducting tests to determine if stiffeners at the base plate will or will not result in optimal performance; depending upon the results of the tests, poles may need a retrofit to ensure optimal fatigue performance.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT) (80 AND 100 MPH WIND ZONE)

LMA(1)-12

Sheet 1 of 5

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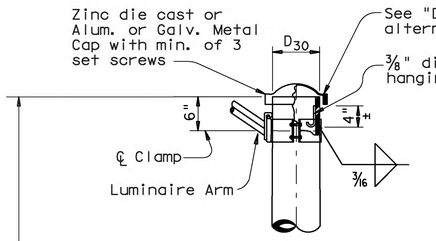
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1-12	DIST	COUNTY		SHEET NO.
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131A

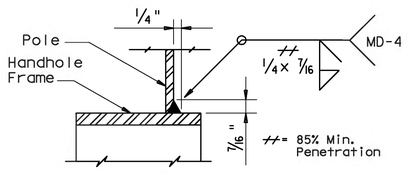
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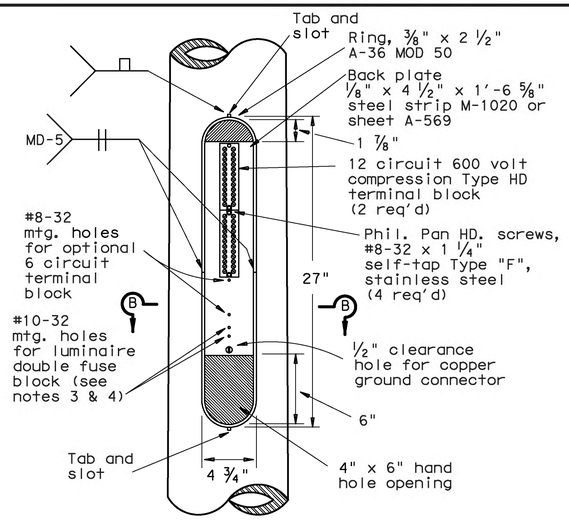


DETAIL A

(for pole with luminaire)



DETAIL H

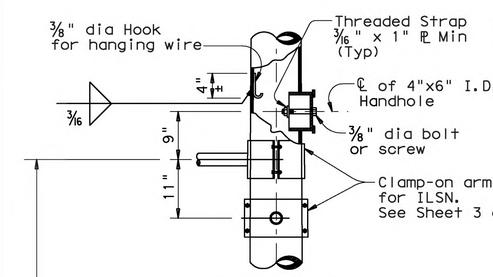


ACCESS COMPARTMENT

MATERIALS	
Round Shafts or Polygonal Shafts (7)	ASTM A595 Gr.A, A588, A1008 HSLAS Gr.50 Class 2, A1011 HSLAS Gr.50 Class 2, A572 Gr.50 or A1011 SS Gr.50 (8)
Plates (7)	ASTM A36, A588, or A572 Gr.50
Connection Bolts	ASTM A325, or A449 except where noted
Pin Bolts	ASTM A325
Pipe (7)	ASTM A53 Gr.B, A501, A1008 HSLAS-F Gr.50, A1011 HSLAS-F Gr.50
Misc. Hardware	Galvanized steel or stainless steel or as noted

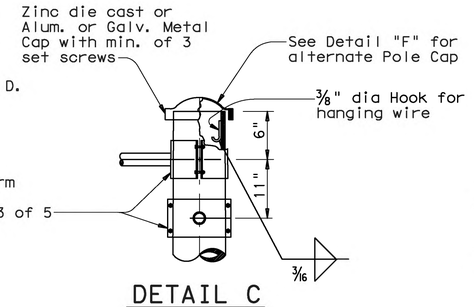
(7) ASTM A572, A1008 HSLAS, A1011 HSLAS, A1008 HSLAS-F, A1011 HSLAS-F, or A1011 SS may have higher yield strengths but shall not have less elongation than the grade indicated.

(8) ASTM A1011 SS Gr.50 shall also have a minimum elongation of 18 percent in 8 inches or 23 percent in 2 inches. Material thickness in excess of those stipulated under A1011 SS will be acceptable providing the material meets all other A1011 SS requirements and the requirements of this item.

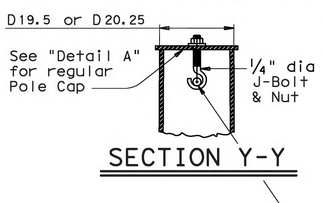


DETAIL B

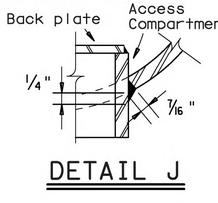
(If ILSN applied)



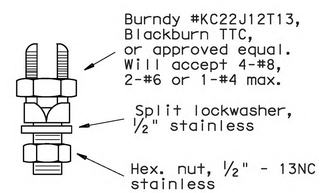
DETAIL C



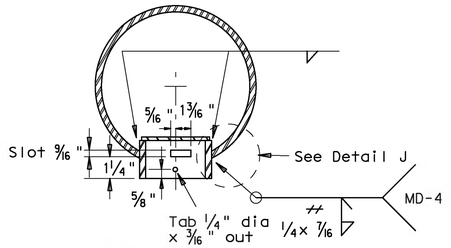
SECTION Y-Y



DETAIL J

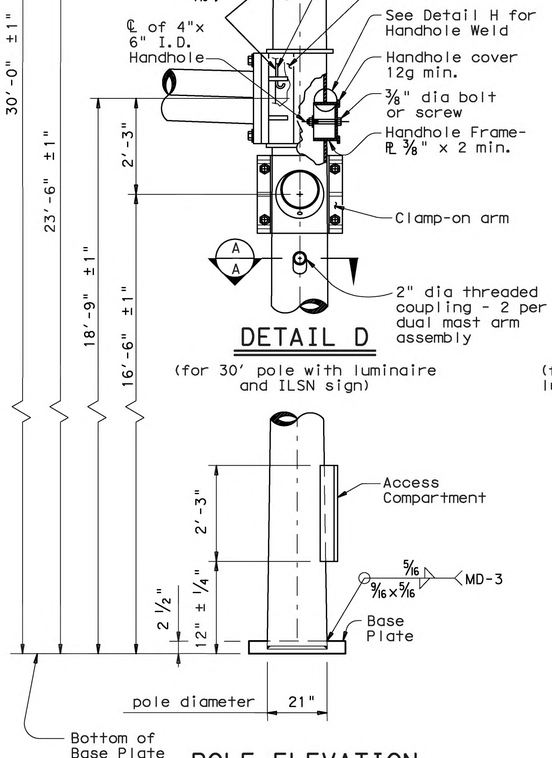


COPPER GROUND CONNECTOR



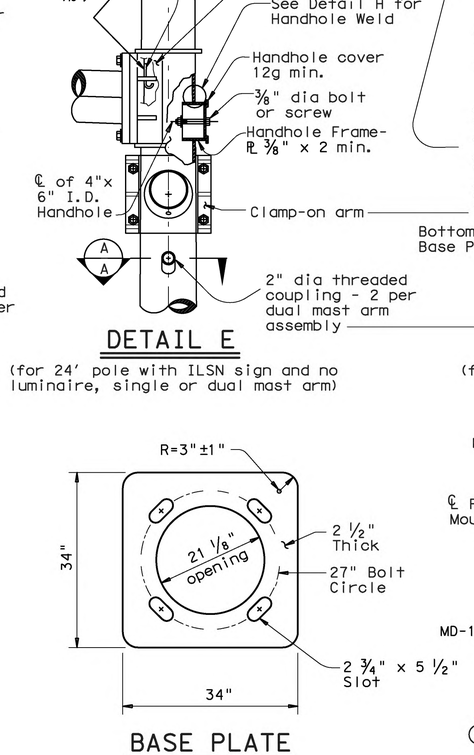
SECTION B-B

Opening for access compartment shall be no more than 1/16 inch wider than the access compartment itself.



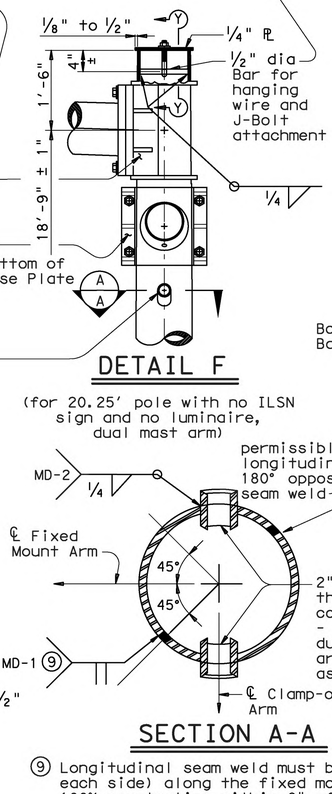
DETAIL D

(for 30' pole with luminaire and ILSN sign)



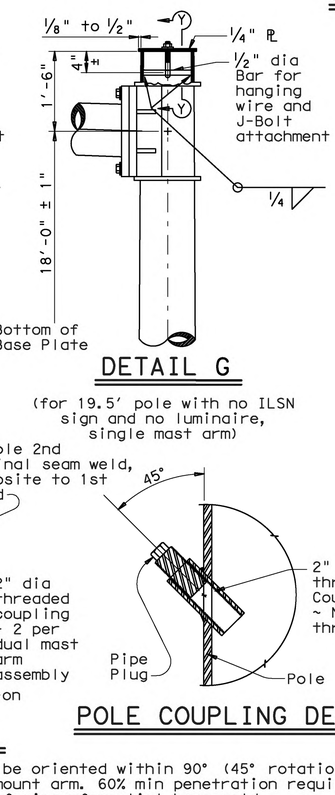
DETAIL E

(for 24' pole with ILSN sign and no luminaire, single or dual mast arm)



DETAIL F

(for 20.25' pole with no ILSN sign and no luminaire, dual mast arm)



DETAIL G

(for 19.5' pole with no ILSN sign and no luminaire, single mast arm)

POLE ELEVATION

BASE PLATE

SECTION A-A

POLE COUPLING DETAIL

(9) Longitudinal seam weld must be oriented within 90° (45° rotation each side) along the fixed mount arm. 60% min penetration required, 100% penetration within 6" of circumferential base weld.

ACCESS COMPARTMENT NOTES:

1. The cover shall be one piece formed from ABS plastic, shall be a pearl gray color, and shall be suitable for exposure to harsh sunlight and extreme weather. Cover shall latch with two screw latches and shall fit tightly to the enclosure ring to create a rainproof seal. Latch screws shall be 1/4-20 stainless flat socket head screws with tamper proof feature.
2. The pole manufacturer shall provide with each pole a separate kit consisting of: one cover with two latching assemblies, two terminal strips (Marathon #985GP12CU or approved equal), four #8-32 x 1 1/4" self tapping type "F" stainless steel pan head screws, and one ground connector (Blackburn TTC, Burndy KC22J12T13, or Ilsco SSS-5). The traffic signal contractor shall install the kit items in the field.
3. The screw hole spacing on the enclosure back plate shall be for two Marathon #985GP12 terminal strips, one Marathon #985GP06CU terminal strip, and one Bussmann #BM6032B fuse block.
4. Install one Bussmann #BM6032B, Littelfuse #L60030M-2C, or Ferraz-Shawmut #30352 fuse block for poles where luminaires are to be installed.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT) (80 AND 100 MPH WIND ZONE)

Sheet 2 of 5

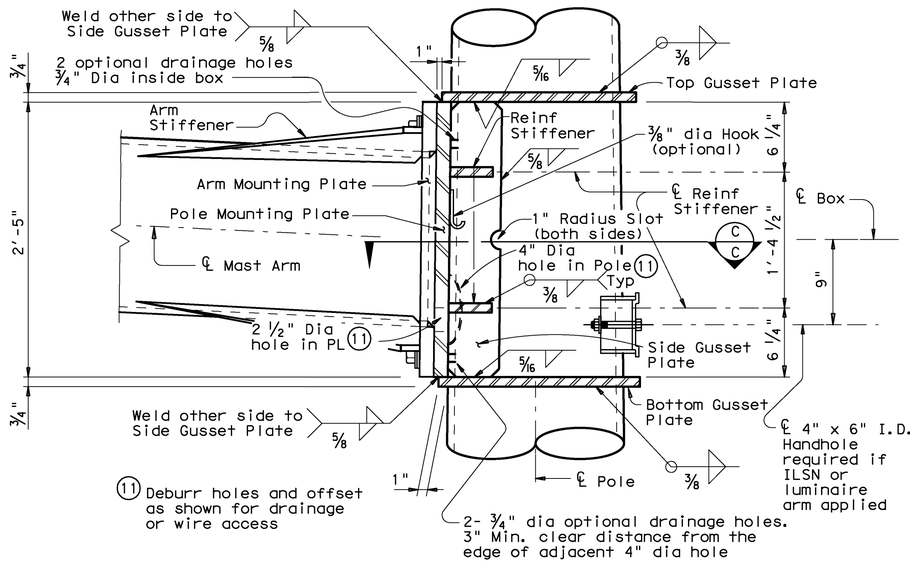
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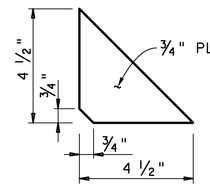
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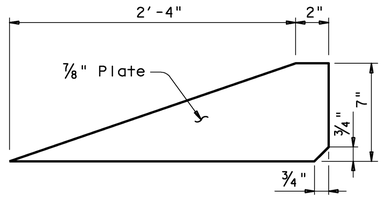
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BUILT-UP BOX CONNECTION

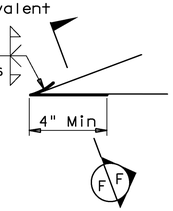


REINFORCING STIFFENER



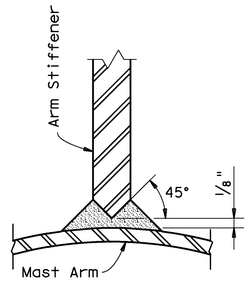
ARM STIFFENER
(Cut to match arm inclination and taper)

Provide Detail shown in SECTION F-F or equivalent 100% complete joint penetration weld from both sides.



Only 4" length at tip of Arm Stiffener requires a complete joint penetration weld. Smooth weld radius to connect Stiffener. Only a fillet weld is required for the remaining weld length.

DETAIL "K"



SECTION F-F

Fixed Mount Arm L_F	ROUND POLES (13)					Foundation Type
	D_B	$D_{19.5}$ or $D_{20.25}$	D_{24}	D_{30}	(12) thk	
ft.	in.	in.	in.	in.	in.	
50', 55' 60', 65'	21.0	18.2	17.6	16.8	.3125	48-A

Fixed Mount Arm L_F	ROUND ARMS (13)				
	L_1	D_1	D_2	(12) thk	Rise
ft.	ft.	in.	in.	in.	
50	49	18.5	11.7	.3125	3'- 3"
55	54	18.5	11.0	.3125	3'- 7"
60	59	18.5	10.3	.3125	3'-11"
65	64	18.5	9.6	.3125	4'- 4"

D_B = Pole Base O.D.
$D_{19.5}$ = Pole Top O.D. with no Luminaire and no ILSN (single mast arm)
$D_{20.25}$ = Pole Top O.D. with no Luminaire and no ILSN (dual mast arm)
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L_F = Fixed Arm Length

(12) Thickness shown is minimum, thicker materials may be used.

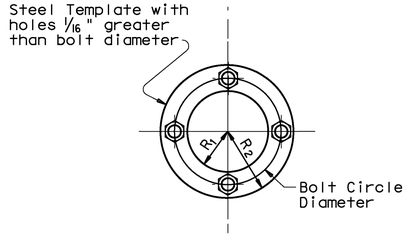
(13) Shaft profile 16-sided or 18-sided is considered to be equivalent to round section.

SECTION C-C

SECTION D-D

NUT ANCHOR
(TYPE 2)

ANCHOR BOLT ASSEMBLY



TEMPLATE DETAIL

ANCHOR BOLT & TEMPLATE SIZE						
Bolt Dia in.	Length ‡	Top Thread	Bottom Thread	Bolt Circle	R_2	R_1
2 1/2"	5'-2"	10"	6 1/2"	27"	16"	11"

‡ Min dimension given, longer bolts are acceptable.

FOUNDATION DESIGN TABLE													
FDN TYPE	DRILLED SHAFT DIA	REINFORCING STEEL		DRILLED SHAFT LENGTH-ft (16), (17), (18)			ANCHOR BOLT DESIGN (14)				FOUNDATION DESIGN LOAD (15)		TYPICAL APPLICATION
		VERT BARS	SPIRAL & PITCH	TEXAS CONE PENETROMETER N blows/ft			ANCHOR BOLT DIA	Fy (ksi)	BOLT CIR DIA	ANCHOR TYPE	MOMENT K-ft	SHEAR Kips	
				10	15	40							
48-A	48"	20 #9	#4 at 6"	21.9	19.5	14.7	2 1/2"	55	27"	2	490	10	50' to 65' Mast arm assembly.

SEE SHEET "TS-FD" FOR ADDITIONAL DETAILS.

(14) Anchor bolt design develops the foundation capacity given under Foundation Design Laods.

(15) Foundation Design Loads are the allowable moments and shears at the base of the structure.

(16) Field Penetrometer readings at a depth of approximately 3 to 5 feet may be used to adjust shaft lengths.

(17) If rock is encountered, the Drilled Shaft shall extend a minimum of two diameters into solid rock.

(18) Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

GENERAL NOTES:

Built-up Box Connection: For the welded arm-to-pole connection as a build-up box configuration illustrated here is an example only, fabricators are required to submit a shop drawing of box connection for approval. The drawing shall specify the details of each box element, welds of arm-to-pole connection, arm-to-plate socket connection, and arm rise creation. Specify the proper location of drain holes along the pole. 2 1/2" dia hole in the pole mounting plate and 4" dia hole in the pole need to be aligned for wiring access or drainage. Arm stiffeners cut to match arm inclination and taper shall also be included.

The deviation from flat for either arm or pole mounting plate shall not exceed 1/32 in., which is measured along the center of mounting plate to a radial distance of 13.5 in. The deformed-from-flat connection between arm and pole mounting plates shall not be allowed if the center of both mounting plates cannot contact directly.

Fixed mount details are used for single mast arm assemblies and for the first arm on dual mast arm assemblies.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT) (80 AND 100 MPH WIND ZONE)

Sheet 3 of 5 LMA(3)-12

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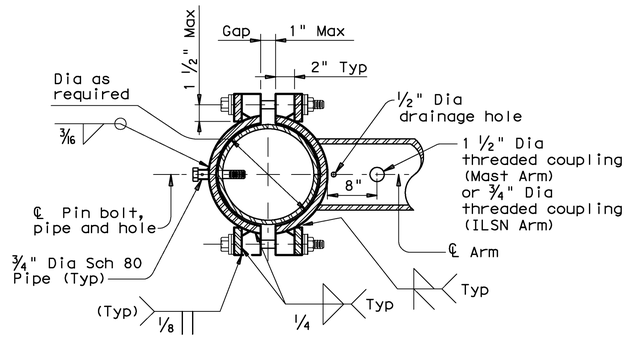
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4-20-01				
1-12				
	DIST	COUNTY		SHEET NO.
				115

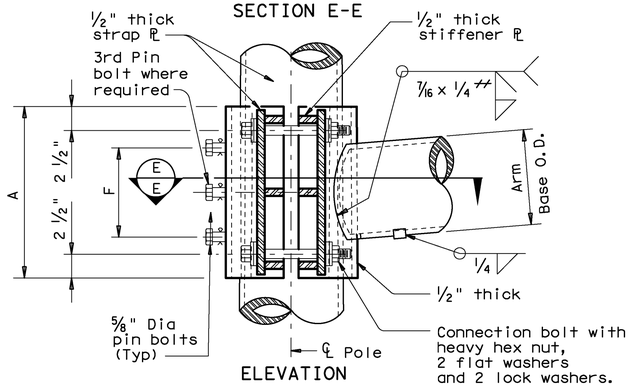
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SECTION E-E



ELEVATION
(Mast Arm or ILSN Arm to pole)

= 85% Min. Penetration

CLAMP-ON CONNECTION

80 MPH WIND

Clamp-on Arm Lc	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	thk (12)	Rise	L_1	D_1	D_2	thk (12)	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	6.5	3.8	.179	1'-9"	19.1	7.0	3.5	.179	1'-8"
24	23.1	7.5	4.3	.179	1'-10"	23.1	7.5	3.5	.179	1'-9"
28	27.1	8.0	4.2	.179	1'-11"	27.1	8.0	3.5	.179	1'-10"
32	31.0	9.0	4.7	.179	2'-1"	31.0	9.0	3.5	.179	2'-0"
36	35.0	9.5	4.6	.179	2'-4"	35.0	10.0	3.5	.179	2'-1"
40	39.0	9.5	4.1	.239	2'-8"	39.0	9.5	3.5	.239	2'-3"
44	43.0	10.0	4.1	.239	2'-11"	43.0	10.0	3.5	.239	2'-6"

100 MPH WIND

Clamp-on Arm Lc	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	thk (12)	Rise	L_1	D_1	D_2	thk (12)	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	8.0	5.3	.179	1'-8"	19.1	8.0	3.5	.179	1'-7"
24	23.1	9.0	5.8	.179	1'-9"	23.1	9.0	3.5	.179	1'-8"
28	27.1	9.5	5.7	.179	1'-10"	27.1	10.0	3.5	.179	1'-9"
32	31.0	9.5	5.2	.239	1'-11"	31.0	9.5	3.5	.239	1'-10"
36	35.0	10.0	5.1	.239	2'-0"	35.0	10.0	3.5	.239	1'-11"
40	39.0	10.5	5.1	.239	2'-3"	39.0	11.0	3.5	.239	2'-1"
44	43.0	11.0	5.1	.239	2'-8"	43.0	11.5	4.0	.239	2'-3"

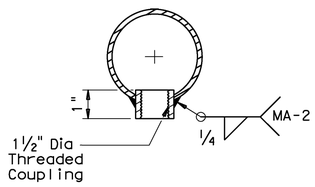
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
Lc = Clamp-on Arm Length

(12) Thickness shown is minimum, thicker materials may be used.

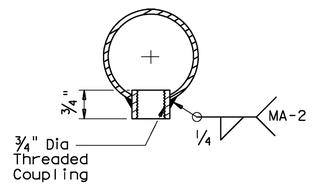
CLAMP-ON ARM CONNECTION

ILSN Arm Size		A	F	4 Conn. Bolts	5/8" Dia. Pin Bolts
Sch 40 pipe Dia	Thick			Dia	No.
in.	in.	in.	in.	in.	ea
3	.216	10	4	¾	2

Mast Arm Size		A	F	4 Conn. Bolts	5/8" Dia. Pin Bolts
Base Dia	Thick			Dia	No.
in.	in.	in.	in.	in.	ea
6.5	.179	12	6	1	2
7.5	.179	14	8	1	2
8.0	.179	14	8	1	2
9.0	.179	16	10	1	2
9.5	.179	18	12	1 ¼	3
9.5	.239	18	12	1 ¼	3
10.0	.239	18	12	1 ¼	3
10.5	.239	18	12	1 ¼	3
11.0	.239	18	12	1 ¼	3
11.5	.239	18	12	1 ¼	3



ARM COUPLING DETAIL



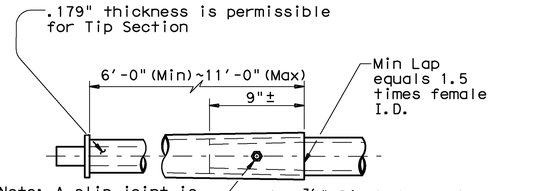
ILSN ARM COUPLING DETAIL

GENERAL NOTES:

Clamp-on details are used for the second arm on dual mast arm assemblies or ILSN arm support. For a clamp-on mast arm, a maximum 1 ½" wide vertical slotted hole may be cut in the front clamp plate to facilitate drainage during galvanizing. The slot shall be centered behind the arm and shall be no longer than the arm diameter minus 1". For an ILSN arm, a 1 ½" diameter hole shall be cut in the front clamp plate for wire access. A matched hole shall be field drilled through the pole to provide wire access after arm is oriented. Deburr both holes.

Where duplicate parts occur on a detail, welds shown for part shall apply to all similar parts on the detail.

Pin bolts are required to prevent rotation of clamp-on arms under design wind forces. Pin bolts shall be ASTM A325 with threads excluded from the shear plane. Pin bolt and ¾" diameter pipe shall have 3/16" diameter holes for a 1/8" diameter galvanized cotter pin. Back clamp plate shall be furnished with a ¾" diameter hole for each pin bolt. An 11/16" diameter hole for each pin bolt shall be field drilled through the pole after arm orientations have been approved by the Engineer.

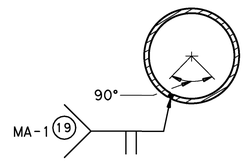


Note: A slip joint is permissible for arms 40' and greater in length. The slip joint shall be made in the shop, but may be match marked and shipped disassembled.

SLIP JOINT DETAIL (CLAMP-ON ARM)

Stainless steel bands (or Cables) and cast bracket as in "Astro-Brac", "Sky Bracket" or "Easy Bracket" with 1 ½" Dia Threaded Coupling.

BRACKET ASSEMBLY



ARM WELD DETAIL

(19) Longitudinal Seam Weld must be oriented within the lower 90° of the signal arm.
60% Min penetration
100% penetration within 6" of circumferential base welds.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT) (80 AND 100 MPH WIND ZONE)

Sheet 4 of 5 LMA(4)-12

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DN: JK	CK: GRB	DW: FDN	CK: CAL

REVISIONS	CONT	SECT	JOB	HIGHWAY
4-20-01				
1-12				

DIST	COUNTY	SHEET NO.
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Shipping Parts List						
Ship each pole with the following attached: enlarged hand hole, pole cap, fixed arm connection bolts and washers, and any additional hardware listed in the table.						
Nominal Arm Length	30′ Poles with Luminaire See note above plus: one (or two if ILSN attached) small hand hole, clamp-on simplex		24′ Poles with ILSN See note above plus one small hand hole		19.50′ (Single Mast Arm) 20.25′ (Dual Mast Arm) Poles with no Luminaire and no ILSN See note above	
Single Mast Arm						
Lf ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
50	50L	6	50S		50	
55	55L		55S		55	
60	60L		60S		60	
65	65L		65S		65	
Dual Mast Arm						
Lf ft. / Lc ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
50 / 20	5020L		5020S		5020	
50 / 24	5024L	1	5024S		5024	
50 / 28	5028L		5028S		5028	
50 / 32	5032L		5032S		5032	
50 / 36	5036L	1	5036S		5036	
50 / 40	5040L		5040S		5040	
50 / 44	5044L		5044S		5044	
55 / 20	5520L		5520S		5520	
55 / 24	5524L		5524S		5524	
55 / 28	5528L		5528S		5528	
55 / 32	5532L		5532S		5532	
55 / 36	5536L		5536S		5536	
55 / 40	5540L		5540S		5540	
55 / 44	5544L		5544S		5544	
60 / 20	6020L		6020S		6020	
60 / 24	6024L		6024S		6024	
60 / 28	6028L		6028S		6028	
60 / 32	6032L		6032S		6032	
60 / 36	6036L		6036S		6036	
60 / 40	6040L		6040S		6040	
60 / 44	6044L		6044S		6044	
65 / 20	6520L		6520S		6520	
65 / 24	6524L		6524S		6524	
65 / 28	6528L		6528S		6528	
65 / 32	6532L		6532S		6532	
65 / 36	6536L		6536S		6536	
65 / 40	6540L		6540S		6540	
65 / 44	6544L		6544S		6544	

Shipping Parts List		
Traffic Signal Arms (Fixed Mount) (1 per pole) Ship each arm with listed equipment attached		
Nominal Arm Length	Type IV Arm (4 Signals) 3 Bracket Assembly and 4 CGB Connectors	
ft.	Designation	Quantity
50	50IV	8
55	55IV	
60	60IV	
65	65IV	

Luminaire Arms (1 per 30′ pole)

Nominal Arm Length	Quantity
8′ Arm	8

ILSN Arm (Max. 2 per pole) Ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7′ Arm	
9′ Arm	10

Traffic Signal Arms (80 MPH Clamp-On Mount) (1 per pole) Ship each arm with listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal) 2 CGB connector and 1 clamp w/bolts and washers		Type II Arm (2 Signals) 1 Bracket Assembly and 3 CGB connectors, and 1 clamp w/bolts and washers		Type III Arm (3 Signals) 2 Bracket Assembly and 4 CGB connectors, and 1 clamp w/bolts and washers	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-80					
24	24I-80		24II-80			
28	28I-80		28II-80			
32			32II-80		32III-80	
36			36II-80		36III-80	
40					40III-80	
44					44III-80	

Traffic Signal Arms (100 MPH Clamp-On Mount) (1 per pole) Ship each arm with listed equipment attached

Nominal Arm	Type I Arm (1 Signal) 2 CGB connector and 1 clamp w/bolts and washers		Type II Arm (2 Signals) 1 Bracket Assembly and 3 CGB connectors, and 1 clamp		Type III Arm (3 Signals) 2 Bracket Assembly and 4 CGB connectors, and 1 clamp	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100	1		
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100	1	36III-100	
40					40III-100	
44					44III-100	

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
2 1/2 "	5′ - 3"	8

Each anchor bolt assembly consists of the following: Top and bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers and 4 nut anchor devices (type 2) per Standard Drawing "TS-FD". Templates may be removed for shipment.

Foundation Summary Table **

Location Ident.	Avg. N Blow/ft.	No. Each	Drill Shaft *** Length (feet)
			48-A
International Blvd @ E. Elizabeth St - W. University Blvd			
	10	1	22
International Blvd @ E.Washington St	10	1	22
International Blvd @ E. Adams St	10ms	1	22
International Blvd @ E. Jeferson St	10	1	22
International Blvd @ E. Monroe S//Ridgely Rd			
	10	2	44
International Blvd @ E. Tayler Street	10	1	22
International Blvd @ E. Polk St	10	1	22
Total Drill Shaft Length			176

Notes

** Foundations may be listed separately or grouped according to similarity of location and type. Quantities are for the Contractor's information only.

*** Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

Abbreviations
Lf= Fixed Arm Length
Lc= Clamp-on Arm Length (44′ Max.

STATE OF TEXAS
KETI BORISLAVOVA HRISTOVA
90998
REGISTERED PROFESSIONAL ENGINEER

F-14592
3/20/2026

Texas Department of Transportation
Traffic Operations Division

LONG MAST ARM ASSEMBLY PARTS LIST

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Sheet 5 of 5

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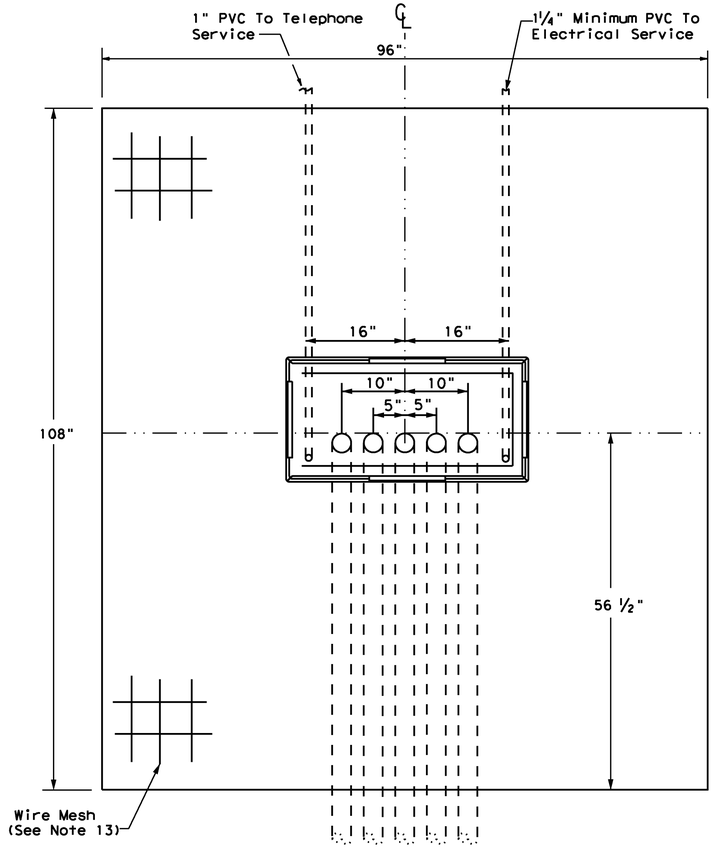
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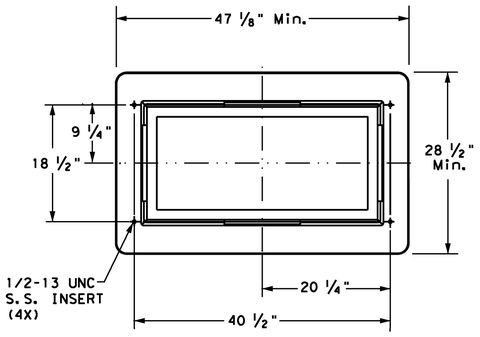
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DIST	COUNTY		SHEET NO.
			117

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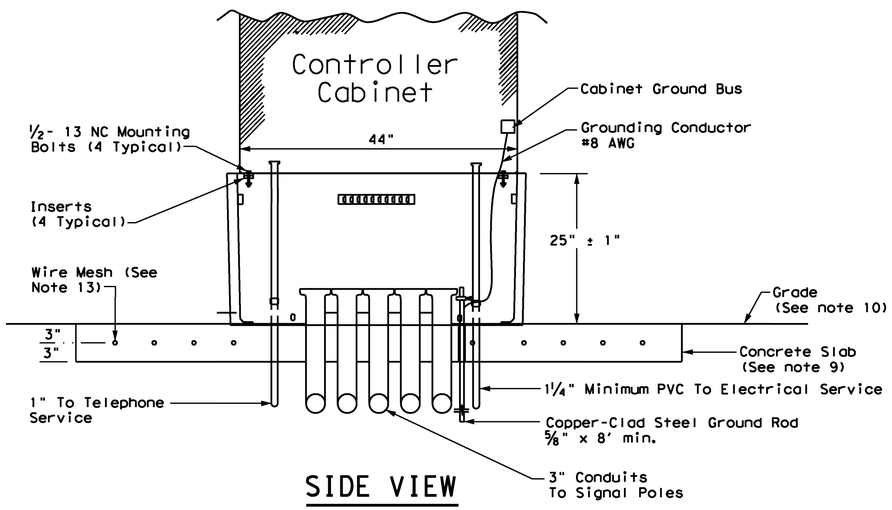
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TOP VIEW



CABINET BASE



SIDE VIEW

TRAFFIC SIGNAL CONTROLLER BASE:

1. Provide a traffic signal controller base (cabinet base) manufactured of polymer concrete material consisting of calcareous and siliceous stone; glass fibers and thermoset polyester resin. The polymer concrete cabinet base must be reinforced on the inside of the cabinet base with fiberglass matting. Provide one of the following bases: Armorcast Part # A6001848X24, Quazite Model # PG3048Z709, or other as approved by TxDOT Traffic Safety Division.
2. The polymer concrete material must have a minimum compressive strength of 10,300 pounds per square inch (psi), minimum flexural strength of 3600 psi, and minimum shear strength of 3600 psi.
3. The polymer concrete cabinet base must conform to the dimensions shown and must accommodate a standard TxDOT basemount cabinet.
4. Supply the cabinet base with four 1#2"-13 UNC stainless steel inserts for attachment of the cabinet to the base. Inserts must withstand a minimum torque of 50 ft-lb and a minimum straight pull out strength of 750 lbs.
5. Provide the cabinet base with 4 cable racks mounted one on each side of the base 2" to 7 " from the top edge of the base. Unless approved otherwise, cable racks must be 1-1/2 x 9#16x 3#16inch steel channel with eight T-slots spaced at 1-1/2 inches. The cable racks must easily accommodate the insertion of tie wraps to attach field wiring to the racks to serve as strain relief. Secure cable racks to the base using 1#2"-13 UNC stainless steel screws and inserts.
6. The cabinet base, when secured to the concrete slab with controller cabinet attached, must withstand a minimum wind load of 125 mph or a 850 lb force applied at 49" above the bottom of the base without causing the base or cabinet to come out of their anchored position or cause any permanent deformation. The manufacturer must supply certification by an independent testing laboratory or sealed by a Texas Licensed Professional Engineer. Provide the cabinet base with hardware for attachment to a concrete slab.
7. The traffic signal base must be permanently marked either by impress or by permanent ink with the manufacturer's model number and name or logo.
8. Seal the base to the concrete with a silicone caulk bead and fastened to the slab per manufacturer's instructions.

CONCRETE SLAB:

9. Traffic signal controller pad must be a portland cement concrete slab poured in place, must conform to the dimensions shown, and must be level.
10. Grade earthwork such that it is flush with the concrete pad on all four sides, unless otherwise shown on the plans. Subsidiary to ITEM 680, four inch rip rap may be used in lieu of earthwork. Slopes shall gradually contour to match plans.
11. Bond a #8 AWG copper ground wire and an 8 ft ground rod bonded to the reinforcing mesh by a suitable UL Listed clamp and terminated to the cabinet grounding bus for the purpose of providing a local ground for the electrical grounding conductor. The electrical grounding conductor specified in Item 680-3.A.4 is required and must be terminated to the cabinet ground bus.
12. Install a PVC sleeve to prevent the ground rod from direct embedment in the slab.
13. Provide welded wire mesh 6X6-W2.9 X W2.9 for reinforcement. Provide joints and splices in the mesh with a minimum 6-inch overlap. Center the mesh between top and bottom and provide a minimum 3 inch cover on the edges.
14. Provide Class B concrete minimum for the slab in accordance with Item 421. Construct the slab in accordance with Item 531.

CONDUITS:

15. Stub up and run 3-inch conduits through the slab to the various traffic signal poles and ground boxes as shown on the layouts. Install the number of conduits as shown on layouts plus two additional 3 inch conduits for future use. Terminate the conduits with a bushing between 2 and 4-inches above the slab.
16. Extend conduits for future use at least 18-inches from the edge of the slab, terminate underground with a coupling, and cap and seal so that the seal can be removed without damaging the coupling. This must also apply to unused telephone conduit.
17. Stub up two separate conduits through the slab from the electrical and telephone services. Run the conduit for the electrical feed directly to the electrical service enclosure. Run the conduit for the telephone line directly to the telephone service, usually located on the same pole as the electrical service. Telephone must not under any circumstance share a conduit with any other function.
18. Terminate electric and telephone conduits above the slab with a coupling. After the base is installed, extend the conduits above the top of the base and secure to the base using a steel one-hole strap or similar suitable substitute.

CONTROLLER CABINET:

19. Anchor the controller cabinet to the base using four stainless steel 1/2-13 NC bolts.
20. The silicone caulk bead specified in Item 680.3.B must be RTV 133.

PAYMENT:

21. Bid TS-CF as subsidiary to Item 680.

Texas Department of Transportation

Traffic Safety Division Standard

TRAFFIC SIGNAL CONTROLLER CABINET BASE AND PAD

TS-CF-21

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132

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ROADWAY ILLUMINATION ASSEMBLY NOTES

1. Details apply to roadway lighting installations bid or referenced under Item 610, "Roadway Illumination Assemblies." Provide, furnish, and install all other materials not shown on the plans which may be necessary for complete and proper construction. Where manufacturers provide warranties or guarantees as a customary trade practice, furnish to the State such warranties or guarantees.

2. The locations of poles and fixtures may be shifted by the Engineer to accommodate local conditions. Install or remove poles and luminaires located near overhead electrical lines using established industry and utility safety practices and in accordance with laws governing such work. Consult with the appropriate utility company prior to beginning such work.

3. Provide new and unused materials. Ensure that all materials and installations comply with the applicable articles of the National Electrical Code (NEC),TxDOT standards and specifications, National Electrical Manufacturers Association (NEMA),and are listed by Underwriters Laboratories (UL) or a Nationally Recognized Testing Lab (NRTL). NRTLs such as Canadian Standard Association, Intertek Testing Services NA Inc., or FM Approvals LLC can be considered equivalent to UL. Faulty fabrication or poor workmanship in any material, equipment, or installation is justification for rejection.

4. Provide Roadway Illumination Light Fixtures as per TxDOT Departmental Material Specification (DMS) 11010, Item 610, and as shown on the Material Producers List (MPL) for Roadway Illumination and Electrical Supplies.

5. Fabricate steel roadway illumination poles in accordance with Roadway Illumination Poles (RIP) standards and Item 610. Poles fabricated according to RIP standards do not require shop drawing submittals.

   a. Alternate designs to RIP standards or the use of aluminum to fabricate poles will require the submission of shop drawings electronically. For instructions on submitting shop drawings electronically see "Guide to Electronic Shop Drawing Submittal" on the TxDOT web site.

   b. Limitations on use of the RIP standard: The RIP standard details were developed for installations in locations where the 3-second gust basic maximum wind speed is 110 mph, and where the elevation of the base of the pole is less than (i.e. not more than) 25' above the elevation of the surrounding terrain, in accordance with the "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals," 6th Edition (2013) of the AASHTO Design Specifications. For poles to be installed in regions where the maximum basic wind speed exceeds 110 mph or to be mounted more than 25' above the surrounding terrain, provide poles meeting the following requirements:

      i. Submittals. Following the electronic shop drawing submittal process (see Guide to Electronic Shop Drawing Submittal on the TxDOT web site), submit to the Engineer for approval fabrication drawings and calculations for the poles, sealed by a Texas licensed professional engineer (P.E.).

      ii. Luminaire Structural Support Requirements. Provide light poles, arms, and anchor bolt assemblies with a 25 year design life to safely resist dead loads, ice loads and the required basic wind speeds at the location of installation in accordance with the 6th edition (2013) of the AASHTO Design Specifications. For transformer base poles, include transformer base and connecting hardware in calculations and shop drawing submittals. Structurally test all transformer bases to resist the theoretical plastic moment capacity of the pole. Submit certification of the plastic moment load test and FHWA breakaway requirement test of the model of base being furnished with the shop drawings. Show breakaway base model number, manufacturer's name, and logo on shop drawings. Include on manufacturer's shop drawings the ASTM designations for all materials to be used.

6. For both transformer and shoe-base type illumination poles, provide and install double-pole breakaway fuse holders as specified by DMS-11040. Breakaway fuse holders are listed on the MPL for Roadway Illumination and Electrical Supplies under Items 610 & 620. Provide 10 amp time delay fuses for breakaway connectors in light poles, or inside the light fixture for underpass luminaires. In each pole, connect luminaires to the breakaway connector with continuous stranded 12 AWG copper conductors as listed on the MPL. Bond all equipment grounding conductors together and to the ground lug in the transformer base or hand hole.

7. Tighten anchor bolts for shoe base, concrete traffic barrier base, and bridge mount roadway illumination poles, in accordance with Item 449.

8. Install T-Base with following procedure:

   a. Anchor Bolt Tightening.

      i. Coat the threads of the anchor bolts with electrically conductive lubricant.

      ii. Place the T-base over the anchor bolts. Foundation must be level and flat. The maximum permissible gap under any one corner of the t-base is 1/8" before nuts are tightened.

      iii. Coat the bearing surfaces of the nuts and washers with electrically conductive lubricant. Install (1) 1/2" hold down washer, (1) lock washer, and (1) nut on each anchor bolt. Turn the nuts onto the bolts so that each is hand-tight against the washer.

      iv. Using a torque wrench, tighten each nut to 150 ft-lb. Uniform contact is required between the foundation and the T-base in the corner regions of the T-base, and all corner gaps must be closed after applying torque. If a gap still exists after torquing to 150 ft-lbs, continue torquing each bolt incrementally until gap is closed or maximum allowable torque of 250 ft. pound is reached, whichever comes first. If 250 ft-lbs is not enough to close the gap the foundation must be leveled. Gaps along the straight sides of the T-bases and the foundation are permissible. Ensure that no high point of contact occurs between the straight sides of the T-base and the foundation.

      v. Check top of T-base for level. If not level then foundation must be leveled.

   b. Top Bolt Procedure

      i. Erect pole over T-base with crane. Coat bolts, nuts, washers, and lock washers with electrically conductive lubricant.

      ii. Install bolts and 1/2" connecting washers from the inside of the T-base, thread up through the pole base. Install flat washers, lock washers and nuts snug tight according to Item 447, "Structural Bolting."

      iii. Tighten each nut to 150 ft-lb. using a torque wrench.

   c. Level and Plumb

      i. Ensure pole is plumb and mast arm is perpendicular to the roadway according to plans to within 5 degrees.

9. Construct luminaire pole foundations in accordance with Item 416, "Drilled Shaft Foundations," and TxDOT standard sheet RID(2).

10. Provide and install underpass luminaires in accordance with Item 610, DMS-11010, and TxDOT standard sheet RID(3). Typical luminaire size for underpass luminaires is 150W HPS or 150W EQ LED.

11. Mount luminaires on arms level as shown by the luminaire level indicator.

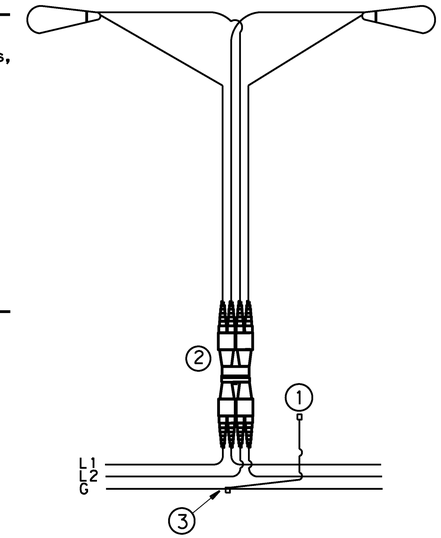
12. Orient luminaires perpendicular to the roadway intended to be lit unless otherwise shown on the plans.

Wiring Diagram Notes:

(1) Use 1/2 in.-13 UNC threaded, copper or tin-plated copper, pole bonding connector, sized appropriately for conductors, bonded to T-base, or use ground lug in handhole as available.

(2) Use pre-qualified two-pole breakaway connectors for all luminaire pole installations. For luminaires fed by a circuit with a neutral conductor, use double pole breakaway connectors with the neutral side unfused and marked white.

(3) Split Bolt or other connector.



L1,L2 = Hot Conductors
G = Grounding Conductor

TYPICAL WIRING DIAGRAM

LUMINAIRES SERVED AT 480V ON 240/480 VOLT SERVICE OR LUMINAIRES SERVED AT 240V FOR 120/240 VOLT SERVICE.

Decorative LED Lighting Notes:

1. LED Drivers in Remote Outdoor enclosures (for drivers that do not include an enclosure as part of a factory assembly):

   a. Provide NEMA 3R outdoor enclosure or as approved.

   b. Install enclosure at least 12" above ground or other horizontal surface. Mount vertically or on ceiling, and avoid direct sun where possible.

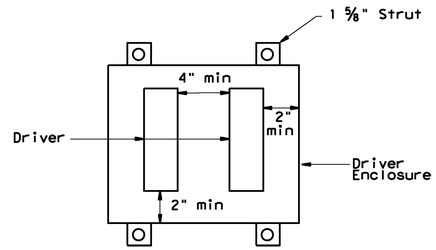
   c. Install drivers with at least 2 inches of space from enclosure walls.

   d. For multiple drivers in an enclosure, provide at least 4 inches side to side and 1 inch end to end from other drivers or electronic equipment

   e. For drivers mounted on back wall of enclosure, mount enclosure on 1 5/8" strut or other standoff to dissipate heat, or mount driver to side of the enclosure or to the metal cover.

   f. Provide remote drivers with a maximum of 100 watts

   g. Provide drivers with documentation of 100,000 hr lifetime at Tcase of 65C or higher.



Driver Spacing In Remote Enclosure

Texas Department of Transportation

Traffic Safety Division Standard

ROADWAY ILLUMINATION DETAILS

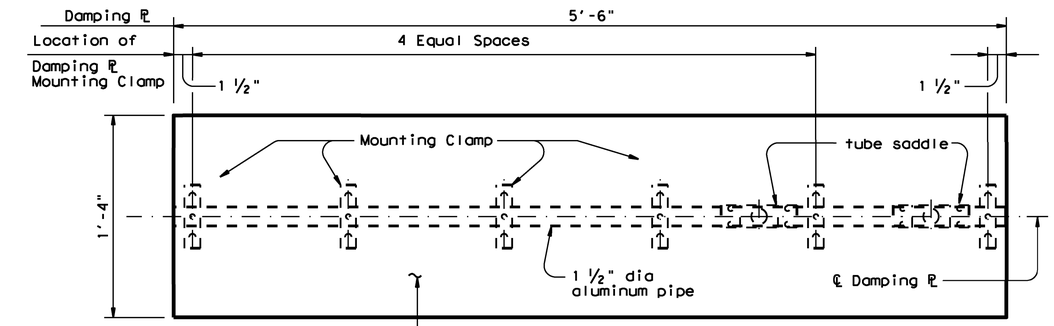
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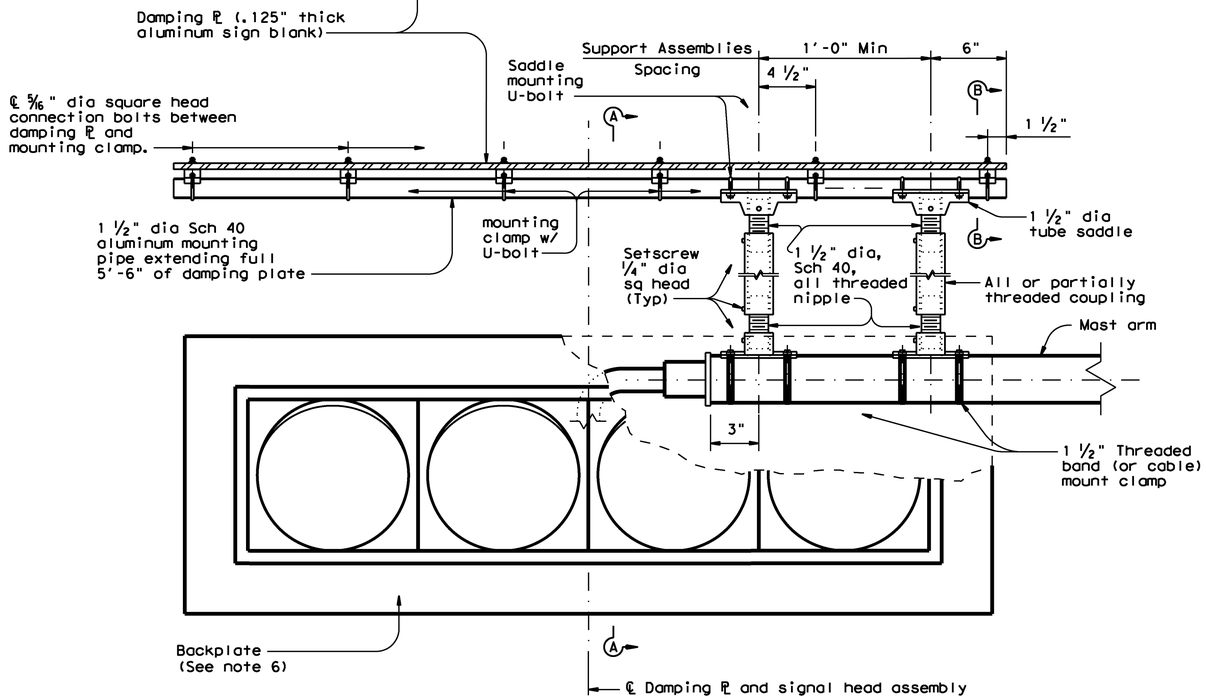
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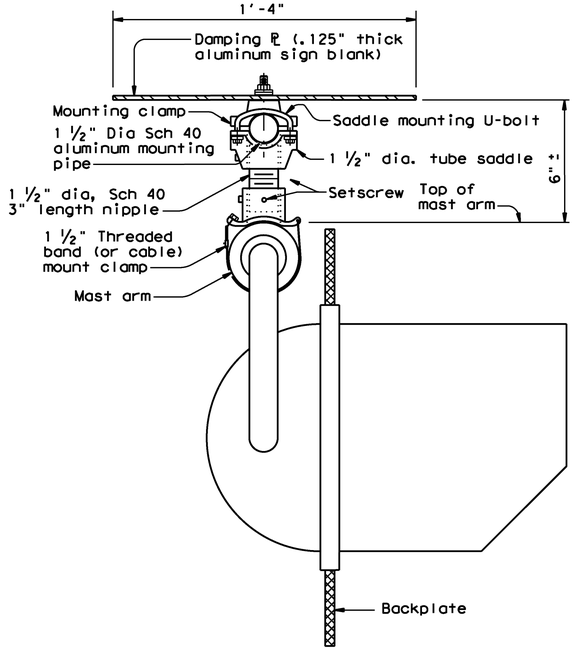
PLAN



ELEVATION

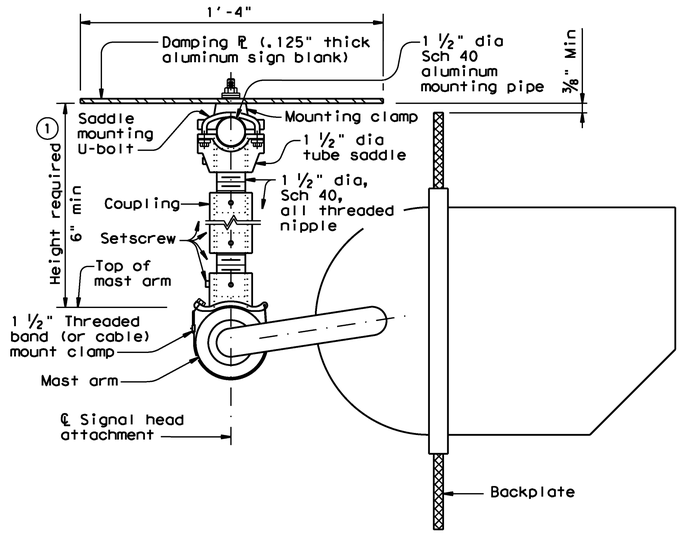
DAMPING PLATE MOUNTING DETAILS

(Showing alternate placement of signal head)



SECTION A-A

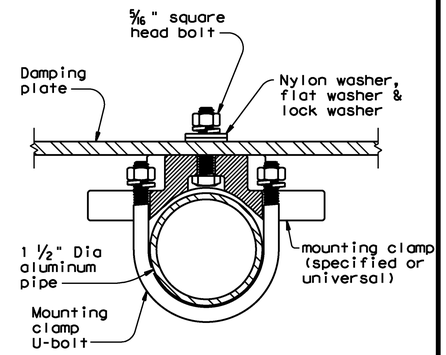
(Showing standard placement of signal head)
(Mounting clamp U-bolt is not shown for clarity)



SECTION A-A

(Showing alternate placement of signal head)
(Mounting clamp U-bolt is not shown for clarity)

① Recommended supporting assemblies to achieve required height for horizontal section heads			
Height required	One nipple each length	Two nipples each length plus	One coupling each length
6"-6 ¾"	3"	-	-
7"-8 ½"	4"	-	-
9"-10 ½"	6"	-	-
11"-15 ½"	-	4"	5"
16"-24"	-	6"	10"



SECTION B-B

(Showing damping plate attachment)

GENERAL NOTES:

1. In accordance with the findings of TxDOT sponsored research, the installation of a damping plate in accordance with the details shown here at the end of signal mast arms of SMA and DMA standard structures reduces excessive harmonic vertical vibration, and thus fatigue damage. Any deviation from these details may reduce the effectiveness of this damping device.
2. Aluminum sign blank for damping plate will conform to Departmental Material Specifications DMS-7110. Materials for mast arm mounting clamp and tube saddle will be aluminum castings or aluminum alloys as in accordance with manufacturers' stipulations. Mounting pipe, pipe nipple and coupling will be aluminum alloy 6061-T6 or 6063-T6. Damping plate mounting clamp and u-bolt assemblies will conform to Standard sheet SMD(GEN). U-bolts for saddle mounting will have a minimum yield strength of 36 ksi.
3. Damping plate will be mounted horizontally. Position centerline of damping plate to align with centerline of mast arm or horizontal signal head assembly. Vertical clearance between signal head (with or without backing plate) and bottom of damping plate will be maintained as shown. The attachments shown here are examples only, other supporting details which meet both alignment and vertical clearance requirements are also acceptable.
4. Unless stipulated by the manufacturers, all steel parts will be galvanized finish in accordance with Standard Specification Item 445, "Galvanizing".
5. Contractor will verify applicable field dimensions before the installation.
6. Backplates are optional for traffic signals. When backplates are used, Backplates will have a 2-inch fluorescent yellow AASHTO Type B_{FL} or C_{FL} retroreflective border conforming to TxDOT DMS-8300 "Sign Face Materials." See Sheet TS-BP-20 for backplate details.

Texas Department of Transportation

Traffic Safety Division Standard

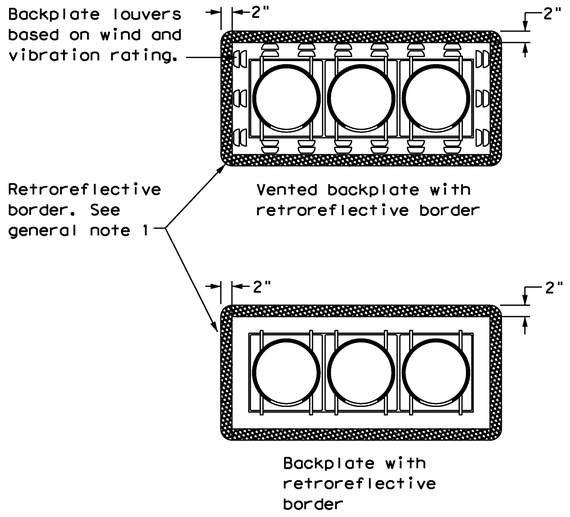
MAST ARM DAMPING PLATE DETAILS

MA-DPD-20

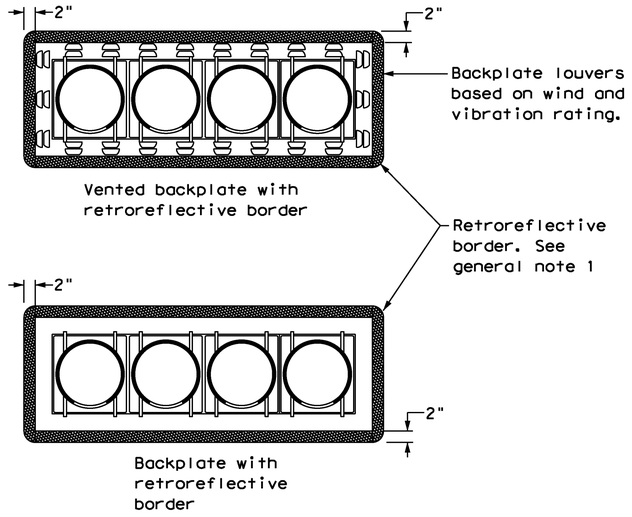
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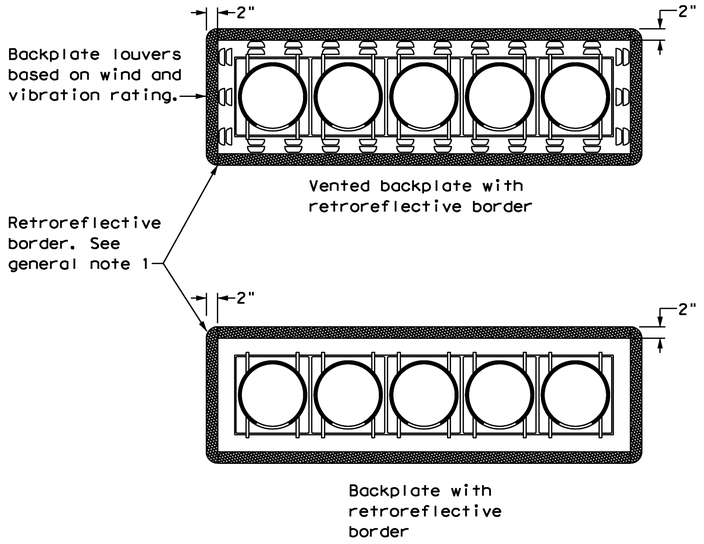
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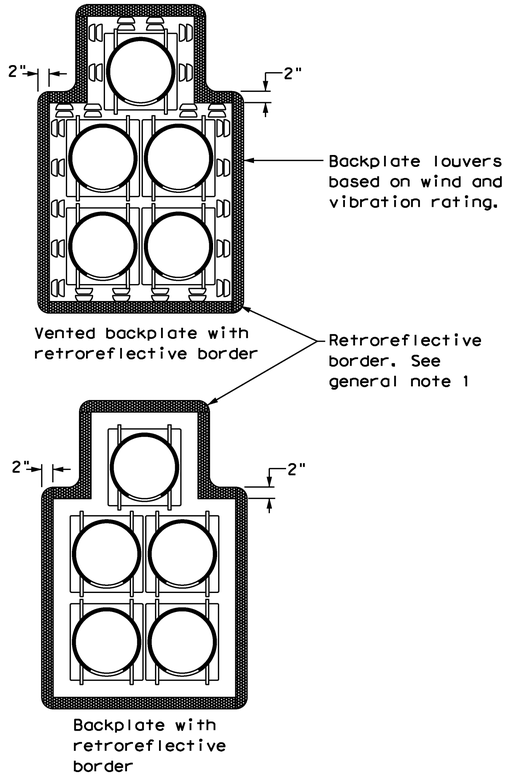
THREE-SECTION HEAD
HORIZONTAL OR VERTICAL



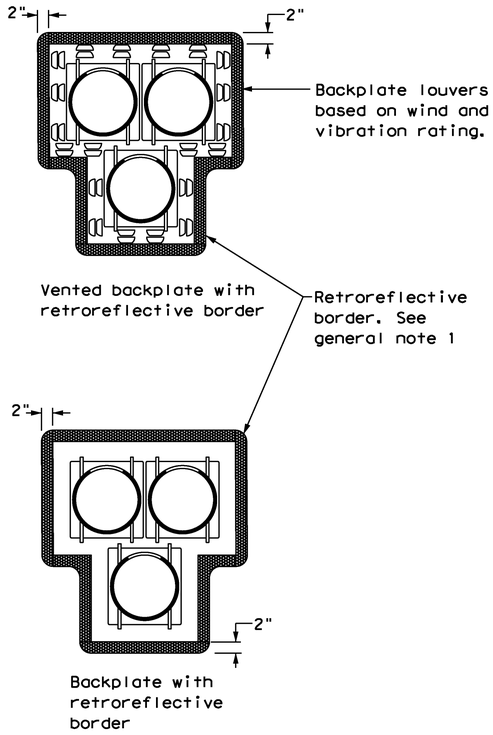
FOUR-SECTION HEAD
HORIZONTAL OR VERTICAL



FIVE-SECTION HEAD
HORIZONTAL OR VERTICAL



FIVE-SECTION HEAD
CLUSTER



PEDESTRIAN HYBRID
BEACON

GENERAL NOTES:

1. Backplates are optional for traffic signals and pedestrian hybrid beacons. When backplates are used, a 2-inch wide fluorescent yellow AASHTO Type B_{FL} or C_{FL} retroreflective border conforming to TxDOT DMS-8300 is required. Place on all approaches when used.
2. Signal head and backplate compatability must be verified by the contractor prior to installation.
3. When using backplates on signal heads, venting is preferred to reduce cyclic vibration stress.
4. When a vented backplate is used, the retroreflective border must not be placed over the louvers.
5. This standard sheet applies to all signal heads with backplates, including but not limited to:
   - Pole mounted
   - Overhead mounted
   - Span wire mounted
   - Mast arm mounted
   - Vertical signal heads
   - Horizontal signal heads
   - Clustered signal heads
   - Pedestrian hybrid beacons

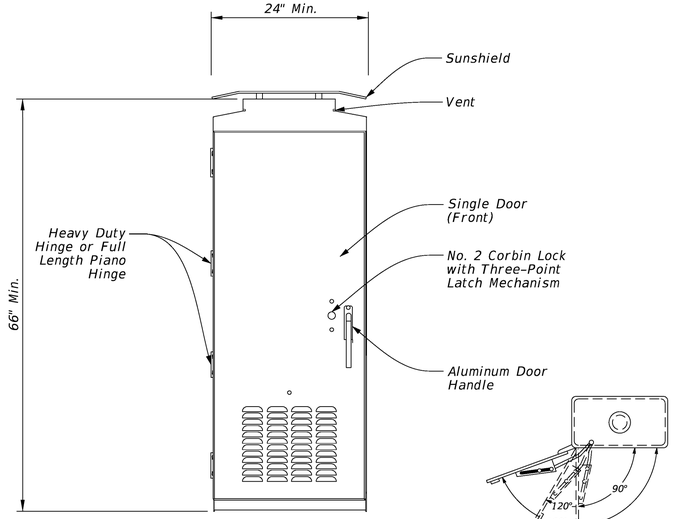
Texas Department of Transportation

Traffic Safety Division Standard

TRAFFIC SIGNAL HEAD WITH BACKPLATE
TS-BP-20

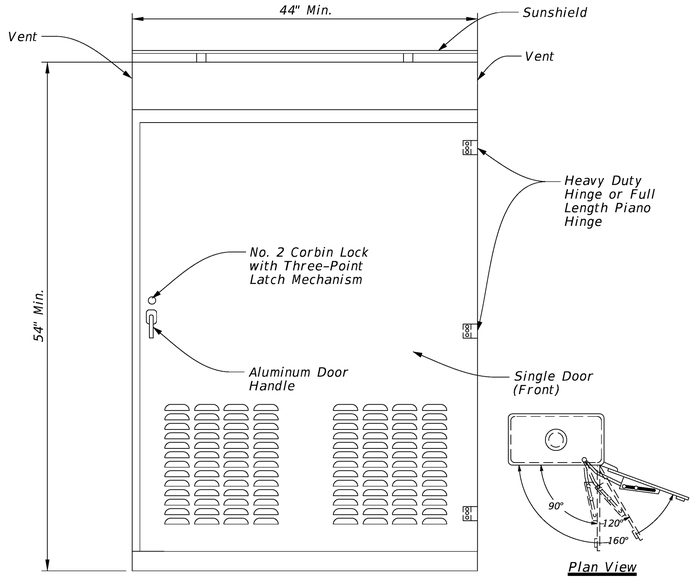
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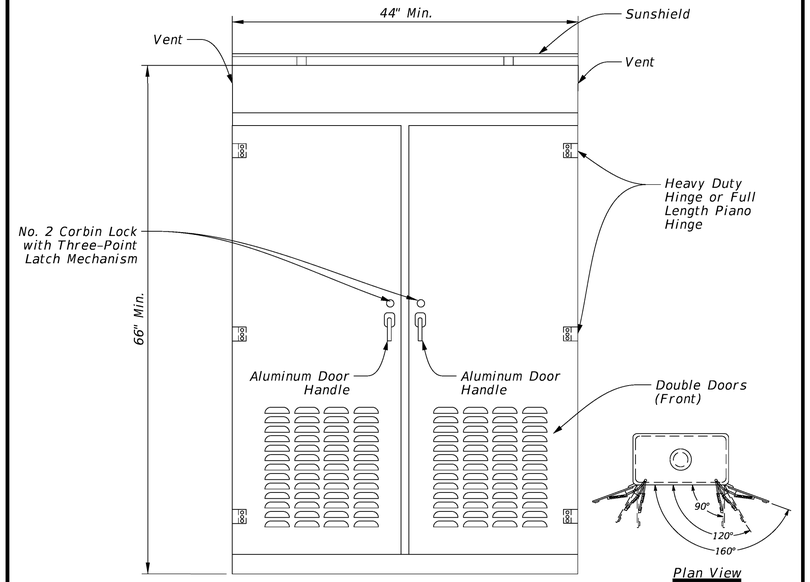
Type 4 (Small) Cabinet
Front View

Plan View
Door Stop Detail
(3 Positions)



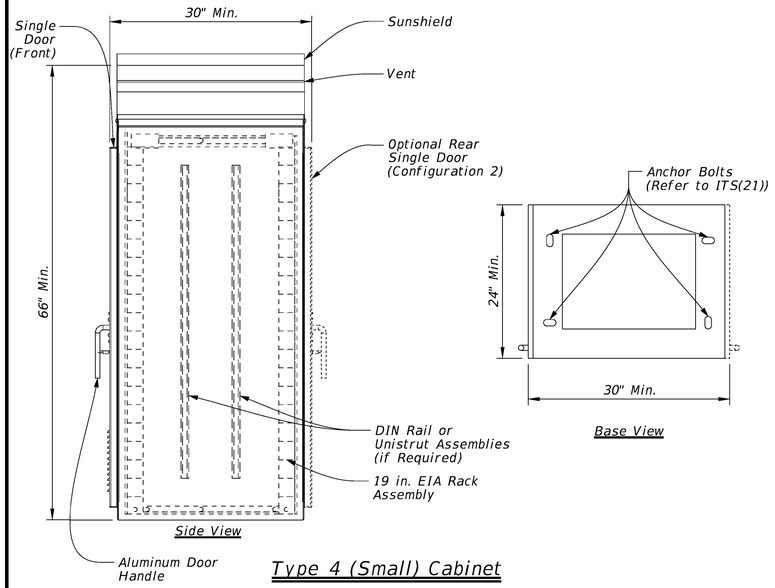
Type 5 (Medium) Cabinet
Front View

Plan View
Door Stop Detail
(3 Positions)



Type 6 (Large) Cabinet
Front View

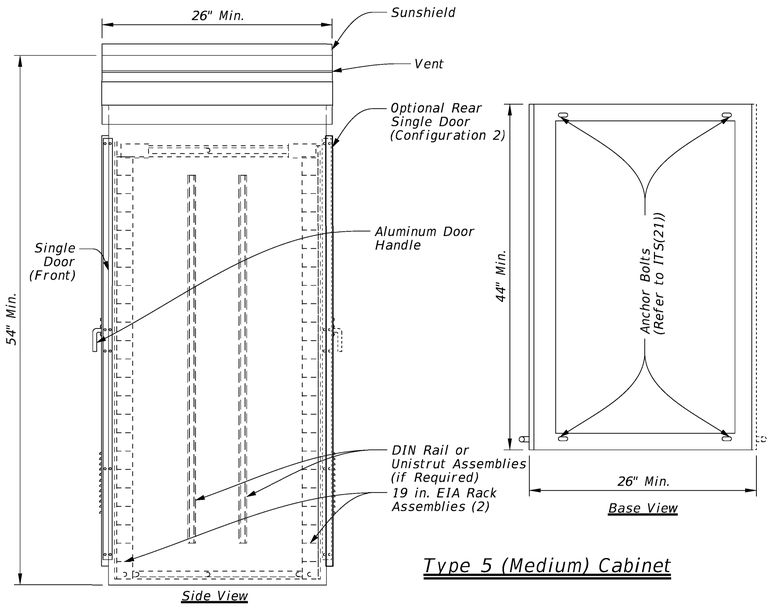
Plan View
Door Stop Detail
(3 Positions)



Side View

Base View

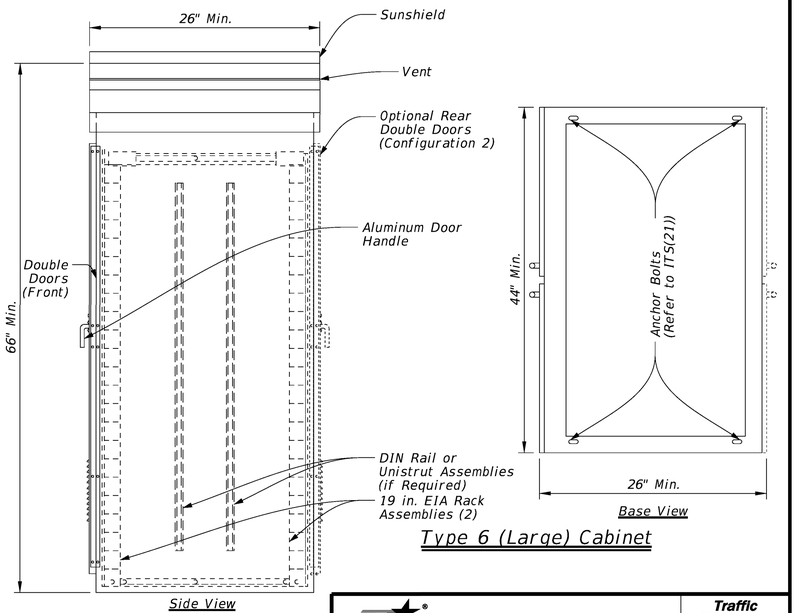
Type 4 (Small) Cabinet



Side View

Base View

Type 5 (Medium) Cabinet



Side View

Base View

Type 6 (Large) Cabinet

General Notes:

1. Cabinet hardware equipment and door configuration shown is diagrammatic in nature and intended to represent a preferred ground mounted cabinet setup. Door orientation may vary and will be noted in the plans. The contractor will be responsible for configuring cabinets with all appropriate ITS hardware and power supplies in accordance with the plans and specifications. The contractor may alter the cabinet configuration shown to maximize space and ensure easy access for maintenance.
2. All dimensions are approximate and represent minimum dimensions.
3. Provide conduit entrances at the bottom of the cabinet.
4. Paid under Special Specification "ITS Ground Mounted Cabinet" (Configuration 1) with single door. Paid under Special Specification "ITS Ground Mounted Cabinet" (Configuration 2) for rear door option.
5. Sunshield to be mounted to cabinet using nuts, bolts, and spacers. Water proof sealant to be used at cabinet surface/bolt contact points.

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Texas Department of Transportation

Traffic Operations Division Standard

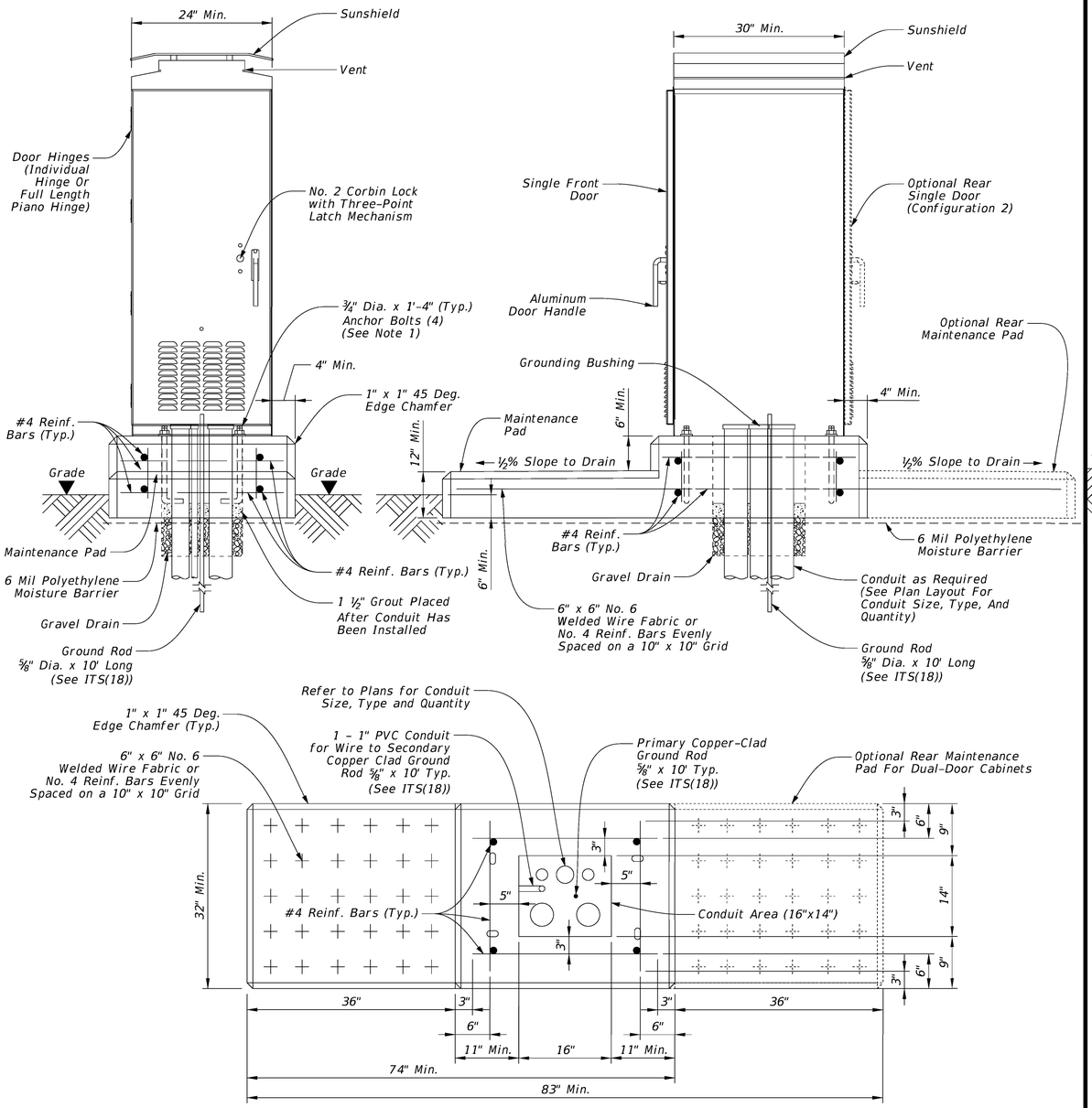
ITS GROUND MOUNTED CABINET ELEVATION DETAILS

ITS(20)-15

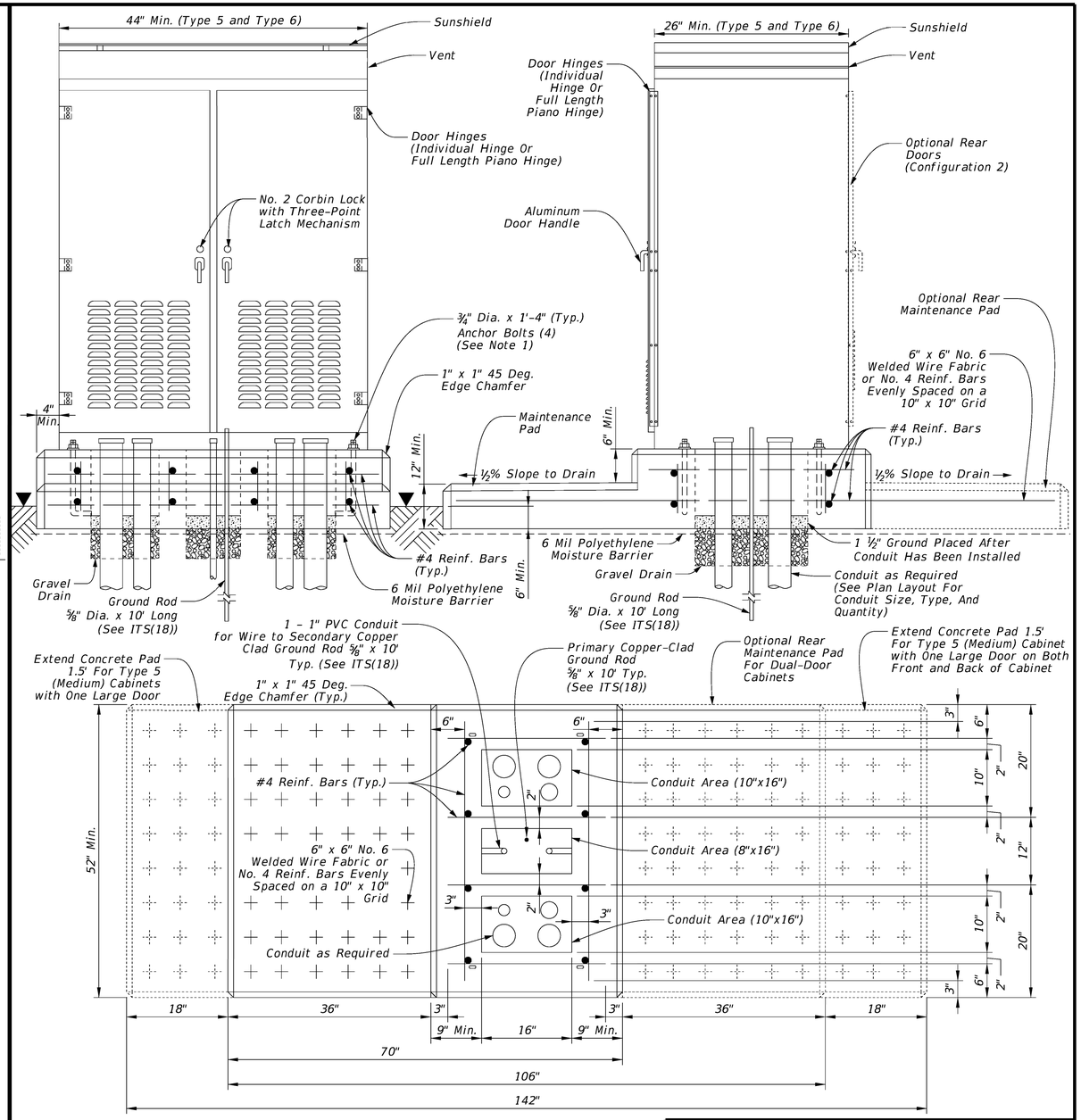
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Type 4 (Small) Cabinet



Type 5 (Medium) & Type 6 (Large) Cabinet

General Notes:

1. Details of anchor bolt location to be furnished by the cabinet manufacturer. Size and length of anchor bolts shown in details may vary by manufacturer.
2. Modify concrete base dimensions to fit required cabinet type.
3. Ensure conduit area has gravel drain, 12" depth, course aggregate, grade No. 1.
4. All concrete to be Class "A" in accordance with Item 421.
5. Set the cabinet foundation level with the pavement surface, in unpaved area. The foundation shall be a minimum of 4" above surrounding grade, or as approved by the Engineer.
6. Furnish any additional concrete which may be necessary to stabilize foundation at unusual locations.
7. Foundation will be subsidiary to Special Specification "ITS Ground Mounted Cabinet.
8. Ground cabinet as required in cabinet specifications and as detailed on ITS(18) in accordance with the National Electric Code (NEC).
9. Treat cabinet foundation with moisture sealant.
10. Type 5 cabinet foundation will have a slightly larger foundation than Type 6. See foundation notes on details.
11. Drain pipe shall be screened for drainage portion below foundation in gravel.

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Traffic Operations Division Standard

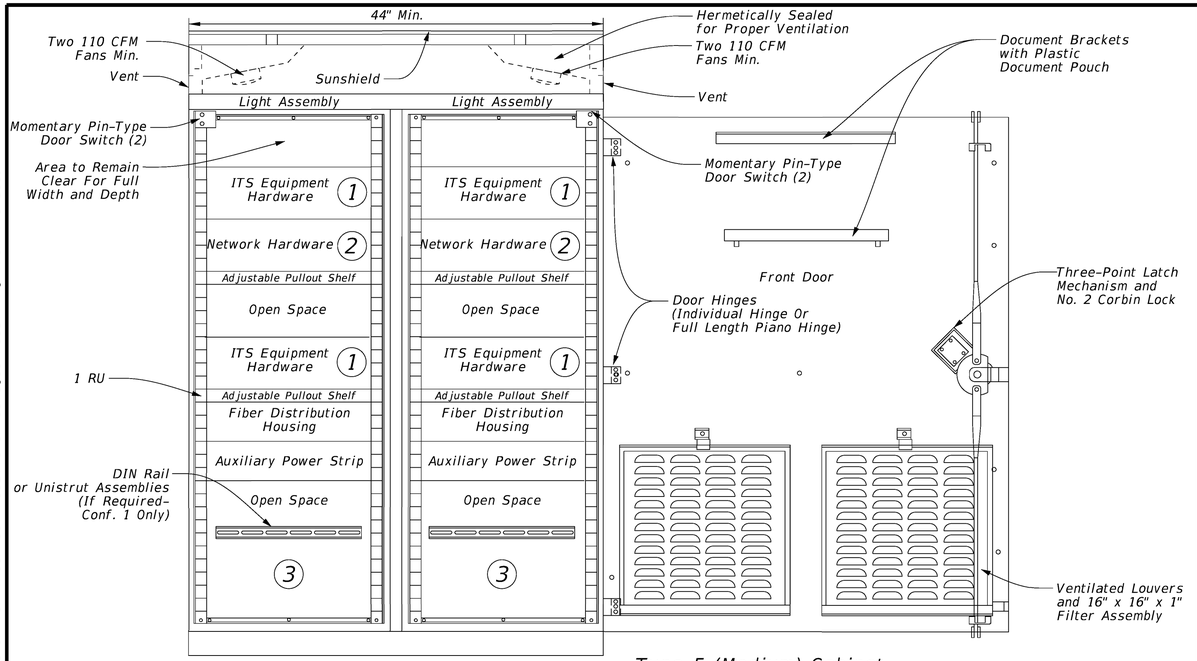
ITS GROUND MOUNTED CABINET FOUNDATION DETAILS

ITS(21)-15

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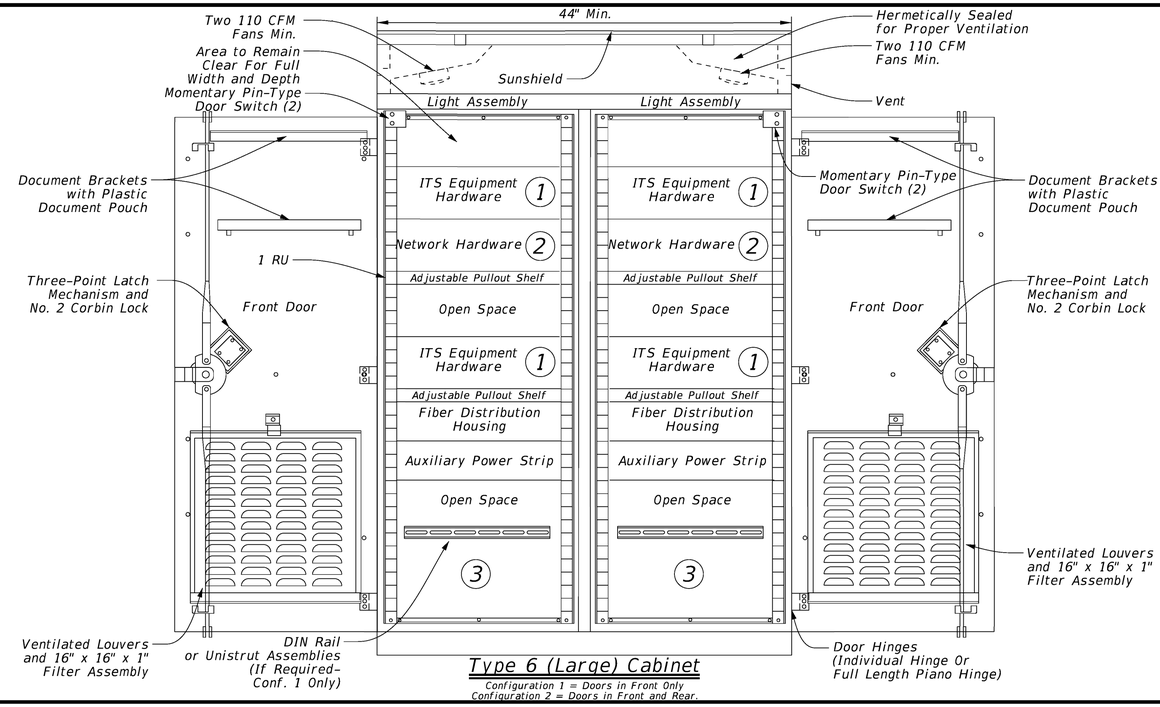
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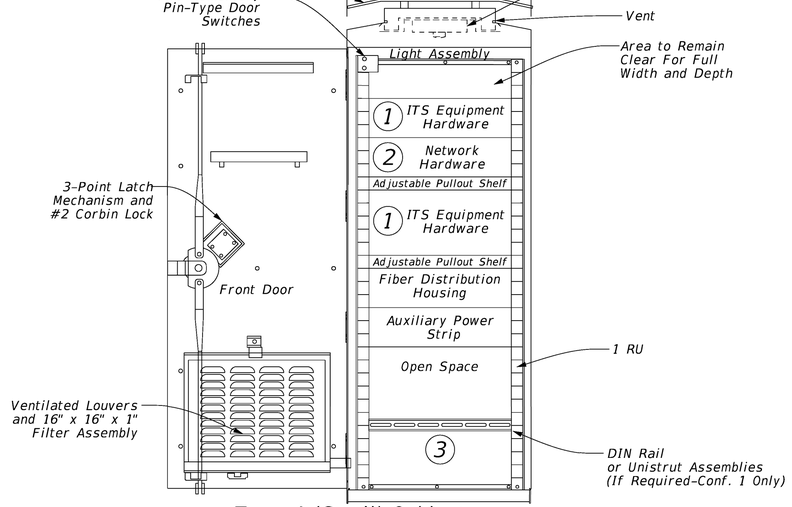
Type 5 (Medium) Cabinet

Configuration 1 = Doors in Front Only
Configuration 2 = Doors in Front and Rear.



Type 6 (Large) Cabinet

Configuration 1 = Doors in Front Only
Configuration 2 = Doors in Front and Rear.



Type 4 (Small) Cabinet

Configuration 1 = Doors in Front Only
Configuration 2 = Doors in Front and Rear.

Typical Equipment Layout Legend	
	Example Equipment
1	CCTV Interface Panel, Radar Vehicle Sensing Device (RVSD) Equipment, DMS/LCS Controller Environmental Sensor Station (ESS) Equipment, Bluetooth Equipment, Highway Advisory Radio (HAR), Ramp Meter or Inductive Loop Card Rack, Automatic Vehicle Identification (AVI) Equipment, or ITS Radio Equipment (See General Note 1)
2	Ethernet Switch, Video Encoder, Terminal Server, Fiber Optic Transceivers, or Media Conversion Equipment (See General Note 1)
3	Power Distribution Assembly, Service Entrance Breakers, Primary AC Power, Auxiliary Power Strip, Ground Bus Bar Surge Protection Equipment, Solar Power System (If Required)

General Notes:

1. Layout of hardware equipment and configuration shown is diagrammatic in nature and intended to represent a preferred ground mounted cabinet setup. Hardware needed for each cabinet varies and not all cabinet equipment may be shown. The contractor will be responsible for configuring cabinets with all appropriate ITS hardware and power supplies in accordance with the plans and specifications. The contractor may alter the cabinet configuration shown to maximize space and ensure easy access for maintenance.
2. All dimensions are approximate and represent minimum dimensions.
3. Provide conduit entrances at the bottom of the cabinet.
4. Paid under Special Specification "ITS Ground Mounted Cabinet" (Configuration 1) with single door. Paid under Special Specification "ITS Ground Mounted Cabinet" (Configuration 2) for rear door option.
5. RU = rack unit.
6. Contractor to remove the cabinet removable center support, which ensures cabinet rigidity during shipping, during installation.

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Traffic Operations Division Standard

ITS GROUND MOUNTED CABINET INTERIOR DETAILS

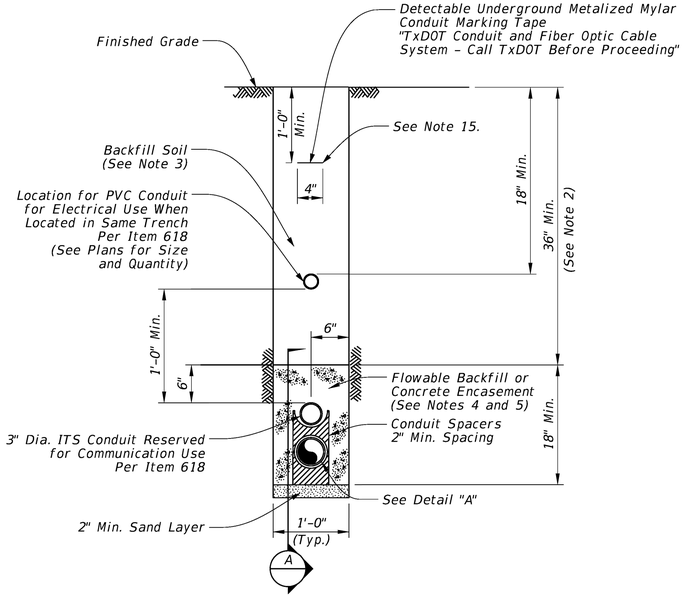
ITS(23)-15

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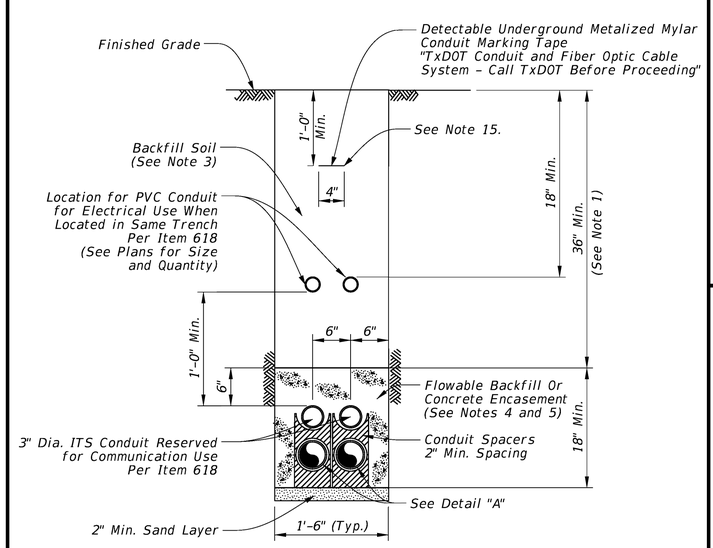
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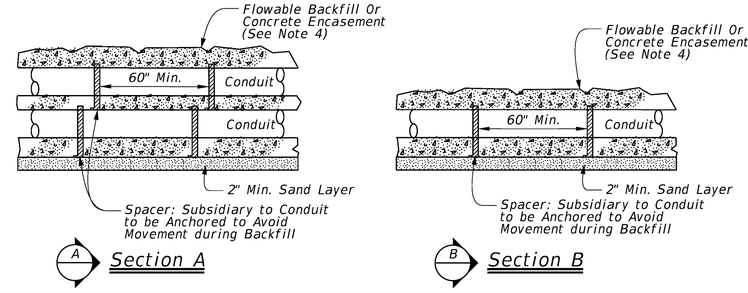
ITS Conduit Backbone Trench Vertical Spacing

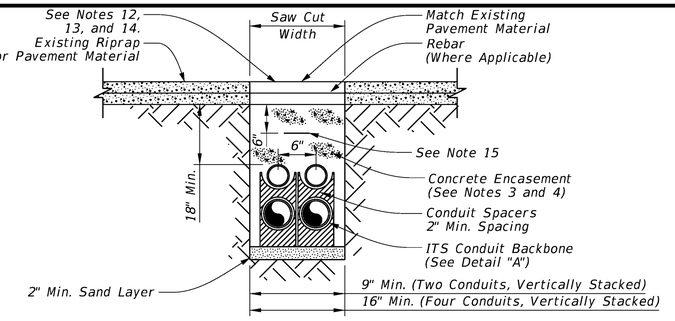
Two Conduit System



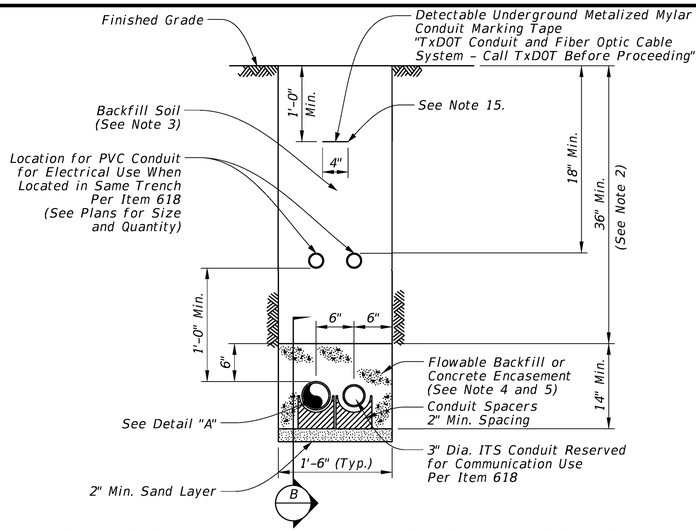
ITS Conduit Backbone Trench Vertical Spacing

Four Conduit System



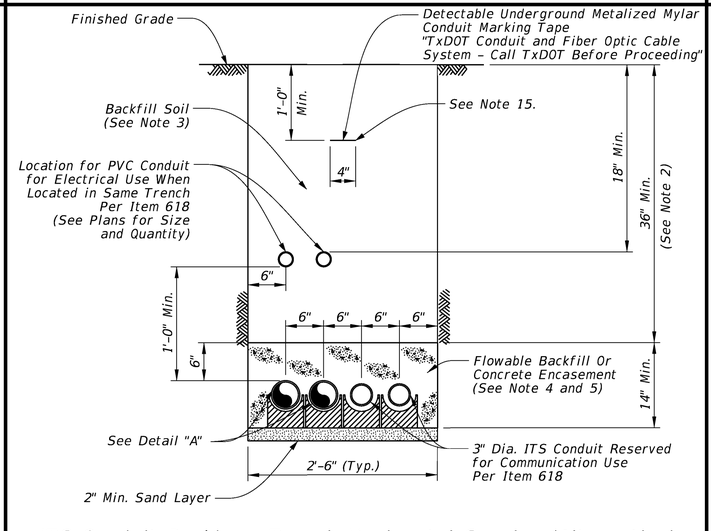


Open Cut Trenching Details



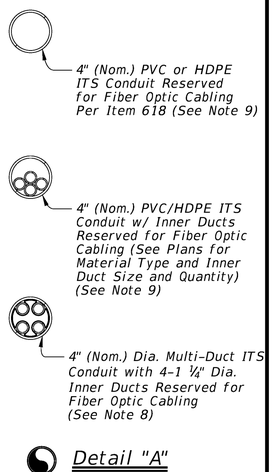
ITS Conduit Backbone Trench Horizontal Spacing (Alternative)

Two Conduit System



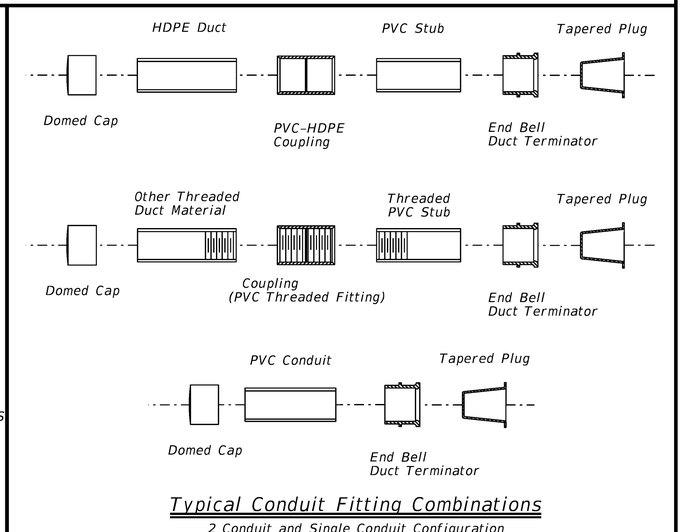
ITS Conduit Backbone Trench Horizontal Spacing (Alternative)

Four Conduit System



Detail "A"

Conduit Types (See Plans for Type and Quantity)



Typical Conduit Fitting Combinations

2 Conduit and Single Conduit Configuration

SHEET 1 OF 2

General Notes:

1. Construct the ITS conduit backbone system by vertically spacing conduit, unless field constraints, obstructions, or utility conflicts require horizontal spacing of conduits. Both vertical and horizontal spacing configurations have been detailed for contractor information for construction.
2. Install ITS conduit backbone system a minimum of 42 inches from finished grade to the top of the conduit unless otherwise directed or to avoid conflicts or field conditions such as utilities or obstructions. Vary depth of the trench in order to pass over/under any existing utilities. Refer to ITS Conduit Obstruction Crossing Standard ITS(35) for further detail.
3. Perform trench excavation and backfilling in accordance with Item 400, "Excavation and Backfill for Structures."
4. When a trench depth greater than 24 inches can be achieved from the finished grade to the top of ITS conduit, encase the conduits with flowable backfill in accordance with Item 401, "Flowable Backfill." Use Class B concrete as a substitute in accordance with Item 421, "Hydraulic Cement Concrete" at the discretion of the Engineer.
5. When a trench depth of less than 24 inches is required due to field conditions, encase the conduits in Class B concrete in accordance with Item 421, "Hydraulic Cement Concrete."
6. Concrete encasement will be paid for under Special Specification "ITS Multi-Duct Conduit" or as shown on the plans.
7. Provide ITS PVC conduit identified for electrical and communication use in accordance with Item 618, "Conduit."
8. Provide ITS multi-duct conduit identified for fiber optic communication use in accordance with Special Specification "ITS Multi-Duct Conduit."
9. Conduit per Item 618, "Conduit" (See Plans for Material Type and Quantity).
10. Provide a single 1/C #14 insulated wire in conduit runs which have been identified in the plans to carry fiber optic cable. Provide UL listed solid copper wire with orange color low density polyethylene insulation suitable for conduit installation rated for temperature range –20 C to 60 C and a voltage rating of 600V. This wire will serve as a tracer, or locate, wire for locating underground conduit containing fiber optic cabling and will be paid for under Item 620, "Electrical Conductors."
11. Provide a flat pull cord in all empty conduits and innerducts. Provide a pull cord with a tensile strength of 1,250 Lbs. minimum and have foot markings to determine length installed. Pull cord and installation to be subsidiary to various bid items.
12. Remove saw cut width to accommodate conduit installation.
13. Replace rebar as necessary, lapped and tied a minimum of 3 inches to existing rebar.
14. Replace broken pavement materials with similar materials to exact shape, and thickness of existing.
15. Place marking tape a minimum of 1 foot – 0 inches below grade when no other electrical marking tape required, or 8 inches below electrical marking tape when provisioned under Item 618.
16. Provide a 1/C #8 insulated grounding conductor within one inner duct of a pre-assembled multi-duct when no other grounding conductor is provisioned for in the plans.

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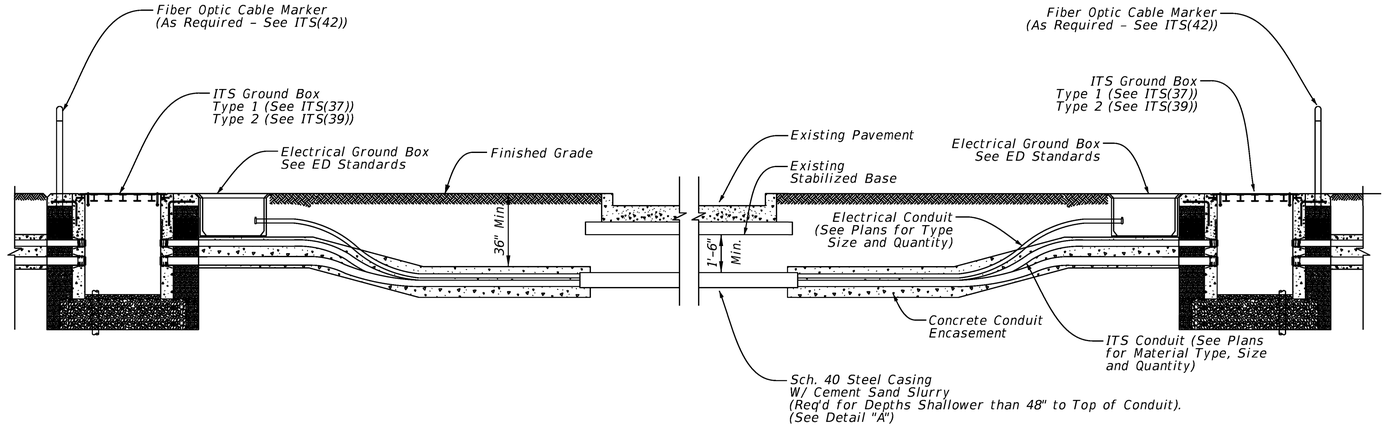
ITS CONDUIT TRENCH DETAILS

ITS(27)-16

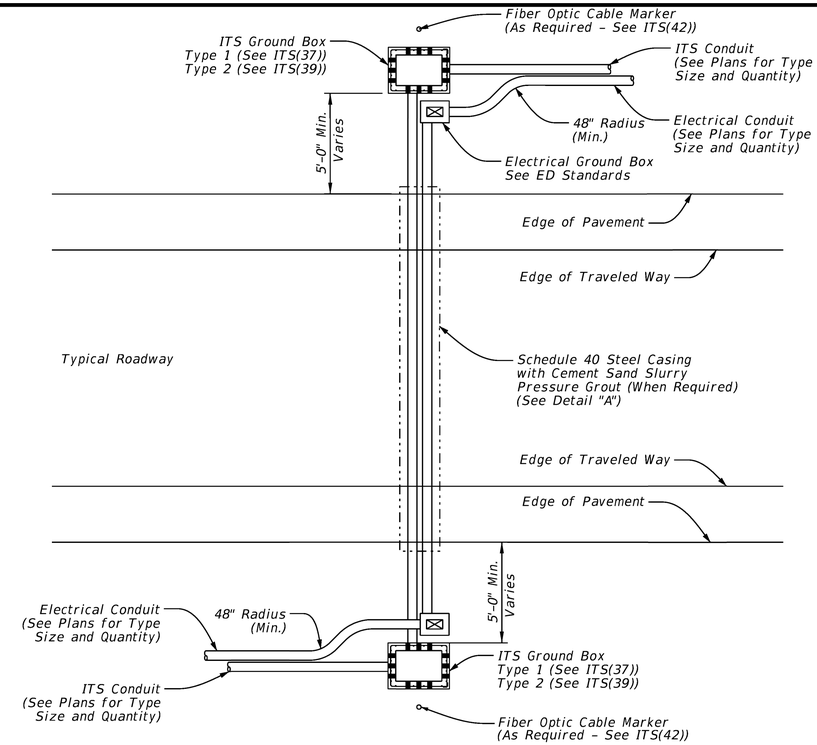
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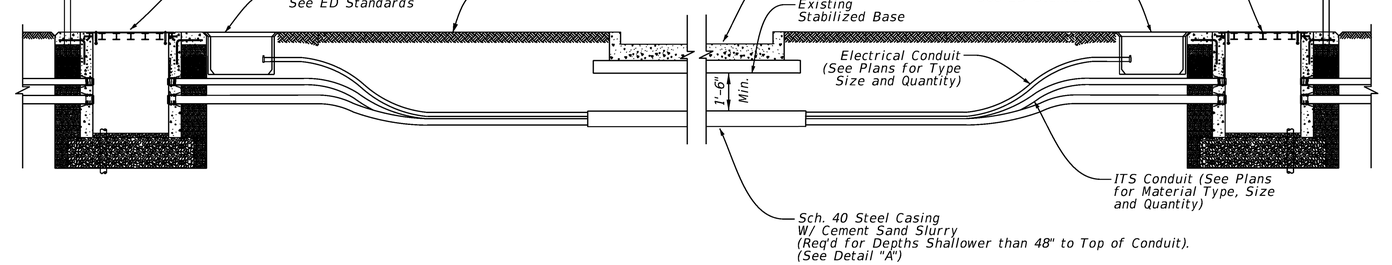
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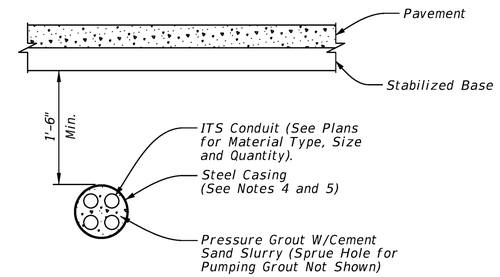
Typical Conduit Installation Jacking
or Boring Beneath Existing Roadway



Bore Under Pavement



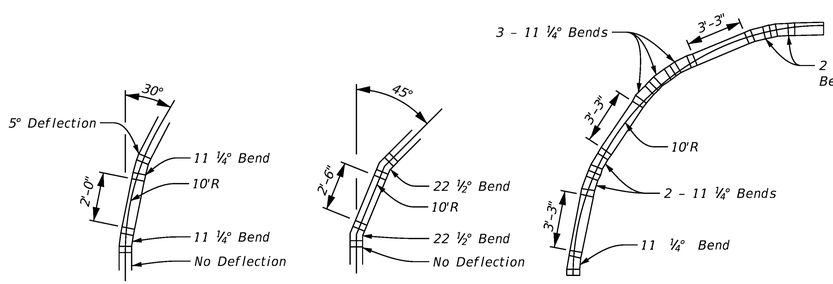
Typical Conduit Installation Jacking
or Boring Beneath Existing Roadway
(Where Concrete Encasement Not Required)



Steel Casing Detail "A"

General Notes:

1. Typical conduit installation details for jacking or boring beneath existing roadway is diagrammatic in nature. Roadway cross-slopes may vary for each crossing.
2. Jack or bore in accordance with Item 476, "Jacking, Boring, or Tunneling Pipe or Box" except for measurement and payment.
3. Furnishing and installation of pressure grouting will not be paid for directly but considered incidental to Special Specification "ITS Multi-Duct Conduit" or Item 618, "Conduit."
4. When boring under pavement shallower than 48 inches from finished grade to top of conduit, provide Schedule 40 steel casing under pavement to encase the conduit system. Provide steel casing of a size to accommodate ITS conduit and electrical conduit as shown in the plans. Provide a minimum 20 percent void space around all conduits. Steel casing will not be paid for directly but considered incidental to Special Specification, "ITS Multi-Duct Conduit" or Item 618, "Conduit."
5. When a depth greater than 48 inches can be achieved from finished grade to top of conduit, provide Schedule 80 PVC. No steel casing required unless otherwise directed.
6. Ensure all conduit bends are in conformance with the latest edition of the National Electrical Code.
7. Provide GPS coordinate points to the District for all ground boxes installed, and shifts or deviations of the conduit alignment from the plans required to avoid obstructions or utilities. Take GPS coordinate points at the start of the transition, at the point of curvature, and at the end of the transition at the point of tangency. Document the turnout radius and installed depth. Provide GPS coordinate points in NAD83 coordinate system and be accurate to 5 feet.



30° Turnout Detail *45° Turnout Detail* *90° Turnout Detail*

Provide this arrangement of conduit and fittings or approved equal at all 30°, 45°, and 90° bends, horizontal and vertical, to achieve a nominal 10' conduit radius for pre-assembled multi-duct conduit. See Note 7.

Sheet Details
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SHEET 2 OF 2

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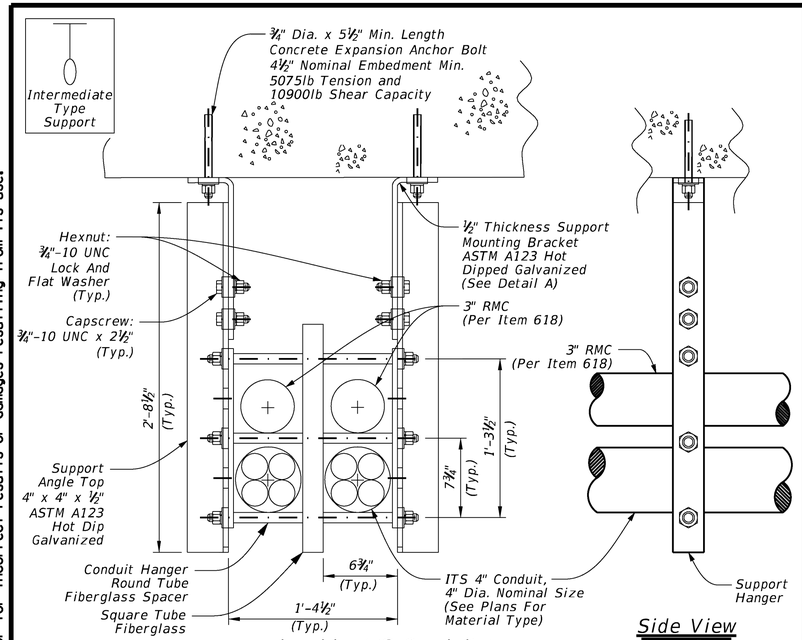
ITS CONDUIT BORE AND STEEL CASING DETAILS

ITS(28)-16

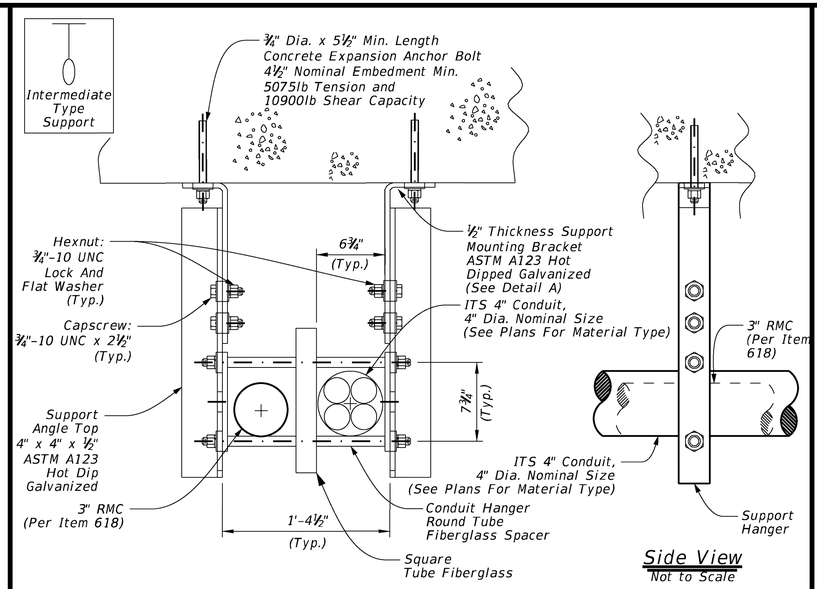
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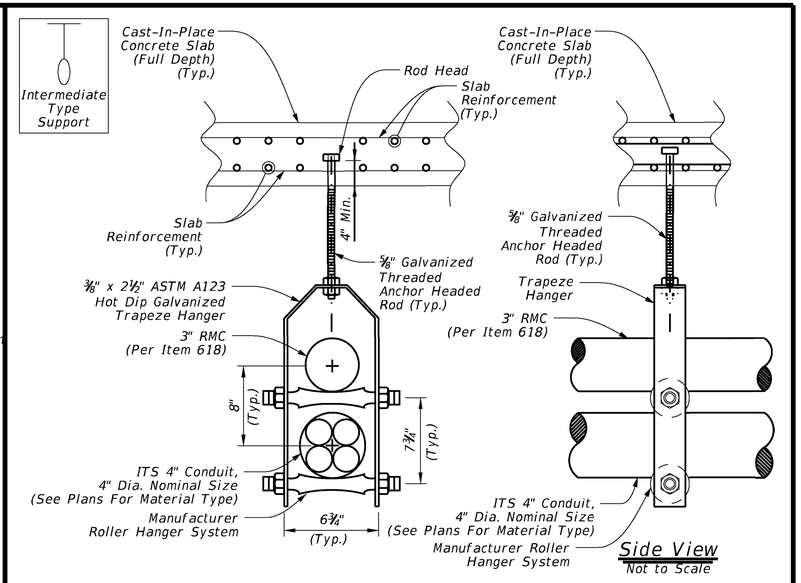
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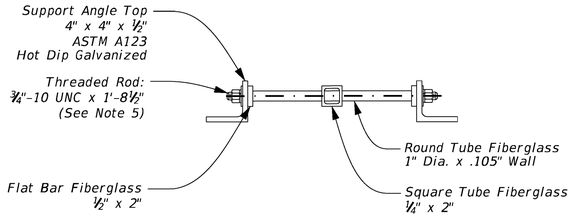
Underside ITS Conduit Hanger (2x2 Conduit Configuration)



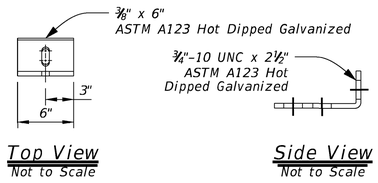
Underside ITS Conduit Hanger (2x1 Conduit Configuration)



Underside ITS Conduit Roller Hanger For New Construction (1x2 Conduit Configuration)



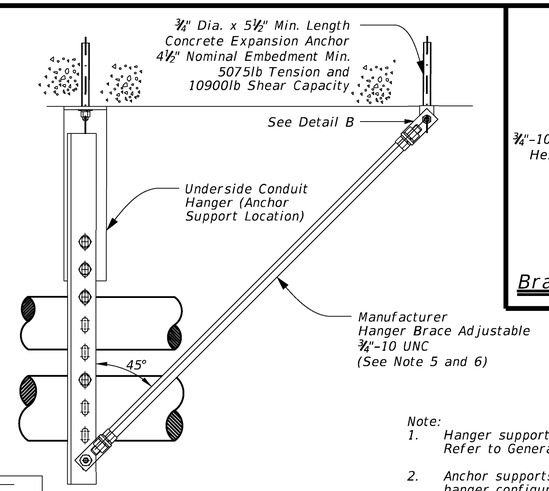
Underside ITS Conduit Hanger Spacer – Top View (Typ.)



Detail A Support Mounting Bracket Detail

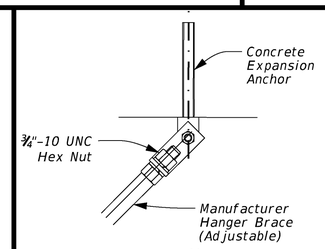
General Notes:

1. Use commercially designed multiple conduit support hangers as an alternative to the hanger details on this sheet, or standard sheet ED(2)–14 may be used. Verify sufficient tension and shear capacity before proposed substitution. Submit hanger details and specifications to the Engineer for approval prior to using on project.
2. Refer to the contract plans for conduit design and hanger configuration requirements. For two (2) conduit configurations, use the typical underside hanger or roller hanger system.
3. Maximum spacing of intermediate conduit hangers is 5'–0" C–C.
4. Hangers vary in length, but do not allow conduit to hang below bridge beams. Refer to ITS(30) for minimum clearance requirement below bridge deck.
5. Ensure all conduit hanger steel shapes conform to ASTM A36 and expansion anchors conform to ASTM A307 and are supplied with minimum of one nut and washer per bolt. Galvanize all steel plate, shapes, and hardware per Item 445, "Galvanizing".
6. Use angle bracing on both sides of conduit support for conduit anchor point hangers.
7. Refer to ITS(32) for expansion–deflection joint details.
8. Provide a minimum of two (2) expansion joints at all bridges. Ensure expansion joint spacing does not exceed manufacturer recommendations.
9. Select conduit lengths so that couplings do not coincide with conduit hanger locations.
10. Allowable types of outer duct material for above ground ITS conduit include rigid metallic conduit (RMC) and fiberglass.
11. Refer to ITS(30) for anchor details through pre–stressed concrete panels.
12. Bond all external structure conduit throughout entire length of run and ground at ground box locations according to ITS(38).

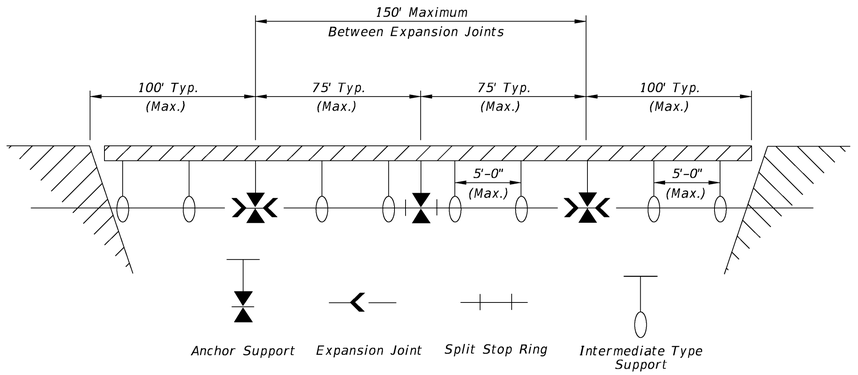


Note:
1. Hanger support shown is a typical configuration. Refer to General Note 1 on this sheet.
2. Anchor supports are required for all conduit hanger configurations.

Underside ITS Conduit Anchor Hanger Support (Typ.)



Detail B Brace Mounting Bracket Detail



Notes:
1. Install conduit supports within 3'–0" of all enclosures and conduit terminations.
2. The number of intermediate supports varies based upon the distance between anchor supports.

Underside Anchor Hanger Support Spacing (Typ.) *

* Refer To BICSI Outside Plant Design Reference Manual (OSPDRM) For Conduit Hanger Expansion Joint Placement

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ITS CONDUIT HANGER DETAILS

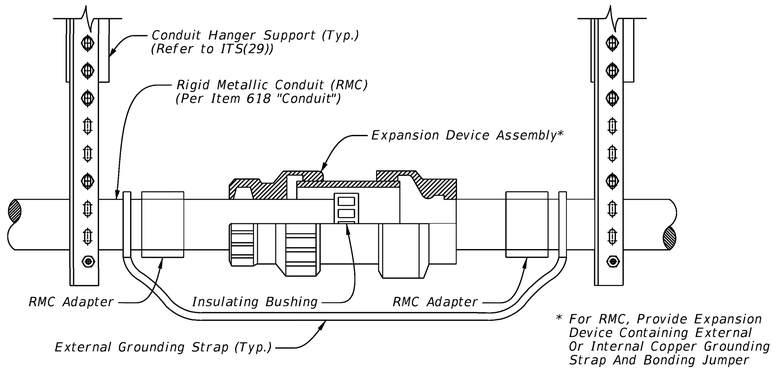
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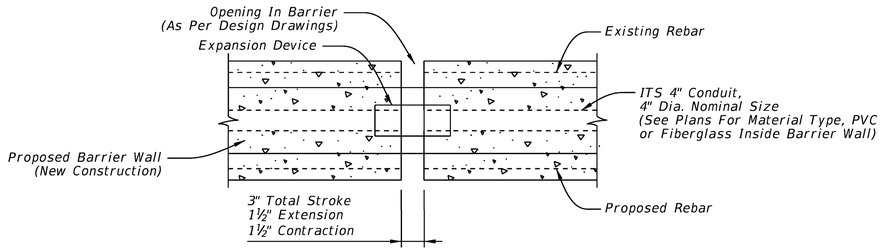
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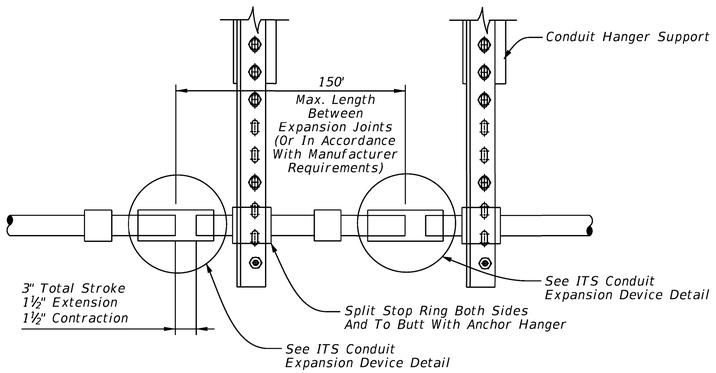
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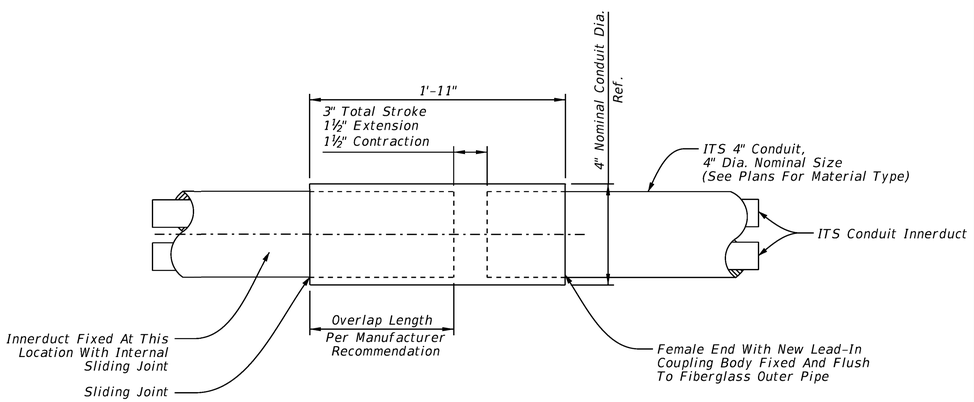
RMC Conduit Expansion Device Detail (Typ.)



ITS Conduit In New Construction Barrier Wall Expansion And Deflection Joint Fitting (Typ.)



ITS Conduit Expansion Device Placement (Typ.)



ITS Conduit Expansion Device Detail

General Notes:

1. Install expansion device at all open joints, at each end of bridge abutments and between bridge bents, allowing for 3" movement.
2. Provide a minimum of two (2) expansion joints at all bridges. Ensure expansion joint spacing does not exceed manufacturer recommendations.
3. Ensure conduit lengths are selected so that couplings do not coincide with hanger locations.
4. Ensure all rigid metallic conduit (RMC) expansion devices are constructed per manufacturer specifications.
5. Bond all external structure mounted conduit throughout entire length of run and ground the run at ground box locations according to ITS(37) and ITS(39).

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EXPANSION / DEFLECTION JOINT

ITS(32)-16

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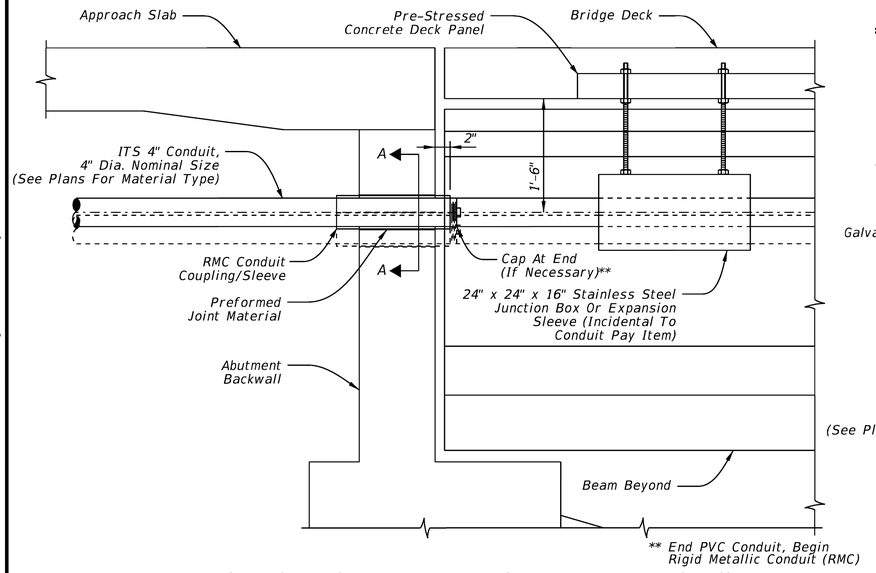
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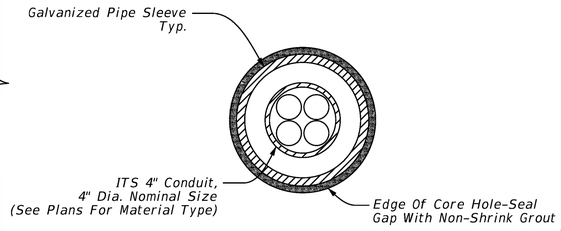
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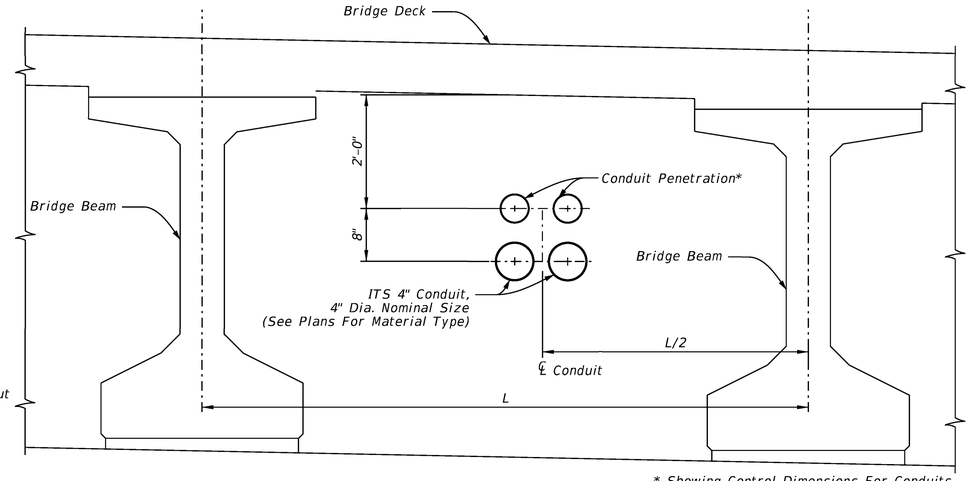
Section Through New Construction Abutment Backwall

Standard Notes:

1. If constant conduit elevation is maintained from the abutment backwall to the underside conduit hangers, provide an expansion joint sleeve (same size as conduit) with one travel overlap. If conduit elevation varies from the abutment backwall to the underside conduit hangers, provide an abutment wall mounted transition junction box (NEMA 3R rated).
2. Provide separate pipe sleeve for each conduit through abutment backwall. Size sleeve per manufacturer recommendations.

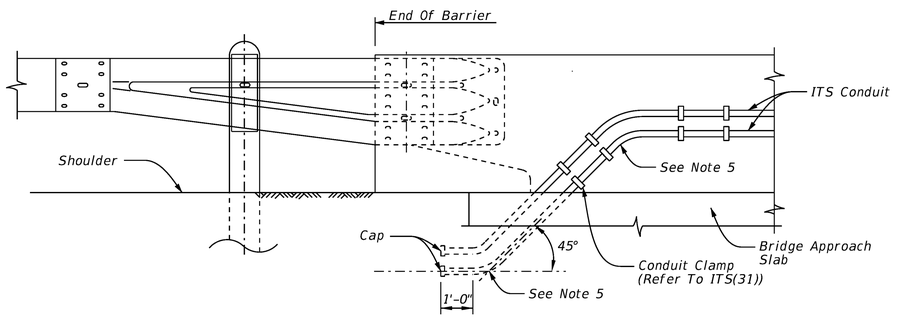


Section A-A (Typical Pipe Sleeve)

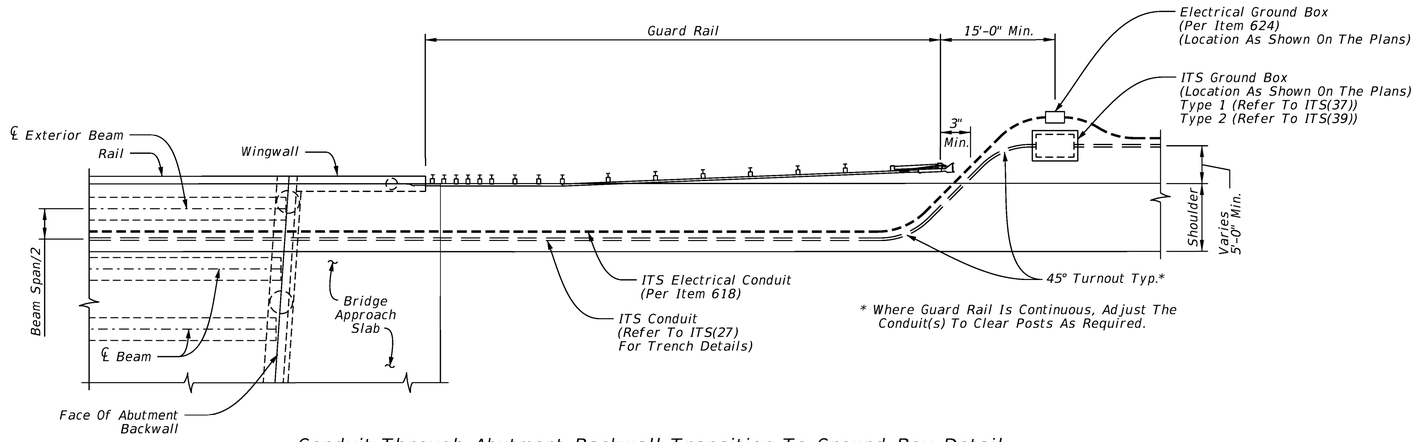


Abutment Elevation

ITS Conduit Transition At Bridge Abutment Detail



Parapet Mounted Conduit Transition To Ground Detail



Conduit Through Abutment Backwall Transition To Ground Box Detail

General Notes:

1. An alternative option to conduit mountings shown is conduit encased within parapet or bridge structure at crossings. Submit shop drawings and specifications to the engineer for approval.
2. Install expansion sleeves at bridge expansion joints and per manufacturer recommendations.
3. For conduit crossings over bridges, provide ITS communications junction boxes at 1000' maximum spacing and electrical junction boxes at 450' maximum spacing.
4. Keep all junction boxes sufficiently clear of guard rail or other obstructions to maintain clear access.
5. Install conduit sweep at an angle that accommodates cable bend radius. Do not exceed 45 degrees to the shoulder line. Refer to ITS(28) for conduit turn-out details.
6. Do not install junction boxes within paved shoulder area.
7. Ensure all work is in compliance with the latest edition of NFPA 70, National Electrical Code.
8. Junction boxes and associated appurtenances are incidental to ITS conduit.
9. For installation requiring ITS conduit transition within mechanically stabilized earth (MSE) walls with select fill, locate conduit to avoid reinforced straps. Refer to retaining wall standards for further details.
10. Bond all external structure mounted conduit throughout entire length of run and ground the run at ground box locations according to ITS(37) and ITS(39).

Texas Department of Transportation

Traffic Operations Division Standard

ITS CONDUIT TRANSITION AT ABUTMENT

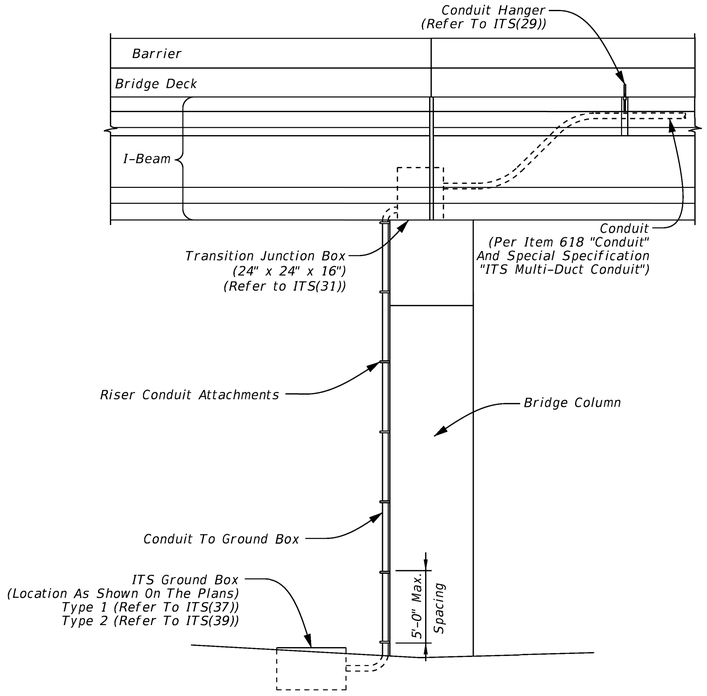
ITS(33)-16

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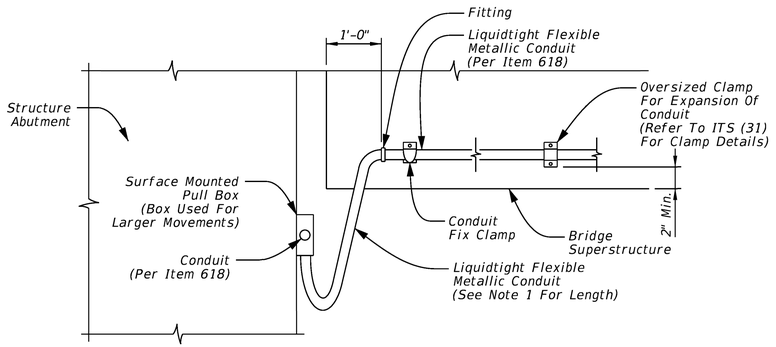
Sheet Details
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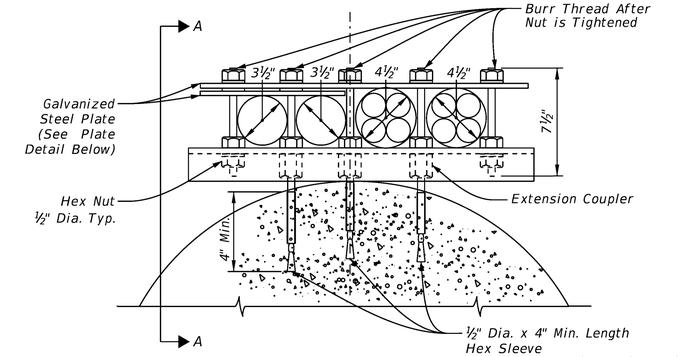
ITS Conduit Riser

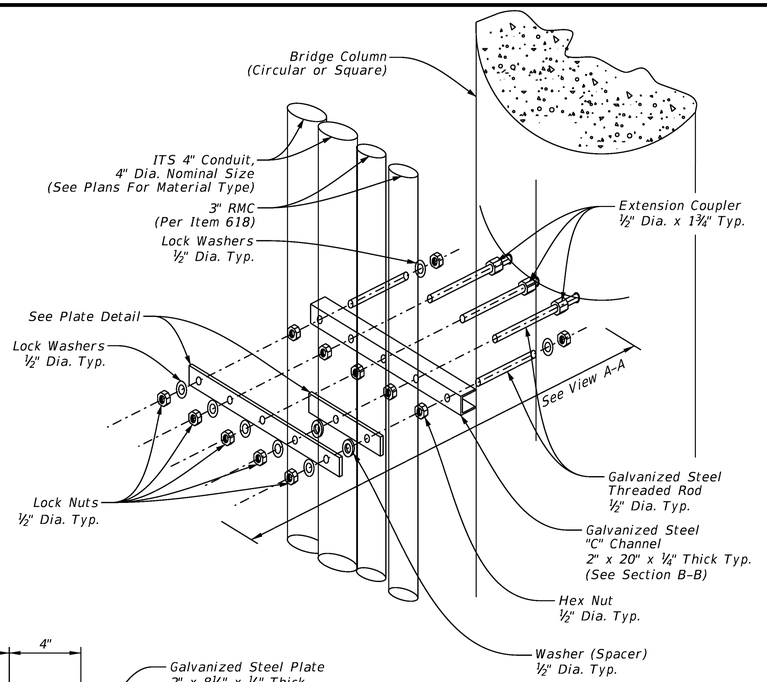


Exposed Conduit Connections At Expansion Joints

Notes:

1. Bond all external structure mounted conduit throughout entire length of run and ground the run at ground box locations according to ITS(37) and ITS(39).
2. The detail shown applies to conduit connections for conduit per Item 618 and is not intended for conduit for fiber optic cable applications.





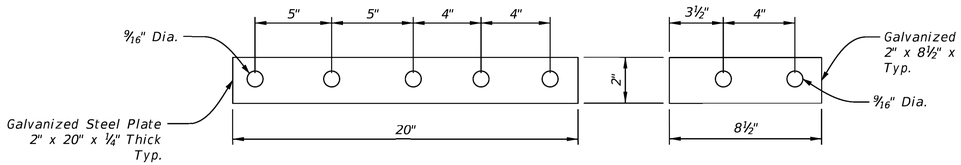
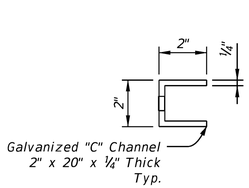
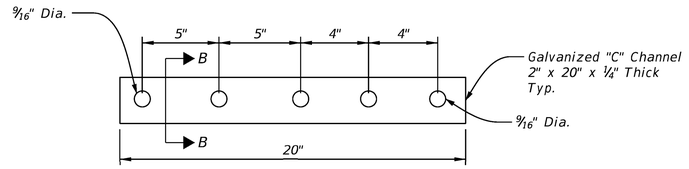


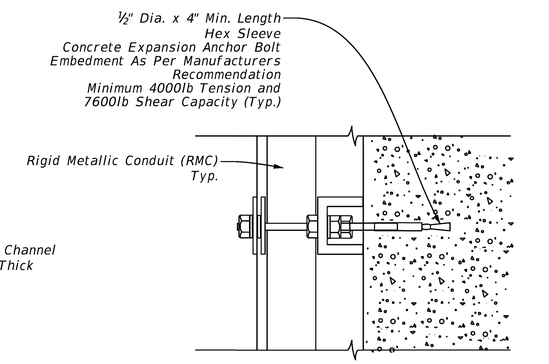
Plate Detail



Section B–B



"C" Channel Detail



View A–A

ITS Riser Conduit Bridge Column Attachment

General Notes:

1. Utilize an approximate length of flexible conduit at exposed connections of 2 times anticipated movement or 4'–0" minimum.
2. Size all transition boxes and surface mounted pull boxes per National Electrical Code Article 314 boxes and fittings.
3. For under bridge locations, ensure all junction boxes are kept inaccessible from general public and placed a minimum 10'–0" above surrounding ground.
4. Refer to ED standard sheets for additional notes and attachment details for riser conduit.
5. See plan sheets for number and size of conduit(s) to be installed.
6. Refer to ITS(33) for details involving conduit passing through the abutment.
7. Ensure maximum spacing between ITS riser conduit attachments is 5'–0" C–C.
8. Install conduit supports within 3'–0" of all enclosures and conduit terminations.
9. Ground all rigid metallic conduit (RMC) hangers per manufacturer recommendations when electrical conductors present.
10. Ensure all expansion anchors conform to ASTM A307.
11. Allowable types of outer duct material for above ground ITS conduit include rigid metallic conduit (RMC) and fiberglass.

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ITS CONDUIT RISER

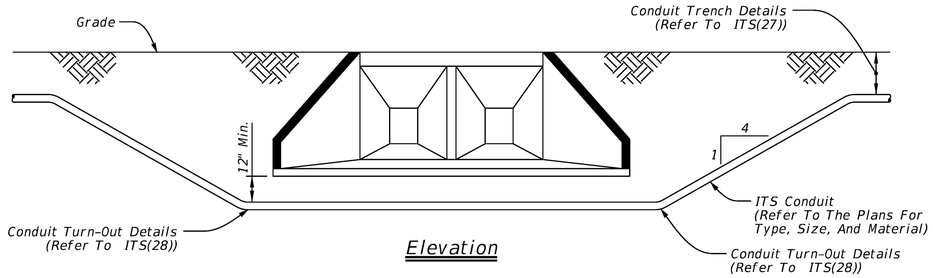
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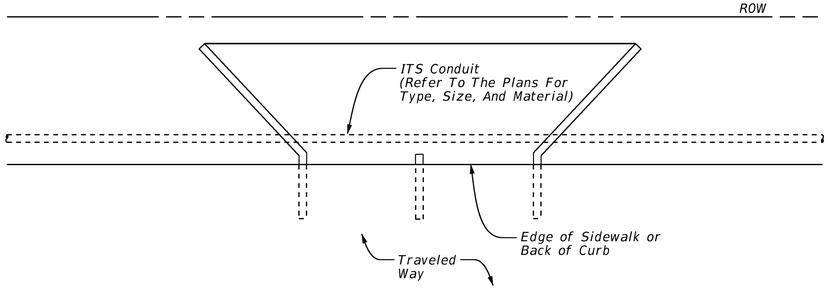
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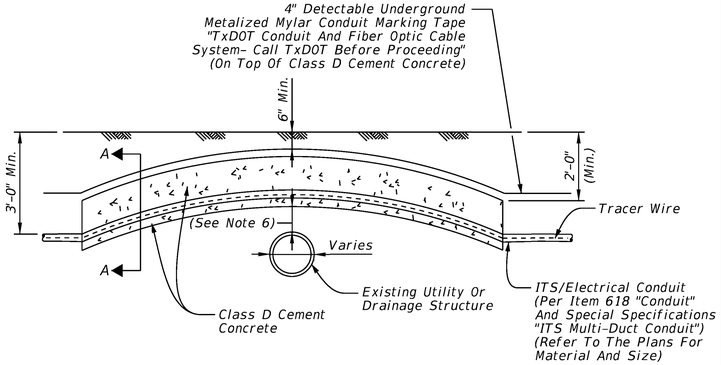


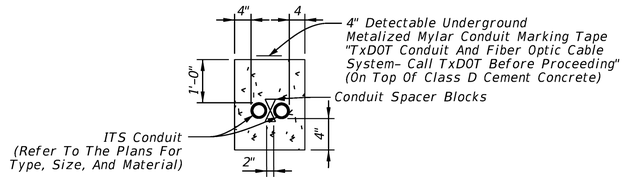
Elevation



Plan View

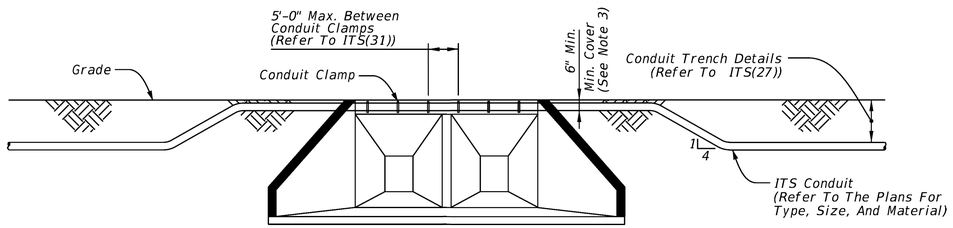
Conduit Bored Under Culvert



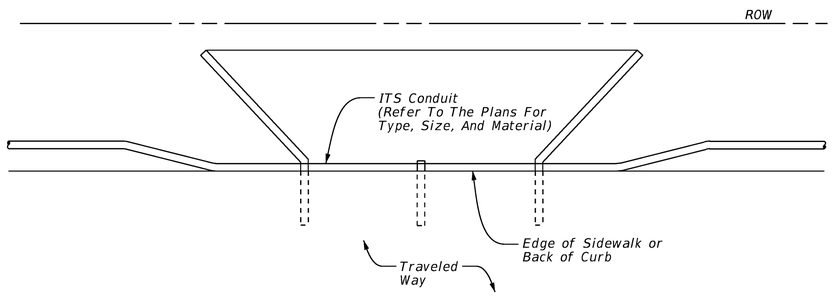


Section A-A

Conduit Installation Detail Above
Existing Drain Pipes Or Utilities

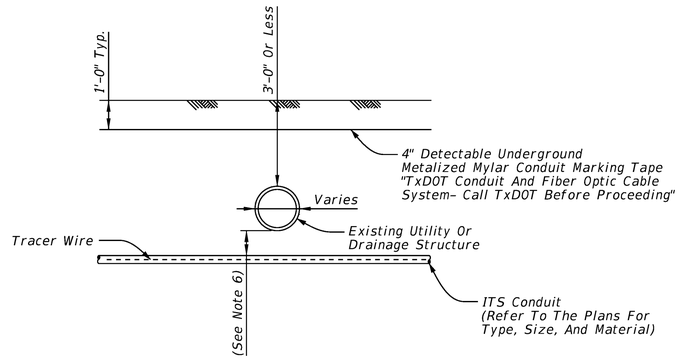


Elevation



Plan View

Conduit Attached To Culvert Headwall



Conduit Installation Detail Below
Existing Drain Pipes Or Utilities

General Notes:

1. With approval from the field engineer adjust the final burial depth of conduit(s) in circumstances requiring traversal of non-movable object conflicts.
2. Where conduits are to be installed over existing underground infrastructure (i.e., existing utility or drainage structure) which are less than 3'-0" deep, encase conduit in Class D cement concrete in accordance with Item 421, "Hydraulic Cement Concrete", for the entire length of the conduit that is installed at a depth of less than 3'-0".
3. If depth of cover over encasement is less than 6", install the conduit to pass beneath the underground infrastructure.
4. Refer to the plans for type, size and configuration of all conduits. Refer to ITS(27) and ITS(28) for further installation details.
5. It is the responsibility of the contractor to verify all existing underground infrastructure. The contractor is responsible for any damage to any underground infrastructure during construction. Verify all utility locations at least 100' in advance of trenches, plowing or boring, and make changes in conduit placement in the event of conflict.
6. If proposed conduit is crossing or in close proximity to an existing underground utility, maintain a minimum clearance of 1'-6" vertical, 1'-6" horizontal or a clearance dictated by municipal code and or utility owner.
7. Install underground warning tape directly above all conduits per ITS(27) standard.
8. Do not install communications and electric cables in the same conduit. Separate conduits installed within the same trench based on NFPA 70, National Electrical Code. Refer to ITS(27) for additional conduit installation details.
9. Ensure all work is in compliance with the latest edition of NFPA 70, National Electrical Code.
10. Utilize PVC conduit for all underground applications as required by design. Transition with a conduit coupling to RMC conduit or other as required by design that is approved for above ground applications.
11. Do not exceed a rise:run ratio of 1:4 for conduit sloped through increases or decreases in elevation.

Sheet Details
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Traffic Operations Division Standard

ITS CONDUIT OBSTRUCTION CROSSING

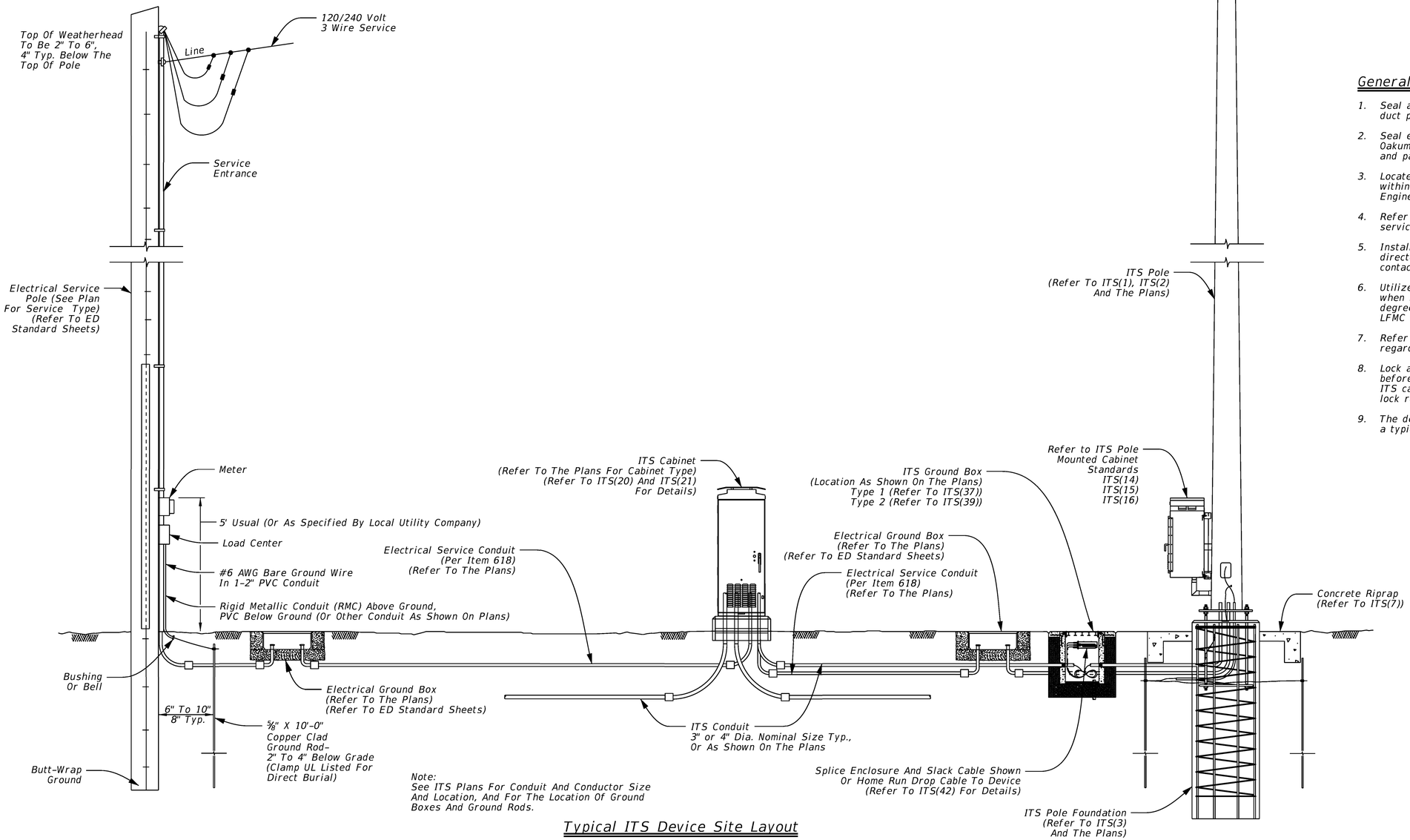
ITS(35)-16

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Note:
See ITS Plans For Conduit And Conductor Size And Location, And For The Location Of Ground Boxes And Ground Rods.

Typical ITS Device Site Layout

General Notes:

1. Seal all ITS communications conduits with waterproof duct plugs and seals.
2. Seal ends of all conduit entries into ITS cabinets with Oakum or other as approved by the District representative and pack with duct sealant.
3. Locate ground boxes for electrical and ITS communications within 5'-0" of cabinet enclosure, or as directed by the Engineer.
4. Refer to ED standard sheets for additional notes regarding electrical service.
5. Install service pole ground rod at alternate location when directed by the engineer. Maintain a minimum of 8'-0" in contact with the earth.
6. Utilize liquidtight flexible metal conduit (LFMC), as required when meter and service enclosure are mounted 90 to 180 degrees to each other. Refer to ED standard sheets for details on LFMC use.
7. Refer to ITS(21), ITS(37) and ITS(39) for details regarding conduit depth and entry into ITS ground boxes.
8. Lock all enclosures and bolt all ground box covers before power is applied to the circuit. Refer to the ITS cabinet references indicated on this sheet for cabinet lock requirements.
9. The detail shown is diagrammatic and is intended to represent a typical layout from electrical service to ITS devices.

Texas Department of Transportation

Traffic Operations Division Standard

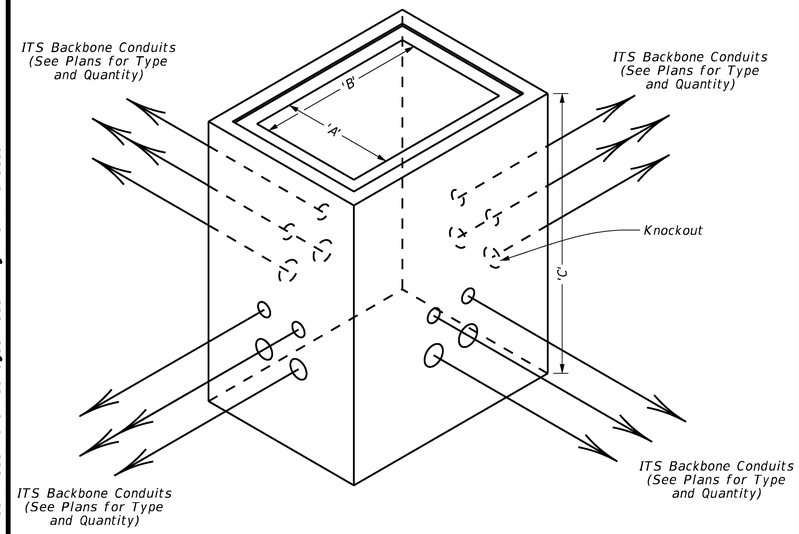
TYPICAL ITS DEVICE SITE LAYOUT

ITS(36)-16

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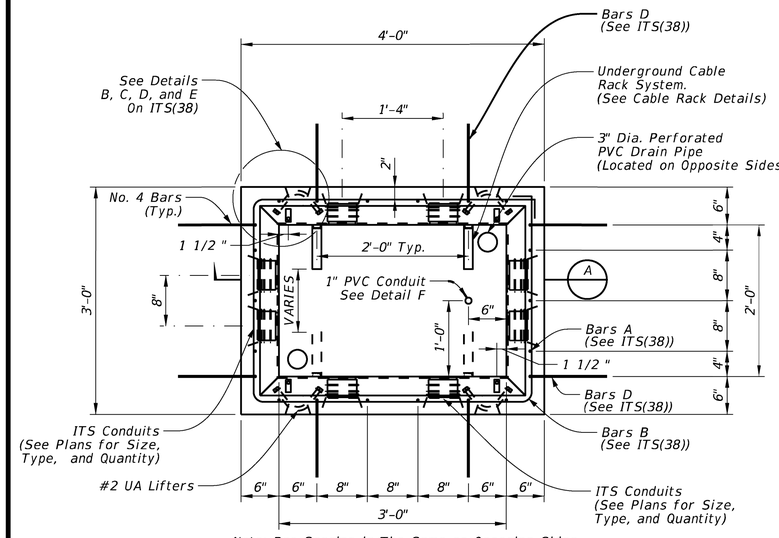
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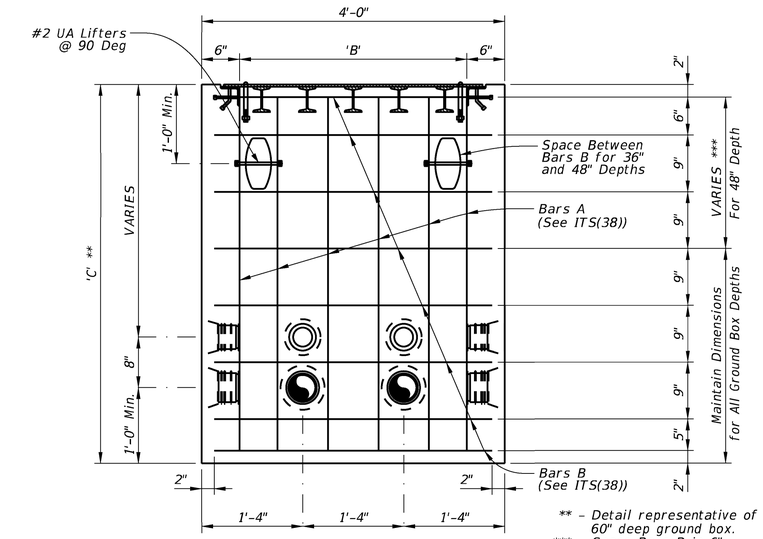
See Ground Box Schedule for A, B, and C Dimensions

Type 1 Ground Box Isometric View



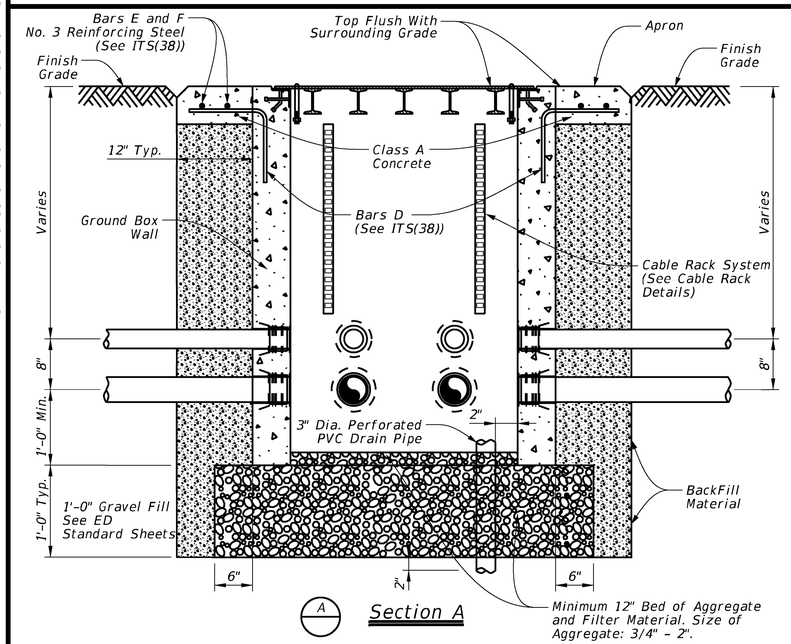
Note: Bar Spacing is The Same on Opposing Sides.

Type 1 Ground Box Plan View



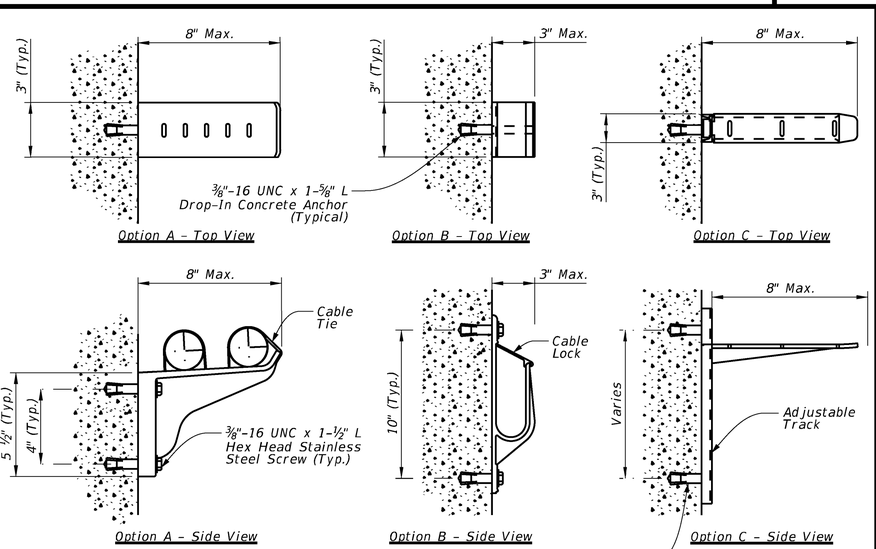
** – Detail representative of 60" deep ground box.
*** – Space Bars B in 6" Intervals for 48" Depth

Type 1 Ground Box Elevation View



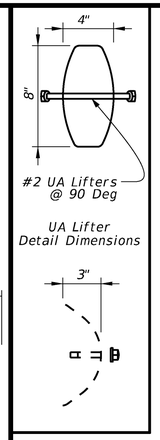
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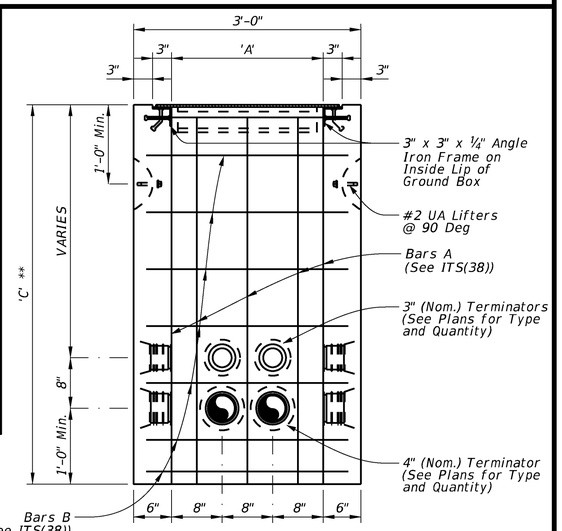
Section A



Note: Options Shown for Cable Racks and Attachment Methods. Furnish Shop Drawings of Cable Rack for Engineer Approval Prior to Installation.

Type 1 Cable Rack Details





Type 1 Ground Box Side View

** – Detail representative of 60" deep ground box.

SHEET 1 OF 2

General Notes:

1. Conduit entry points shown represent the standard configuration for backbone conduit as detailed on ITS(27). Additional conduits may be required as shown on the plans.
2. Provide Class A concrete for Type "1" ground boxes.
3. Provide terminators for the PVC conduit cast in the walls and placed symmetrically about the centerline of the box at the depths shown, unless otherwise noted, for the number of conduits identified on the plans to enter the box.
4. Provide terminators appropriately sized for the conduits indicated on the plans. Provide terminators with an air tight and water tight connection.
5. Closed bottom Type "1" ground boxes are acceptable in lieu of open bottom boxes. Provide two 3" Dia. perforated PVC drain pipes on opposite corners to optimize water drainage. Provide 12-inch bed of aggregate that extends 6 inches in all directions from the perimeter of the box for closed bottom boxes. Aggregate bed will be subsidiary to Special Specification, "ITS Ground Box."
6. Install all open bottom Type "1" ground boxes on a 12-inch bed of aggregate that extends 6 inches in all directions from the perimeter of the box. Aggregate bed will be subsidiary to Special Specification, "ITS Ground Box."
7. Cap and seal terminators that do not have conduits attached.
8. When additional conduit entry points are needed to accommodate existing conduit, core drill conduit knockouts in the field of the appropriate number and size of conduit at each location, as directed by the Engineer.
9. Provide a bell fitting on the end of each conduit to ensure a flush fit inside the ground box.
10. Concrete grout around the knockout (inside and out) and around the conduit and bell fitting to ensure a neat watertight fit after the conduit and bell fitting have been placed in a knockout. Ensure all openings in the ground box are sealed prior to grouting operations.
11. Install a nylon string and plug all unused conduits with tug-plugs sized for the particular conduits. Provide split innerduct plugs in conduits or innerducts with cables to seal the innerduct around the cables to prevent water and dirt from entering.
12. Provide steel (ASTM A-153), glass reinforced nylon, or equivalent cable rack assemblies designed to support the amount of cable storage slack identified in the plans. Locate cable rack system on one side only (longer length side) to allow access to the inside of the ground box. Cable racks may be installed at the factory or in the field. When mounting cable racks in the field, seal all penetrations to the concrete side wall to prevent moisture penetration. Ground metallic cable rack systems to grounding system inside ground box in accordance with the National Electrical Code.

Ground Box Schedule

Ground Box Type	'A' Width Inside (Inches)	'B' Length Inside (Inches)	'C' Depth Inside (Inches)
Type 1	24	36	36, 48, 60

Sheet Details
Not to Scale

Texas Department of Transportation

Traffic Safety Division Standard

ITS GROUND BOX DETAILS TYPE "1" WITH STEEL COVER

ITS(37)-22

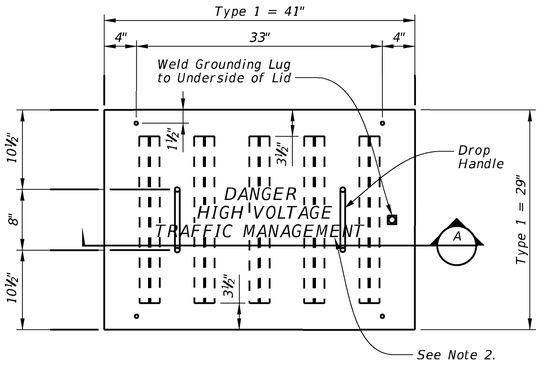
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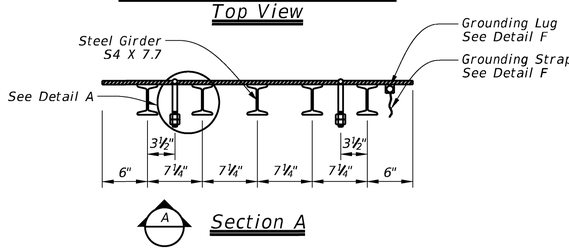
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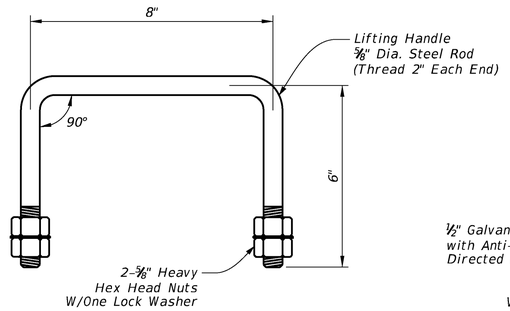
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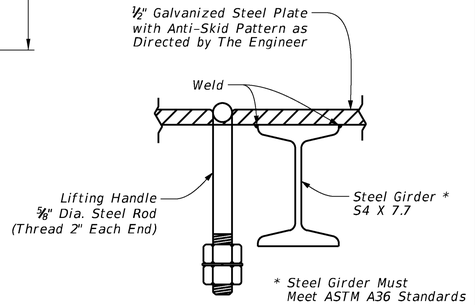
Type 1 Steel Cover Details
Top View



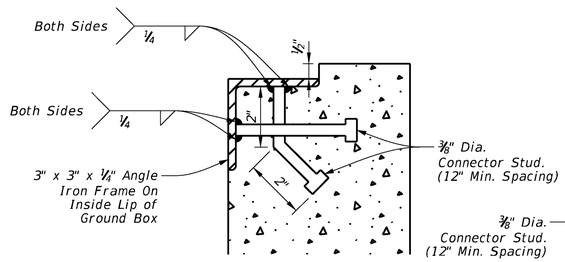
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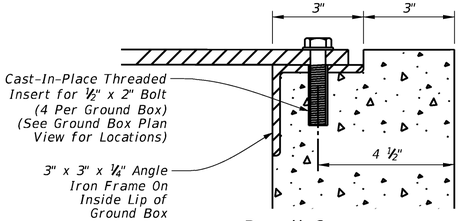
Drop Handle Detail



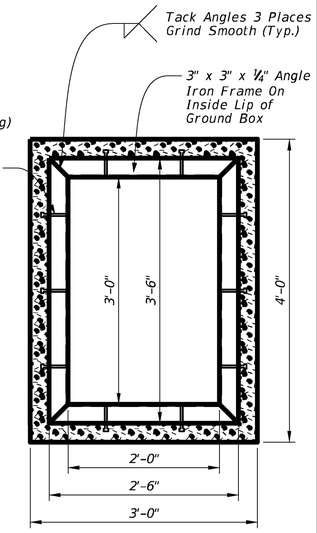
Detail A



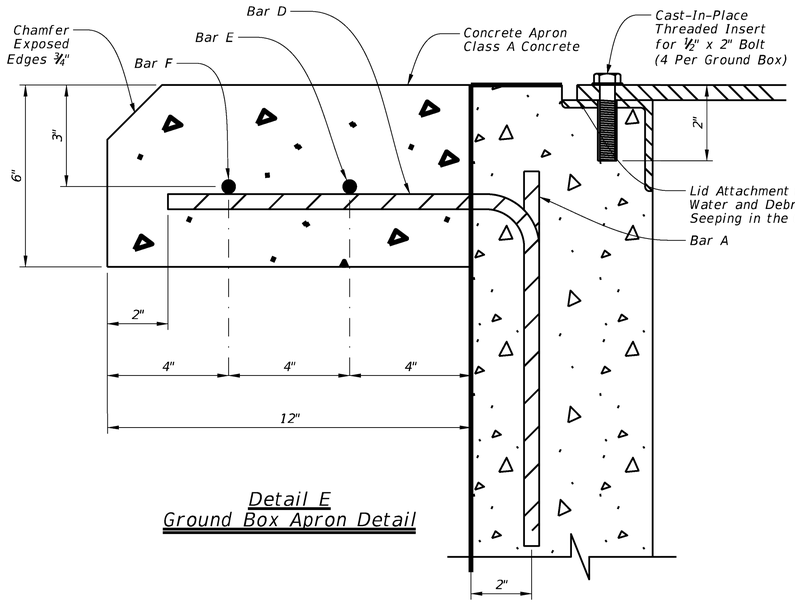
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Detail C
Lid Attachment Detail



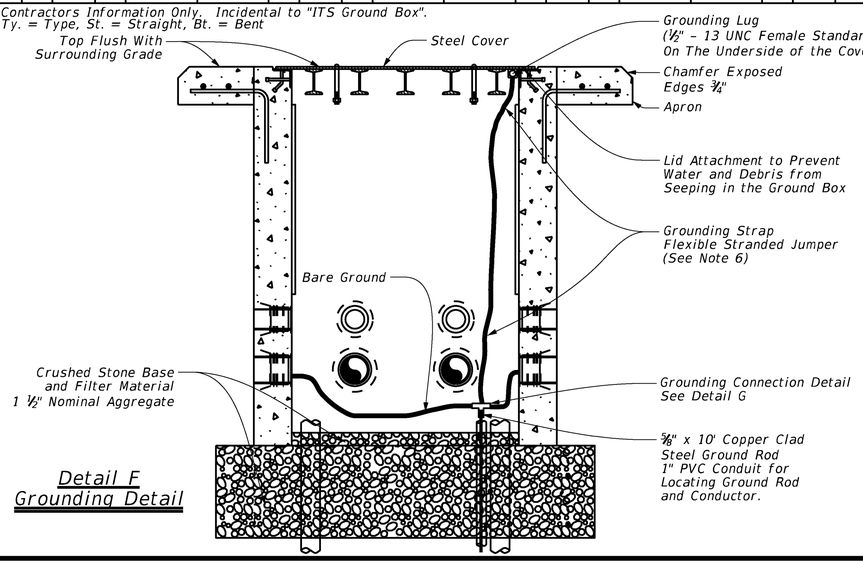
Detail D



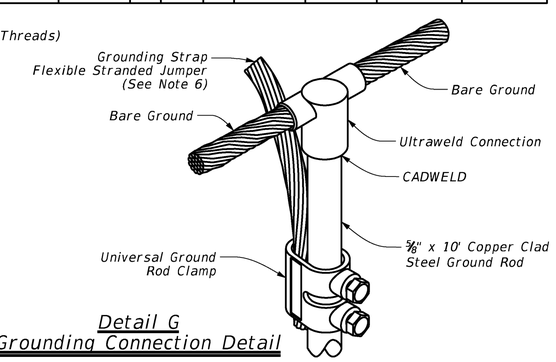
Detail E
Ground Box Apron Detail

Ground Box Type 1	BAR A					BAR B					BAR D					BAR E					BAR F					TOTALS	
	No.	Size	Ty.	Length	Weight	No.	Size	Ty.	Length	Weight	No.	Size	Ty.	Length	Weight	No.	Size	Ty.	Length	Weight	No.	Size	Ty.	Length	Weight	Steel * LBS.	Conc. * CY
36" Depth	22	#4	St.	2'-8"	39.3	5	#4	Bt.	13'-2"	44.1	8	#4	Bt.	2'-0"	10.7	1	#3	Bt.	17'-2"	6.5	1	#3	Bt.	19'-10"	7.5	108.1	.67
48" Depth	22	#4	St.	3'-8"	54.0	7	#4	Bt.	13'-2"	61.8	8	#4	Bt.	2'-0"	10.7	1	#3	Bt.	17'-2"	6.5	1	#3	Bt.	19'-10"	7.5	140.5	.89
60" Depth	22	#4	St.	4'-8"	68.8	8	#4	Bt.	13'-2"	70.6	8	#4	Bt.	2'-0"	10.7	1	#3	Bt.	17'-2"	6.5	1	#3	Bt.	19'-10"	7.5	164.1	1.11

* - For Contractors Information Only. Incidental to "ITS Ground Box".
Legend: Ty. = Type, St. = Straight, Bt. = Bent



Detail F
Grounding Detail



Detail G
Grounding Connection Detail

Note - All grounding connections to be CADWELD or approved equal. This work will not be paid for directly, but is considered incidental to ITS ground box.

General Notes:

1. See ITS(37) for additional Type "1" ground box details.
2. Hot-dip galvanized steel covers after all welds are made.
3. Label top of cover with the words "DANGER HIGH VOLTAGE TRAFFIC MANAGEMENT" using template-guided, hand-welded lettering at a height of 2 inches to ensure neatness.
4. Provide all Type "1" ground boxes with a securable, tamper-proof cover equipped with a bolting system that positively secures the cover in place.
5. Ground steel covers in accordance with the National Electrical Code.
6. Ground covers to the grounding cable using a split-bolt kearney clamp, and a minimum 8-foot long flexible stranded jumper the same size as the grounding conductor. Terminate to metal ground box cover with a tank ground type lug as approved and directed by the Engineer.
7. Provide Type "1" ground box and cover designed for heavy duty loading in accordance with AASHTO H20 loading when located where the box may experience deliberate, continuous vehicular traffic, such as near the shoulder or an auxiliary lane, or immediately adjacent to the unprotected edge of pavement.
8. Provide a Type "1" ground box and cover tested by a laboratory independent of the manufacturer certifying loading requirements are met. Provide certification of such tests to the Engineer for approval.
9. Provide a steel or cast iron cover in accordance with Item 471, Article 471.2, "Frames, Grates, Rings, and Covers." Provide covers with the number of drop handles shown. Provide Class "A" concrete for ground box construction and aprons.
10. Fabricate cover so to fits properly on the ground box, and no undue noise results when traffic contacts the cover.

Sheet Details
Not to Scale

SHEET 2 OF 2

Texas Department of Transportation

Traffic Operations Division Standard

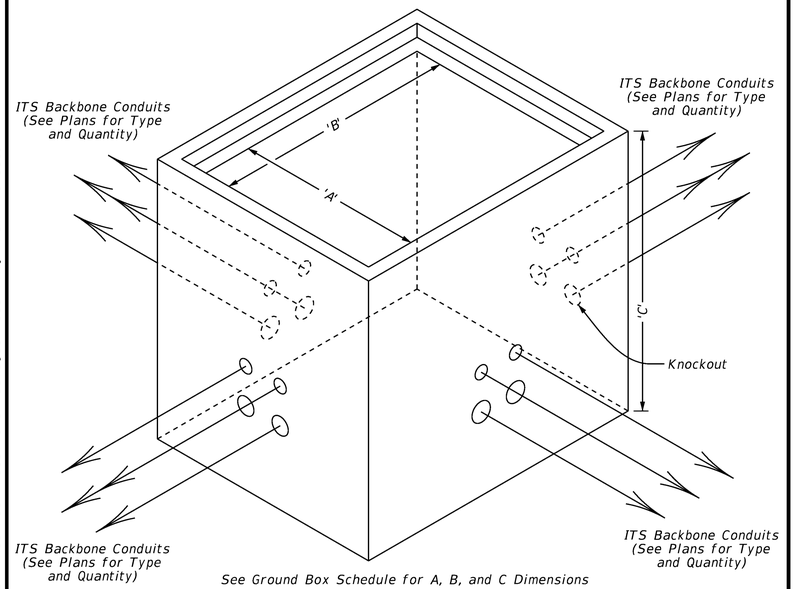
ITS GROUND BOX DETAILS TYPE "1" WITH STEEL COVER

ITS(38)-17

FILE: its(38)-17.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT FEBRUARY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS 5-17	DIST	COUNTY		SHEET NO. 134

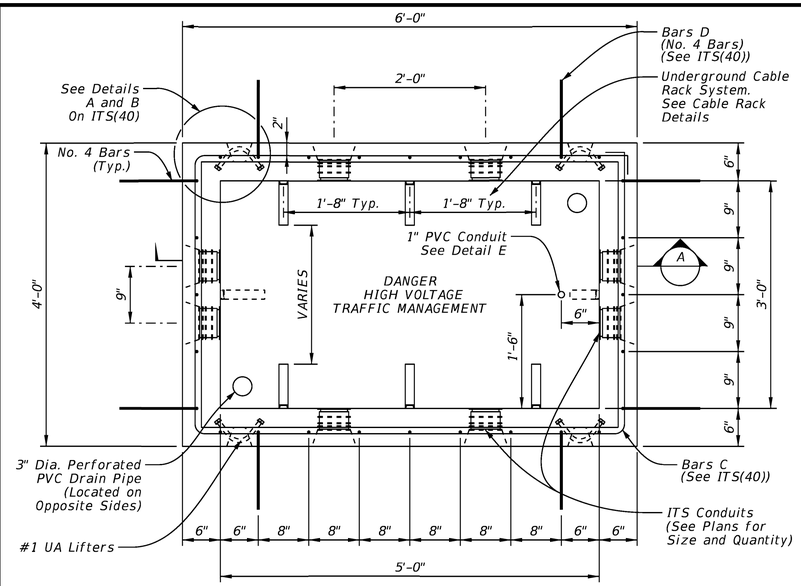
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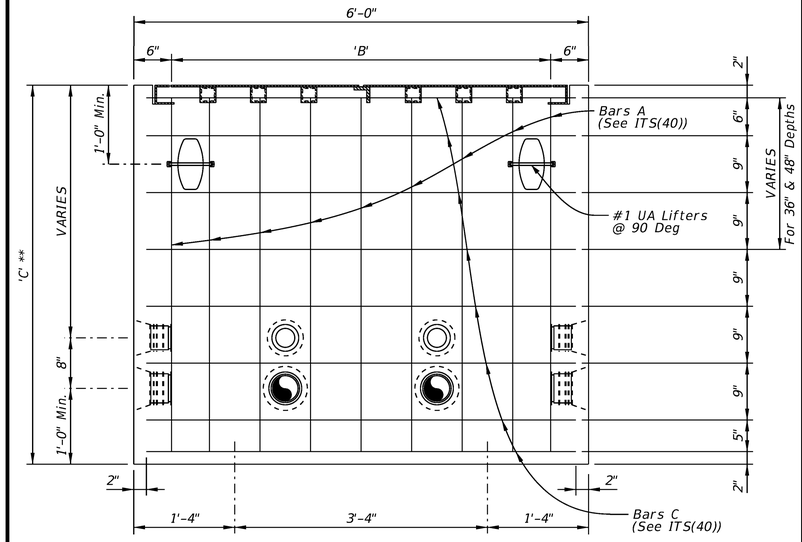
See Ground Box Schedule for A, B, and C Dimensions

Type 2 Ground Box Isometric View



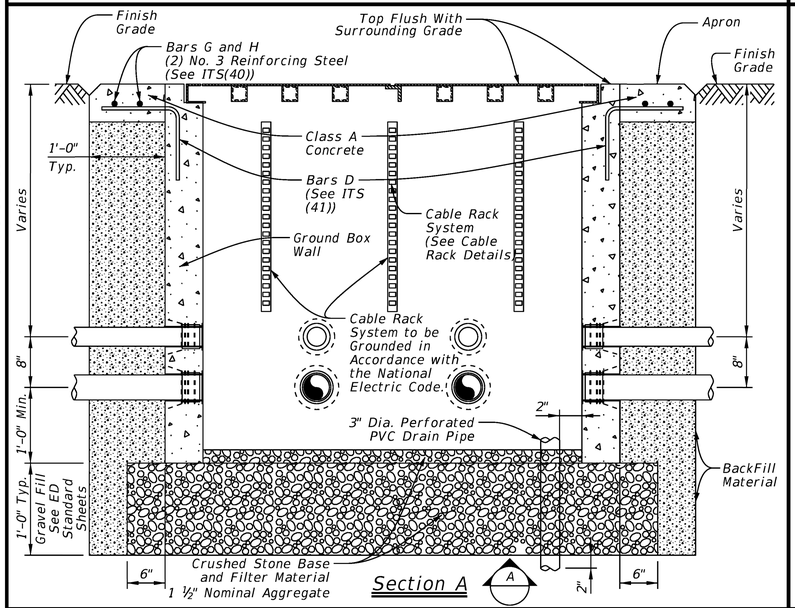
Note: Bar Spacing is The Same on Opposing Sides.

Type 2 Ground Box Plan View

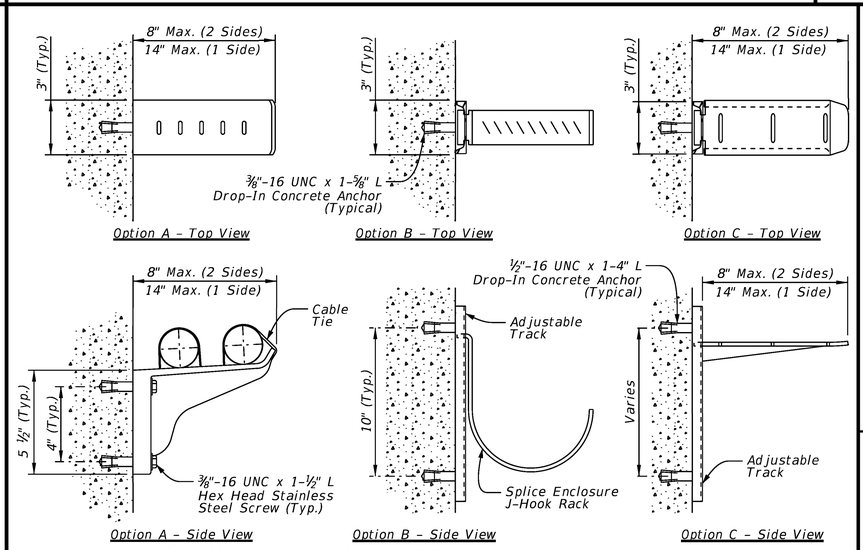


** - Detail representative of 60" deep ground box.

Type 2 Ground Box Elevation View

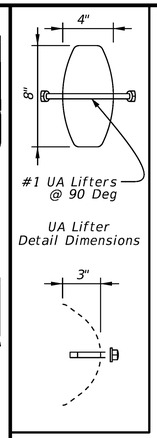


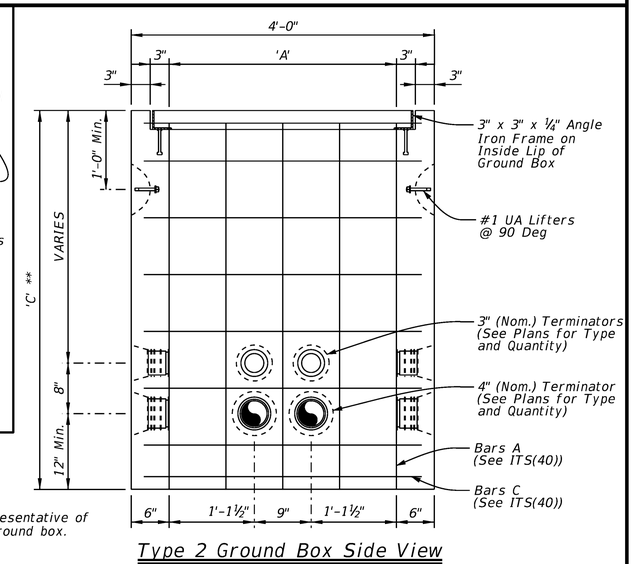
Section A



Note: Options Shown for Cable Racks and Attachment Methods Contractor to Supply Shop Drawings of Cable Rack and Cable Rack Grounding System (If Applicable) for Engineer Approval Prior to Installation.

Type 2 Cable Rack Details





** - Detail representative of 60" deep ground box.

Type 2 Ground Box Side View

SHEET 1 OF 2

General Notes:

1. Conduit entry points shown represent the standard configuration for backbone conduit as detailed on ITS(27). Additional conduits may be required as shown on the plans.
2. Provide Class "A" concrete for Type "2" ground boxes.
3. Provide terminators for the PVC conduit cast in the walls and placed symmetrically about the centerline of the box at the depths shown, unless otherwise noted, for the number of conduits identified on the plans to enter the box.
4. Provide terminators appropriately sized for the conduits indicated on the plans. Provide terminators with an air tight and water tight connection.
5. Closed bottom Type "2" ground boxes are acceptable in lieu of open bottom boxes. Provide two 3" Dia. perforated PVC drain pipes on opposite corners to optimize water drainage. Provide closed bottom boxes with a 12-inch base of crushed stone which extends 6 inches in all directions from the perimeter of the box. Crushed stone will be subsidiary to Special Specification, "ITS Ground Box."
6. When additional conduit entry points are needed to accommodate existing conduit, core drill conduit knockouts in the field of the appropriate number and size of conduit at each location, as directed by the Engineer.
7. Provide a bell fitting on the end of each conduit to ensure a flush fit inside the ground box.
8. Concrete grout around the knockout (inside and out) and around the conduit and bell fitting to ensure a neat watertight fit after the conduit and bell fitting have been placed in a knockout. Ensure all openings in the ground box are sealed prior to grouting operations.
9. Install a nylon string and plug all unused conduits with tug-plugs sized for the particular conduits. Provide split innerduct plugs in conduits or innerducts with cables to seal the innerduct around the cables to prevent water and dirt from entering.
10. Install all open bottom Type "2" ground boxes on a 12-inch base of crushed stone which extends 6 inches in all directions from the perimeter of the box. Crushed stone will be subsidiary to special specification, "ITS Ground Box."
11. Cap and seal terminators that do not have conduits attached.
12. Backfill in accordance with Item 400, "Excavation and Backfill for Structures."
13. Provide steel (ASTM A-153), glass reinforced nylon, or equivalent cable rack assemblies designed to support the amount of cable storage slack and splice enclosures identified in the plans. Locate cable rack system on any side but allow for sufficient access to the inside of the ground box. Cable racks may be installed at the factory or in the field. When mounting cable racks in the field, seal all penetrations to the concrete side wall to prevent moisture penetration. Ground metallic cable rack systems to grounding system inside ground box in accordance with the National Electrical Code.

Ground Box Schedule

Ground Box Type	'A' Width Inside (Inches)	'B' Length Inside (Inches)	'C' Depth Inside (Inches)
Type 2	36	60	36, 48, 60

Sheet Details
Not to Scale

Texas Department of Transportation

Traffic Operations Division Standard

ITS GROUND BOX DETAILS TYPE "2" WITH STEEL COVER

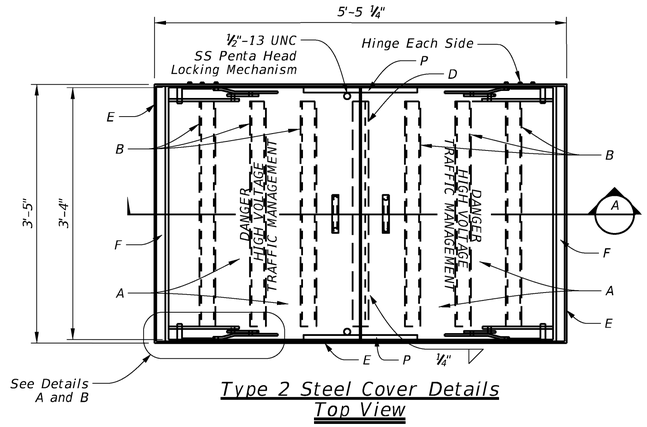
ITS(39)-16

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©TxDOT FEBRUARY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	DIST	COUNTY		SHEET NO.
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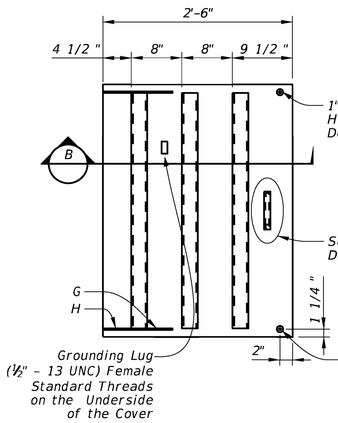
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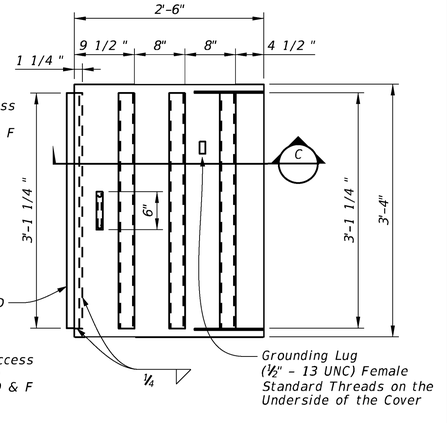
Type 2 Steel Cover Details
Top View



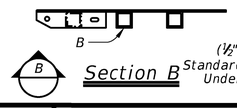
Section A



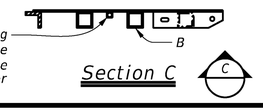
Type 2 Steel Cover Details
Bottom View (Left)



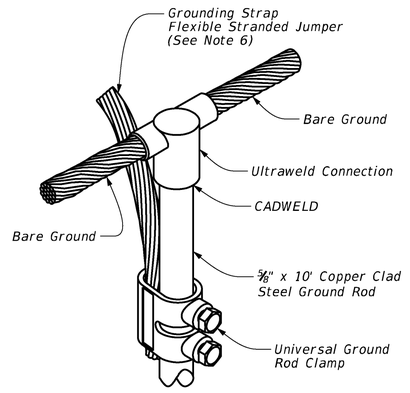
Type 2 Steel Cover Details
Bottom View (Right)



Section B



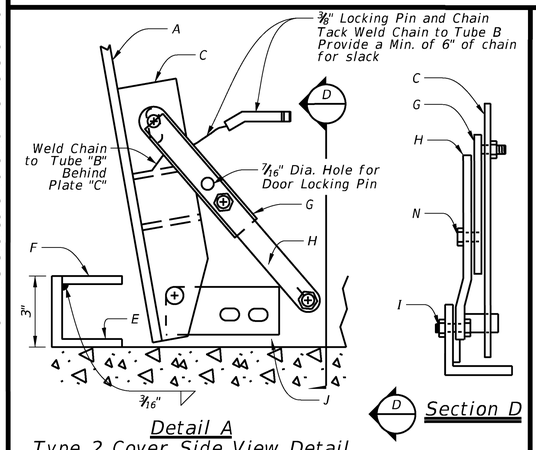
Section C



Detail G
Grounding Connection Detail

Note – All grounding connections to be CADWELD or approved equal. This work will not be paid for directly, but is considered incidental to ITS ground box.

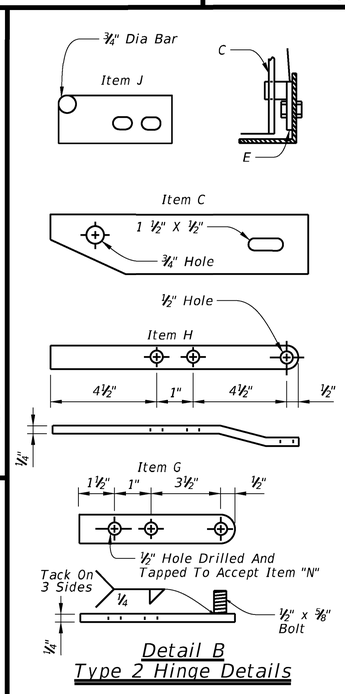
Item	Qty	Incidental "ITS Ground Box" Material
A	2	¼" Floor Plate 40" x 30"
B	6	2 ½" x 2 ½" x 37 ¼" Tube
C	4	11" x 2 ½" x ¼" Plate
D	1	2 ½" x 2 ½" x ½" x 37" ¼ Angle
E	4	3" x 3" x ¼" Angle
F	2	40 ½" x 2" x ¼" Plate
G	4	6 ½" x 1 ¼" x ¼" Plate
H	4	10 ½" x 1 ¼" x ¼" Plate
I	12	½" Bolt/Nut
J	4	4 ¾ x 2" x ¾" Plate
K	2	⅝" Drop Handle
L	2	1 ½" x ⅜" x 3/16" Channel x 7"
M	4	1 ½" x ⅛" P Disk
N	8	½" x ⅜" Bolt
P	2	1" x 1" x ⅛" Angle x 18"



Detail A
Type 2 Cover Side View Detail

Section D

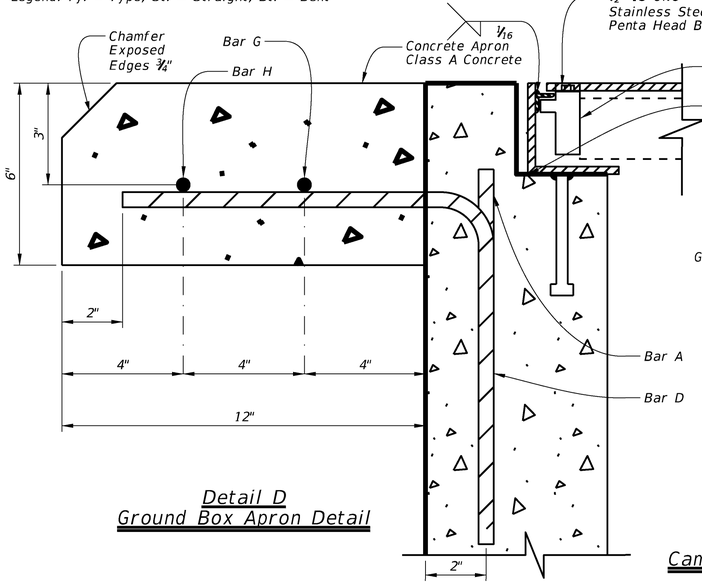
Detail C
Type 2 Drop Handle Details



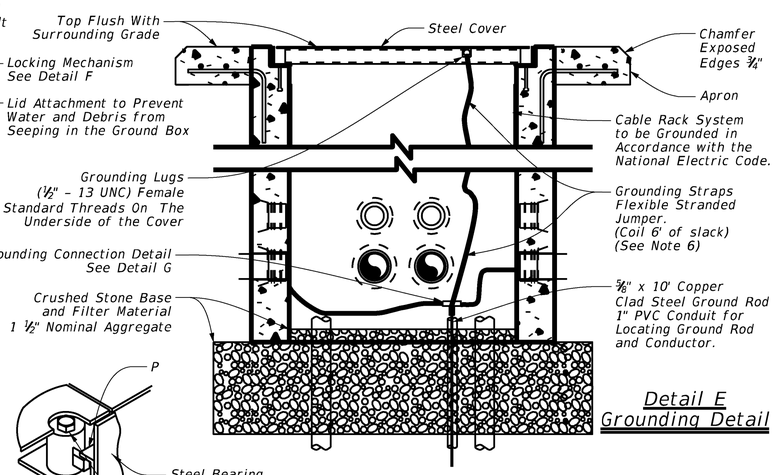
Detail B
Type 2 Hinge Details

Ground Box Type 2	BAR A					BAR C					BAR D					BAR G					BAR H					TOTALS	
	No.	Size	Ty.	Length	Weight	No.	Size	Ty.	Length	Weight	No.	Size	Ty.	Length	Weight	No.	Size	Ty.	Length	Weight	No.	Size	Ty.	Length	Weight	Steel * LBS.	Conc. * CY
36" Depth	28	#4	St.	2'-8"	50.0	5	#4	Bt.	19'-1"	63.9	8	#4	Bt.	2'-0"	10.7	1	#3	Bt.	23'-3"	8.8	1	#3	Bt.	25'-11"	9.8	143.2	1.00
48" Depth	28	#4	St.	3'-8"	68.8	7	#4	Bt.	19'-1"	89.5	8	#4	Bt.	2'-0"	10.7	1	#3	Bt.	23'-3"	8.8	1	#3	Bt.	25'-11"	9.8	187.6	1.33
60" Depth	28	#4	St.	4'-8"	87.5	8	#4	Bt.	19'-1"	102.3	8	#4	Bt.	2'-0"	10.7	1	#3	Bt.	23'-3"	8.8	1	#3	Bt.	25'-11"	9.8	219.1	1.67

* – For Contractors Information Only. Incidental to "ITS Ground Box".
Legend: Ty. = Type, St. = Straight, Bt. = Bent



Detail D
Ground Box Apron Detail



Detail E
Grounding Detail

Detail F
Cam Locking Mechanism

General Notes:

1. See ITS(39) for additional Type "2" ground box details.
2. Hot-dip galvanized steel covers after all welds are made.
3. Label top of cover with the words "DANGER HIGH VOLTAGE TRAFFIC MANAGEMENT" using template-guided, hand-welded lettering at a height of 2 inches to ensure neatness.
4. Provide all Type "2" ground boxes with a securable, tamper-proof cover equipped with a bolting system that positively secures the cover in place.
5. Ground steel covers in accordance with the National Electrical Code.
6. Ground covers to the grounding cable using a split-bolt kearney clamp, and a minimum 8-foot long flexible stranded jumper the same size as the grounding conductor. Terminate to metal ground box cover with a tank ground type lug as approved and directed by the Engineer.
7. Provide Type "2" ground box and cover designed for heavy duty loading in accordance with AASHTO H20 loading when located where the box may experience deliberate, continuous vehicular traffic, such as near the shoulder or an auxiliary lane, or immediately adjacent to the unprotected edge of pavement.
8. Provide a Type "2" ground box and cover tested by a laboratory independent of the manufacturer certifying loading requirements are met. Provide certification of such tests to the Engineer for approval.
9. Provide a steel or cast iron cover in accordance with Item 471, Article 471.2, "Frames, Grates, Rings, and Covers." Provide covers with the number of drop handles shown. Provide Class "A" concrete for ground box construction and aprons.
10. Fabricate cover so to fits properly on the ground box, and no undue noise results when traffic contacts the cover.

Sheet Details
Not to Scale

SHEET 2 OF 2

Texas Department of Transportation

Traffic Operations Division Standard

ITS GROUND BOX DETAILS TYPE "2" WITH STEEL COVER

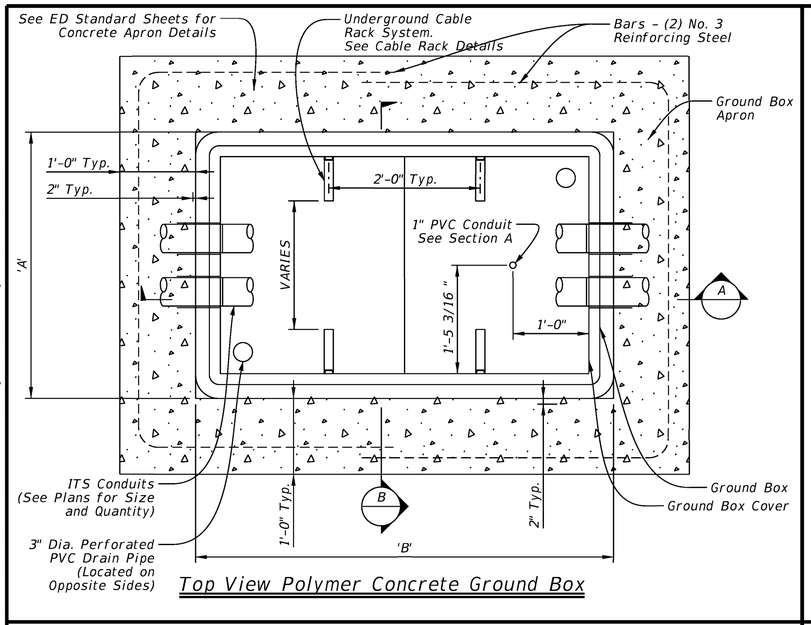
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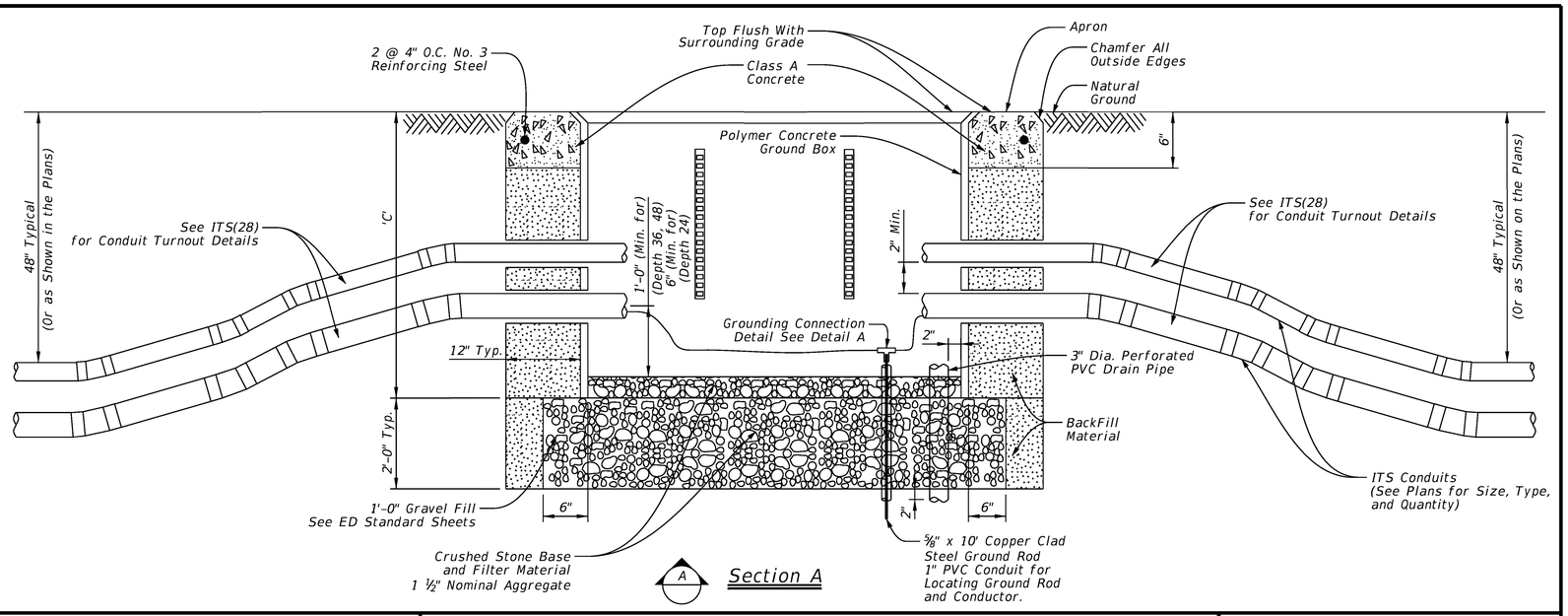
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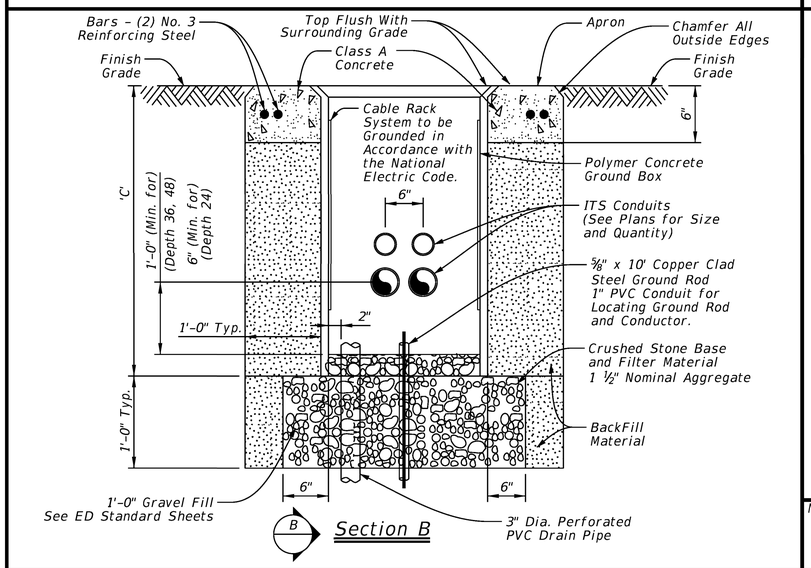
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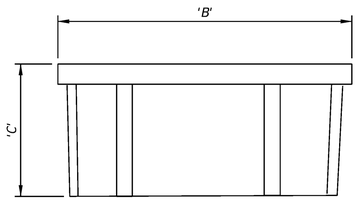
Top View Polymer Concrete Ground Box



Section A



Section B

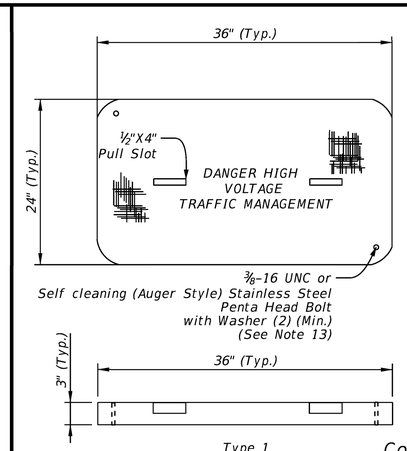


Ground Box Schedule

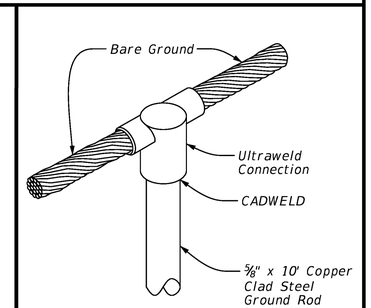
Ground Box Type	'A' * Width (Outside) (Inches)	'B' * Length (Outside) (Inches)	'C' Depth (Outside) (Inches)	Size #3 Bars (Apron)	
				Length	Weight
Type 1	26	38	24, 36, 48	24'–0"	9.12
Type 2	40	63	24, 36, 48	32'–8"	12.45

* – Tolerance of +/– 1.5"

Side View Typical Ground Box



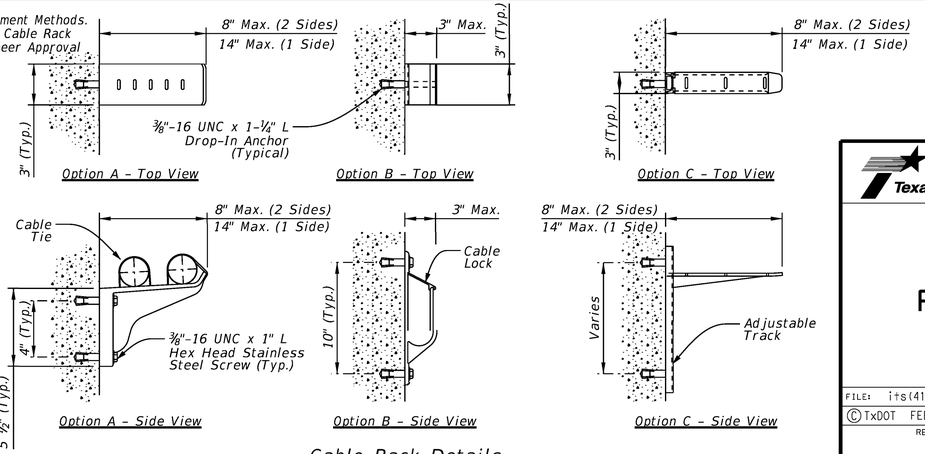
Cover Top View and Side View



Note – All grounding connections to be CADWELD or approved equal. This work will not be paid for directly, but is considered incidental to ITS ground box.

Detail A Grounding Connection Detail

Note:
Options Shown for Cable Racks and Attachment Methods. Furnish Shop Drawings of Cable Rack and Cable Rack Grounding System (If Applicable) for Engineer Approval Prior to Installation.



Cable Rack Details

Sheet Details
Not to Scale

General Notes:

1. Conduit shown is for example only. Additional conduits may be required as shown on the plans.
2. Provide polymer concrete ground box and cover.
3. Provide Type "2" ground boxes when splice enclosure is required, as shown on the plans.
4. Terminate conduits through the side of the ground box.
5. Provide terminators for conduits cast in the walls and placed symmetrically about the centerline of the box at the depths shown, unless otherwise noted, for the number of conduits identified on the plans to enter the box.
6. Provide terminators appropriately sized for the conduits indicated on the plans. Provide terminators with an air tight and water tight connection.
7. Provide ground box with open bottom. Provide two 3" Dia. perforated PVC drain pipes on opposite corners and extend 2" below bottom of gravel bed to optimize water drainage.
8. Install ground box on a 12–inch base of crushed stone which extends 6 inches in all directions from the perimeter of the box. Crushed stone will be subsidiary to special specification, "ITS Ground Box."
9. When additional conduit entry points are needed to accommodate existing conduit, core drill conduit knockouts in the field of the appropriate number and size of conduit at each location, as directed by the Engineer.
10. Provide a bell fitting on the end of each conduit to ensure a flush fit inside the ground box.
11. Concrete grout around the knockout (inside and out) and around the conduit and bell fitting to ensure a neat watertight fit after the conduit and bell fitting have been placed in a knockout. Ensure all openings in the ground box are sealed prior to grouting operations.
12. Label top of cover with the words "DANGER HIGH VOLTAGE TRAFFIC MANAGEMENT."
13. Equip all covers with a bolting system that will positively secure the cover in place.
14. Backfill in accordance with Item 400, "Excavation and Backfill for Structures."
15. Provide polymer concrete ground boxes and covers for off roadway applications subject to occasional non–deliberate heavy vehicular traffic, such as driveways, along sidewalks, parking lots and behind non–mountable curb. Meet American National Standards Institute (ANSI) / Society of Cable Telecommunications Engineers (SCTE) Tier 22 loading requirements when located in these areas.
16. Provide steel (ASTM A–153), glass reinforced nylon, or equivalent cable rack assemblies designed to support the amount of cable storage slack and splice enclosures identified in the plans. Locate cable rack system on any side but allow for sufficient access to the inside of the ground box. Cable racks may be installed at the factory or in the field. When mounting cable racks in the field, seal all penetrations to the side wall to prevent moisture penetration. Ground metallic cable rack systems to grounding system inside ground box in accordance with the National Electrical Code.

Texas Department of Transportation

Traffic Operations Division Standard

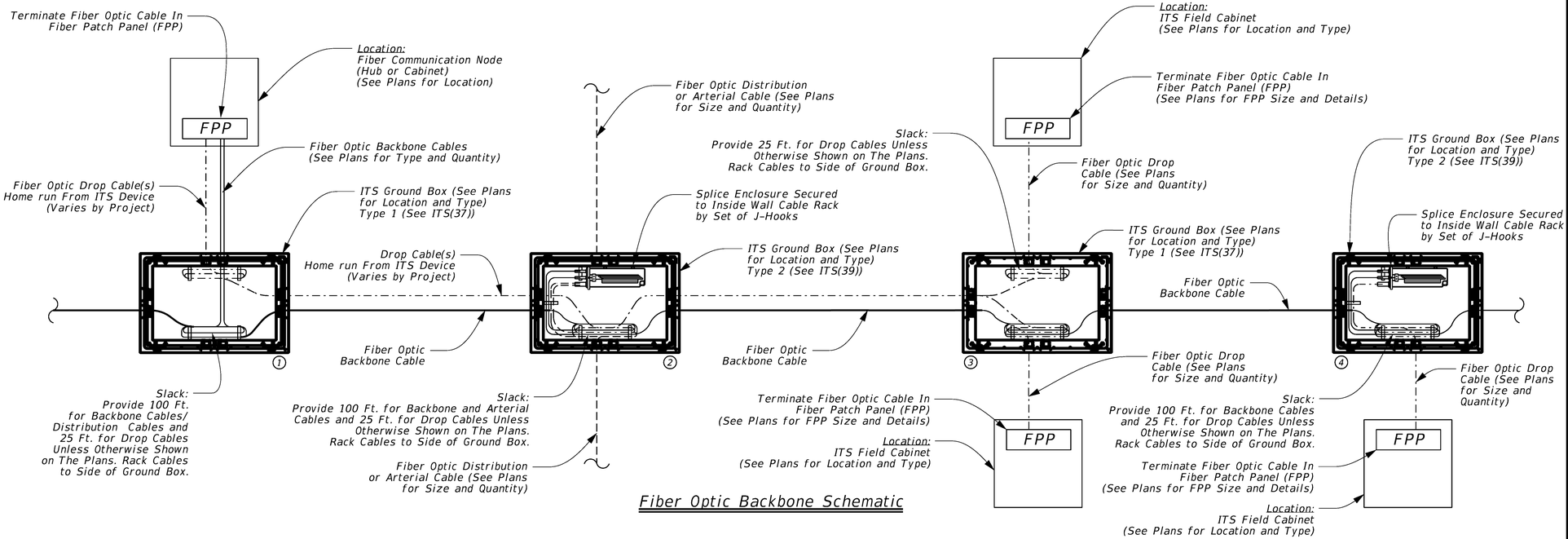
ITS GROUND BOX POLYMER CONCRETE

ITS(41)–16

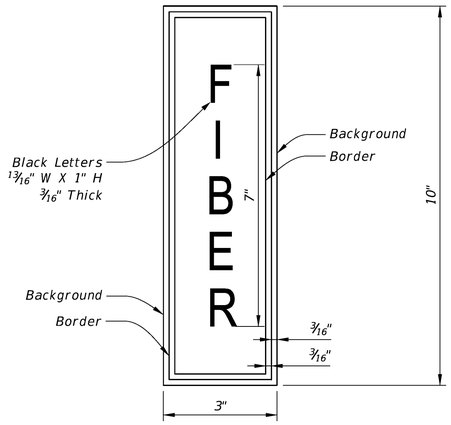
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©TxDOT FEBRUARY 2016	CONT	SECT	JOB	HIGHWAY
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				137

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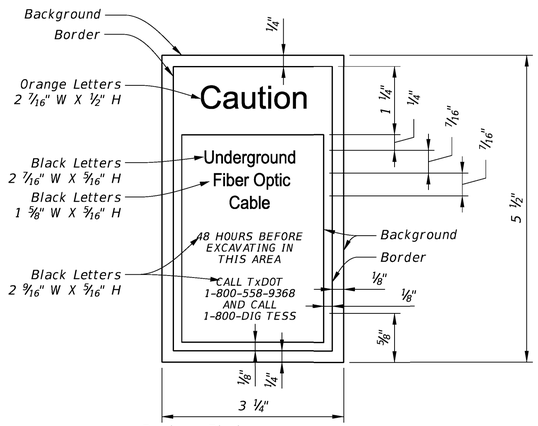


Fiber Optic Backbone Schematic



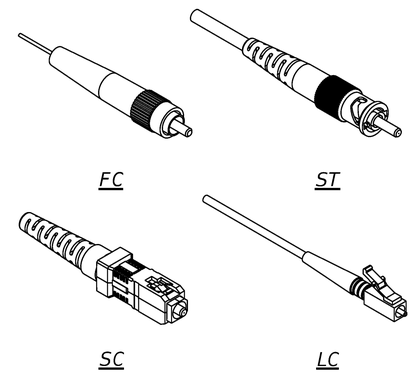
Border – Black
Background – Orange Reflective

Fiber Decal Details



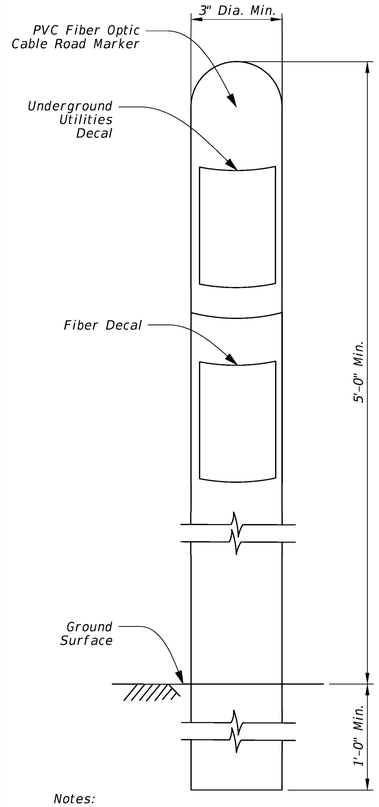
Border – Black
Symbol – Black
Background – Orange Reflective

Underground Utilities Decal Details



Fiber Optic Connectors

Note – Details are diagrammatic and may vary by manufacturer.



Notes:
1. Space fiber optic cable road markers at maximum 1000' intervals or at significant changes in direction such as a 90 degree turn.
2. Provide all orange fiber optic cable road markers for non-splice locations.
3. Provide orange fiber optic cable road markers with white dome for splice locations.
4. Locate marker within concrete apron of fiber ground box.

Fiber Optic Cable Road Markers

Reference Notes:

1. Fiber architecture at communication node.
2. Fiber architecture for splicing arterial distribution cables.
3. Fiber architecture for home run of drop cables from ITS field equipment cabinets to communication node.
4. Fiber architecture for splicing drop cable from ITS field equipment cabinet.

General Notes:

1. The fiber optic backbone schematic shown is diagrammatic only and intended to represent the various fiber optic communication architectures seen across the state and may not show all configurations seen. Connection of ITS field equipment to ITS communication nodes or hubs is achieved through home run drop cables or spliced to the backbone in a splice enclosure. Refer to fiber communication schematic details and fiber termination information shown on the plans for further information.
2. Install a flat pull cord in all empty conduits and inner-ducts identified for communication use. The pull cord must have a tensile strength of 1,250 lbs minimum and have foot markings to determine length installed. Furnish and installation of pull cord will be subsidiary to special specification "ITS Fiber Optic Cable".
3. Color code each type of fiber optic cable to identify the cable as a "backbone" (green or blue), "distribution" (red), or "drop" (orange or yellow).
4. Terminate fibers at fiber patch panel (FPP), also referred to as patch panel, with SC connectors for new installations. When connecting to existing FPP, terminate with FC or ST connectors as shown on the plans. Provide connector adaptors as required to accommodate existing equipment if information is not provided in the plans.
5. Provide a list showing cable number assignments and highway or facility that the cable services.
6. Provide a single 1/C #14 insulated wire in conduit runs which have been identified in the plans to carry fiber optic cable. Provide UL listed solid copper wire with orange color low density polyethylene insulation suitable for conduit installation rated for temperature range -20 C to 60 C and a voltage rating of 600V. This wire will serve as a tracer, or locate, wire for locating underground conduit containing fiber optic cabling and will be paid for under Item 620, "Electrical Conductors."
7. Ensure each cable is marked on the outer jacket with a label detailing the manufacturer's name, the date of manufacturer (month/year), the fiber count (Example: 48F SM or 48 SMF), and sequential length markings at maximum 3 FT increments.

Sheet Details
Not to Scale

SHEET 1 OF 2

Texas Department of Transportation

Traffic Operations Division Standard

ITS FIBER OPTIC CABLE MISCELLANEOUS DETAILS

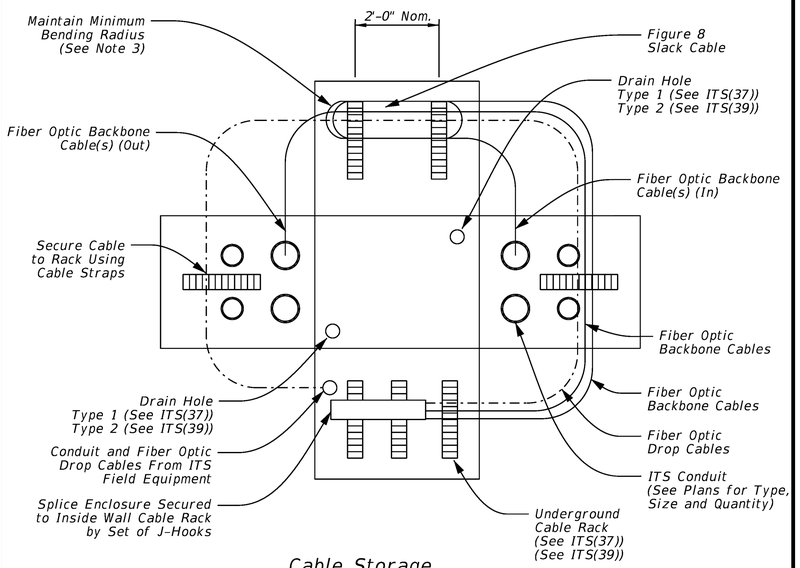
ITS(42)-16

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DATE:
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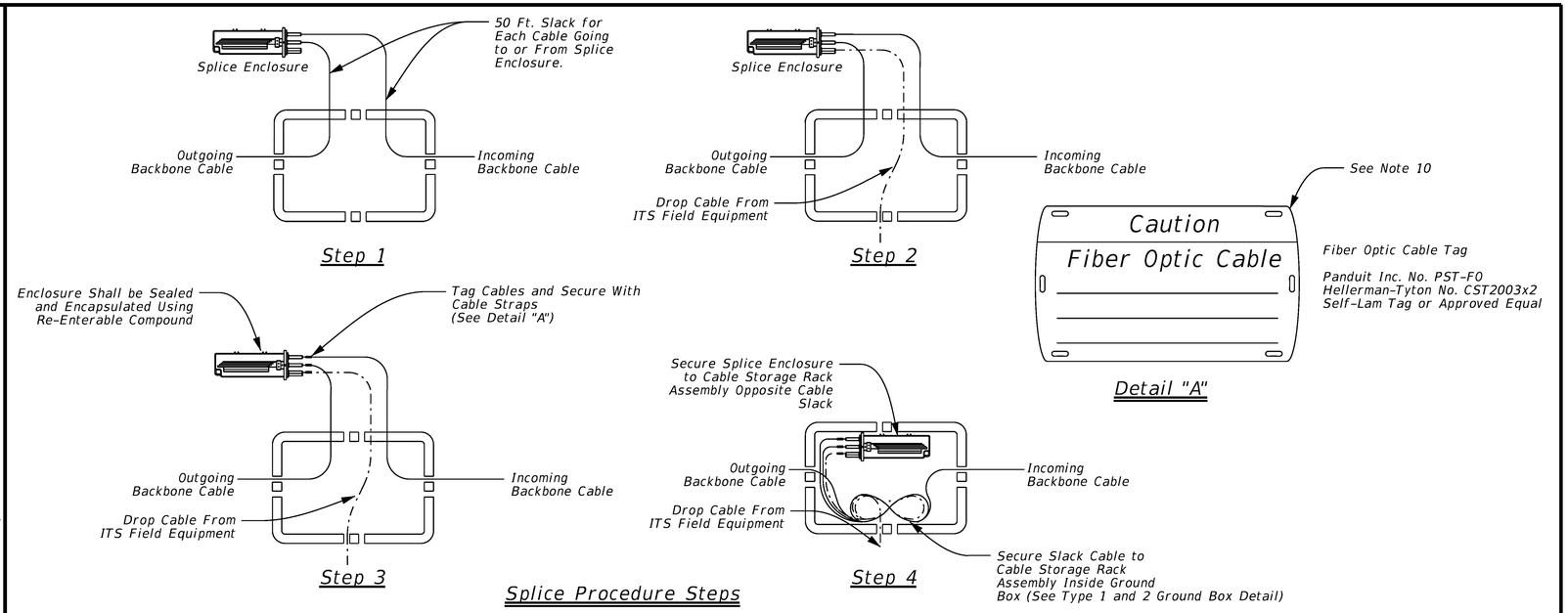
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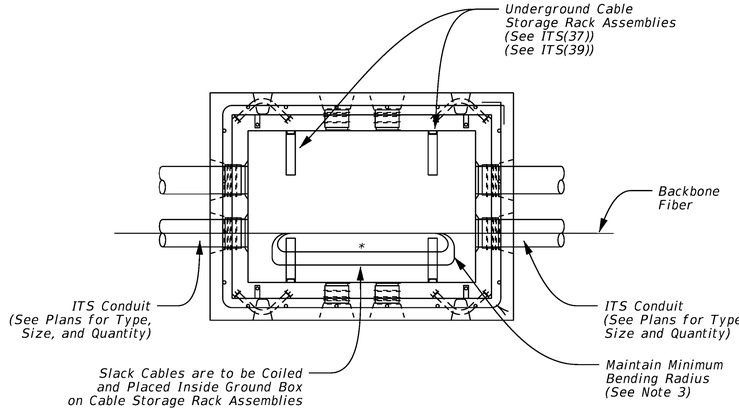


Cable Storage

Top View - Ground Box Walls Folded Down for Clarity

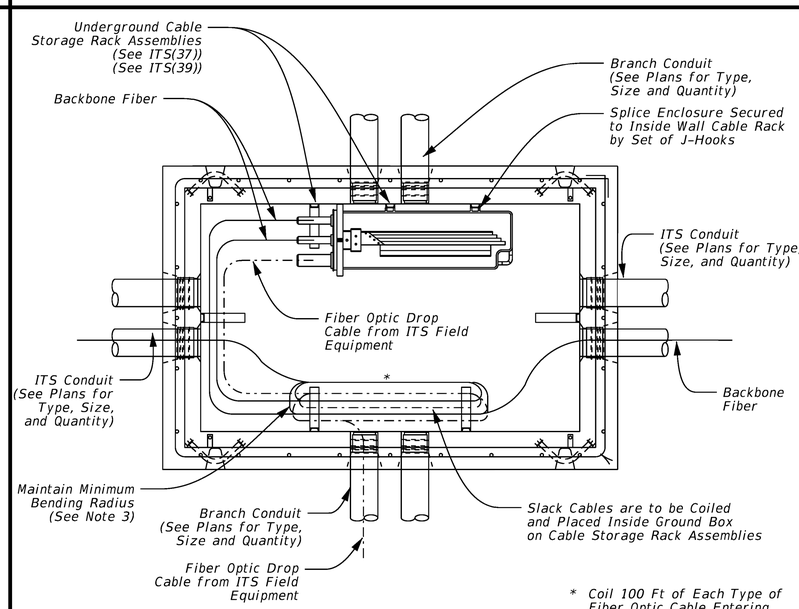


Splice Procedure Steps



Type "1" Ground Box

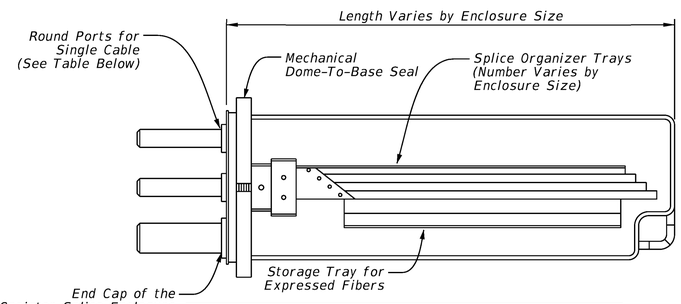
* Coil 25 Ft of Fiber Optic Cable for Slack



Type "2" Ground Box

with Splice

* Coil 100 Ft of Each Type of Fiber Optic Cable Entering the Ground Box



Splice Enclosure Sizes			
Type	No. of Ports	Port Capacity	Fiber Use
1	4	2 - Up to 144 Sm	Backbone
		2 - Up to 48 Sm	Drop
2	6	4 - Up to 144 Sm	Backbone/Arterial
		2 - Up to 48 Sm	Drop
3	8	4 - Up to 144 Sm	Backbone/Arterial
		4 - Up to 48 Sm	Drop

Splice Enclosure Fiber Accommodations

General Notes:

1. Conduit entry points to the Type 1 and Type 2 ground boxes are diagrammatic. Refer to ITS ground box standards, ITS(37) and ITS(39), for more information. Additional conduits may be required as shown on the plans.
2. Type 2 ground boxes are to be used, as shown on the plans, when splice enclosures are required.
3. Maintain a minimum bend radius of 20 times the fiber optic cable diameter during installation, relocation, and removal and a minimum of 10 times the fiber optic cable diameter when in operation.
4. Caulk all conduit around the top of the cable ducts with an engineer approved caulking compound to seal clearance between the cables and ducts. Place conduit plugs in all vacant conduits or inner-ducts.
5. Provide cable straps that will withstand ultra-violet exposure and do not damage cables when tightening.
6. All incidental equipment necessary for the cable installation and mounting of splice enclosure within the ground box will be incidental to Special Specification, "ITS Fiber Optic Cable."
7. Submit all splice locations to the field engineer for approval before beginning work.
8. Provide splice enclosures designed to seal, bond, anchor, and protect fiber optic cable splices. Provide splice enclosures designed to handle mechanical and fusion type splices. Provide splice enclosures with port configurations for the sizes detailed above.
9. Provide splice enclosures designed for underground placement with a sealing system preventing water penetration when submerged under 10 ft. of water.
10. Furnish, install, and secure fiber optic cable tags for each fiber optic cable entering a ground box, ITS field equipment cabinet (ground and pole), and hub building or communication node as detailed above. Provide information including fiber optic type, count, origin, and destination on the cable tag. Use UV resistant tie-wraps for securing the tag to the cable. Provide tie-wraps that do not damage fiber when securing to cable.

Sheet Details
Not to Scale

Texas Department of Transportation

Traffic Operations Division Standard

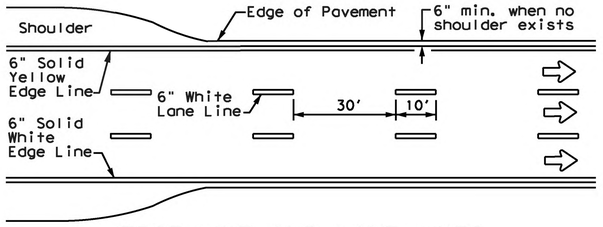
ITS FIBER OPTIC CABLE MISCELLANEOUS DETAILS

ITS(43)-16

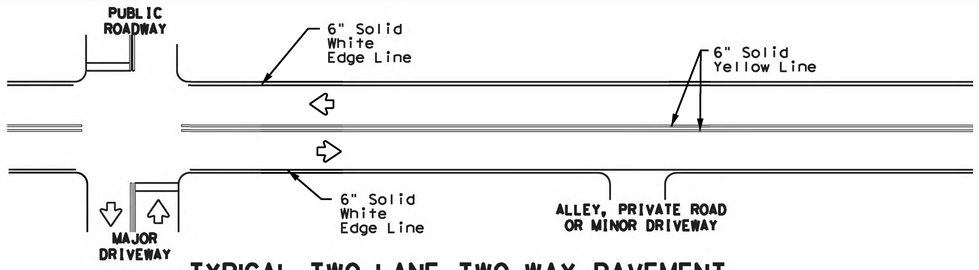
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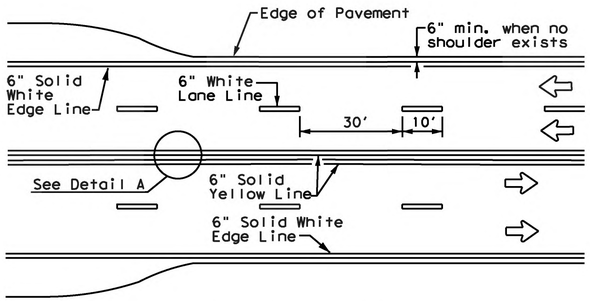
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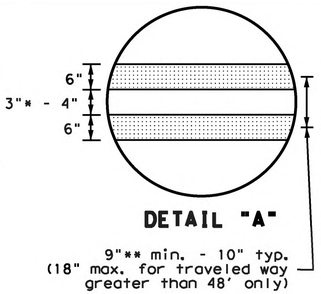


EDGE LINE AND LANE LINES ONE-WAY ROADWAY WITH OR WITHOUT SHOULDERS



TYPICAL TWO-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS





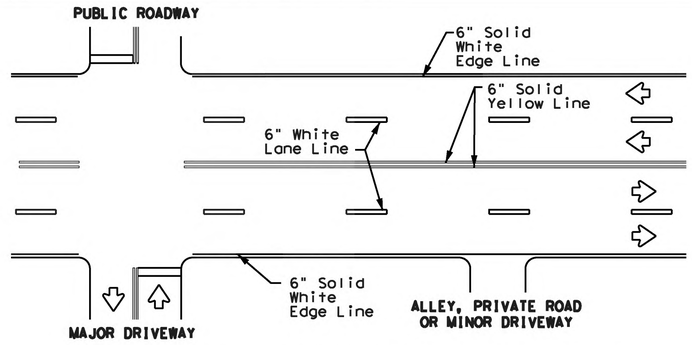
DETAIL "A"

9"** min. - 10" typ.
(18" max. for traveled way greater than 48' only)

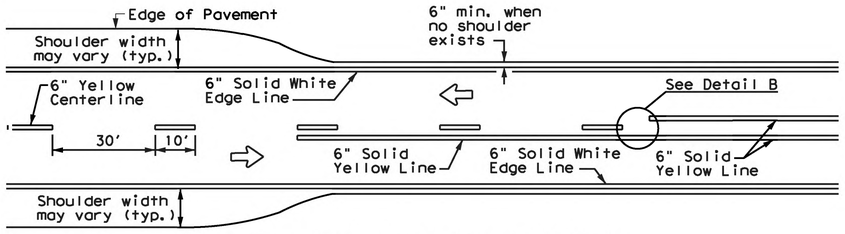
CENTERLINE AND LANE LINES FOUR LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS

* 2" minimum for restripe projects when approved by the Engineer.

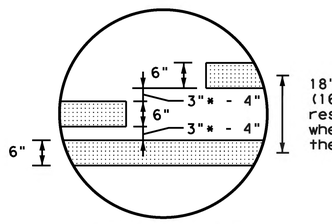
** 8" minimum for restripe projects when approved by the Engineer.



TYPICAL MULTI-LANE, TWO-WAY PAVEMENT MARKINGS THROUGH INTERSECTIONS

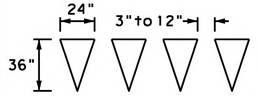


TWO LANE TWO-WAY ROADWAY WITH OR WITHOUT SHOULDERS



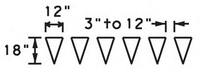
DETAIL "B"

* 2" minimum for restripe projects when approved by the Engineer.

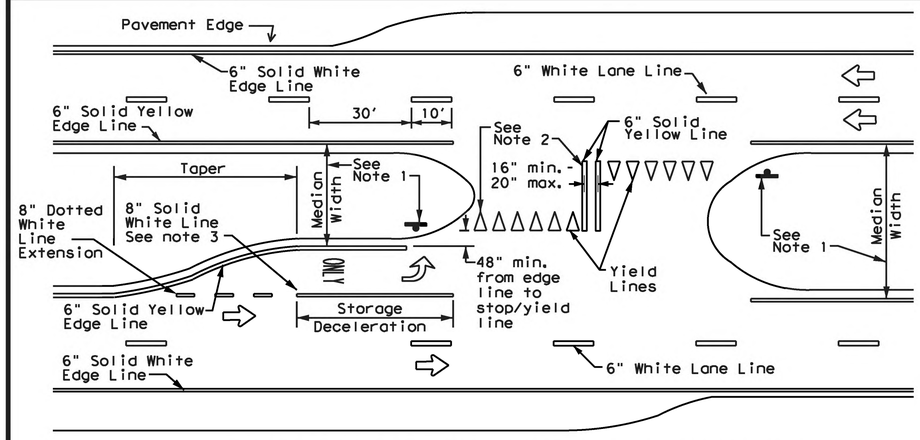


For posted speed on road being marked equal to or greater than 45 MPH.

YIELD LINES



For posted speed on road being marked equal to or less than 40 MPH.



FOUR LANE DIVIDED ROADWAY CROSSOVERS

NOTES

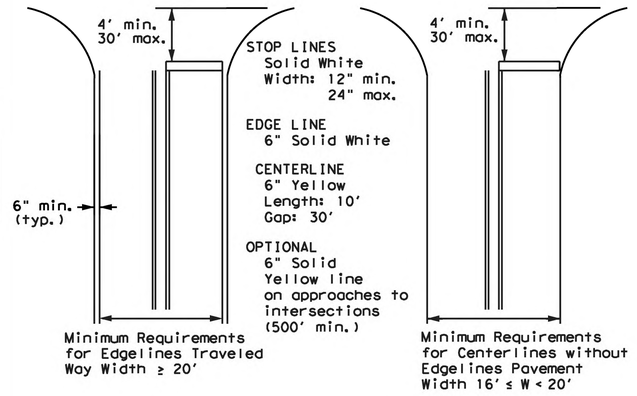
1. Where divided highways are separated by median widths at the median opening itself of 30 feet or more, median openings shall be signed as two separate intersections. Each median opening has two width measurements, with one measurement for each approach. The narrow median width will be the controlling width to determine if signs are required. Yield signs are the typical intersection control. Stop signs and stop bars are optional as determined by the Engineer.
2. Install median striping (double yellow centerlines and stop lines/yield lines) when a 50' or greater median centerline can be placed. Stop lines shall only be used with stop signs. Yield lines shall only be used with yield signs.
3. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer.

GENERAL NOTES

1. Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edge lines are not required in curb and gutter sections of roadways.
2. The traveled way includes only that portion of the roadway used for vehicular travel. It does not include the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the center of edge line to the center of edge line of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



NOTE: Traveled way is exclusive of shoulder widths. Refer to General Note 2 for additional details.

GUIDE FOR PLACEMENT OF STOP LINES, EDGE LINE & CENTERLINE

Based on Traveled Way and Pavement Widths for Undivided Roadways

Texas Department of Transportation

Traffic Safety Division Standard

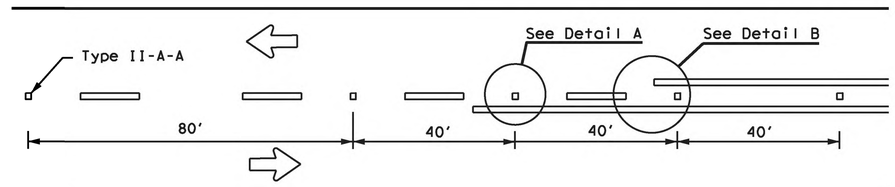
TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-22

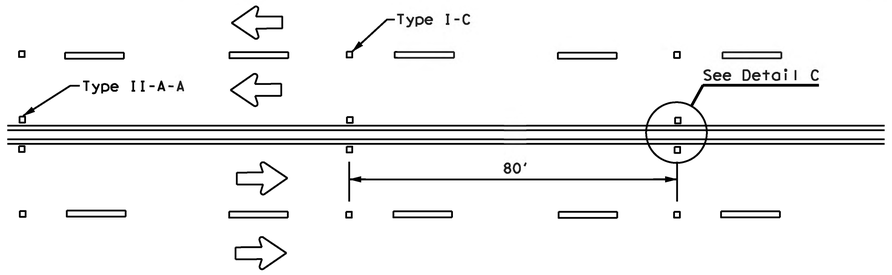
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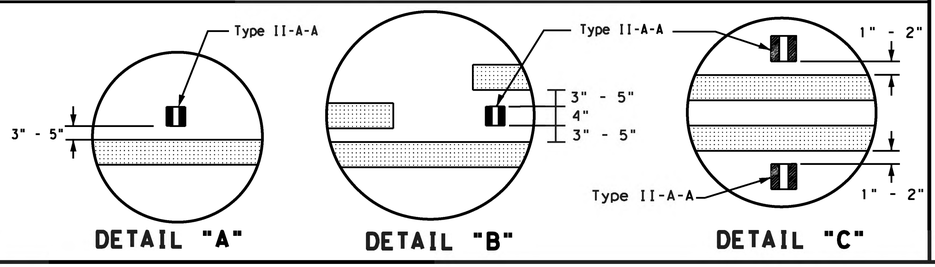
REFLECTIVE RAISED PAVEMENT MARKERS FOR VEHICLE POSITIONING GUIDANCE

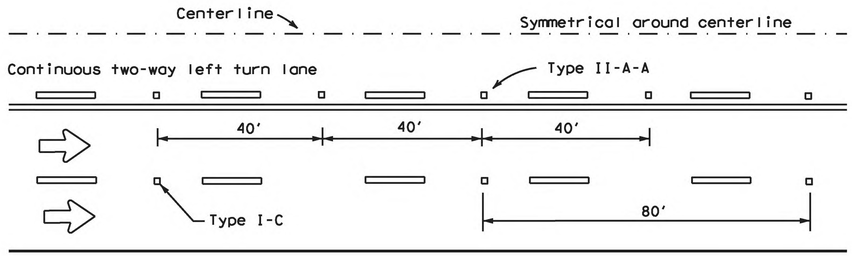


CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS

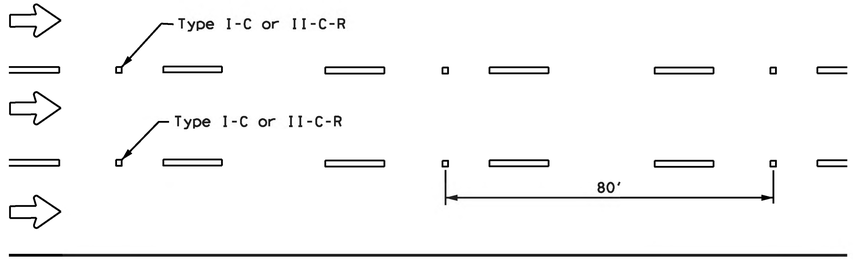


CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY ROADWAYS





CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



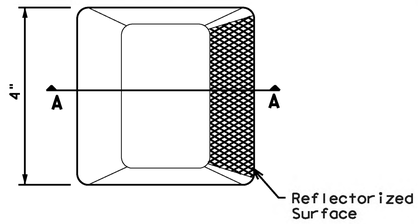
LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.

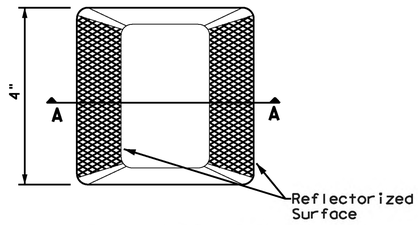
See Note 3.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

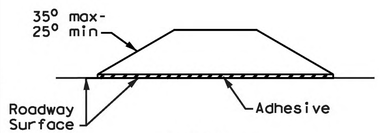
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)

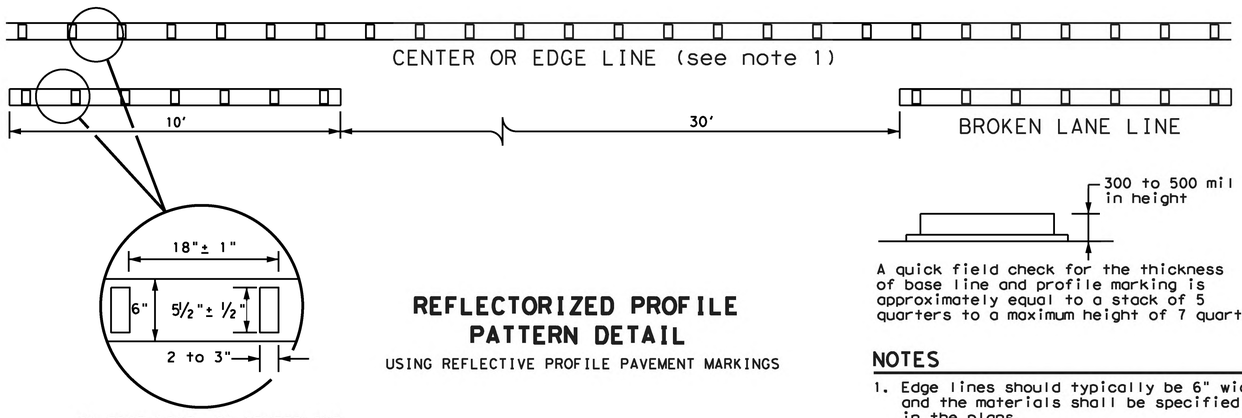


Type II (Top View)



SECTION A

RAISED PAVEMENT MARKERS



6" EDGE LINE, 6" CENTERLINE OR 6" LANE LINE

REFLECTORIZED PROFILE PATTERN DETAIL

USING REFLECTIVE PROFILE PAVEMENT MARKINGS

A quick field check for the thickness of base line and profile marking is approximately equal to a stack of 5 quarters to a maximum height of 7 quarters.

NOTES

1. Edge lines should typically be 6" wide and the materials shall be specified in the plans.
2. Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

GENERAL NOTES

1. All raised pavement markers placed along broken lines shall be placed in line with and midway between the stripes.
2. On concrete pavements, the raised pavement markers should be placed to one side of the longitudinal joints.
3. Use raised pavement marker Type I-C with undivided roadways, flush medians, and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.

Texas Department of Transportation

Traffic Safety Division Standard

POSITION GUIDANCE USING RAISED MARKERS REFLECTORIZED PROFILE MARKINGS PM(2)-22

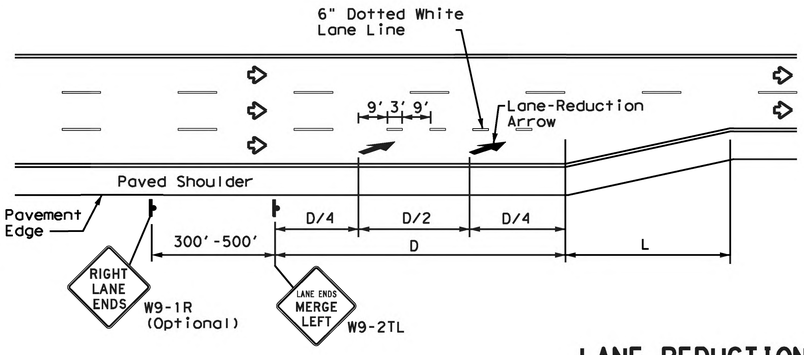
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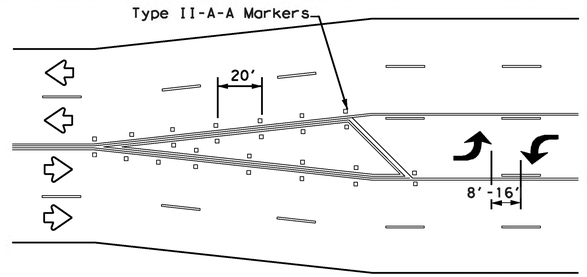


LANE REDUCTION

NOTES

1. Lane reduction pavement markings are used where the number of through lanes is reduced because of narrowing of the roadway or because of a section of on-street parking in what would otherwise be a through lane. For Texas Super 2 Passing Lanes, see TS2(PL) standard sheets.
2. On divided highways, an additional RIGHT LANE ENDS (W9-1R) sign may be installed in the median aligned with the W9-1R sign on the right side of the highway.
3. Lane reduction arrows are required for speeds of 45 mph or greater. An optional third lane reduction arrow may be added based on engineering judgement. If used, the optional third lane reduction arrow should be centered between the first and last lane reduction arrows.
4. For lane reductions on Freeways and Expressways, signing shall conform to the TxDOT Freeway Signing Handbook.

ADVANCED WARNING SIGN DISTANCE (D)		
Posted Speed	D (ft)	L (ft)
30 MPH	460	$L=\frac{WS^2}{60}$
35 MPH	565	
40 MPH	670	
45 MPH	775	L=WS
50 MPH	885	
55 MPH	990	
60 MPH	1,100	
65 MPH	1,200	
70 MPH	1,250	
75 MPH	1,350	



A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

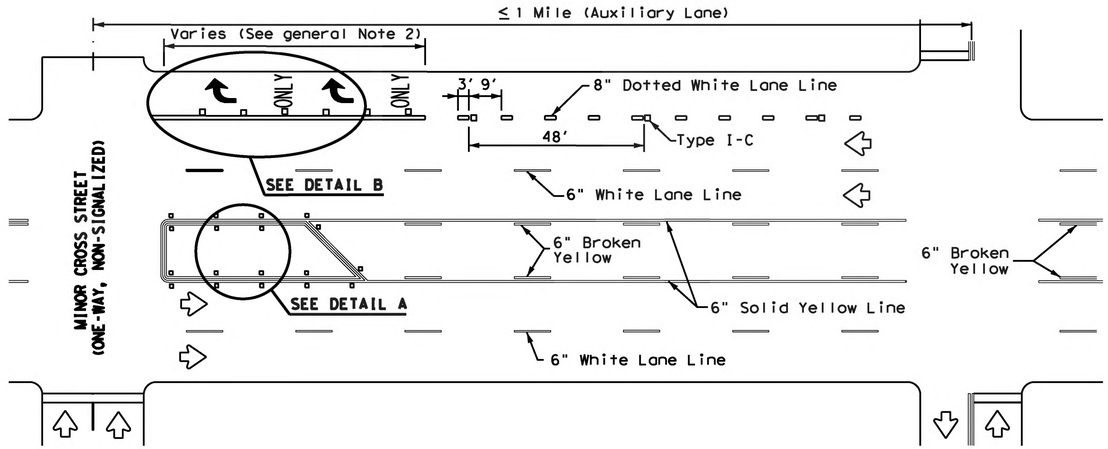
TYPICAL TRANSITION FOR TWLTL AND DIVIDED HIGHWAY

GENERAL NOTES

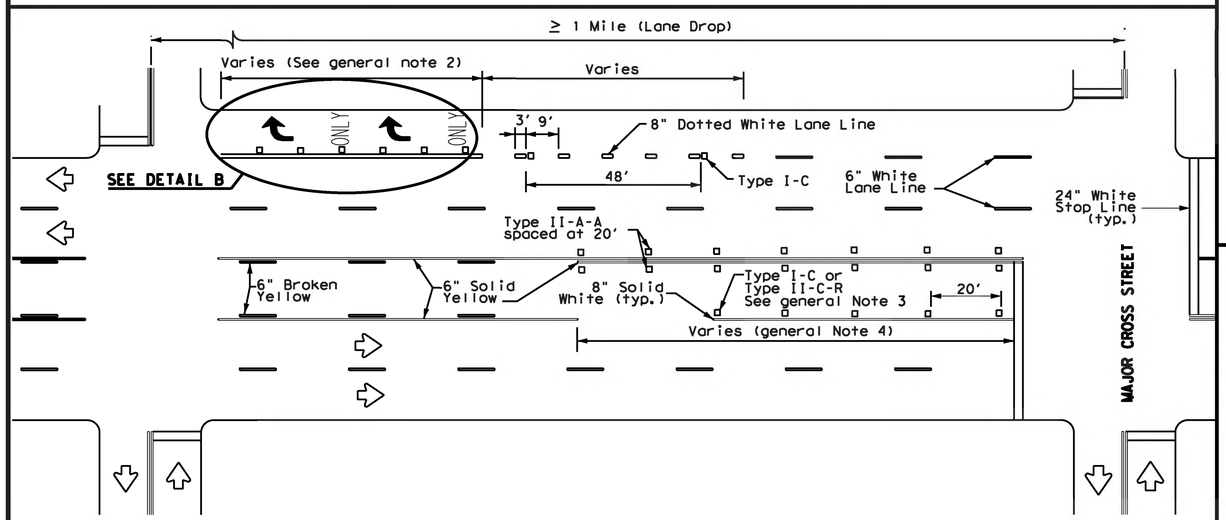
1. Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows are as shown in the Standard Highway Sign Designs for Texas.
2. When lane-use words and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
3. Use raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Use raised pavement marker Type II-C-R with divided highways and raised medians.
4. Length of turn bays, including taper, deceleration, and storage lengths shall be as shown on the plans or as directed by the Engineer. See Chapter 3 of the Roadway Design Manual for additional information on turning lanes or storage lengths.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

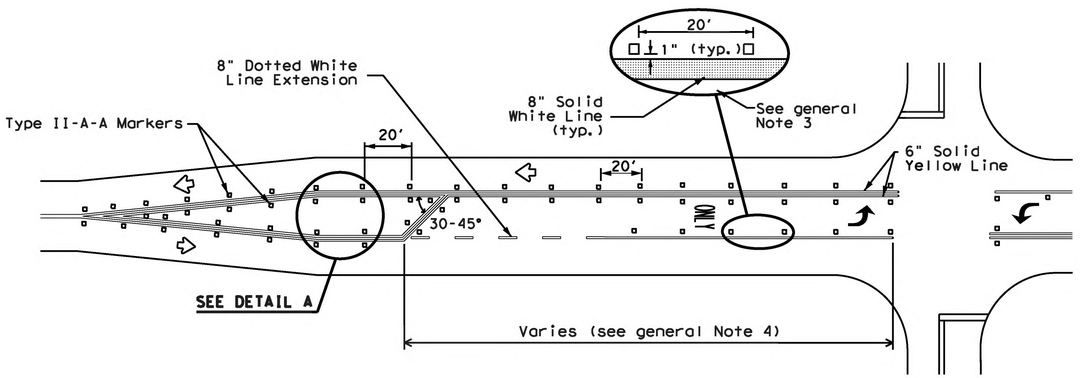
All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



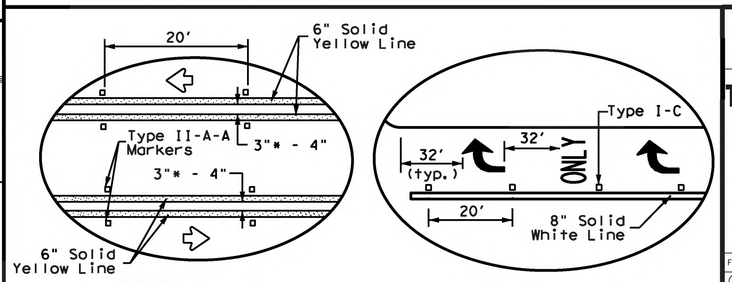
TYPICAL TWLTL AT ONE-WAY STREET AND RIGHT TURN AUXILIARY LANE



TYPICAL TWLTL AT TWO-WAY CROSS STREET AND RIGHT TURN LANE DROP



TYPICAL TWO-LANE ROADWAY INTERSECTION WITH LEFT TURN BAYS



* 2" minimum allowed for restripe projects when approved by the Engineer.

Texas Department of Transportation

Traffic Safety Division Standard

TWO-WAY LEFT TURN LANES, RURAL LEFT TURN BAYS, AND LANE REDUCTION PAVEMENT MARKINGS

PM(3)-22

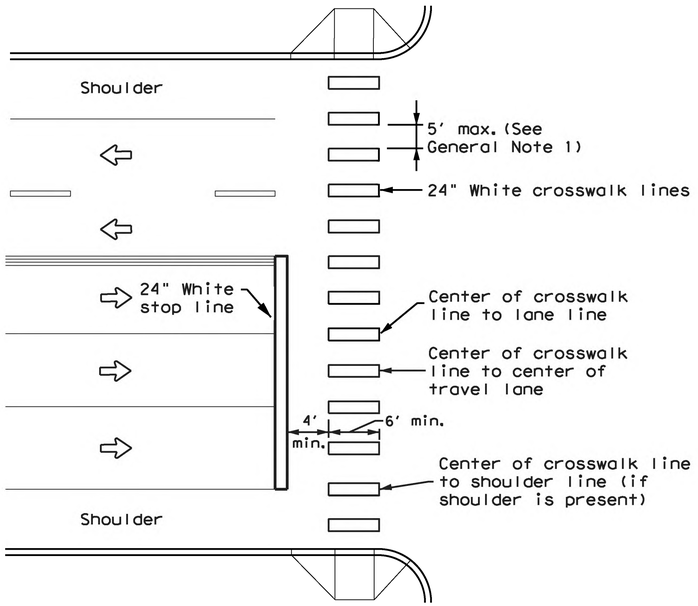
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© TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-98 3-03 6-20 5-00 2-10 12-22 8-00 2-12	DIST	COUNTY		SHEET NO. 142

22C

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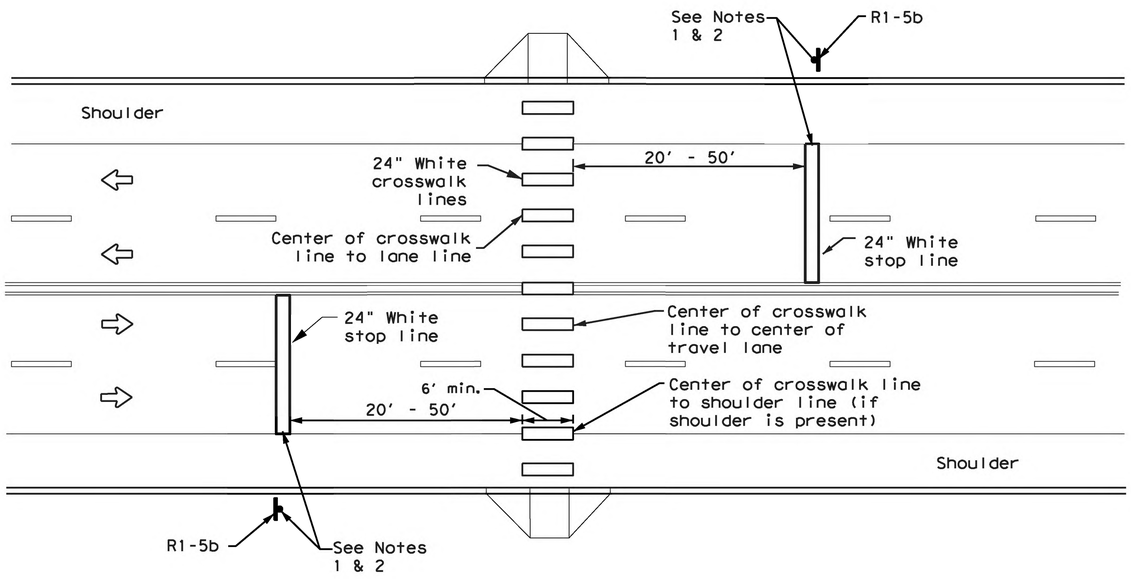
HIGH-VISIBILITY LONGITUDINAL CROSSWALK AT CONTROLLED APPROACH

GENERAL NOTES

1. Longitudinal crosswalk lines should not be placed in the wheel path of vehicles. Center the crosswalk lines on travel lanes, lane lines, and shoulder lines (if present).
2. A minimum 6" clear distance shall be provided to the curb face. If the last crosswalk line falls into this distance it must be omitted.
3. For divided roadways, adjustments in spacing of the crosswalk lines should be made in the median so that the crosswalk lines are maintained in their proper location across the travel portion of the roadway.
4. At skewed crosswalks, the crosswalk lines are to remain parallel to the lane lines.
5. Each crosswalk shall be a minimum of 6' wide.
6. The High-Visibility Longitudinal Crosswalk is the preferred crosswalk pattern on State Highways. Other crosswalk patterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be used. All crosswalk designs and dimension shall comply with the "Texas Manual on Uniform Traffic Control Devices."
7. Final placement of Stop Bar and Crosswalk shall be approved by the Engineer in the field.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



UNSIGNALIZED MIDBLOCK HIGH-VISIBILITY LONGITUDINAL CROSSWALK

NOTES:

1. Use stop bars with Stop Here For Pedestrians (R1-5b) signs at unsignalized midblock cross walks.
2. Use stop bars with STOP HERE ON RED (R10-6 or R10-6a) signs at mid block crosswalks controlled by traffic signals or pedestrian hybrid beacons.

Texas Department of Transportation

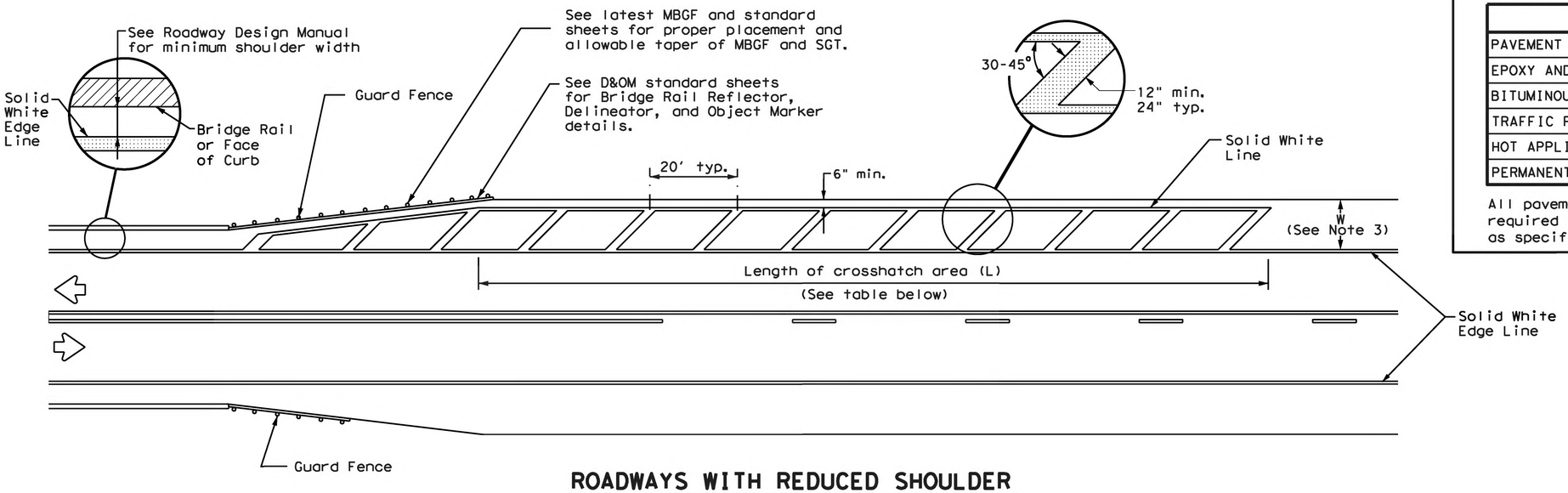
Traffic Safety Division Standard

CROSSWALK PAVEMENT MARKINGS

PM(4)-22A

FILE: pm4-22a.dgn	DN:	CK:	DW:	CK:
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REVISIONS 6-20 6-22 12-22 22D	DIST	COUNTY		SHEET NO. 143

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ROADWAYS WITH REDUCED SHOULDER WIDTHS ACROSS BRIDGE OR CULVERT

CROSSHATCH LENGTH (L)	
Posted Speed (MPH)	L (ft)
30	300 ft
35	
40	
45	
50	500 ft
55	
60	
65	
70	
75	

NOTES

1. Edge line striping shall be as shown in the plans or as directed by the Engineer. The edge line should not be placed less than 4 inches from the bridge rail or face of curb or 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions.
2. No-passing zone on bridge approach is optional. If used, the no-passing zone shall be a minimum 500 feet long from the beginning of the bridge.
3. The crosshatching should be required if the shoulder width in advance of the bridge is 4 feet or wider and a reduction of at least 3 feet in shoulder width across the bridge occurs.
4. On divided highways, review both the right and left shoulder widths for the need for narrow bridge pavement markings.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.

Texas Department of Transportation

Traffic Safety Division Standard

PAVEMENT MARKINGS FOR ROADWAYS WITH REDUCED SHOULDER WIDTHS ACROSS BRIDGE OR CULVERT

PM(5)-22

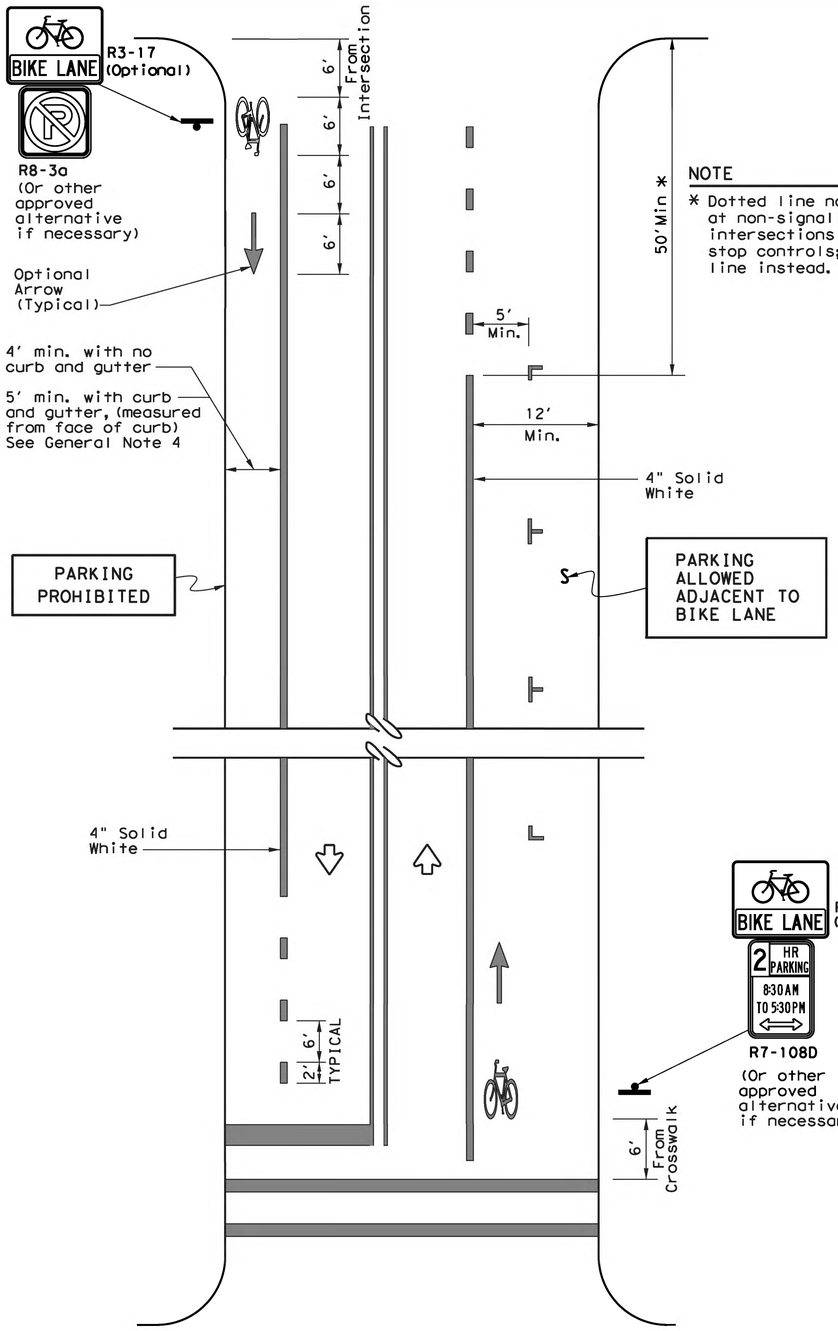
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©TxDOT December 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.
				144

22E

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FILE:



NOTES

1. Bicycle lane pavement markings typically repeated after each intersection or signalized driveway.
2. On uninterrupted sections of roadway, bicycle lane pavement markings typically repeated as follows:

   -1200' for 45 MPH or less roads
   -2500' for 50 MPH and greater roads.

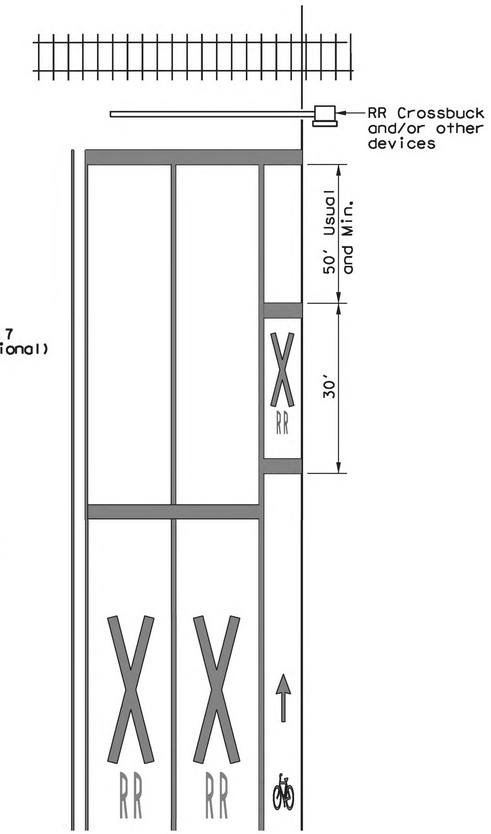
TWO-WAY STREET

NOTE

* Dotted line not necessary at non-signalized minor intersections with no stop controls; Use solid line instead.

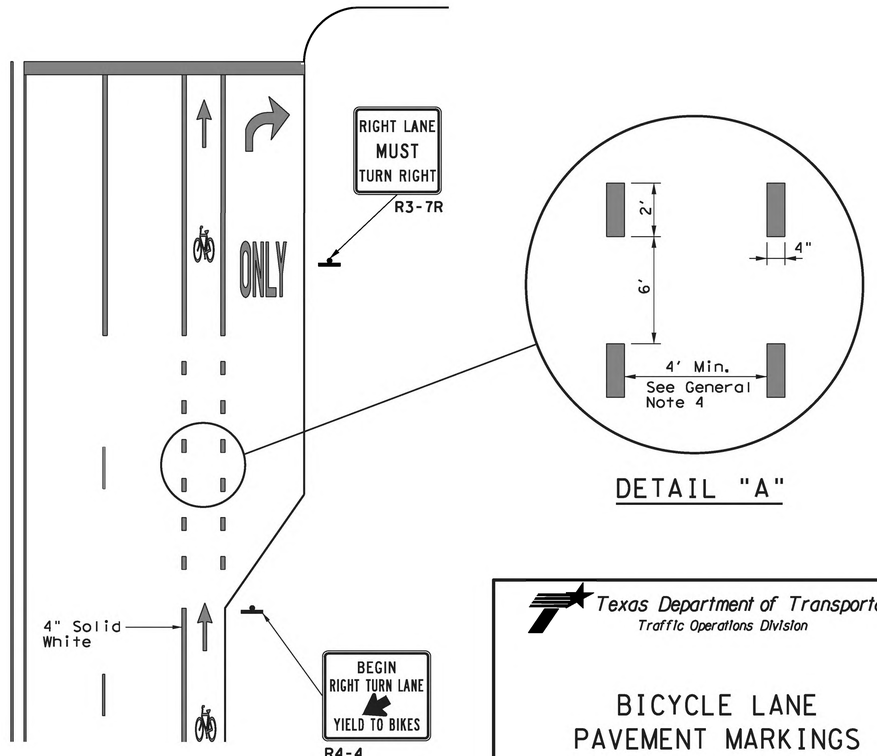
GENERAL NOTES

1. All bicycle lane pavement markings shall be white unless otherwise noted.
2. All pavement marking materials shall meet the required Department Material Specifications as specified by the plans.
3. Exact sign placement and details are shown elsewhere in the plans.
4. The current edition of AASHTO'S Guide for the Development of Bicycle Facilities should be referenced for variations in design, other geometric conditions, and lane width options.
5. Other bicycle lane symbol or word markings as shown in the Texas Manual on Uniform Traffic Control Devices may be used. Details for words, arrows and symbols as shown in the Standard Highway Sign Designs for Texas.
6. The "BIKE LANE" (R3-17) sign with the "AHEAD" (R3-17a) sign mounted directly below should be installed in advance of the beginning of a marked bike lane.
7. The "BIKE LANE" (R3-17) sign with the "END" (R3-17b) sign mounted directly below should be installed at the end of marked bicycle lane.



(See RCPM Standard for travel lane details)

RAILROAD CROSSING APPROACH



RIGHT TURN ONLY LANE

DETAIL "A"

LEGEND	
	Sign
	Traffic Flow

SPECIFICATION REFERENCE TABLE	
Traffic Paint	DMS-8200
Hot Applied Thermoplastic	DMS-8220
Permanent Prefabricated Pavement Markings	DMS-8240
Glass Traffic Beads	DMS-8290

Texas Department of Transportation
Traffic Operations Division

BICYCLE LANE PAVEMENT MARKINGS

BLPM-10

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REVISIONS	CONT	SECT	JOB	HIGHWAY
	DIST	COUNTY		SHEET NO.
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16

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REQUIREMENTS FOR INDEPENDENT MOUNTED ROUTE SIGNS

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE A SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & BORDERS	ALL OTHERS	TYPE B or C SHEETING



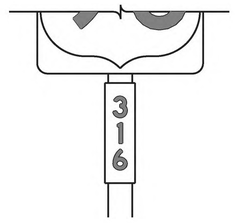




TYPICAL EXAMPLES

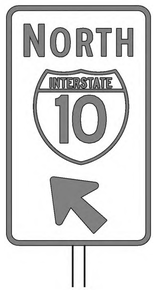
REQUIREMENTS FOR BLUE, BROWN & GREEN D AND I SERIES GUIDE SIGNS

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	ALL	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE D SHEETING
LEGEND, SYMBOLS & BORDERS	ALL OTHERS	TYPE B OR C SHEETING













TYPICAL EXAMPLES

GENERAL NOTES

1. Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).

2. White legend shall use the Clearview Alphabet. The following Clearview fonts shall be used to replace the existing white Federal Highway Administration (FHWA) Standard Highway Alphabets, when not specified in the SHSD, or in the plans.

B	CV-1W
C	CV-2W
D	CV-3W
E	CV-4W
Emod	CV-5WR
F	CV-6W

3. Route sign legend (ie. IH, US, SH and FM shields) shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets B, C, D, E, Emod or F).

4. Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.

5. Independent mounted route sign with white or colored legend and borders shall be applied by screening process with transparent color ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof. White legend, symbols and borders on all other signs shall be cut-out white sheeting applied to colored background sheeting.

6. Information regarding borders and radii for signs is found in the "Standard Highway Sign Designs for Texas". Dimensions shown and described for borders and corner radii on parent sign are nominal. Borders may vary in width as much as 1/2 inch. Corner radii above 3 inches may vary in width as much as 1 inch. Borders and corner radii within a parent sign must be of matching widths. The sign area outside the corner radius should be trimmed or rounded.

7. Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.

8. Mounting details of roadside signs are shown in the "SMD series" Standard Plan Sheets.

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

Texas Department of Transportation

Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

TSR(3)-13

FILE: tsr3-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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REVISIONS				
12-03 7-13	DIST	COUNTY		SHEET NO.
9-08				146

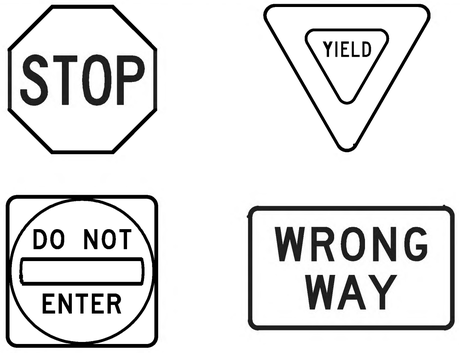
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REQUIREMENTS FOR RED BACKGROUND REGULATORY SIGNS

(STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)



REQUIREMENTS FOR FOUR SPECIFIC SIGNS ONLY

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	WHITE	TYPE B OR C SHEETING
LEGEND & BORDERS	WHITE	TYPE B OR C SHEETING
LEGEND	RED	TYPE B OR C SHEETING

REQUIREMENTS FOR WHITE BACKGROUND REGULATORY SIGNS

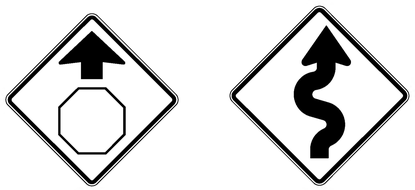
(EXCLUDING STOP, YIELD, DO NOT ENTER AND WRONG WAY SIGNS)



TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	ALL OTHERS	TYPE B OR C SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND, BORDERS AND SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

REQUIREMENTS FOR WARNING SIGNS



TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	FLOURESCENT YELLOW	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM
LEGEND & SYMBOLS	ALL OTHER	TYPE B OR C SHEETING

REQUIREMENTS FOR SCHOOL SIGNS



TYPICAL EXAMPLES

SHEETING REQUIREMENTS		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	WHITE	TYPE A SHEETING
BACKGROUND	FLOURESCENT YELLOW GREEN	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND, BORDERS AND SYMBOLS	BLACK	ACRYLIC NON-REFLECTIVE FILM
SYMBOLS	RED	TYPE B OR C SHEETING

GENERAL NOTES

1. Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
2. Sign legend shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets (B, C, D, E, Emod or F).
3. Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.
4. Black legend and borders shall be applied by screening process or cut-out acrylic non-reflective black film to background sheeting, or combination thereof.
5. White legend and borders shall be applied by screening process with transparent colored ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof.
6. Colored legend shall be applied by screening process with transparent colored ink, transparent colored overlay film or colored sheeting to background sheeting, or combination thereof.
7. Sign substrate shall be any material that meets the Departmental Material Specification requirements of DMS-7110 or approved alternative.
8. Mounting details for roadside mounted signs are shown in the "SMD series" Standard Plan Sheets.

ALUMINUM SIGN BLANKS THICKNESS	
Square Feet	Minimum Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

DEPARTMENTAL MATERIAL SPECIFICATIONS	
ALUMINUM SIGN BLANKS	DMS-7110
SIGN FACE MATERIALS	DMS-8300

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

http://www.txdot.gov/

Texas Department of Transportation

Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

TSR(4)-13

FILE: tsr4-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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12-03 7-13 9-08	DIST	COUNTY		SHEET NO.
	TYL	HENDERSON		147

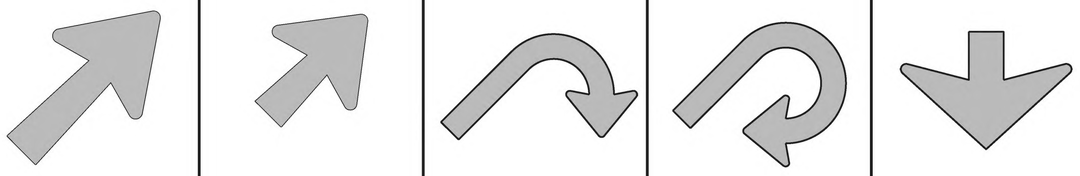
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ARROW DETAILS

for Large Ground-Mounted and Overhead Guide Signs



TYPE	LETTER SIZE	USE
A-1	10.67" U/L and 10" Caps	Single Lane Exits
A-2	13.33" U/L and 12" Caps	
A-3	16" & 20" U/L	
B-1	10.67" U/L and 10" Caps	Multiple Lane Exits
B-2	13.33" U/L and 12" Caps	
B-3	16" & 20" U/L	

CODE	USED ON SIGN NO.
E-3	E5-1aT
E-4	E5-1bT

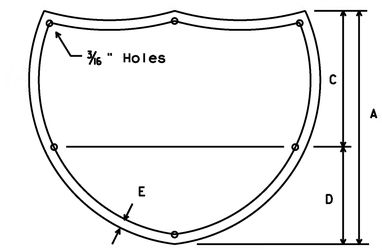
NOTE

Arrow dimensions are shown in the "Standard Highway Sign Designs for Texas" manual.

The Standard Highway Sign Designs for Texas (SHSD) can be found at the following website.

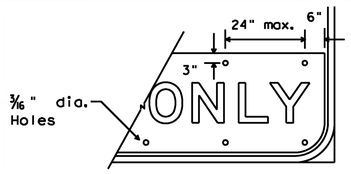
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SIGN BLANK PUNCHING DETAILS FOR ATTACHMENTS WHEN SPECIFIED TO BE TYPE A ALUMINUM SIGNS (FOR MOUNTING TO GUIDE SIGN FACE)

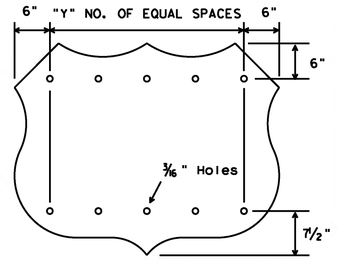


INTERSTATE ROUTE MARKERS

A	C	D	E
36	21	15	1 1/2
48	28	20	1 3/4

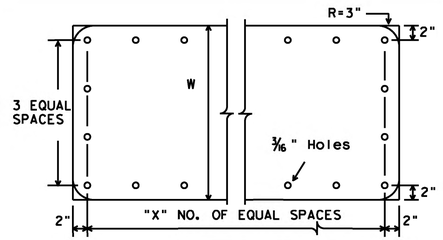


EXIT ONLY PANEL



U.S. ROUTE MARKERS

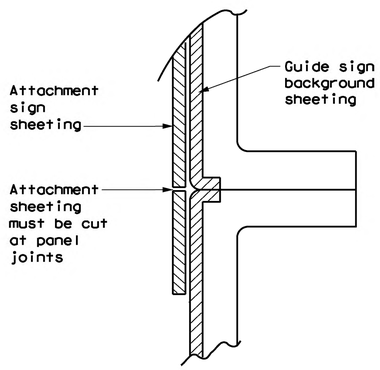
Sign Size	"Y"
24x24	2
30x24	3
36x36	3
45x36	4
48x48	4
60x48	5



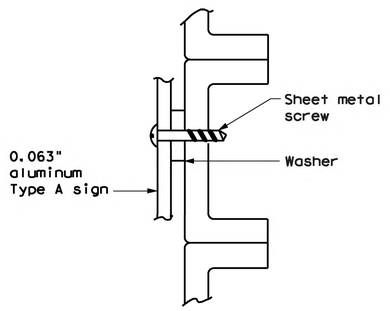
STATE ROUTE MARKERS

No. of Digits	W	X
4	24	4
4	36	5
4	48	6
3	24	3
3	36	4
3	48	5

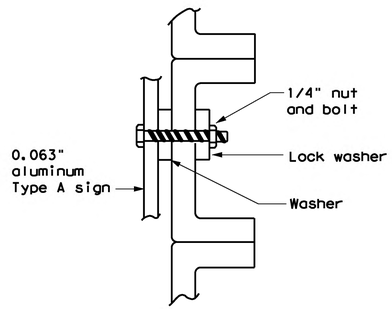
MOUNTING DETAILS OF ATTACHMENTS TO GUIDE SIGN FACE ("EXIT ONLY" AND "LEFT EXIT" PANELS, ROUTE MARKERS AND OTHER ATTACHMENTS)



DIRECT APPLIED ATTACHMENT



SCREW ATTACHMENT



NUT/BOLT ATTACHMENT

NOTE:

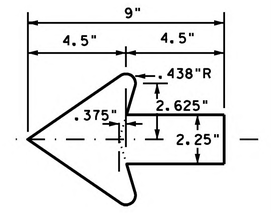
1. Sheeting for legend, symbols, and borders must be cut at panel joints.
2. Direct applied attachment signs will be subsidiary to "Aluminum Signs" or "Fiberglass Signs".

NOTE:

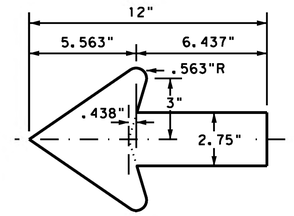
Furnish Type A aluminum sign attachments only when specified in the plans. These signs will be paid for under "Aluminum Signs".

ARROW DETAILS

for Destination Signs (Type D)



Standard arrow to be used with 6 inch letters.



Standard arrow to be used with 8 inch letters.

Texas Department of Transportation

Traffic Operations Division Standard

TYPICAL SIGN REQUIREMENTS

TSR(5)-13

FILE:	tsr5-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	October 2003	CONT	SECT	JOB	HIGHWAY
REVISIONS		0697	02	039	SH 334
12-03 7-13		DIST	COUNTY		SHEET NO.
9-08		TYL	HENDERSON		148

5

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DATE: 9/25/2018 7:59:20 PM
FILE: pw:\\txdot.projectwiseonline.com:TxDOT3\Documents\10 - TYL\Design Projects\0697020394 - Design\Plan Set\8. Traffic\Standards\SMD(GEN)-08

SIGN SUPPORT DESCRIPTIVE CODES

(Descriptive Codes correspond to project estimate and quantities sheets)

SM RD SGN ASSM TY XXXXX(X)XX(X-XXXX)

Post Type

FRP = Fiberglass Reinforced Plastic Pipe (see SMD(FRP))
TWT = Thin-Walled Tubing (see SMD(TWT))
10BWG = 10 BWG Tubing (see SMD(SLIP-1) to (SLIP-3))
S80 = Schedule 80 Pipe (see SMD(SLIP-1) to (SLIP-3))

Number of Posts (1 or 2)

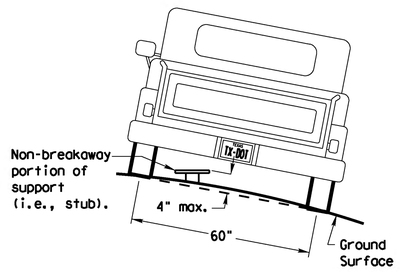
Anchor Type

UA = Universal Anchor - Concreted (see SMD(FRP) and (TWT))
UB = Universal Anchor - Bolted down (see SMD(FRP) and (TWT))
WS = Wedge Anchor Steel - (see SMD(TWT))
WP = Wedge Anchor Plastic (see SMD(TWT))
SA = Slipbase - Concreted (see SMD(SLIP-1) to (SLIP-3))
SB = Slipbase - Bolted Down (see SMD(SLIP-1) to (SLIP-3))

Sign Mounting Designation

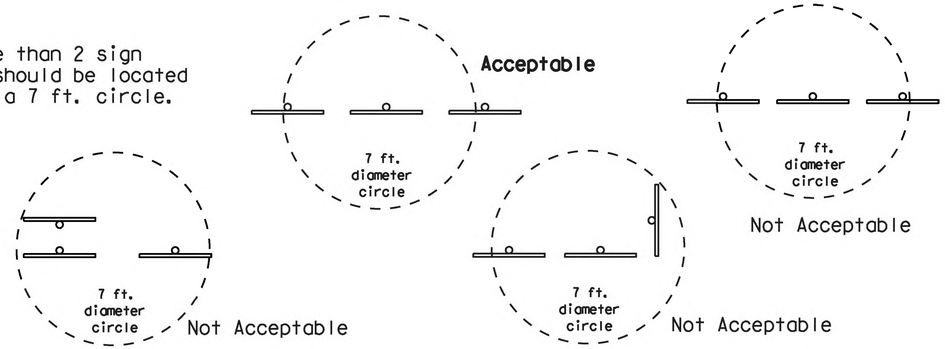
P = Prefab. "Plain" (see SMD(SLIP-1) to (SLIP-3), (TWT), (FRP))
T = Prefab. "T" (see SMD(SLIP-1) to (SLIP-3), (TWT))
U = Prefab. "U" (see SMD(SLIP-1) to (SLIP-3))
IF REQUIRED
1EXT or 2EXT = Number of Extensions (see SMD(SLIP-1) to (SLIP-3), (TWT))
BM = Extruded Wind Beam (see SMD(SLIP-1) to (SLIP-3))
WC = 1.12 #/ft Wing Channel (see SMD(SLIP-1) to (SLIP-3))
EXAL = Extruded Aluminum Sign Panels (see SMD(SLIP-1) to (SLIP-3))

REQUIRED CLEARANCE FOR BREAKAWAY SUPPORT



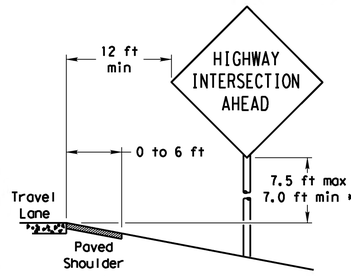
To avoid vehicle undercarriage snagging, any substantial remains of a breakaway support, when it is broken away, should not project more than 4 inches above a 60-inch chord (i.e., typical space between wheel paths).

No more than 2 sign posts should be located within a 7 ft. circle.



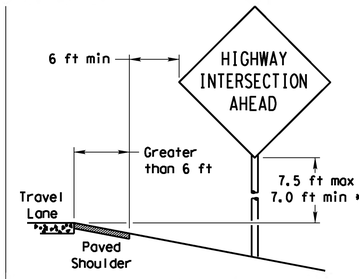
SIGN LOCATION

PAVED SHOULDERS



LESS THAN 6 FT. WIDE

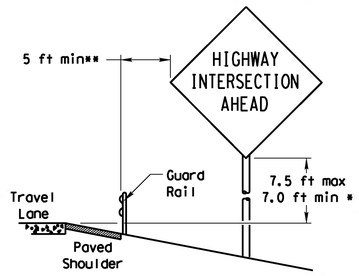
When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.



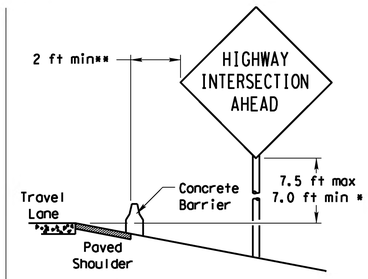
GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

BEHIND BARRIER



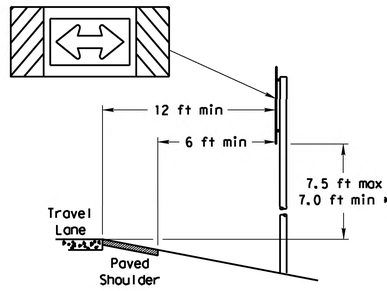
BEHIND GUARDRAIL



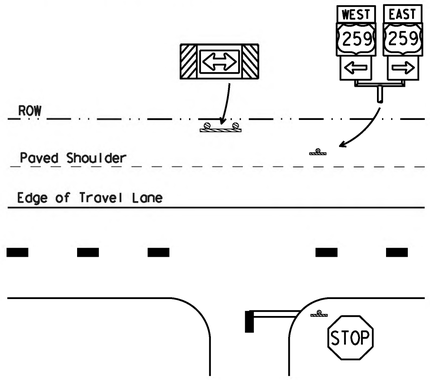
BEHIND CONCRETE BARRIER

**Sign clearance based on distance required for proper guard rail or concrete barrier performance.

T-INTERSECTION



When this sign is needed at the end of a two-lane, two way roadway, the right edge of the sign should be in line with the centerline of the roadway. Place as close to ROW as practical.



* Signs shall be mounted using the following condition that results in the greatest sign elevation:

(1) a minimum of 7 to a maximum of 7.5 feet above the edge of the travel lane or

(2) a minimum of 7 to a maximum of 7.5 feet above the grade at the base of the support when sign is installed on the backslope.

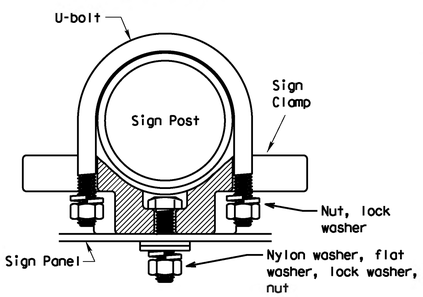
The maximum values may be increased when directed by the Engineer.

See the Traffic Operations Division website for detailed drawings of sign clamps, Triangular Slipbase System components and Wedge Anchor System components.

The website address is:
http://www.txdot.gov/publications/traffic.htm

TYPICAL SIGN ATTACHMENT DETAIL

Single Signs

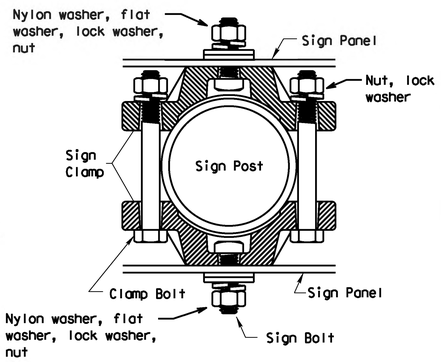


Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

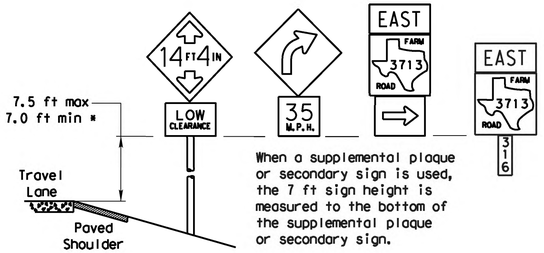
Sign clamps may be either the specific size clamp or the universal clamp.

Back-to-Back Signs



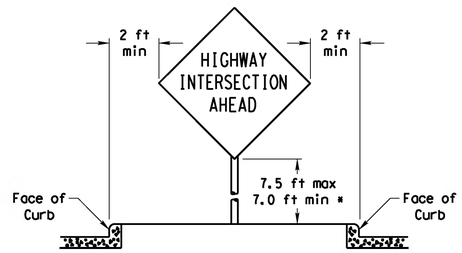
Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

SIGNS WITH PLAQUES



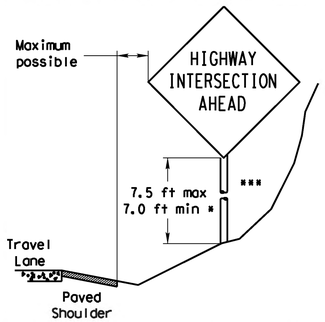
When a supplemental plaque or secondary sign is used, the 7 ft sign height is measured to the bottom of the supplemental plaque or secondary sign.

CURB & GUTTER OR RAISED ISLAND



RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS GENERAL NOTES & DETAILS

SMD(GEN)-08

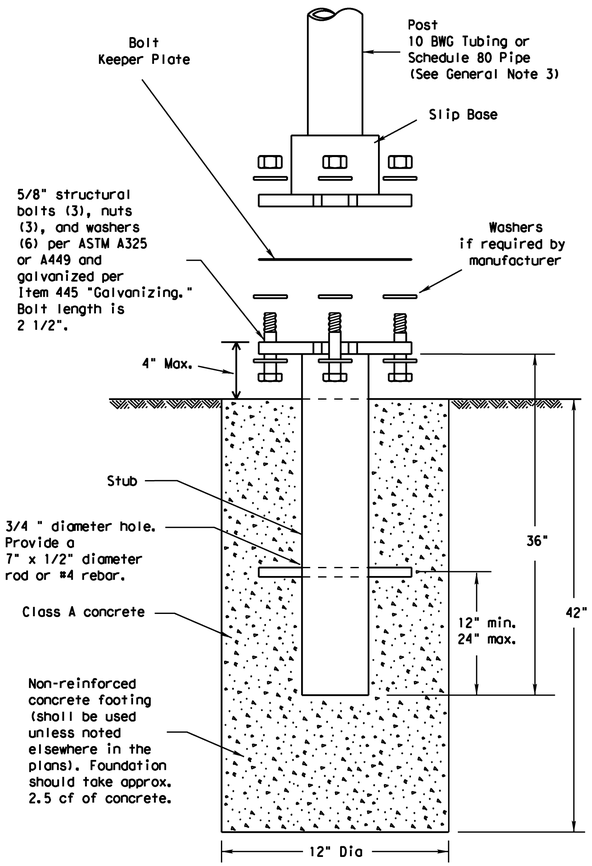
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REVISIONS	DN: TXDOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
9-08	CONT	SECT	JOB	HIGHWAY
	0697	02	039	SH 334
	DIST	COUNTY		SHEET NO.
	TYL	HENDERSON		149

26A

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TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



SM RD SGN ASSM TY XXXXX(X)SA(X-XXXX)

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

GENERAL NOTES:

1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the TxDOT Traffic Standards Engineer.
2. Material used as post with this system shall conform to the following specifications:
   10 BWG Tubing (2.875" outside diameter)
   - 0.134" nominal wall thickness
   - Seamless or electric-resistance welded steel tubing or pipe
   - Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
   - Other steels may be used if they meet the following:
     - 55,000 PSI minimum yield strength
     - 70,000 PSI minimum tensile strength
     - 20% minimum elongation in 2"
   - Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
   - Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
   - Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.

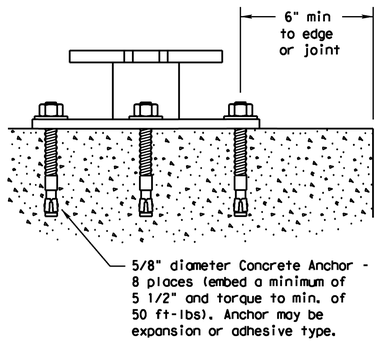
   Schedule 80 Pipe (2.875" outside diameter)
   - 0.276" nominal wall thickness
   - Steel tubing per ASTM A500 Gr C
   - Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
     - 46,000 PSI minimum yield strength
     - 62,000 PSI minimum tensile strength
     - 21% minimum elongation in 2"
   - Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
   - Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
   - Galvanization per ASTM A123
3. See the Traffic Operations Division website for detailed drawings of sign clamps and Texas Universal Triangular Slipbase System components. The website address is: http://www.txdot.gov/publications/traffic.htm
4. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.

ASSEMBLY PROCEDURE

Foundation
1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support
1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. See SMD(SLIP-2) for clearances based on sign types.

CONCRETE ANCHOR



SM RD SGN ASSM TY XXXXX(X)SB(X-XXXX)

Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxies and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-1)-08

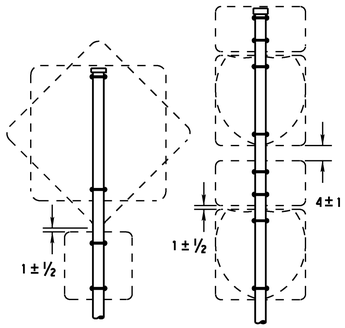
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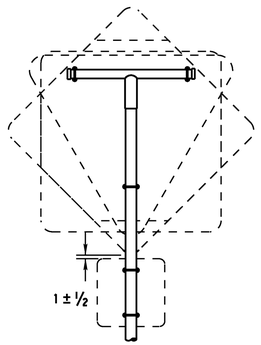
REVISIONS	CONT	SECT	JOB	HIGHWAY
9-08				
	DIST	COUNTY		SHEET NO.
				150

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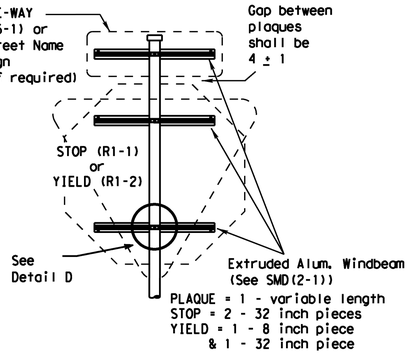
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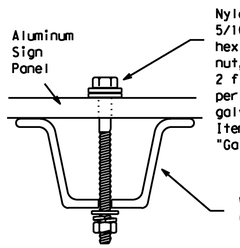
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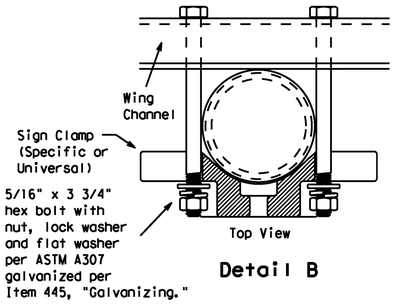
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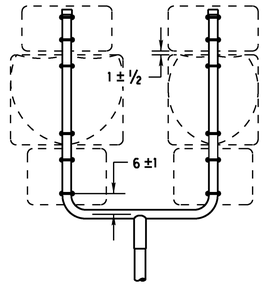
SM RD SGN ASSM TY XXXXX(1)XX(P-BM)



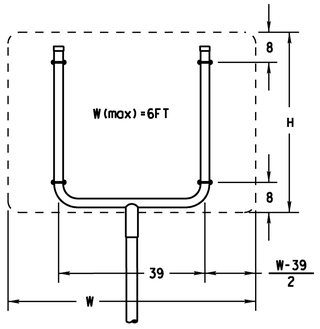
Detail A



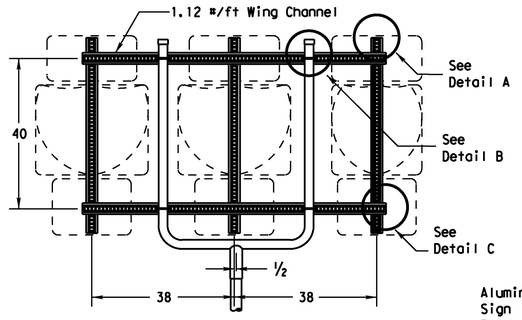
Detail B



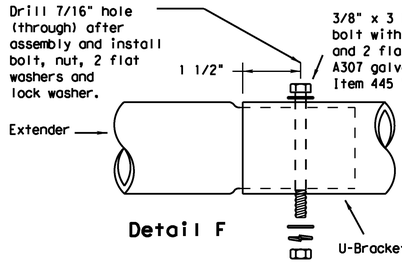
SM RD SGN ASSM TY XXXXX(1)XX(U)



SM RD SGN ASSM TY XXXXX(1)XX(U)

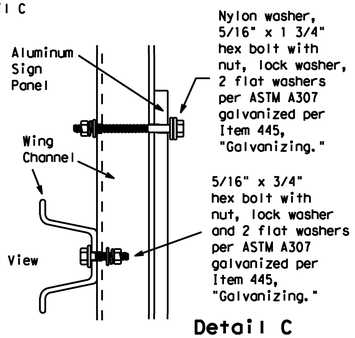


SM RD SGN ASSM TY XXXXX(1)XX(U-WC)
(See Note 11)

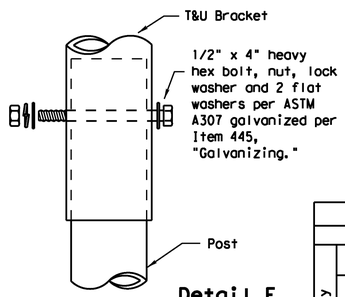


Detail F

Splices shall only be allowed behind the sign substrate.



Detail C



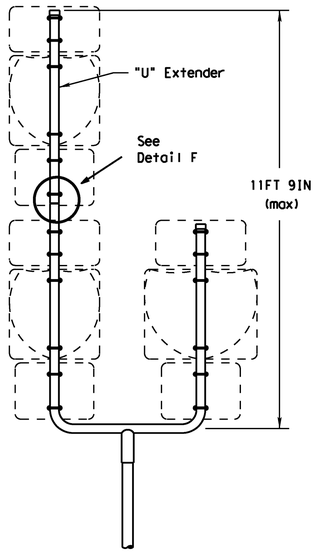
Detail E

GENERAL NOTES:

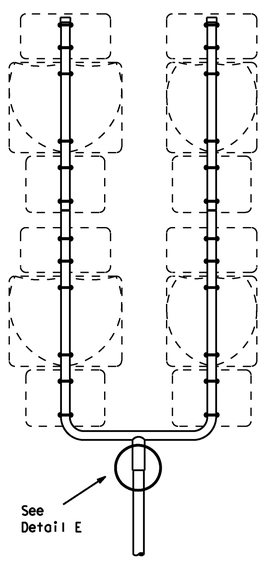
1.

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

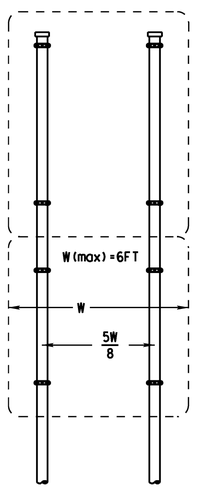
2. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
3. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
4. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
5. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
6. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
7. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
8. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
9. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
10. Additional route markers may be added vertically, provided the total sign area does not exceed the maximum allowable amount per Note 1.
11. Additional sign clamp required on the "T-bracket" post for 24 inch height signs. Place the clamp 3 inches above bottom of sign when possible.
12. Post open ends shall be fitted with Friction Caps.
13. Sign blanks shall be the sizes and shapes shown on the plans.



SM RD SGN ASSM TY S80(1)XX(U-1EXT)

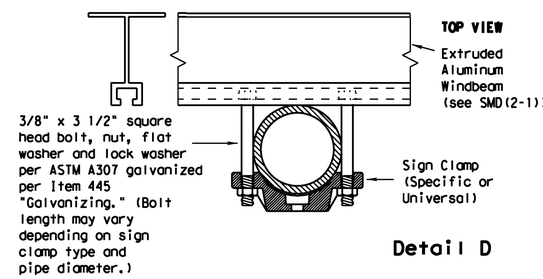


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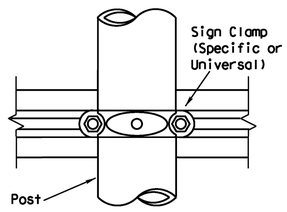


SM RD SGN ASSYM TY XXXXX(2)XX(P)

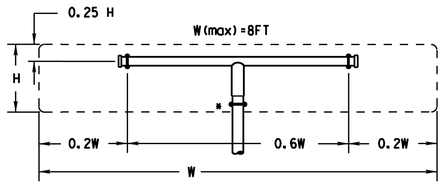
SIDE VIEW



Detail D



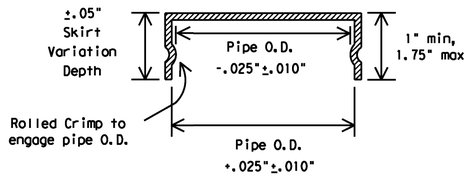
REQUIRED SUPPORT			
	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)



All dimensions are in english unless detailed otherwise.

SM RD SGN ASSM TY XXXXX(1)XX(T)
(* - See Note 12)

FRICTION CAP DETAIL



Friction caps may be manufactured from hot rolled or cold rolled steel sheets. The minimum sheet metal thickness shall be 24 gauge for all cap sizes.

The rim edges shall be reasonably straight and smooth. Caps shall be sized and formed in such a manner as to produce a drive-on friction fit and have no tendency to rock when seated on the pipe. The depth shall be sufficient to give positive protection against entrance of rainwater. They shall be free of sharp creases or indentations and show no evidence of metal fracture.

Caps shall have an electrodeposited coating of zinc in accordance with the requirements of ASTM B633 Class FE/ZN 8.

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS SMALL ROADSIDE SIGNS TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-2)-08

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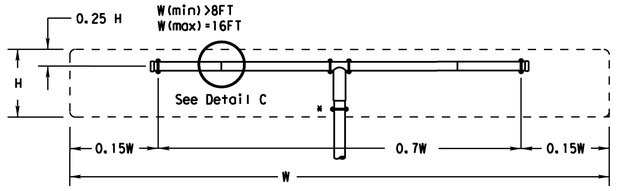
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DIST	COUNTY		SHEET NO.
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9-08 REVISIONS

DATE:
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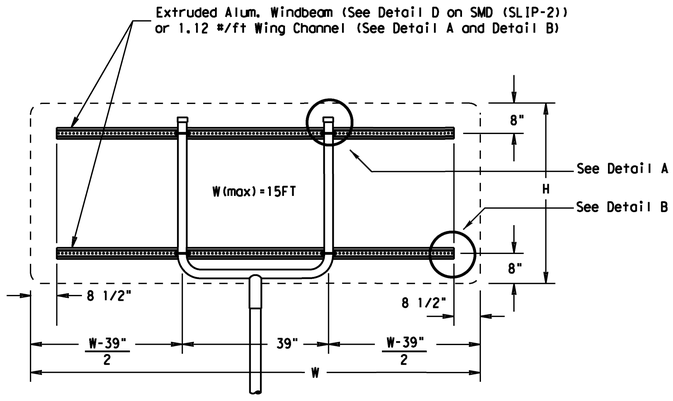
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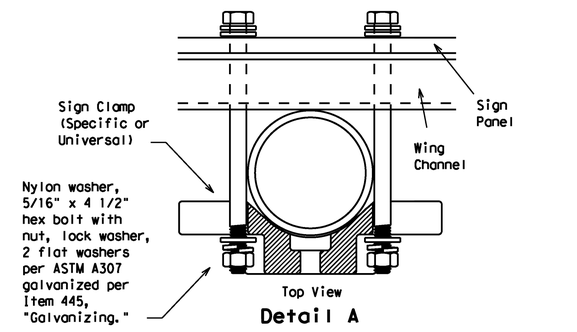


SM RD SGN ASSM TY XXXXX(1)XX(T-2EXT)

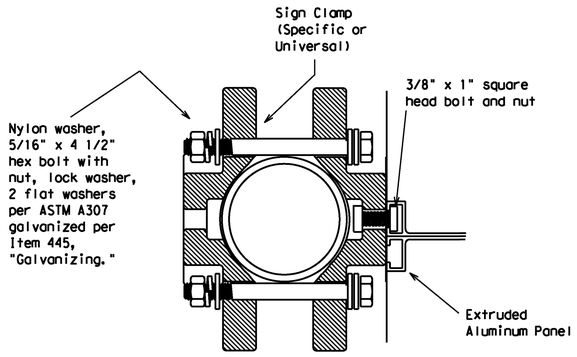
(* - See Note 12)



SM RD SGN ASSM TY XXXXX(1)XX(U-XX)

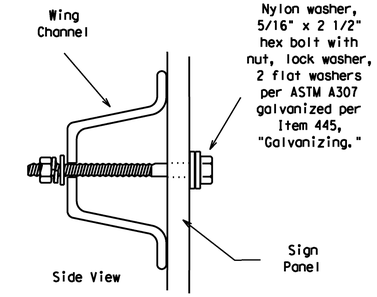


Detail A

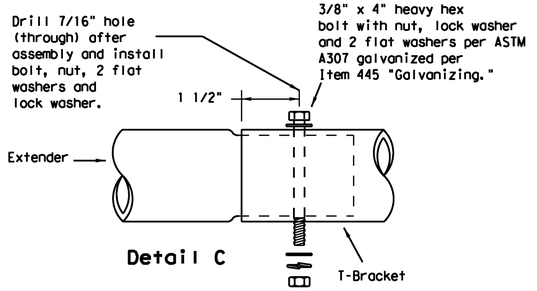


Detail D

EXTRUDED ALUMINUM SIGN WITH T BRACKET

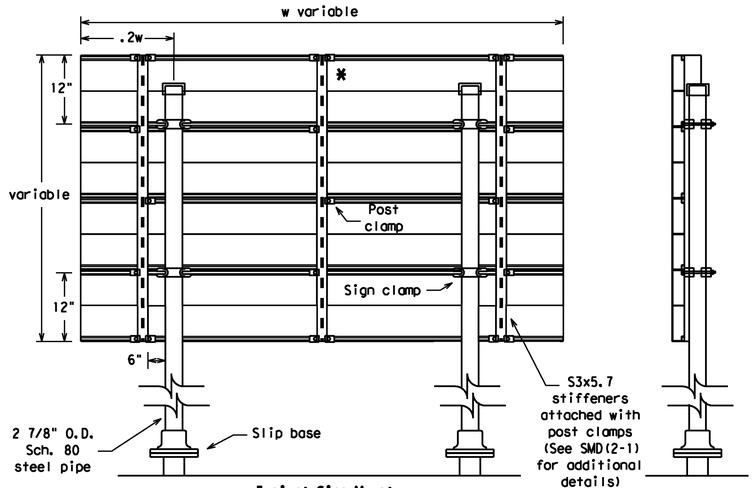


Detail B



Detail C

Splices shall only be allowed behind the sign substrate.

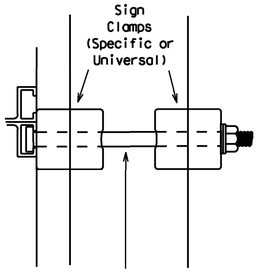


Typical Sign Mount

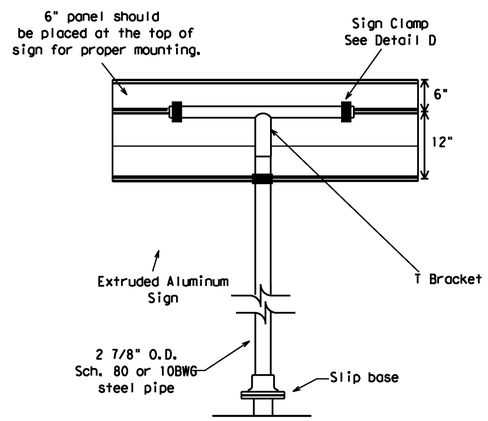
SM RD SGN ASSM TY S80(2)XX(P-EXAL)

* Additional stiffener placed at approximate center of signs when sign width is greater than 10'.

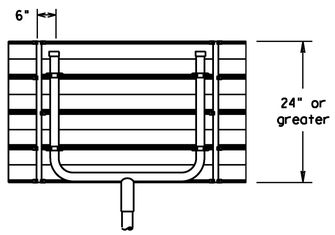
See Detail E
for clamp installation



Detail E



Extruded Aluminum Sign
With T Bracket



Use Extruded Alum. Windbeam as stiffeners
See SMD (2-1) for additional details

See Detail E
for clamp installation

GENERAL NOTES:

SIGN SUPPORT	# OF POSTS	MAX. SIGN AREA
10 BWG	1	16 SF
10 BWG	2	32 SF
Sch 80	1	32 SF
Sch 80	2	64 SF

1. The Engineer may require that a Schedule 80 post be used in place of a 10 BWG where a sign height is abnormally high due to a fill slope.
2. Sign supports shall not be spliced except where shown. Sign support posts shall not be spliced.
3. Aluminum sign blanks shall conform to Departmental Material Specifications DMS-7110 and shall have the following minimum thicknesses: 0.080 for signs less than 7.5 sq. ft., 0.100 for signs 7.5 to 15 sq. ft., and 0.125 for signs greater than 15 sq. ft.
4. Signs that require specific supports due to reasons in addition to windloading are indicated on the "REQUIRED SUPPORT" table on this sheet.
5. For horizontal rectangular signs fabricated from flat aluminum, T-brackets are used for signs 24 inches or less in height. U-brackets are used for signs of greater height.
6. When two triangular slipbase supports are used to support a single sign, they shall not be "rigidly" connected to each other except through the sign panel. This will allow each support to act independently when impacted by an errant vehicle.
7. Wing channel shall meet ASTM A 1011 SS Gr 50 and be galvanized per ASTM A 123.
8. Excess pipe, wing channel, or windbeam shall be cut off so that it does not extend beyond the sign panel (i.e., excess support shall not be visible when the sign is viewed from the front.) Repair galvanized coating at cut support ends per Item 445, "Galvanizing."
9. Sign blanks shall be the sizes and shapes shown on the plans.
10. Additional sign clamp required on the "T-bracket" post for 24 inch high signs. Place the clamp 3 inches above bottom of sign when possible.
11. Post open ends shall be fitted with Friction Caps.

REQUIRED SUPPORT

	SIGN DESCRIPTION	SUPPORT
Regulatory	48-inch STOP sign (R1-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	60-inch YIELD sign (R1-2)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	48x16-inch ONE-WAY sign (R6-1)	TY 10BWG(1)XX(T) TY 10BWG(1)XX(P-BM)
	36x48, 48x36, and 48x48-inch signs	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
Warning	48x48-inch signs (diamond or square)	TY 10BWG(1)XX(T)
	48x60-inch signs	TY S80(1)XX(T)
	48-inch Advance School X-ing sign (S1-1)	TY 10BWG(1)XX(T)
	48-inch School X-ing sign (S2-1)	TY 10BWG(1)XX(T)
	Large Arrow sign (W1-6 & W1-7)	TY 10BWG(1)XX(T)

Texas Department of Transportation
Traffic Operations Division

SIGN MOUNTING DETAILS
SMALL ROADSIDE SIGNS
TRIANGULAR SLIPBASE SYSTEM

SMD(SLIP-3)-08

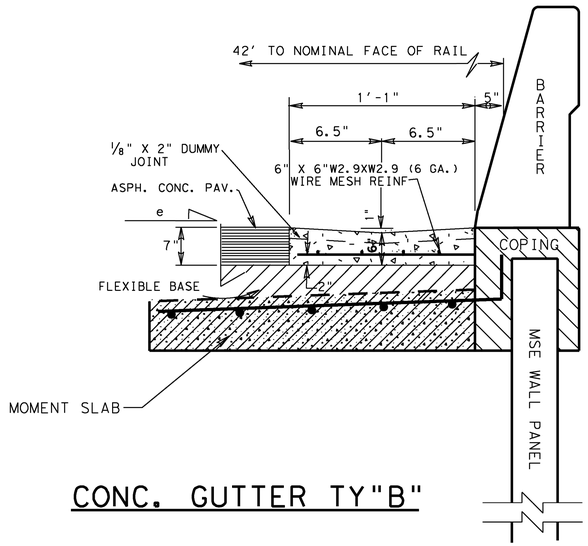
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CONT	SECT	JOB	HIGHWAY
DIST	COUNTY		SHEET NO.
			152

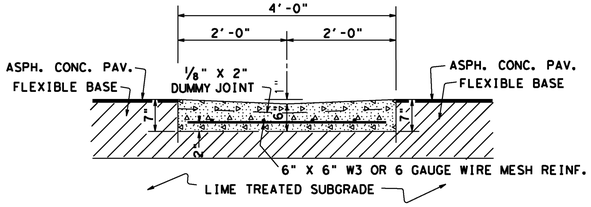
9-08 REVISIONS

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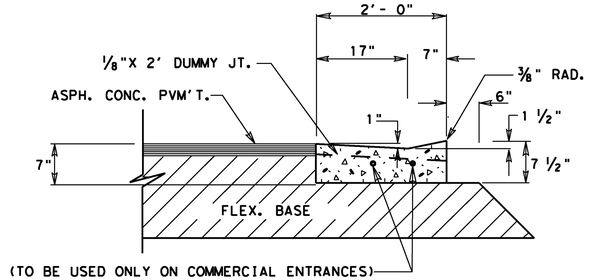


CONC. GUTTER TY"B"



4' CONC. VALLEY GUTTER (TY"A")

TO BE USED WHERE REQUIRED TO CARRY DRAINAGE WATER ACROSS SIDE STREETS



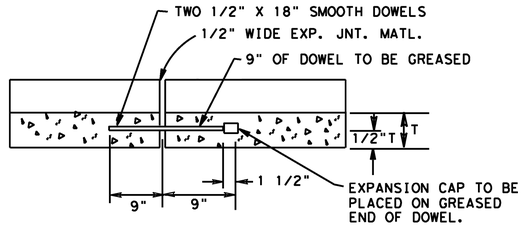
(TO BE USED ONLY ON COMMERCIAL ENTRANCES) 2-NO. 5 LONGITUDINAL REINF. BAR REINF. STEEL TO BE MADE PART OF ITEM "CONC. CURB & GUTTER." THE LENGTH OF REINFORCING STEEL WILL BE THE WIDTH OF THE PROP. COMMERCIAL ENTRANCE PLUS FOUR FEET.

CONC. GUTTER

NOTE:

CONCRETE GUTTER TO BE USED ONLY WHERE PERMITTED BY TEXAS DEPARTMENT OF TRANSPORTATION REGULATIONS FOR ACCESS DRIVEWAYS.

2' VALLEY GUTTER SHALL BE PAID FOR AS CONC. CURB AND GUTTER . CONCRETE CURB & GUTTER & CONCRETE CURB SHALL BE MEASURED FOR PAYMENT ALONG FACE OF CURB AT FLOW LINE.

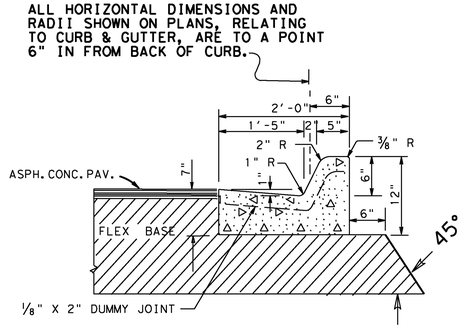


DETAIL EXPANSION JOINT

LONGITUDINAL SECTION THRU CURB AND/OR C&G. REINFORCING STEEL (WHEN USED) SHALL NOT CROSS EXPANSION JOINTS. STEEL SHALL BE TERMINATED 3" ± 1" FROM FACE OF THE JOINT.

1/2" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE INSTALLED WHERE CONC. CURB & GUTTER ABUTS CONC. CURB, OR WHERE CONC. CURB & GUTTER OR CONC. CURB ABUT INLETS, BRIDGE WINGWALLS, BRIDGE ABUTMENTS AND/OR ANY OTHER LOCATIONS SPECIFIED BY THE ENGINEER. MAX. SPACING = 105'

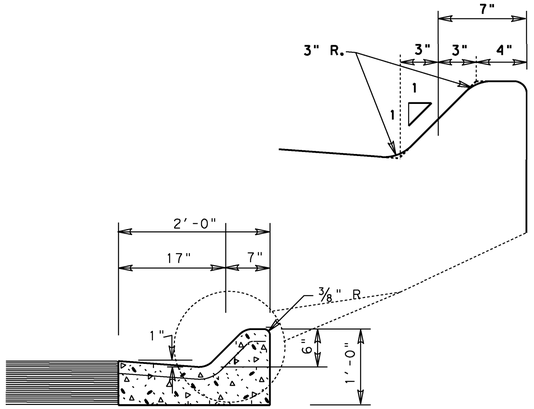
ALL HORIZONTAL DIMENSIONS AND RADII SHOWN ON PLANS, RELATING TO CURB & GUTTER, ARE TO A POINT 6" IN FROM BACK OF CURB.



CONC. CURB & GUTTER TY "A" (BARRIER)

NOTE:
EXPANSION JOINTS

1/2" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE INSTALLED WHERE CONC. CURB & GUTTER ABUTS CONC. CURB, OR WHERE CONC. CURB & GUTTER OR CONC. CURB ABUT INLETS, BRIDGE WINGWALLS, BRIDGE ABUTMENTS AND/OR ANY OTHER LOCATIONS SPECIFIED BY THE ENGINEER. MAX. SPACING = 105'

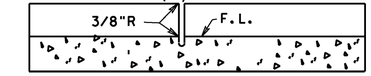


CONC. CURB & GUTTER TY. "B" (MOUNTABLE)

NOTE:
WHERE PROPOSED CURB & GUTTER IS TO BE CONNECTED TO EXIST. CURB & GUTTER IT SHOULD BE DONE AT THE EXIST. GUTTER FLOW LINE ELEVATION.

1/2" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE INSTALLED WHERE CONC. CURB & GUTTER ABUTS CONC. CURB, OR WHERE CONC. CURB & GUTTER OR CONC. CURB ABUT INLETS, BRIDGE WINGWALLS, BRIDGE ABUTMENTS AND/OR ANY OTHER LOCATIONS SPECIFIED BY THE ENGINEER. MAX. SPACING = 105'

JOINTS MAY BE FORMED WITH 1/8" METAL PLATES NO FILLER REQUIRED. USUAL SPACING 10' O.C., MAX. SPACING 15' O.C.



DETAIL DUMMY JOINT

NOTE:
DUMMY JOINTS TO BE USED ON CURB & CUTTER, CONC. MEDIAN AND ALL TYPE OF VALLEY GUTTERS JOINTS TO BE LOCATED BY THE ENGINEER.

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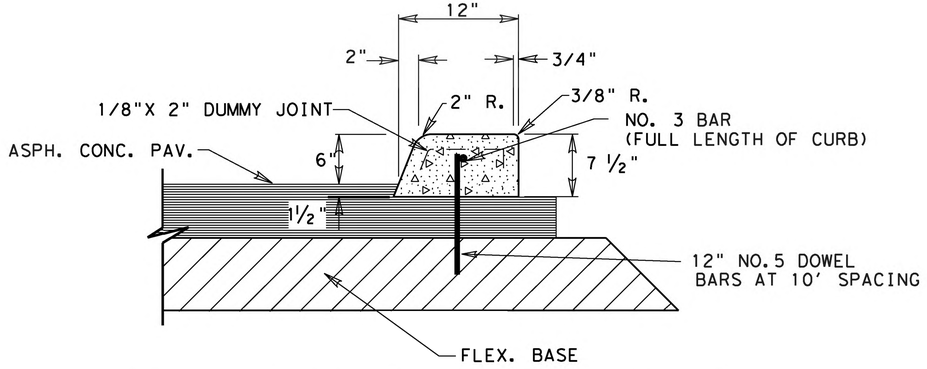
TEXAS DEPARTMENT OF TRANSPORTATION

CURB & GUTTER DETAILS

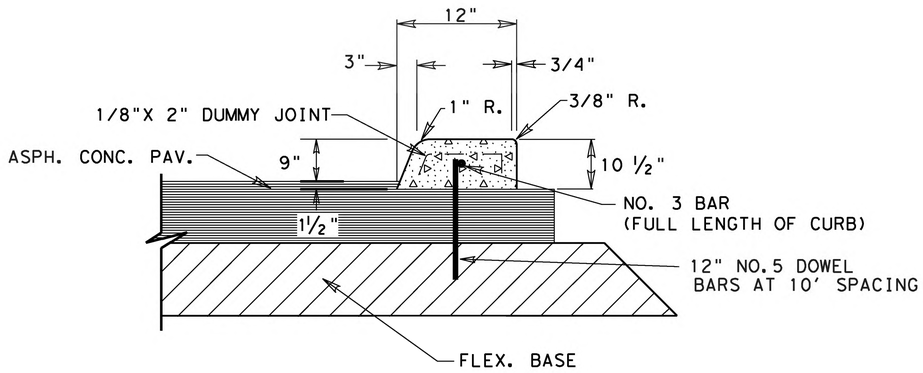
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C&G. DGN

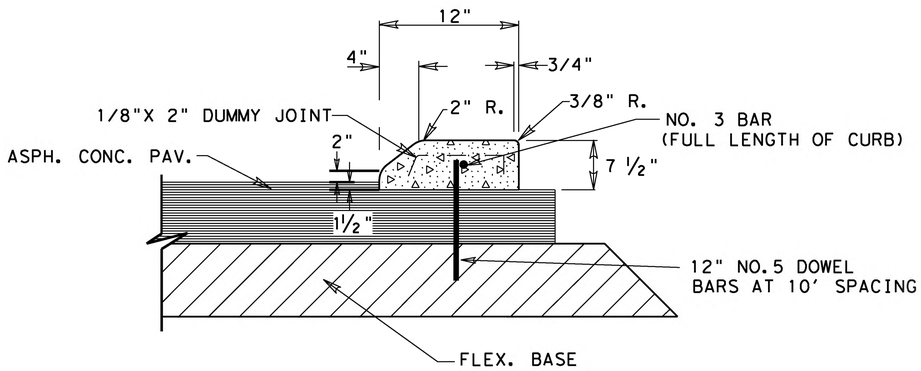
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						153
STATE	STATE DIST. NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
TEXAS	PHR	CAMERON				



CONC. CURB TY "A" (BARRIER)



CONC. CURB
TY "C" (BARRIER)



CONC. CURB TY "B" (MOUNTABLE)

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PHARR DISTRICT STANDARD

TEXAS DEPARTMENT OF TRANSPORTATION

CONCRETE CURB DETAILS

REV. 6/04

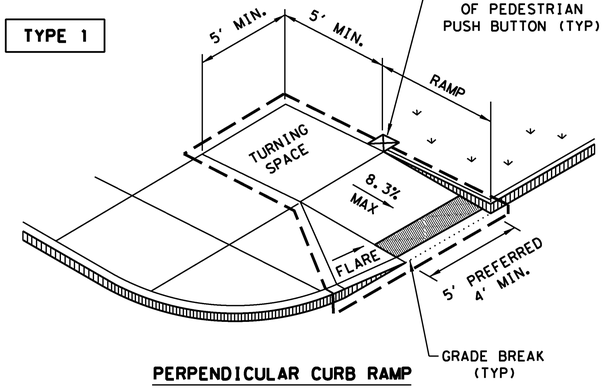
CURB.DGN

FED.RD. DIV. NO.	STATE AID PROJECT NO.		FILE NO.			SHEET NO.
						154
STATE	STATE DIST. NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
TEXAS	PHR	CAMERON				

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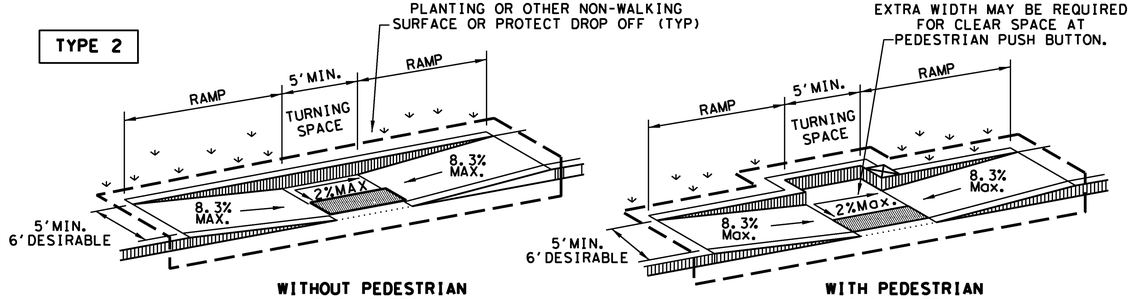
DATE:
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TYPE 1



PERPENDICULAR CURB RAMP

TYPE 2

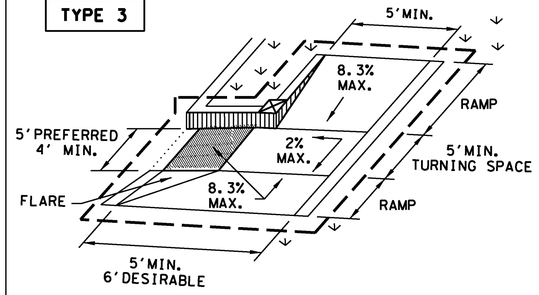


WITHOUT PEDESTRIAN PUSH BUTTON

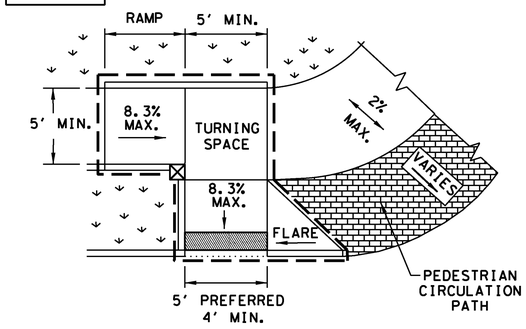
WITH PEDESTRIAN PUSH BUTTON

PARALLEL CURB RAMP

TYPE 3

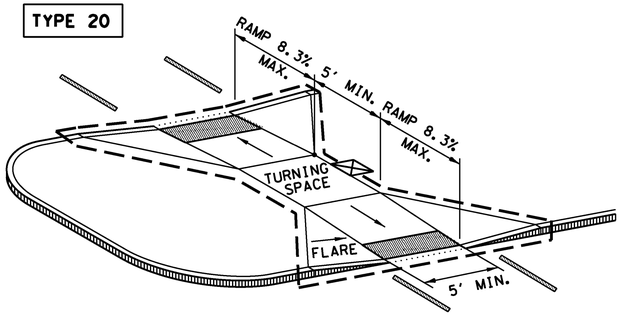


TYPE 6



COMBINATION CURB RAMPS

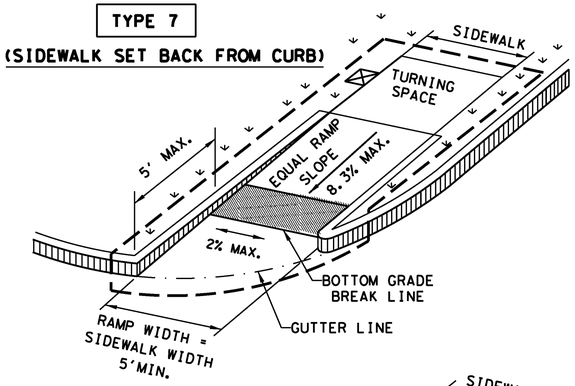
TYPE 20



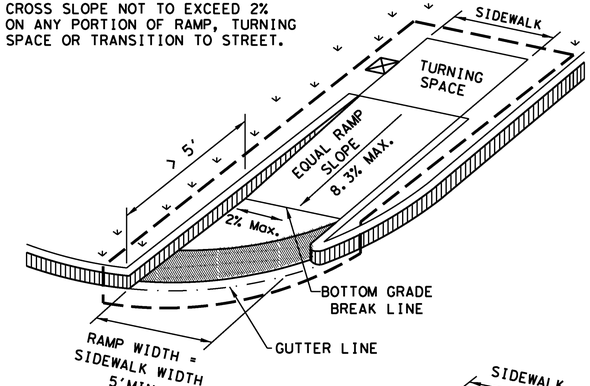
CURB RAMPS AT MEDIAN ISLANDS

TYPE 7

(SIDEWALK SET BACK FROM CURB)

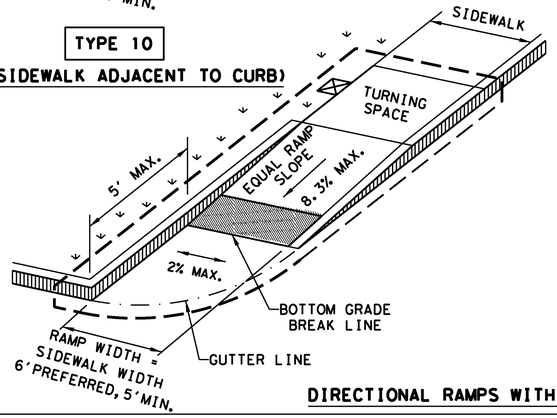


CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.

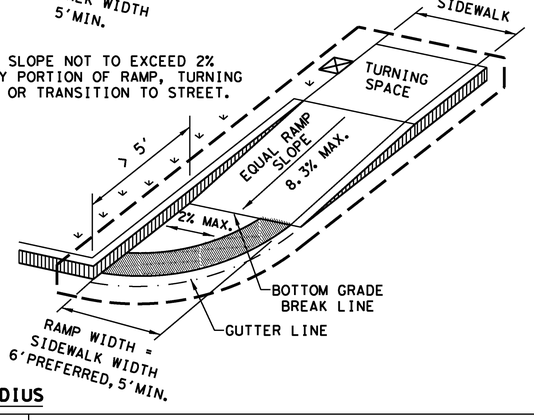


TYPE 10

(SIDEWALK ADJACENT TO CURB)

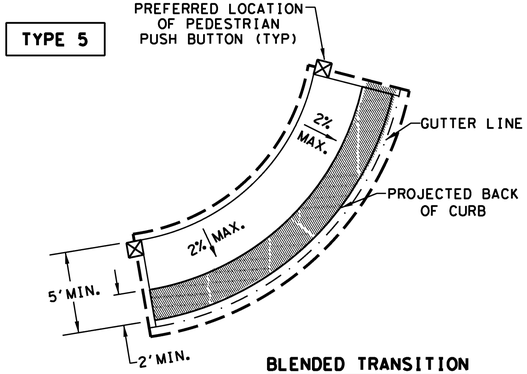


CROSS SLOPE NOT TO EXCEED 2% ON ANY PORTION OF RAMP, TURNING SPACE OR TRANSITION TO STREET.



DIRECTIONAL RAMPS WITHIN RADIUS

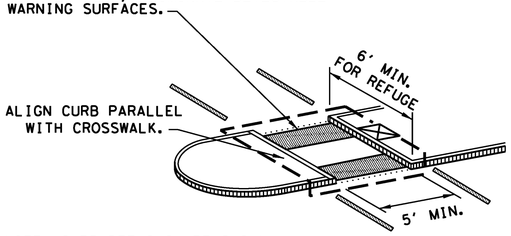
TYPE 5



BLENDED TRANSITION
(FLUSH LANDING)

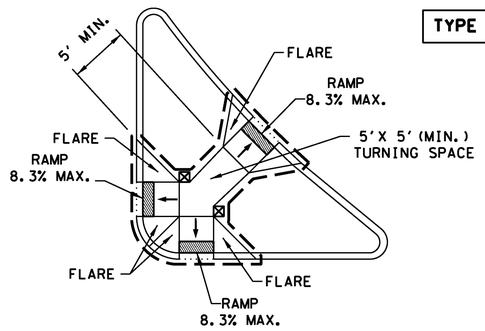
TYPE 21

INSTALL DETECTABLE WARNING SURFACE AT EACH END OF THE CUT-THROUGH RAMP WITH A MINIMUM 2' USUAL SIDEWALK SURFACE BETWEEN. IF MEDIAN IS LESS THAN 6' WIDE, ELIMINATE DETECTABLE WARNING SURFACES.



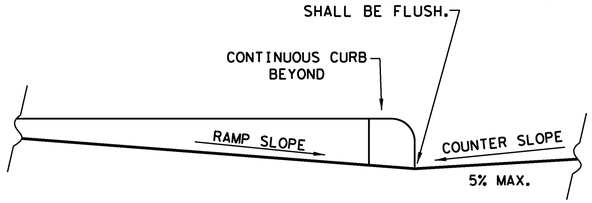
NOTE: CURB DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.

TYPE 22



COMBINATION ISLAND RAMPS

BOTTOM GRADE BREAK OF CURB RAMP WILL NORMALLY BE AT GUTTER LINE. SURFACE SLOPES AT GRADE BREAKS SHALL BE FLUSH.



TYPICAL SECTION OF PERPENDICULAR CURB RAMP AT CONNECTION TO ROADWAY

NOTES / LEGEND:

SEE GENERAL NOTES ON SHEET 2 OF 4 FOR MORE INFORMATION.

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

DETECTABLE WARNING SURFACE

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON IF APPLICABLE.

GUTTER LINE

GRADE BREAK

RAMP LIMITS OF PAYMENT

SHEET 1 OF 4

Texas Department of Transportation

Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG
© TxDOT: MARCH, 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS				
REVISED 08, 2005 REVISED 06, 2012 REVISED 01, 2018	DIST	COUNTY		SHEET NO.
				155

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DATE:
FILE:

GENERAL NOTES

CURB RAMPS

1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5'x 5' passing areas at intervals not to exceed 200' are required.
5. Turning Spaces shall be 5'x 5' minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicalble standards may remain in place unless otherwise shown on the plans.

DETECTABLE WARNING MATERIAL

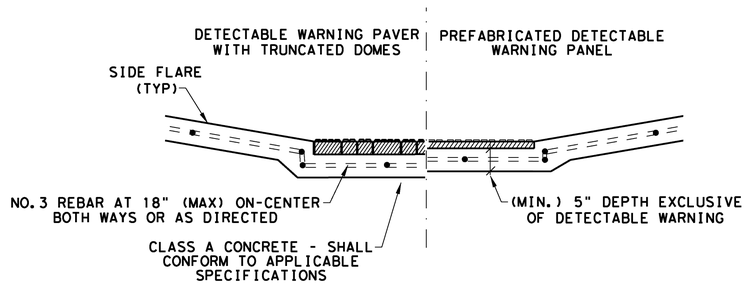
19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

DETECTABLE WARNING PAVERS (IF USED)

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

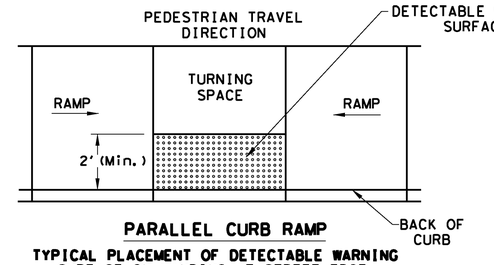
SIDEWALKS

27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.

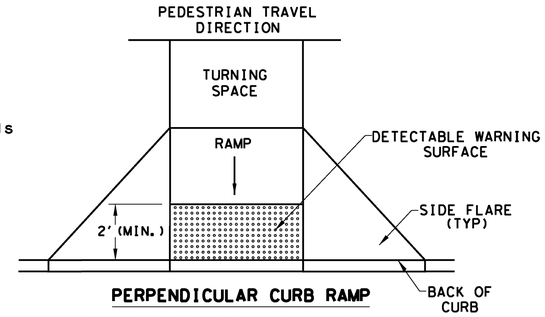


SECTION VIEW DETAIL
CURB RAMP AT DETECTIBLE WARNINGS

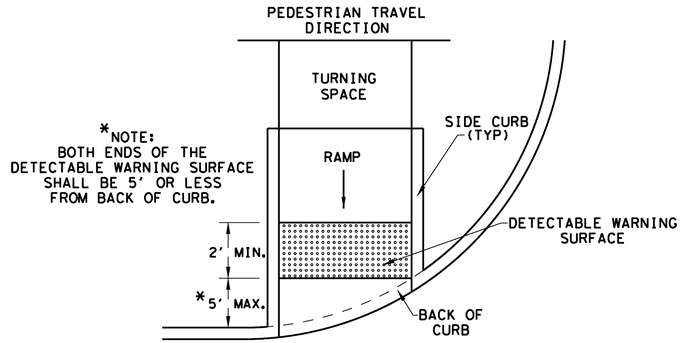
DETECTABLE WARNING SURFACE DETAILS



PARALLEL CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON LANDING AT STREET EDGE.



PERPENDICULAR CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.



DIRECTIONAL CURB RAMP
TYPICAL PLACEMENT OF DETECTABLE WARNING SURFACE ON SLOPING RAMP RUN.

SHEET 2 OF 4

Texas Department of Transportation | Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

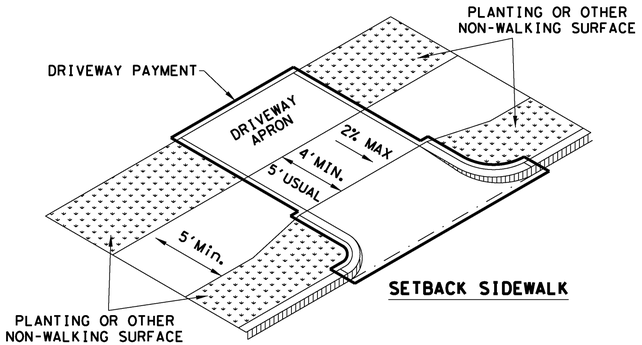
PED-18

FILE: ped18	DN: TxDOT	DW: VP	CK: KM	CK: PK & JG	
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REVISIONS REVISED 08, 2005 REVISED 06, 2012 REVISED 01, 2018	DIST	COUNTY		SHEET NO.	
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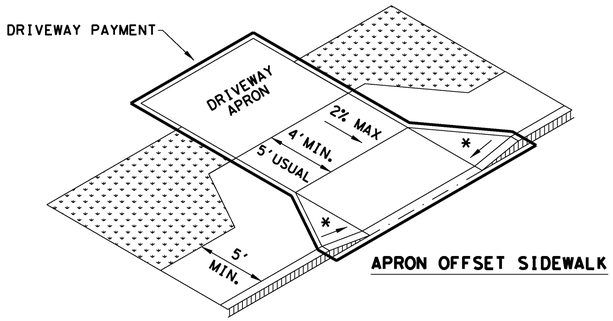
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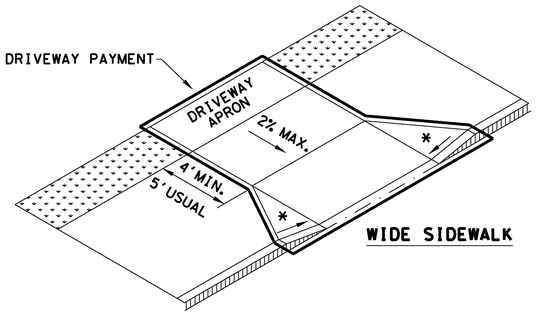
SIDEWALK TREATMENT AT DRIVEWAYS



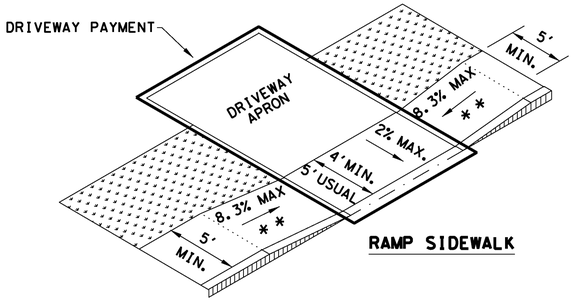
SETBACK SIDEWALK



APRON OFFSET SIDEWALK



WIDE SIDEWALK

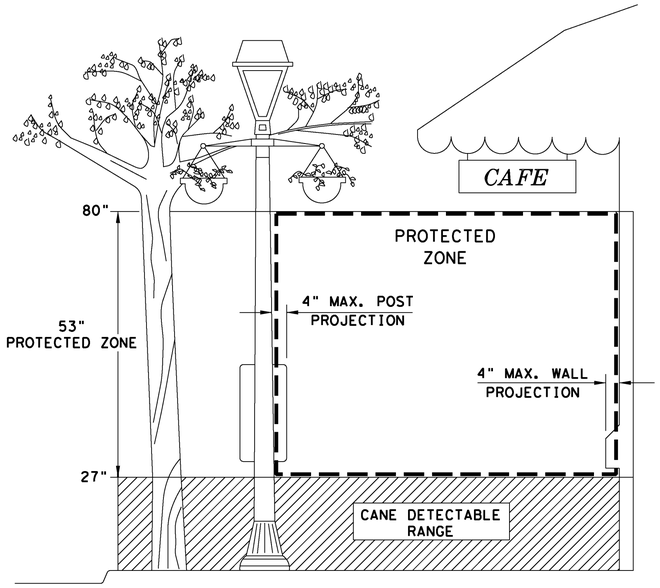


RAMP SIDEWALK

NOTES:

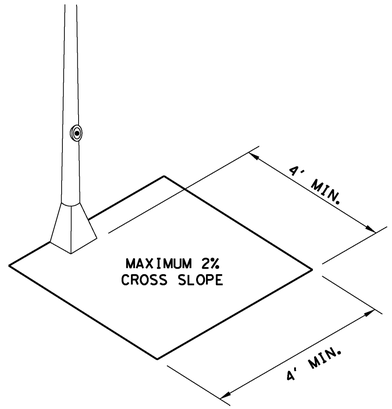
* WHERE DRIVEWAYS CROSS THE PEDESTRIAN ROUTE, SIDES SHALL BE FLARED AT 10% MAX SLOPE.

* * IF CURB HEIGHT IS GREATER THAN 6 INCHES, USE GRADE LESS THAN OR EQUAL TO 5%. HANDRAIL AND DETECTABLE WARNING ARE NOT REQUIRED.

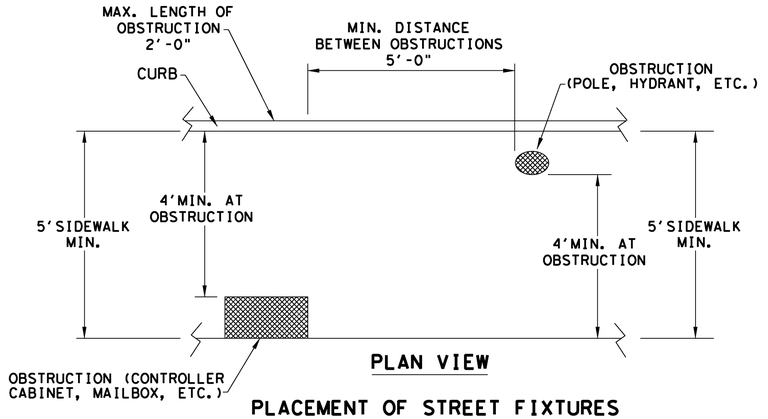


PROTECTED ZONE

NOTE: IN PEDESTRIAN CIRCULATION AREA, MAXIMUM 4" PROJECTION FOR POST OR WALL MOUNTED OBJECTS BETWEEN 27" AND 80" ABOVE THE SURFACE.



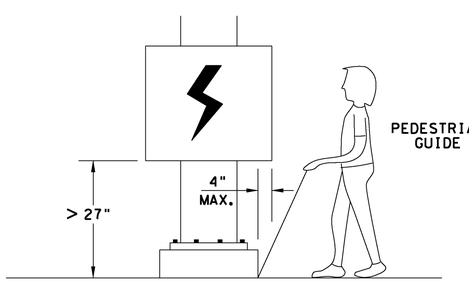
CLEAR SPACE ADJACENT TO PEDESTRIAN PUSH BUTTON



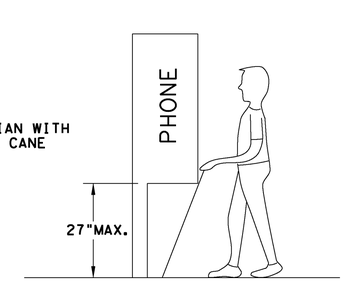
PLAN VIEW

PLACEMENT OF STREET FIXTURES

NOTE: ITEMS NOT INTENDED FOR PUBLIC USE. MINIMUM 4' X 4' CLEAR GROUND SPACE REQUIRED AT PUBLIC USE FIXTURES.



WHEN AN OBSTRUCTION OF A HEIGHT GREATER THAN 27" FROM THE SURFACE WOULD CREATE A PROTRUSION OF MORE THAN 4" INTO THE PEDESTRIAN CIRCULATION AREA, CONSTRUCT ADDITIONAL CURB OR FOUNDATION AT THE BOTTOM TO PROVIDE A MAXIMUM 4" OVERHANG.



PROTRUDING OBJECTS OF A HEIGHT ≤ 27" ARE DETECTABLE BY CANE AND DO NOT REQUIRE ADDITIONAL TREATMENT.

DETECTION BARRIER FOR VERTICAL CLEARANCE < 80"

Texas Department of Transportation

Design Division Standard

PEDESTRIAN FACILITIES CURB RAMPS

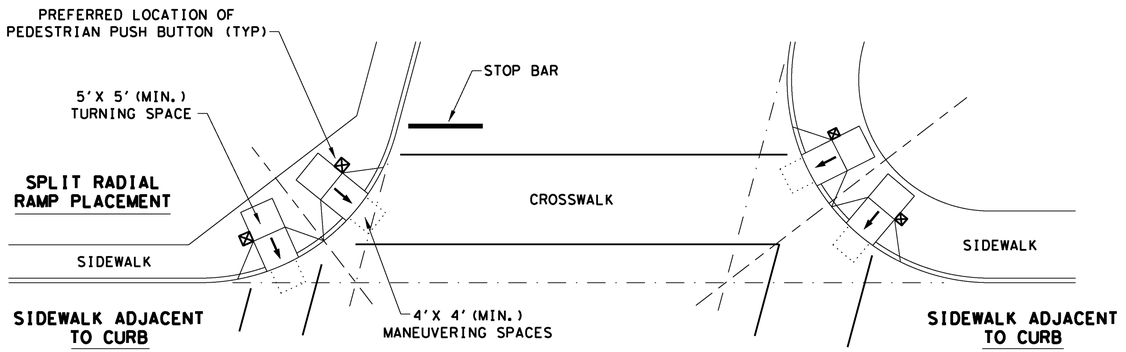
PED-18

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REVISED 08,2005 REVISED 06,2012 REVISED 01,2018	DIST	COUNTY		SHEET NO.	
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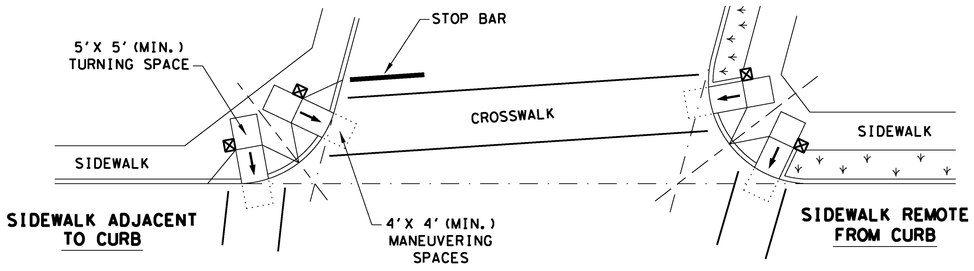
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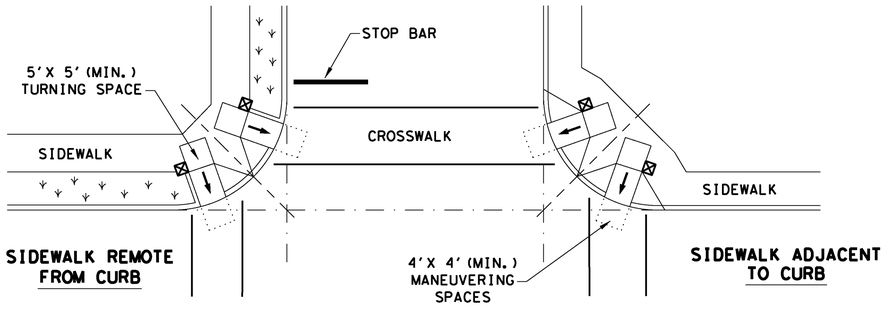
TYPICAL CROSSING LAYOUTS
SEE SHEET 1 OF 4 FOR DETAILS AND DIMENSIONS



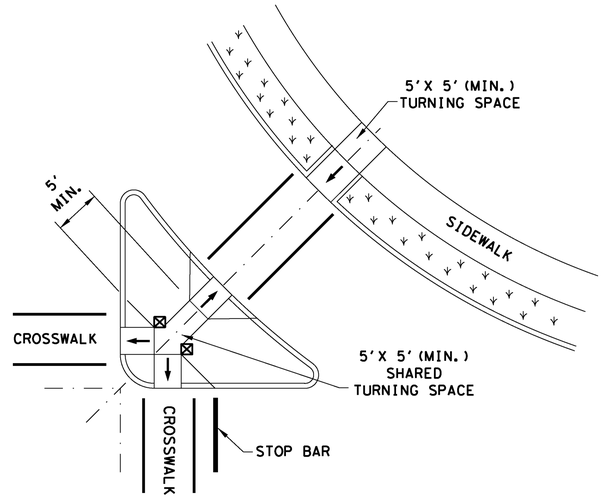
SKEWED INTERSECTION WITH "LARGE" RADIUS



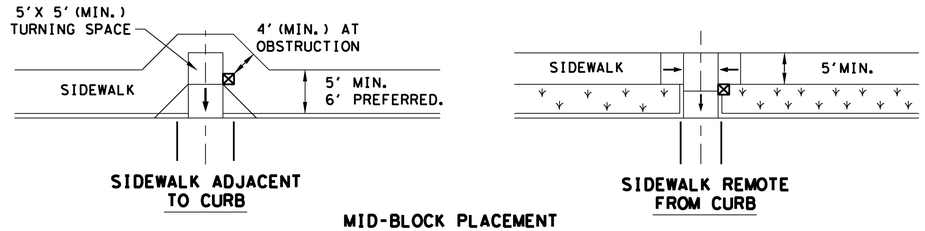
SKEWED INTERSECTION WITH "SMALL" RADIUS



NORMAL INTERSECTION WITH "SMALL" RADIUS



AT INTERSECTION
W/FREE RIGHT TURN & ISLAND



MID-BLOCK PLACEMENT
PERPENDICULAR RAMPS

LEGEND:

SHOWS DOWNWARD SLOPE. →

DENOTES PREFERRED LOCATION OF PEDESTRIAN PUSH BUTTON (IF APPLICABLE). ⊠

DENOTES PLANTING OR NON-WALKING SURFACE NOT PART OF PEDESTRIAN CIRCULATION PATH.

SHEET 4 OF 4

Texas Department of Transportation | Design Division Standard

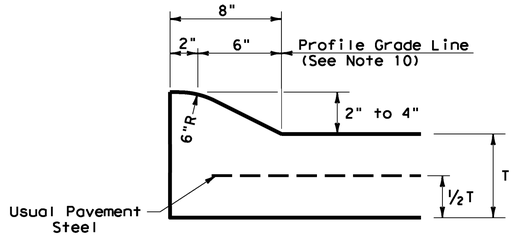
PEDESTRIAN FACILITIES
CURB RAMPS

PED-18

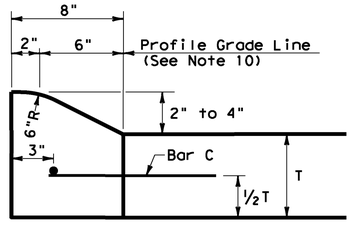
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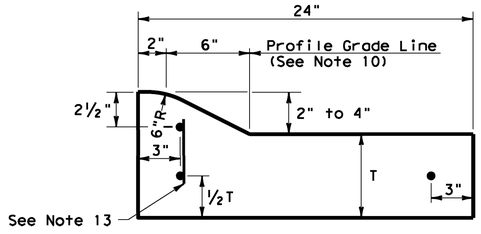
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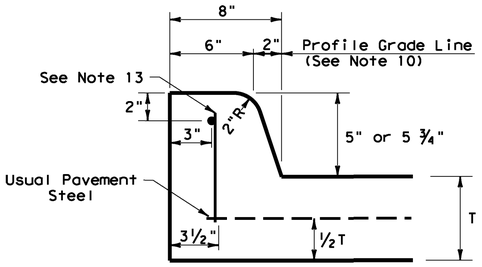
TYPE I CURB (MONOLITHIC)
2" - 4" HEIGHT



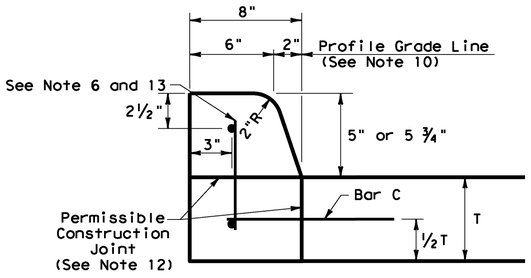
TYPE I CURB
2" - 4" HEIGHT



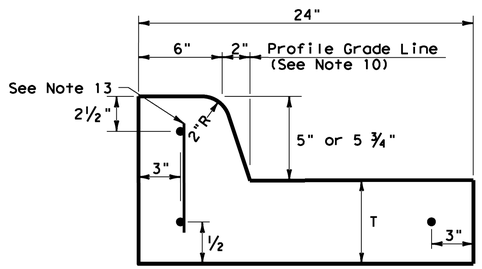
TYPE I CURB AND GUTTER
2" - 4" HEIGHT



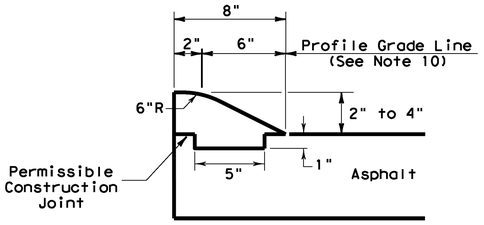
TYPE II CURB (MONOLITHIC)
5" - 5 ¾" HEIGHT



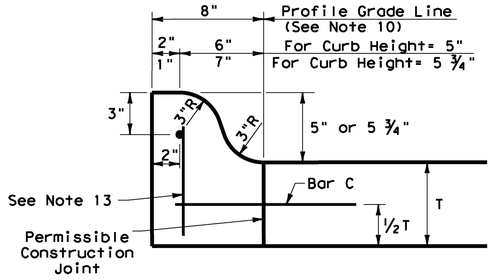
TYPE II CURB
5" - 5 ¾" HEIGHT



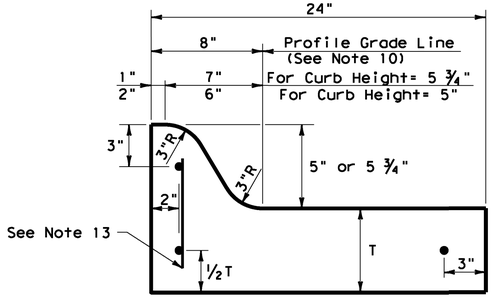
TYPE II CURB AND GUTTER
5" - 5 ¾" HEIGHT



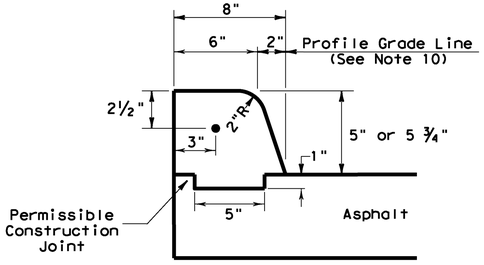
TYPE III CURB (KEYED)
2" - 4" HEIGHT



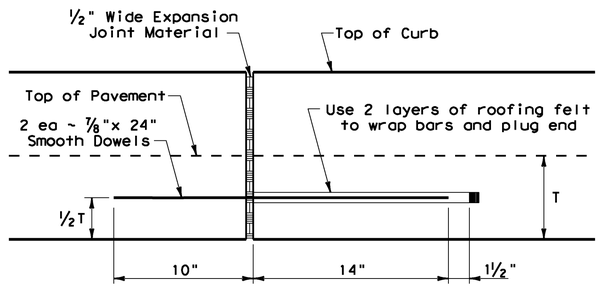
TYPE IIa CURB
5" - 5 ¾" HEIGHT



TYPE IIa CURB AND GUTTER
5" - 5 ¾" HEIGHT

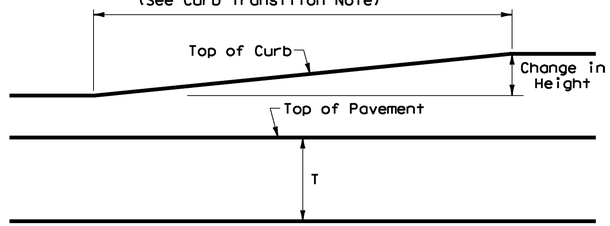


TYPE IV CURB (KEYED)
5" - 5 ¾" HEIGHT



EXPANSION JOINT DETAIL

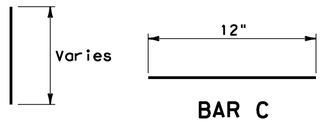
CURB TRANSITION NOTE:
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.



CURB TRANSITION
Note: To be paid for as Highest Curb

GENERAL NOTES

1. All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
2. Concrete shall be Class A.
3. When reinforcing bars are used, they shall be No.4 unless otherwise shown. The use of fiber reinforced concrete in lieu of reinforcing steel is acceptable. Use fibers meeting the requirements of DMS 4550, "Fibers for Concrete," and dose fibers in accordance with Material Producers List (MPL) "Fibers for Class A and B Concrete Applications."
4. Round exposed sharp edges with a rounding tool, to a minimum radius of ¼ inch.
5. All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
6. Where concrete curb is to be placed on existing concrete pavement, Bar B may be drilled and grouted in place, or may be inserted into fresh concrete.
7. Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by The Engineer.
8. Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C~C.
9. Dimension 'T' shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension 'T' is 8" maximum.
10. Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
11. One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
12. When horizontal permissible construction joints are used, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans. Reinforcing steel for curb section shall then conform to that required for concrete curb.
13. Bar B placement as needed (typically at four ft. C-C) to support curb reinforcing steel during concrete placement.



BAR B

BAR C

Texas Department of Transportation

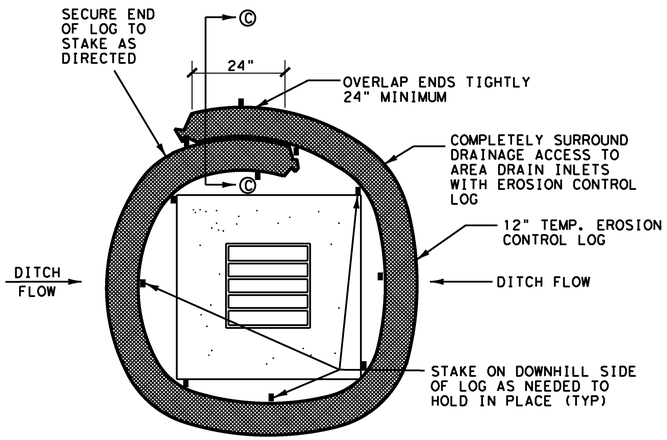
Design Division Standard

CONCRETE CURB AND CURB AND GUTTER

CCCG-22

FILE: cccg21.dgn	DN: TXDOT	CK: AN	DW: CS	CK: KM
© TxDOT: JUNE 2022	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.
				159

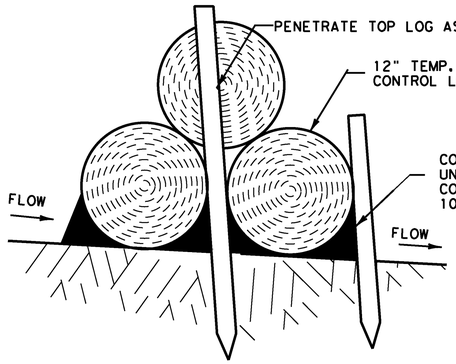
DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for errors or omissions in these standards or other formats or for incorrect results or damages resulting from its use.



DROP INLET SEDIMENT TRAP

NTS

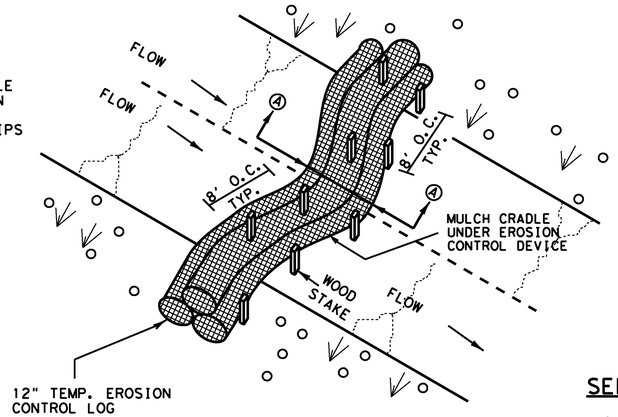
DI-ST



SECTION A-A

DITCH LINE SEDIMENT TRAP A-A

DL-ST



DITCH LINE SEDIMENT TRAP

DL-ST

PLANS SHEET LEGEND

DI-ST — DROP INLET SEDIMENT TRAP

DL-ST — DITCH LINE SEDIMENT TRAP

BOCI-ST — BACK OF CURB INLET SEDIMENT TRAP

ROW-ST — RIGHT OF WAY SEDIMENT TRAP

CI-ST — CURB INLET SEDIMENT TRAP

SEDIMENT BASIN & TRAP USAGE GUIDELINES

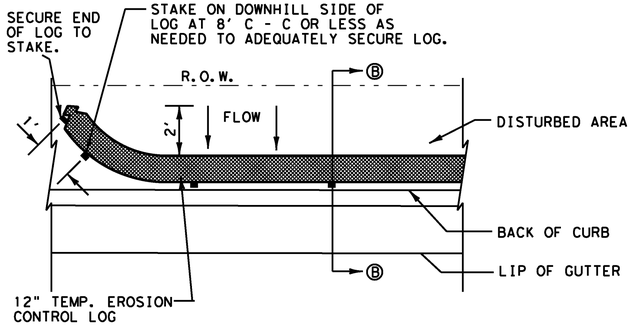
A sediment trap may be used to precipitate sediment out of runoff draining from an unstabilized area.

Traps: the drainage area for a sediment trap should not exceed 5 acres. The trap capacity should be 1800 CF/Acre (0.5" over the drainage area).

Sediment traps should be placed in the following locations:

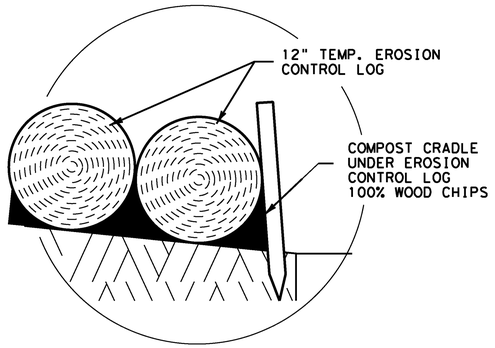
1. Immediately preceding drain inlets
2. Just before the drainage enters a water course
3. Just before the drainage leaves the right of way
4. Just before the drainage leaves the construction limits where drainage flows away from the project

The trap should be cleaned when the capacity has been reduced by ½ or the sediment has accumulated to a depth of 1', whichever is less. Cleaning and removal of accumulated sediment deposits is incidental and will not be paid for seperately.



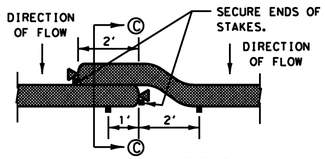
PLAN VIEW

NTS



SECTION C-C

OVERLAP WITH COMPOST CRADLE



OVERLAP DETAIL PLAN VIEW

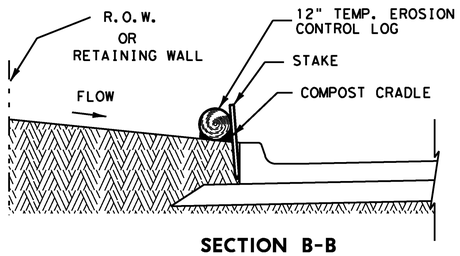
NTS

PLAN VIEW

NTS

GENERAL NOTES

1. LENGTHS OF EROSION CONTROL LOGS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND AS REQUIRED FOR THE PURPOSE INTENDED. MAXIMUM LENGTH OF LOGS SHALL BE 30' FOR 12" DIAMETER LOGS.
2. UNLESS OTHERWISE DIRECTED, USE BIODEGRADABLE OR PHOTODEGRADABLE CONTAINMENT MESH ONLY WHERE LOG WILL REMAIN IN PLACE AS PART OF A VEGETATIVE SYSTEM. FOR TEMPORARY INSTALLATIONS, USE RECYCLABLE CONTAINMENT MESH.
3. STUFF LOGS WITH SUFFICIENT FILTER MATERIAL TO ACHIEVE DENSITY THAT WILL HOLD SHAPE WITHOUT EXCESSIVE DEFORMATION.
4. STAKES SHALL BE 2" X 2" WOOD 4' LONG, EMBEDDED SUCH THAT 2" PROTRUDES ABOVE LOG.
5. COMPOST CRADLE MATERIAL IS INCIDENTAL AND WILL NOT BE PAID FOR SEPARATELY.

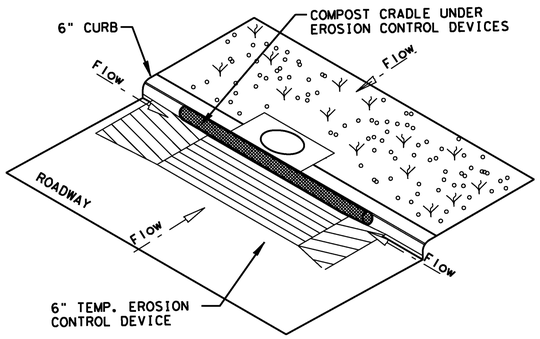


SECTION B-B

BACK OF CURB INLET SEDIMENT TRAP

NTS

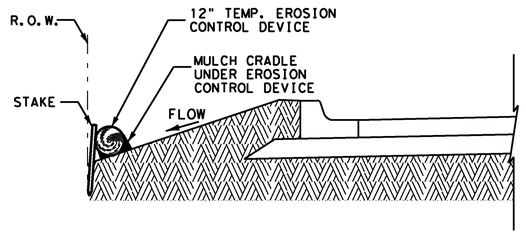
BOCI-ST



CURB INLET SEDIMENT TRAP

NTS

CI-ST



SECTION D-D

RIGHT-OF-WAY SEDIMENT TRAP

NTS

ROW-ST

LEVELS DISPLAYED

| | | |

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with TxDOT policy for projects disturbing less than 1 acre of soil, and not part of a larger common plan of development.

For projects with less than one acre of soil disturbing activity and that have Environmental, Permits, Issues, and Commitments (EPICs) dependent on stormwater controls and water quality measures TxDOT will maintain a SWP3 with all pertinent records, correspondence, environmental documents, etc. at the project field office, Area Office, or electronically.

This SWP3 is consistent with requirements specified in applicable stormwater plans, and the project's environmental permits, issues, and commitments (EPICs).

1.0 SITE/PROJECT DESCRIPTION

1.1 PROJECT CONTROL SECTION JOB (CSJ):
0039-11-002

1.2 PROJECT LIMITS:
From: WEST UNIVERSITY BOULEVARD

To: POLK STREET

1.3 PROJECT COORDINATES:
BEGIN: (Lat) 25.8993407 ,(Long) -97.4964395

END: (Lat) 25.9036438 ,(Long) -97.4861642

1.4 TOTAL PROJECT AREA (Acres): 13.2 ACRES

1.5 TOTAL AREA TO BE DISTURBED (Acres): <0.10 ACRES

1.6 NATURE OF CONSTRUCTION ACTIVITY: TRAFFIC AND PEDESTRIAN SIGNAL CONSTRUCTION AND IMPROVEMENTS AT EIGHT INTERSECTIONS ALONG INDUSTIRAL BOULEVARD

1.7 MAJOR SOIL TYPES:

Soil Unit	Description
LAREDO-URBAN LAND COMPLEX	50% LAREDO AND SIMILAR SOILS 35% URBAN LAND 15% MINOR COMPONENTS
RIO GRANDE-URBAN LAND COMPLEX	55% RIO GRANDE AND SIMILAR SOILS 30% URBAN LAND 15% MINOR COMPONENTS

1.8 PROJECT SPECIFIC LOCATIONS (PSLs):

PSLs must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. PSLs may be identified during preconstruction meetings or during the construction process. Please choose from the options below:

☐ PSLs determined during preconstruction meeting
☐ PSLs determined during construction
☐ No PSLs planned for construction

Type	Sheet #s

All off-ROW PSLs required by the Contractor are the Contractor's responsibility. The Contractor shall secure all permits required by local, state, federal laws for off-ROW PSLs. The contractor shall provide diagrams, areas of disturbance, acreage, and BMPs for all off-ROW PSLs within one mile of the project.

1.9 CONSTRUCTION ACTIVITIES:

(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record in Attachment 2.3.)

☒ Mobilization
☒ Install sediment and erosion controls
☐ Blade existing topsoil into windrows, prep ROW, clear and grub
☐ Remove existing pavement
☐ Grading operations, excavation, and embankment
☐ Excavate and prepare subgrade for proposed pavement widening
☐ Remove existing culverts, safety end treatments (SETs)
☐ Remove existing metal beam guard fence (MBGF), bridge rail
☐ Install proposed pavement per plans
☐ Install culverts, culvert extensions, SETs
☐ Install mow strip, MBGF, bridge rail
☐ Place flex base
☐ Rework slopes, grade ditches
☐ Blade windrowed material back across slopes
☐ Revegetation of unpaved areas
☐ Achieve site stabilization and remove sediment and erosion control measures
☒ Other: SIGNING
☒ Other: REMOVE AND INSTALL PAVEMENT MARKINGS
☐ Other: _____

1.10 POTENTIAL POLLUTANTS AND SOURCES:

☐ Sediment laden stormwater from stormwater conveyance over disturbed area
☒ Fuels, oils, and lubricants from construction vehicles, equipment, and storage
☒ Solvents, paints, adhesives, etc. from various construction activities
☐ Transported soils from offsite vehicle tracking
☐ Construction debris and waste from various construction activities
☐ Contaminated water from excavation or dewatering pump-out water
☐ Sanitary waste from onsite restroom facilities
☐ Trash from various construction activities/receptacles
☐ Long-term stockpiles of material and waste
☐ Discharges from concrete washout activities, runoff from concrete cutting activities, and other concrete related activities
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.11 RECEIVING WATERS:

Receiving waters must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. Include Segment # for receiving waters.

Tributaries	Classified Waterbody
DRAINAGE DTICHES FLOWING INTO THE RIO GRANDE RIVER	*RIO GRANDE BELOW FALCON RESERVOIR (2302), IMPAIRED (BACTERIA)

* Add (*) for impaired waterbodies with pollutant in ().

1.12 ROLES AND RESPONSIBILITIES: TxDOT

☒ Development of plans and specifications
☒ Perform SWP3 inspections
☒ Maintain SWP3 records and update to reflect daily operations
☐ Other: _____
☐ Other: _____

1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR

☒ Day To Day Operational Control
☒ Maintain schedule of major construction activities
☒ Install, maintain and modify BMPs
☐ Other: _____
☐ Other: _____
☐ Other: _____

STATE OF TEXAS
JOHN P. GIANOTTI
79730
LICENSED PROFESSIONAL ENGINEER
3/23/2026

STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

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July 2023 Sheet 1 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			161
STATE	STATE DIST.	COUNTY	
TEXAS	PHR	HIDALGO,ETC.	
CONT.	SECT.	JOB	HIGHWAY NO.
0039	11	002	

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

2.0 BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS, INSPECTION, AND MAINTENANCE

The Contractor shall be the responsible party for implementing the BMPs described herein and for complying with the SWP3 for control of erosion and sedimentation during day-to-day operations. The Contractor shall implement changes to this SWP3 approved by TxDOT within the times specified in this SWP3 or the CGP.

2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

T / P

- ☐ ☐ Protection of Existing Vegetation
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Soil Retention Blankets
- ☐ ☐ Geotextiles
- ☐ ☐ Mulching/ Hydromulching
- ☐ ☐ Soil Surface Treatments
- ☐ ☐ Temporary Seeding
- ☐ ☐ Permanent Planting, Sodding or Seeding
- ☒ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Vertical Tracking
- ☐ ☐ Interceptor Swale
- ☐ ☐ Riprap
- ☐ ☐ Diversion Dike
- ☐ ☐ Temporary Pipe Slope Drain
- ☐ ☐ Embankment for Erosion Control
- ☐ ☐ Paved Flumes
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

2.2 SEDIMENT CONTROL BMPs:

T / P

- ☒ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Dewatering Controls
- ☐ ☐ Inlet Protection
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Sandbag Berms
- ☐ ☐ Sediment Control Fence
- ☐ ☐ Stabilized Construction Exit
- ☐ ☐ Floating Turbidity Barrier
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Vegetated Filter Strips
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.3 PERMANENT CONTROLS:

(Coordinate post-construction BMPs with appropriate TxDOT maintenance sections.)

BMPs To Be Left In Place Post Construction:

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.4 OFFSITE VEHICLE TRACKING CONTROLS:

- ☐ Excess dirt/mud on road removed daily
- ☐ Haul roads dampened for dust control
- ☐ Loaded haul trucks to be covered with tarpaulin
- ☐ Stabilized construction exit
- ☐ Daily street sweeping
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.5 POLLUTION PREVENTION MEASURES:

- ☐ Chemical Management
- ☐ Concrete and Materials Waste Management
- ☐ Debris and Trash Management
- ☐ Dust Control
- ☐ Sanitary Facilities
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.6 VEGETATED BUFFER ZONES:

Natural vegetated buffers shall be maintained as feasible to protect adjacent surface waters. If vegetated natural buffer zones are not feasible due to site geometry, the appropriate additional sediment control measures have been incorporated into this SWP3.

Type	Stationing	
	From	To
NO SURFACE WATERS PRESENT, VEGETATED BUFFER ZONES ARE NOT PIANNED		

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

- ☒ Fire hydrant flushings
- ☒ Irrigation drainage
- ☒ Pavement washwater (where spills or leaks have not occurred, and detergents are not used)
- ☒ Potable water sources
- ☒ Springs
- ☒ Uncontaminated groundwater
- ☒ Water used to wash vehicles or control dust
- ☒ Other allowable non-stormwater discharges as allowed by TPDES GP TXR150000.

2.8 DEWATERING:

Dewatering discharges of accumulated stormwater, groundwater, and surface water including discharges from dewatering of trenches, excavations, foundations, vaults, and other points of accumulation are prohibited unless managed by appropriate controls to prevent and minimize the offsite discharge of sediment and other pollutants.

2.9 INSPECTIONS:

All disturbed areas and erosion and sediment control devices shall be inspected at least once every seven (7) days. Inspections shall be performed by TxDOT as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.3 of this SWP3 .

2.10 MAINTENANCE:

Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.3 of this SWP3.



STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

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July 2023 Sheet 2 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			162
STATE	STATE DIST.	COUNTY	
TEXAS	PHR	HIDALGO,ETC.	
CONT.	SECT.	JOB	HIGHWAY NO.
0039	11	002	

During the planning phase of project development, the following Environmental Permits, Issues and Commitments have been developed during coordination with resource agencies, local governmental entities and the general public. Any change orders and/or deviations from the final design must be reported to the Engineer prior to the commencement of construction activities as additional environmental clearances may be required.

I. Clean Water Act, Section 402; Stormwater Pollution Prevention

Action Items Required : ☐ *No Action Required*

1. ☒ *The contractor must implement the SWP3 by installing Best Management Practices (BMPs) as indicated in the construction plans and maintained appropriately throughout construction. BMPs must be in place prior to the start of construction. The SWP3 may need to be revised as necessary as construction progresses.*
2. ☒ *For all construction PSL's off the ROW, the contractor must certify compliance with all applicable laws, rules and regulations pertaining to the preservation of cultural resources, natural resources and the environment.*
3. ☒ *Based on the acreage of impact, select the appropriate box below:*
   - ☒ *This project will disturb less than 1 acre of soil and is not part of a larger common plan of development; therefore, a NOI and TPDES Site Notice are not required for this project.*

     or
   - ☐ *This project will disturb equal to or more than 1 acre of soil but less than 5 acres; therefore a NOI is not required but a TPDES Site Notice is required. The Construction Site Notice (CSN) is required to be posted at the construction site in a publicly accessible location for review by the public, TCEQ, EPA and other Inspectors.*

     or
   - ☐ *This project will disturb equal to or more than 5 acres of soil and will require a NOI and TPDES Site Notice. The NOI and Site Notice are required to be posted at the construction site in a publicly accessible location.*
4. ☐ *Need to address MS4 requirements (Cameron & Hidalgo Counties only)* ☒ *MS4 requirements not needed*

II. Clean Water Act, Sections 401 and 404 Compliance

Action Items Rquired : ☒ *No Action Required*

1. ☐ *Filling, dredging or excavating in any water bodies, rivers, creeks, streams, wetlands or wet areas is prohibited unless specified in the USACE permit and approved by the Engineer. The contractor shall adhere to all agreements, mitigation plans, and BMPs required by the NWP as regulated by the USACE.*

   The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

   - ☐ *No Permit Required*
   - ☐ *Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)*
   - ☐ *Nationwide Permit 14 - PCN Required (1/10th to <1/2 acre, 1/3 in tidal waters)*
   - ☐ *Individual 404 Permit Required*
   - ☐ *Other Nationwide Permit Required: NWP#_____*
2. ☐ *The contractor is responsible for obtaining new or revised Section 404 permit(s) for Contractor initiated changes in construction methods that change Impacts To Waters Of The U.S., including wetlands. The Contractor will ensure that the water quality of the State will be maintained and not degraded.*
3. ☐ *Best Management Practices for applicable Section 401 General Conditions:*

General Condition 12 - Categories I and II BMPs required

Category I (Erosion Control)

☐ *Temporary Vegetation*	☐ *Interceptor Swale*	☐ *Mulch Filter Berms and/or Socks*
☐ *Blankets, Matting*	☐ *Diversion Dike*	☐ *Compost Filter Berms and/or Socks*
☐ *Mulch*	☐ *Erosion Control Compost*	☐ *Compost Blankets*
☐ *Sodding*		

Category II (Sedimentation Control)

☐ *Silt Fence*	☐ *Hay (Straw) Bale Dike*	☐ *Mulch Filter Berms and/or Socks*
☐ *Rock Berm*	☐ *Brush Berms*	☐ *Compost Filter Berms and/or Socks*
☐ *Triangular Filter Dike*	☐ *Sediment Basins*	☐ *Stone Outlet Sediment Traps*
☐ *Sand Bag Berm*	☐ *Erosion Control Compost*	

General Condition 21 - Category III BMPs required

Category III (Post-Construction TSS Control)

☐ *Vegetative Filter Strips*	☐ *Wet Basins*	☐ *Mulch Filter Berms and/or Socks*
☐ *Retention/Irrigation*	☐ *Grassy Swales*	☐ *Compost Filter Berms and/or Socks*
☐ *Extended Detention Basin*	☐ *Vegetation-Lined Ditches*	☐ *Sand Filter Systems*
☐ *Constructed Wetlands*	☐ *Erosion Control Compost*	☐ *Sedimentation Chambers*

DATE: $DATE$ $TIME$
FILE: $FILE$

II. Clean Water Act, Sections 401 and 404 Compliance - Continued:

4. ☐ *The Contractor's designated and qualified Contractor Responsible Person Environmental (CRPe) will monitor the project site daily to ensue compliance with SWP3 and TPDES General Permit TXR 150000. Daily Monitoring Reports shall be provided to TxDOT within 48 hours, in accordance with Item 506.3.1.*
5. ☐ *Other Project Specific Actions:*

   1.

   2.

III. Cultural Resources

Action Items Required : ☐ *No Action Required*

1. ☒ *Refer to the 2024 TxDOT Standard Specifications For Construction And Maintenance Of Highways, Streets, And Bridges, Item 7.7.1., in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.*
2. ☐ *Other Project Specific Actions:*

   1.

   2.

IV. Vegetation Resources

Action Items Required : ☐ *No Action Required*

1. ☐ *In accordance with the 2024 TxDOT Standard Specifications; Item 164 - Seeding For Erosion Control; provide and install temporary or permanent seeding for erosion control as shown on the plans or as directed by the Engineer for all seeding and replanting of right of way where possible. (Required for Urban Settings)*
2. ☐ *In accordance with Executive Order 13112 on invasive species and the Executive Memorandum on Beneficial Landscaping, native species of plants shall be used for all seeding and replanting of right of way where possible for rural roadways. (Required for Rural Settings)*
3. ☒ *Preserve vegetation where possible throughout the project and minimize clearing, grubbing and excavation within stream banks, bed and approach sections.*
4. ☐ *Other Project Specific Actions:*

   1.

   2.

Pharr District Contact No. 956-702-6100 *Revised 09/18/2024*

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ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS (EPIC)

SHEET 1 OF 2

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
6			
STATE	DISTRICT	COUNTY	
TEXAS	PHR	HIDALGO,ETC.	SHEET NO.
CONTROL	SECTION	JOB	
0039	11	002	163

V. Federal Listed, and Proposed Threatened and Endangered Species, Critical Habitat, State Listed Species, Candidate Species and Migratory Birds

Action Items Required : ☐ No Action Required

1. ☒ Under the Migratory Bird Treaty Act (MBTA) of 1918, codified at 16 U.S.C. 703-712 and as enforced by the USFWS, the proposed construction work will not remove active nests from bridges, trees, ground and other structures during migratory bird nesting season, (February 15th. through October 1st.). If the Contractor needs to perform work within the right of way during nesting season, a qualified Biologist shall conduct a survey to determine if active nests are present. If present, the Contractor shall maintain a buffer zone around the nest(s) as directed by the Biologist. The buffer zone will be protected from clearing and disturbance until such time as the Biologist has determined that the nest(s) is no longer active. Prior to the nesting season, existing bridges and culverts should be treated against migratory bird nesting by utilizing Bird Exclusion Methods. Bird Exclusion Methods should be monitored and maintained throughout the nesting season. Refer to Standard Bird Exclusion Details.

2. ☒ There is the potential for the presence of state-listed species & species of concern in the project area and state law prohibits the taking (incidental or otherwise) of state-listed species. Taking is defined as the collection, hooking, hunting, netting, shooting, or share by any means or devices. If any listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately.

3. ☒ Other Project Specific Actions:

   1. No work shall occur from dusk to dawn. Construction and maintenance activities will occur only during daylight hours.

   2. See EPIC Sheet supplemental for TPWD BMPs.

   3.

VI. Hazardous Materials on Contamination Issues

Action Items Required : ☐ No Action Required

General (applies to all projects):

Comply with the Hazard Communication Act (HCA) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include but are not limited to the following categories: Paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bare ground and covered, for products which may be hazardous. Maintain product labelling as required by the HCA.

Maintain an adequate supply of on-site spill response materials as indicated in the MSDS. In the event of a spill, take immediate action to mitigate the spill as indicated in the MSDS and in accordance with safe work practices. Contact the TxDOT Pharr District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Engineer if any of the following are detected:

* Dead or distressed vegetation (identified as not normal)
* Trash piles, drums, canisters, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of contaminant substances

Any other evidence indicating possible hazardous materials or contamination discovered on site.

1. ☒ If potentially hazardous material and/or contaminated media (i.e.: soil, groundwater, surface water, sediment, building materials) are unexpectedly encountered during construction, assure that such materials and contamination are handled according to applicable federal and state regulations, cease work in the immediate area and contact the Engineer immediately.

VI. Hazardous Materials on Contamination Issues - Continued:

2. Does the project involve any bridge class structure rehabilitation or replacements (bridge class structures not including box culverts)?

   Yes ☐ No ☒

   If "No", then no further action required.
   If "Yes", then TxDOT is responsible for completing an asbestos assessment/inspection.

3. Are the results of the asbestos inspection positive (is asbestos present)?

   Yes ☐ No ☐

   If "Yes", then TxDOT must retain a Texas Department of State Health Services (DSHS) licensed asbestos consultant to assist with the notification, develop abatement/mitigation procedures, and perform management activities as necessary. The notification form to DSHS must be postmarked at least 15 working days prior to scheduled abatement activities and/or demolition.

   If "No", then TxDOT is still required to notify DSHS 15 working days prior to any scheduled demolition.

4. ☐ The Contractor is responsible for providing the date(s) for abatement activities and/or demolition with careful coordination between the Engineer and an Asbestos Consultant in order to minimize construction delays and subsequent claims.

VII. Other Environmental Issues

Action Items Required : ☐ No Action Required

1. ☒ Noise

   Contractor shall make every reasonable effort to minimize construction noise through abatement measures such as work hour controls and proper maintenance of equipment mufflers.

2. ☒ Air

   Contractor shall practice common dust control techniques such as surface chemical treatment or watering of unpaved road surfaces and vehicle speed reduction shall be implemented to minimize and prevent airborne dust during construction.

   Contractor should minimize MSAT by utilizing measures to encourage use of EPA required cleaner diesel fuels, limits on idling, increase use of cleaner burning diesel engines, and other emission limitation techniques, as appropriate.

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ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS (EPIC)

SHEET 2 OF 2

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
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TPWD BMPs

Under Section 12.0011 of the Texas Parks and Wildlife Code, Texas Parks and Wildlife Department (TPWD) is charged with "providing recommendations that will protect fish and wildlife resources to local, state, and federal agencies that approve, permit, license, or construct developmental projects" and "providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources."

The purpose of this section is to provide beneficial management practices (BMP) that should be implemented during construction, and maintenance activities statewide for transportation projects with the goal of avoidance and minimization of impacts to natural resources. Statewide Standard BMP pertain to all fish and wildlife species, including state-listed species and other Species of Greatest Conservation Need (SGCN). Implementing the recommendations as outlined below will improve conservation of species and their habitat.

☒ **General Design/Construction BMPs**

- ☒ *Prior to start of construction, information will be provided to personnel of the potential for all state-listed threatened species or other SGCN to occur within the project area and should be advised of relevant rules and regulations to protect plants, fish, and wildlife.*
- ☒ *Contractor should avoid harming all wildlife species if encountered and allow them to safely leave the project site. Due diligence should be used to avoid killing or harming any wildlife species in the implementation of transportation projects.*
- ☐ *Contractors should install wildlife exclusion fencing and should examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities.*
- ☐ *Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas.*
- ☐ *Contractor should use woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.*
- ☐ *Project staging areas, stockpiles, temporary construction easements, and other project related sites should be situated in previously disturbed areas to avoid or minimize impacts to sensitive or unique habitats including intact native vegetation, floodplains, riparian corridors, wetlands, playa lakes, and habitat for wildlife species.*
- ☐ *When lighting is added, consider wildlife impacts from light pollution and incorporating dark-sky practices into design strategies. Minimize sky glow by focusing light downward, with full cutoff luminaries to avoid light emitting above the horizontal. The minimum amount of night-time lighting needed for safety and security should be used.*

☒ **Vegetation BMPs**

- ☒ *Minimize the amount of vegetation cleared. Removal of native vegetation, particularly mature native trees and shrubs should be avoided. Impacted vegetation should be replaced with in-kind on- site replacement /restoration of native vegetation.*
- ☐ *It is strongly recommended that trees greater than 12 inches in diameter at breast height (DBH) that are removed be replaced. TPWD's experience indicates that for ecologically effective replacement, a ratio of three trees for every one (3:1) lost should be provided to either on-site or off-site. Trees less than 12 inches DBH should be replaced at a 1:1 ratio.*
- ☐ *The use of any non-native vegetation in landscaping and revegetation is discouraged. Locally adapted native species should be used.*
- ☐ *The use of seed mix that contains seeds from only regional ecotype native species is recommended*

☐ **Invasive Species BMPs**

- ☐ *For all work in water bodies designated as "infested" or "positive" for invasive zebra (Dreissena polymorpha) OR quagga mussels (Dreissena bugensis) as well as waters downstream of these lakes, all machinery, equipment, vessels, or vehicles coming in contact with such waters should be cleaned prior to leaving the site to remove any mud, plants, organisms, or debris, water drained (if applicable), and dried completely before use in another water body to prevent the potential spread of invasive mussels.*
- ☐ *Care should be taken to prevent the spread of aquatic and terrestrial invasive plants during construction activities.*
- ☐ *Care should be taken to avoid the spread of aquatic invasive plants such as giant Salvinia (Salvinia molesta), common salvinia (Salvinia minima), hydrilla (Hydrilla verticillata), water hyacinth (Eichhornia spp.), Eurasian watermilfoil (Myriophyllum spicatum), water lettuce (Pistia stratiotes), and alligatorweed (Alternanthera philoxeroides) from infested water bodies into areas not currently infested. All machinery, equipment, vessels, boat trailers, or vehicles coming in contact with waters containing aquatic invasive plant species should be cleaned prior to leaving the site to remove all aquatic plant material and dried completely before use on another water body to prevent the potential spread of invasive plants. Removed plants should be transported for disposal in a secure manner to prevent dispersal.*
- ☐ *Only native or non-invasive plants should be planted. Care should be taken to avoid mowing invasive giant reed (Arundo donax), which spreads by fragmentation, and to clean equipment if inadvertently mowed to prevent spread. If using hay bales for sediment control, use locally grown weed-free hay to prevent the spread of invasive species. Leave the hay bales in place and allow them to break down, as this acts as mulch assisting in revegetation.*

☐ **Stream Crossings BMPs**

- ☐ *Riparian buffer zones should remain undisturbed.*

☐ **Dewatering BMPs**

- ☐ *Impact avoidance measures for aquatic organisms, including all native fish and freshwater mussel species, regardless of state-listing status, should be considered during project planning and construction activities.*

☐ **Wildlife Crossing BMPs**

- ☐ *Incorporate wildlife crossings with fencing, particularly in areas that bisect wildlife travel corridors or seasonal movement routes to avoid further habitat fragmentation and minimize wildlife-vehicle interactions.*

☐ **Rare Plant BMPs**

- ☐ *Avoid impacts and minimize unavoidable impacts. Plant locations should be protected with temporary barrier fencing and contractors should be instructed to avoid protected areas. Conducting construction outside of the growing season or after a plant has produced mature fruit is the preferred way to avoid/minimize impacts to SGCN plant populations. Staging areas, stockpiles, and other project related sites on TxDOT ROW should not impact SGCN plant populations. After construction begins, minimize herbicide use near SGCN plant populations (if possible, use hand-held spot sprayers, several meters from rare plants, on still or days with little wind).*

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☐ **Rare Plants BMPs (Continued)**

- ☐ *If there are unintended impacts to SGCN populations, these impacts should be reported to TPWD Transportation Staff.*
- ☐ *During project period, conduct work during times of the year when plants are dormant and/or conditions minimize disturbance of the habitat.*

☒ **Bird BMPs**

- ☐ *Avoid vegetation clearing activities during the general bird nesting season, February 15th to October 1st to minimize adverse impacts to birds.*
- ☒ *Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.*
- ☐ *Minimize extended human presence near nesting birds during construction and maintenance activities. Protect sensitive habitat areas with temporary barriers or fencing to limit human foot- traffic and off-road vehicle use to alert and discourage contractors from causing any unintentional impacts.*
- ☐ *Minimize construction noise above ambient levels during general bird nesting season to minimize adverse impacts on birds.*
- ☐ *Minimize construction lighting during the general bird nesting season by scheduling work activities between dawn and dusk.*

☐ **Rookeries BMPs**

- ☐ *In general, nesting dates for herons and egrets range from early February to late August in Texas, depending on the species. Great blue herons (GBHE) (Ardea herodis) are usually the first to nest. When GBHE get disrupted from the nest and abandon nesting, then the other species of herons and egrets may not attempt to nest at the colony that year.*
- ☐ *If rookeries are encountered, avoid and minimize disturbance during nesting to protect rookery species and their habitat.*
- ☐ *Vegetation clearing in a primary buffer area of 300 meters (984 feet) from a rookery or heronry periphery should be avoided. Utilizing areas that have already been cleared within this buffer area may be acceptable depending on site-specific characteristics. Additionally, human foot-traffic or machinery use should not occur within this buffer area during the nesting season.*
- ☐ *Clearing activities or construction using heavy machinery in a secondary buffer area of 1000 meters (3281 feet) from the heronry periphery should be avoided during the breeding season (courting and nesting).*

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EPIC SHEET SUPPLEMENTALS

TPWD BMPs

SHEET 1 OF 3

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
6			
STATE	DISTRICT	COUNTY	
TEXAS	PHR	HIDALGO,ETC.	SHEET NO.
CONTROL	SECTION	JOB	
0039	11	002	165

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☐ ***Fish BMPs***

- ☐ *The following Fish BMP apply to projects for all fish species in waters of the state to minimize impacts to water quality and aquatic passage from transportation projects.*
- ☐ *For projects in waters of the state and work is adjacent to water: follow Water Quality and Stream Crossing BMPs.*
- ☐ *For projects in waters of the state and work is in the water: follow Water Quality, Stream Crossing, and Dewatering BMP.*

☐ ***Aquatic Invertebrate BMPs***

- ☐ *For projects within the range of a SGCN or state-listed species and work is adjacent to water: Water Quality and Stream Crossing BMP*
- ☐ *For projects within the range of a SGCN or state-listed species and work is in the water: Water Quality, Stream Crossing, and Dewatering BMP.*
- ☐ *For spring-seep associated caddisflies (Cheumatopsyche morsei, Chimarra holzenthali, and Hydroptila ouachita): Avoid or minimize impacts to the natural riparian buffer along stream channel including native shrubs and trees.*

☐ ***Crayfish BMP***

- ☐ *For projects within the range of a SGCN or state-listed species and work is adjacent to water: Water Quality and Stream Crossing BMP.*
- ☐ *For projects within the range of a SGCN or state-listed species and work is in the water: Water Quality, Stream Crossing, and Dewatering BMP.*
- ☐ *Avoid or minimize impacts to the natural riparian buffer that provides terrestrial and aquatic plant matter for the diet of most crayfish species.*

☐ ***Freshwater Mussel BMP***

- ☐ *In addition to Water Quality and Stream Crossing BMP, follow the most recent, TPWD TxDOT Annual Work Plan for Pre-Construction Surveys, Aquatic Resources Relocations, and Other Best Management Practices to Avoid, Minimize, and Mitigate Impacts to Freshwater Resources.*
- ☐ *When work is adjacent to the water: Water Quality BMP implemented as part of the Texas Commission on Environmental Quality (TCEQ) Stormwater Pollution Prevention Plan (SWPPP) for a construction general permit or any conditions of the 401 Water Quality Certification for the project will be implemented.*

☐ ***Insect Pollinator BMP***

- ☐ *Deep soil disturbances, such as, tilling or deep disking in areas that host aggregations of ground- nesting bees should be avoided. Tilling and disking also may promote the invasion or germination of non-native plants. Different species of native ground-nesting bees prefer different soil conditions, although research suggests that many ground nesting bees prefer sandy, loamy sand or sandy loam soils. In areas with these soil types consider leaving open patches of soil.*
- ☐ *Allow dead trees to stand (so long as they do not pose a risk to property or people) and protect shrubs and herbaceous plants with pithy or hollow stems (e.g., cane fruits, sumac, elderberry), as these provide nesting habitat for tunnel-nesting native bees.*
- ☐ *Retain dead or dying branches whenever it is safe and practical at the edges of the ROW. Wood- boring beetle larvae often fill dead trees and branches with narrow tunnels into which tunnel- nesting bees will establish nests. Additionally, bumble bees may choose to nest in wood piles.*
- ☐ *Retain rotting logs at edges of the ROW where some bee species may burrow tunnels in which to nest.*

☐ ***Insect Pollinator BMP (Continued)***

- ☐ *Protect sloped or well-drained ground sites where plants are sparse and direct access to soil is available. These are the areas where ground-nesting bees may dig nests. Turning the soil destroys all ground nests that are present at that depth and hinders the emergence of bees that are nesting deeper in the ground.*
- ☐ *Protect grassy thickets, or other areas of dense, low cover from mowing or other disturbance. These are the sites where bumble bees might find the nest cavities they need, as well as annual and perennial wildflowers that can provide important food resources.*
- ☐ *Where available and economical, native plants and seed should be procured from local eco-type providers. Seed mixes should be diverse and include as many ecoregion natives as possible ensuring full season floral resources. Species by Texas ecoregion can be found in the Texas Management Recommendations for Native Insect Pollinators in Texas document: https://tpwd.texas.gov/publications/pwdpubs/media/pwd_bk_w7000_1813.pdf*
- ☐ *Planting at least three different native flowering plants within each of three blooming periods are recommended (spring, summer, early fall) in high rainfall regions of Texas. In drier regions of the state, a target of three native flowering plants within each of two blooming periods can be used.*

☐ ***Small Mammal BMP***

For Coues' rice rat (Oryzomys couesi aquaticus):

- ☐ *Minimize impacts to wetland, resaca, oxbow Conversion of property containing cave or cliff features to transportation purposes should be avoided.lake, and marsh habitats Water Quality BMP*
- ☐

☐ ***Fossorial Mammal BMP***

- ☐ *When a construction zone is adjacent to active BTPD burrows or pocket gopher mounds, erect barriers to discourage individuals moving through or into the construction area.*
- ☐ *When seeding or revegetation is planned in an area adjacent to BTPD burrows or pocket gopher mounds, a vegetative barrier should be considered in the planting to discourage dispersal into the ROW.*

☐ ***Bat BMP***

- ☐ *For activities that have the potential to impact structures, cliffs or caves, or trees; a qualified biologist will perform a habitat assessment and occupancy survey of the feature(s) with roost potential as early in the planning process as possible or within one year before project letting.*
- ☐ *For roosts where occupancy is strongly suspected but unconfirmed during the initial survey, revisit feature(s) at most four weeks prior to scheduled disturbance to confirm absence of bats.*
- ☐ *If bats are present or recent signs of occupation (i.e., piles of guano, distinct musky odor, or staining and rub marks at potential entry points) are observed, take appropriate measures to ensure that bats are not harmed, such as implementing non-lethal exclusion activities or timing or phasing of construction.*
- ☐ *Exclusion devices can be installed by a qualified individual between September 1 and March 31. Exclusion devices should be used for a minimum of seven days when minimum nighttime temperatures are Prior to exclusion, ensure that alternate roosting habitat is available in the immediate area. If no suitable roosting habitat is available, F loss of an occupied roost. If alternate roost sites are not provided, bats may seek shelter in other inappropriate sites, such as buildings, in the surrounding area.*

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☐ ***Bat BMP (Continued)***

- ☐ *If feature(s) used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design or artificial roosts should be constructed to replace these features.*
- ☐ *Avoid unnecessary removal of dead fronds on native and ornamental palm trees in south Texas (Cameron, Hidalgo, Willacy, Kenedy, Brooks, Kleberg, Nueces, and San Patricio counties) from April 1 through October 31. If removal of dead fronds is necessary at other times of the year, limit frond removal to extended warms periods (nighttime temperatures so bats can move away from the disturbance and find new roosts.*
- ☐ *Large hollow trees, snags (dead standing trees), and trees with shaggy bark should be surveyed for colonies and, if found, should not be disturbed until the bats are no longer occupying these features. Post-occupancy surveys should be conducted by a qualified biologist prior to tree removal from the landscape.*
- ☐ *Retain mature, large diameter hardwood forest species and native/ornamental palm trees.*
- ☐ *In all instances, avoid harm or death to bats. Bats should only be handled as a last resort and after communication with TPWD.*

☐ ***Aquatic Amphibian and Reptile BMP***

For projects within existing right-of-way (ROW) when work is in water or will permanently impact a water feature and potential habitat exists for the target species complete the following:

- ☐ *Minimize impacts to wetlands, temporary and permanent open water features, including depressions, and riverine habitats.*
- ☐ *Maintain the existing hydrologic regime and any connections between wetlands and other aquatic features.*
- ☐ *Use barrier fencing to direct animal movements away from construction activities and areas of potential wildlife-vehicle collisions in construction areas directly adjacent, or that may directly impact, potential habitat for the target species.*
- ☐ *Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas. If erosion control blankets or mats will be used, the product should not contain netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.*
- ☐ *Project specific locations (PSLs) proposed within state-owned ROW should be located in uplands away from aquatic features.*
- ☐ *When work is directly adjacent to the water, minimize impacts to shoreline basking sites (e.g., downed trees, sand bars, exposed bedrock) and refugia/overwinter sites (e.g., brush and debris piles, crayfish burrows, aquatic logjams, and leaf packs).*

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TPWD BMPs

SHEET 2 OF 3

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0039	11	002	166

DATE: $DATE$ $TIME$
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☐ ***Aquatic Amphibian and Reptile BMP (Continued)***

☐ *If gutters and curbs are part of the roadway design, install gutters that do not include the side box inlet and include sloped (i.e., mountable) curbs to allow small animals to leave roadway. If this modification to the entire curb system is not possible, install sections of sloped curb on either side of the storm water drain for several feet to allow small animals to leave the roadway. Priority areas for these design recommendations are those with nearby wetlands or other aquatic features.*

For projects that require acquisition of additional ROW and work within that new ROW is in water or will permanently impact a water feature, implement BMP for projects within existing ROW above plus those below:

☐ *For sections of roadway adjacent to wetlands or other aquatic features, install wildlife barriers that prevent climbing. Barriers should terminate at culvert openings in order to funnel animals under the road. The barriers should be of the same length as the adjacent feature or 80 feet long in each direction, or whichever is the lesser of the two.*

☐ *For culvert extensions and culvert replacement/installation, incorporate measures to funnel animals toward culverts such as concrete wingwalls and barrier walls with overhangs.*

☐ *When riprap or other bank stabilization devices are necessary, their placement should not impede the movement of terrestrial or aquatic wildlife through the water feature. Biotechnical streambank stabilization methods using live native vegetation, or a combination of vegetative and structural materials should be used.*

☐ ***Terrestrial Amphibian and Reptile BMP***

☐ *For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling*

☐ *Avoid or minimize disturbing or removing cover objects, such as downed trees, rotting stumps, brush piles, and leaf litter. If avoidance or minimization is not practicable, consider removing cover objects prior to the start of the project and replace them at project completion.*

☐ *Examine heavy equipment stored on site before use, particularly after rain events when reptile and amphibian movements occur more often, to ensure use will not harm individuals that might be seeking temporary refuge.*

☐ *Due to increased activity (mating) of reptiles and amphibian during the spring, construction activities like clearing or grading should attempt to be scheduled outside of the spring (March-May) season. Also, timing ground disturbing activities before October when reptiles and amphibians become less active and may be using burrows in the project area is also encouraged.*

☐ *If Texas tortoises (Gopherus berlandieri) or box turtles (Terrepene spp.) are present in a project area, they should be removed from the area and relocated between 100 and 200 meters from the project area. After removal of the individuals, the area that will be disturbed during active construction and project specific locations should be fenced off to exclude reentry by turtles, tortoises, and other reptiles. The exclusion fence should be constructed and maintained as follows:*

- *The exclusion fence should be constructed with metal flashing or drift fence material.*
- *Rolled erosion control mesh material should not be used.*
- *The exclusion fence should be buried at least 6 inches deep and be at least 24 inches high.*
- *The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated.*

☐ ***Terrestrial Amphibian and Reptile BMP (Continued)***

☐ *After project is complete, revegetate disturbed areas with an appropriate locally sourced native seed mix. If erosion control blankets or mats will be used, the product should not contain nylon netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.*

☐ ***Black-spotted newt/Mexican Burrowing toad/ Mexican treefrog/ Strecker's chorus frog/White-lipped frog/Woodhouse's toad***

☐ *Aquatic Amphibian and Reptile BMP*
☐ *Terrestrial Amphibian and Reptile BMP*
☐ *Water Quality BMP*
☐ *Vegetation BMP*

☐ ***Sheep Frog***

☐ *Minimize disturbance to burrows or downed woody debris*
☐ *Aquatic Amphibian and Reptile BMP*
☐ *Terrestrial Amphibian and Reptile BMP*
☐ *Water Quality BMP*
☐ *Vegetation BMP*

☐ ***South Texas Siren (Large Form)***

☐ *Minimize impacts to warm, shallow waters with vegetative cover such as ponds and ditches*
☐ *Aquatic Amphibian and Reptile BMP*
☐ *Water Quality BMP*

☐ ***Black-striped snake/ Eastern box turtle/Northern cat-eyed snake/Plateau spot-tailed earless lizard/ Reticulate collared lizard/ Slender glass lizard/ Speckler racer/Tamaulipan spot-tailed earless lizard/ Texas Indigo snake/ Western box turtle/Western hognose snake/Western massasauga***

☐ *Terrestrial Amphibian and Reptile BMP*
☐ *Vegetation BMP*

☐ ***Rio Grande River Cooter***

☐ *Aquatic Amphibian and Reptile BMP*
☐ *Water Quality BMP*

☐ ***Texas Horned Lizard***

☐ *Avoid harvester ant mounds in the selection of Project Specific Locations (PSLs).*
☐ *Terrestrial Amphibian and Reptile BMP*
☐ *Vegetation BMP*

☐ ***Texas Tortoise***

☐ *Utility trenches should be covered overnight or visually inspected before filling to avoid burial of the species*
☐ *Terrestrial Amphibian and Reptile BMP*
☐ *Vegetation BMP*

OTHER PERTINENT INFORMATION

☐ ***Trifold Available***

☐ *Ocelot information*
☐ *Pelican information*
☐ *Ashy dogweed*

☐ ***Stockcards Available***

☐ *Mitigatory Bird Treaty Act*
☐ *Texas Tortoise*
☐ *Harvester Ants and Horn Lizards*

Pharr District Contact No. 956-702-6100

Revised 09/18/2024

List of Abbreviations

BMP: Best Management Practice
CGP: Construction General Permit
CRPe: Contractor Responsible Person Environmental
DSHS: Texas Department of State Health Services
FEMA: Federal Emergency Management Agency
FHWA: Federal Highway Administration
MOA: Memorandum of Agreement
MOU: Memorandum of Understanding
MS4: Municipal Separate Stormwater Sewer System

MSAT: Mobile Source Air Toxic
MBTA: Migratory Bird Treaty Act
NOI: Notice of Intent
NOT: Notice of Termination
NWP: Nationwide Permit
PCN: Pre-Construction Notification
PSL: Project Specific Location
SPCC: Spill Prevention Control and Countermeasure
SWP3: Storm Water Pollution Prevention Plan

TCEQ: Texas Commission on Environmental Quality
THC: Texas Historical Commission
TPDES:Texas Pollutant Discharge Elimination System
TPWD: Texas Parks and Wildlife Department
TxDOT:Texas Department of Transportation
T&E: Threatened and Endangered Species
USACE:U.S. Army Corp of Engineers
USFWS:U.S. Fish and Wildlife Service

STATE OF TEXAS
JOHN P. GIANOTTI
79730
LICENSED
PROFESSIONAL ENGINEER
3/23/2026

Texas Department of Transportation
PHARR DISTRICT

EPIC SHEET SUPPLEMENTALS

TPWD BMPs

SHEET 3 OF 3

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
6			
STATE	DISTRICT	COUNTY	
TEXAS	PHR	HIDALGO,ETC.	SHEET NO.
CONTROL	SECTION	JOB	
0039	11	002	167

DATE: $DATE$ $TIME$
FILE: $FILE$

CITY OF BROWNSVILLE SPECIFICATIONS

Item 680-0001
Furnish and Install Field Monitoring Unit

1. DESCRIPTION

- **Installation**. Furnish and install field monitoring unit (FMU)

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** Field monitoring unit is required to meet the following requirements:

- Cell model
- Ethernet Port (10/100Base-T)
- 900 MHz Radio
- GPS
- Analog Inputs: 8 (4 as 120VAC/12-28VDC selectable, 4 as 12-28VDC only)
- Digital Inputs: 8 (4 as 120VAC/12-28VDC selectable, 4 as 12-28VDC only)
- Digital Outputs: 10 (2 as NO/NC Relay, 8 as 24VDC ground true)
- Outlets: NEMA 5-15 (4 x 120V, remotely switchable rated 15 amp total load)
- Operating Systems: pC/OS-II
- Manual Preempt Selector
- Operating Temperature: -40°C to 80°C
- Humidity: 5-95% non-condensing
- Dimensions: 17.5" W x 1.75" H x 7.5" D
- Mounting: 19 inch rack mount 1U
- Input Voltage: 120V AC
- Real Time Clock Type text here
- Flash Disk
- Battery backup
- Compatible with existing City traffic signal system
- Shall support 4G LTE communication over the cellular network
- Shall issue real-time alerts via SMS and/or email to the response personnel in real time, as soon as a fault is detected
- 10 years of standard connectivity
- 10 year support plan
- 10 year warranty

3. CONSTRUCTION

3.1. **Installation**. Install field monitoring unit as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning field monitoring unit.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Conduit**. Utilize existing traffic signal conduits.

3.1.1.2. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.3. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed field monitoring unit installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the field monitoring unit who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each field monitoring unit installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "field monitoring unit".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the field monitoring unit and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

Item 680-0002
Furnish and Install Roadside Unit

1. DESCRIPTION

- **Installation**. Furnish and install roadside unit (RSU)

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** Roadside unit is required to meet the following requirements:

- Connectivity
  - C-V2X Direct
  - 5.9 GHz Radio (Cellular, C-V2X Ready)
  - Ethernet Port (10/100 Base-T) - 4
  - GPS
  - SCMS Ready
- Power
  - Input Voltage 10-30 VDC
  - Power Consumption 5W
- Miscellaneous
  - Operating Systems: Linux
  - Operating Temperature: -37°C to 74°C
  - Humidity: 5-95% non-condensing
  - Dimensions: 12" W x 10" H x 5" D
  - Battery Backup
  - Pole-Mounted
  - Compatible with existing City traffic signal system
  - Shall support 4G LTE communication over the cellular network
  - Shall issue real-time alerts via SMS and/or email to the response personnel in real time, as soon as a fault is detected
  - The Connected Vehicle Traffic Signal System's RSU shall be equipped with C-V2X radio and be capable of sending messages over C-V2X (PC5) radio.
  - The RSU shall include a small internal battery for monitoring for power failure events to send out alerts via C-V2X direct radio.
  - The RSU shall support additional radio slots to support future radio types for expansion, for example 5G communication radios.
  - The RSU shall include digital inputs to monitor door status and other internal alerts.
  - The RSU's C-V2X antennas shall be separate from the RSU unit so that they can be placed high on the traffic signal poles.
  - The C-V2X radio shall be monitored and if faults are detected, an email/text message alert shall be sent to the appropriate personnel.

- The Connected Vehicle Traffic Signal System's RSU shall be maintainable without the use of a bucket truck.
- The RSU shall comply with the FCC (Federal Communications Commission) standards.
- Proposers shall work with the agency to get FCC licenses approved for the RSUs.
- The C-V2X RSU shall support SAE J2735 communications protocols.
- The RSU shall be pole mounted via bandit straps and accessible via a ladder for maintenance purposes.
- The RSU cabinet shall utilize the same locking mechanism used by the agency, either by physical key or digital lock.
- The RSU and intersection unit, together, shall be capable of abstracting the receipt of the SPaT message from the traffic controller. This means that the RSU shall receive the SPaT message from the traffic controller and send a processed J2735 SPaT message out the C-V2X radio.
- The RSU shall support multiple types of traffic controllers with different formats and multiple different radios.
- The RSU shall support J2735 compliant messages for the radio using either the 2009 or 2016 standard and use DER/UPR encoding schemes as appropriate.
- 10 years of standard connectivity
- 10 year support plan
- 10 year warranty

- C-V2X Applications Included
  - School Zones
  - Pedestrian Crossings
  - Work Zones
  - Slow Speed Zones
  - Intersections
  - Connected Vehicle Applications
- Supported Commiunications
  - J2735 MAP and SPaT (Intersection Applications)
  - J2735 SRM (Emergency Vehicle Preemption)
  - J2735 TIM (Zone or Curve Warning)
  - NTCIP 1218 RSU (RSU Management)

3. CONSTRUCTION

3.1. **Installation**. Install roadside unit as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning roadside unit.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Conduit**. Utilize existing traffic signal conduits.

3.1.1.2. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.3. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed roadside unit installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the roadside unit who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each roadside unit installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "roadside unit".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the roadside unit and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

Item 680-0003
Furnish and Install Cyberlock

1. DESCRIPTION

- **Installation**. Furnish and install cyberlock

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** Cyberlock is required to meet the following requirements:

- Connectivity
  - USB Type-C
  - Knockdown Sensor
- Industrial I/O
  - Digital Outputs: 2 x Lock controllers
  - Digital Inputs: 4 (2 x Bolt monitor, 2 x door switch)
  - Analog Inputs: 3
  - Input Voltage: 120V AC
- Miscellaneous
  - Operating System: FreeRTOS Systems
  - Non-volatile Memory
  - Operating Temperature: -37°C to 74°C
  - Humidity: 5-95% non-condensing
  - Dimensions: 4.5" x 2.5" x 1¼"
  - Input Voltage: 10-30v DC
  - Power Consumption DC: 60µA avg
  - Shall have physical hardware installed in the cabinet
  - Shall be off-the-shelf hardware and easily deployable
  - The field device shall be compatible with all cabinet doors
  - Shall support 4G LTE communication
  - Monitoring platform shall be cloud-hosted, and browser-based, with no software to be installed on client computers except for a standard browser
  - Shall issue real-time fault alerts, via email and text, to the appropriate response personnel
  - Web-based platform shall come standard with a device configuration utility for easy system configuration
  - Field devices shall be capable of receiving “over the air” software and security updates. The over the air updates shall allow new features to be installed remotely without having to physically go to the field devices
  - System shall provide and maintain key performance indicators (KPIs) which are reported periodically

- System reports shall showcase the operational availability of the system, while additionally providing health and status reports
- Lock hardware shall be under warranty for as long as the individual hardware has an active connectivity and support plan
- If the Agency requires the Convenient Security Lock System to form part of an overall Smart City Management platform, the proposed system shall be expandable to include other Intelligent Transportation Systems (ITS), such as; connected school beacon systems, weather systems, pedestrian crossings, and C-V2X (connected vehicle to everything) systems.
- The field device shall be provided with appropriately rated connectors that allow the unit to be exchanged by unplugging connectors, without tools.
- The field device shall be capable of connecting to an external battery backup, to allow the field device to function correctly even when all power to the cabinet has failed.
- The battery shall continue to power the field device for a minimum of 5 hours after all power has failed to the cabinet.
- The field device shall incorporate an integrated GPS which shall allow the unit to geolocate itself on the monitoring platform's software map, without the need for configuration.
- The field device shall operate without requiring a static IP address. The only configuration required at the unit shall be entering of the URL of where the field device's management software is hosted.
- In the event that the cell service is interrupted or is not available, the field device shall store any events that occur in internal memory and forward these events automatically to the browser-based monitoring platform when the cell service is restored. In this way, a complete record of events at the intersection shall be maintained even if cell service is interrupted for a period. The system shall store 5,000 events.
- The field device shall utilize HTTP and HTTPS protocols, and XML data structures, for communication with the browser-based management platform. In this way, the data shall be open for future expansion and competition. The use of secret proprietary protocols shall not be permitted.
- The field device shall comply with the NEMA TS8 security standards.
- The field device shall include a weatherproof antenna (cell/GPS)
- The field device shall have a powder-coated aluminum enclosure.
- The field device shall maintain a constant TCP connection to the unit's central management system (browser-based monitoring platform) to ensure that real-time communications are available sub-second over the cellular network.
- The field device shall send information based on field-initiated communications. If any change happens in the field, the device shall send information immediately without the need to be polled by a central system.
- The field device shall be capable of receiving over-the-air software updates for new features and security updates.
- 10 years of standard connectivity
- 10 year support plan
- 10 year warranty

- Scheduling
  - The lock system shall allow the City to schedule access to the cabinet via the central system.
  - The Convenient Security Lock System shall allow the Agency to set access to the cabinet based on the user's role.
    - Technicians
    - Contractors
    - Agency staff

- Security
  - The lock system shall incorporate the latest internet and security standards by following and complying with NEMA TS8 Cyber and Physical Security for Intelligent Transportation Systems (ITS) Standards.
  - All field devices shall be connected to an APN (Access Private Network),where all devices shall be secure within their own network.
  - All critical processes on the Convenient Security Lock System Server (i.e., communications and alarms) shall send a watchdog ping around the world.
  - If any service fails to ping correctly, a set of text messages shall be sent to the emergency service response team.
  - The emergency service response team shall provide immediate response and recovery, such that the system maintains an uptime of at least 99%.
- Access
  - The Convenient Security Lock System shall allow the Agency to access the cabinet in four separate methods.
    - Remotely via the central system
    - Via NFC tag access
    - Via QR Code access
    - Via Mechanical keys
  - The Convenient Security Lock System will include mechanical keys specifically cut for the Agency.
- Access Monitoring
  - The Convenient Security Lock System shall allow the Agency to monitor the time and by whom a cabinet was opened.
  - Access logs will be available and stored on the Convenient Security Lock central system.
- Connected Vehicle Infrastructure
  - C-V2X Travel Safely Application.
  - The Convenient Security Lock System will send messages via C-V2X and cellular messaging that a Workzone is active when the cabinet door is open.
- Future Expansion
  - The lock system shall have the capability for further expansion based on an as-needed basis.
  - The lock system monitoring platform shall be designed to be extensible to cover the monitoring, maintenance, and operations of additional ITS systems such as:
    - Connected School Beacons
    - Low Power School Beacons
    - School Bus Stop Warning System
    - Low Power Monitoring
    - Virtual Transit Signal Priority
    - Bicycle Signal Priority
    - Virtual Bicycle Detection
    - C-V2X Connected Vehicle Applications
    - Speed Feedback Radars
    - Dynamic Message Signs
    - Traffic Detection Systems
    - Curve Warning Systems

- Flood Warning Systems
- Over-Height Vehicle Detection and Warning System

3. CONSTRUCTION

3.1. **Installation**. Install cyberlock as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning cyberlock.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.2. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed cyberlock installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the cyberlock who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement, except lamp replacement, will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each cyberlock installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "cyberlock".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the cyberlock and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

Item 680-0004
Furnish and Install Ethernet Switch Power Supply

1. DESCRIPTION

- **Installation**. Furnish and install ethernet switch power supply

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** Ethernet switch and power supply is required to meet the following requirements:

- Specifications
  - 480W
  - USB, SD card
  - 2 alarms in, 1 alarm out
  - Console ports: 1 RS-232 (via RJ-45), 1 USB mini type B
  - Dual DC power input
  - 6 in. X 4.4 in. X 5.3 in.
  - 5.0 lbs
  - DIN rail mount
  - Number of queues: 8
  - Unicast MAC addresses: 16K
  - Internet Group Management Protocol: 1K
  - No. of VLANs: 256
  - IPv4 Indirect routes: 3000
  - IPv6 Indirect routes: 512
  - Spanning Tree Protocol (STP) instances: 128
  - Access Control Entries (PACL/VACL/RACL): 3K
  - DRAM: 4 GB
  - Flash [User Accessible]: 1.5 GB
  - SD card capacity: 4 GB, 16 GB
  - Jumbo Frames: 8996 bytes
  - Input current: Redundant DC input voltage 9.6 to 60VDC ; 48VDC is required for PoE and 54VDC is required for PoE+
  - Input current: 10.6A

3. CONSTRUCTION

3.1. **Installation**. Install ethernet switch and power supply as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning ethernet switch power supply.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.2. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed ethernet switch power supply installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the ethernet switch power supply who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each ethernet switch and power supply installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "ethernet switch power supply".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the ethernet switch and power supply and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

Item 680-0005
Furnish and Install P5G Gateway

1. DESCRIPTION

- **Installation**. Furnish and install P5G Gateway

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** P5G Gateway is required to meet the following requirements:

- Specifications
  - Modem: Embedded 5GB NR FR1 low—, mid—band, and 4G LTE Category 20 modem
    - 4 x SNA cellular antenna connectors
  - Ethernet: 4 x GbE (LAN/WAN switchable)
  - PoE: Optionol RX30 Managed Accessory PoE Switch
    - 4 x Po E 802.3bt Type 3 (up to 60 W per port)
    - 60 W total PoE power budget
  - Wi-Fi: Dual-rodio, dual-band, concurrent operation (2 4 GHz ond 5 GHz)
    - 2x2 MU—MIMO 802.11ax Wi-Fi 6 with DFS
    - 574 Mbps (2 4 GHz) & 1,200 Mbps (5 GHz)
    - 2 x RP—SMA Wi—Fi antenna connectors
    - Global Optimized Wi-Fi & International SDR
    - WPA/WPA2/WPA3 Personal, WPA2/W PA3 Enterprise, Open
    - 802.11k,802.11v
    - Wi-Fi Alliance Certified
  - Bluetooth
    - Max TX Power: 10dBM
    - 1 x RP-SMA Bluetooth antenna connector
  - Exponsion / Console
    - 1 x USB 2.0 Type A (Output: 5 V, 500 mA, 2.5 W
    - 1 x DB9 RS-232
    - 1 x 8-pin GPIO connector
    - 2x4 Molex micro—fit (3 mm locking type)
  - Optional Managed Accessories
    - RX30-POE 4-port GbE Po E switch
    - RX30-MC modular modem slot & 4-port GbE switch
  - GNSS / GPS
    - 1 x SMA GNSS antenna connector
  - Sensitivity
    - Acquisition: 147 dBm
    - Tracking: 165 dBm

- Reacquisition: 159dBm
- Frequencies
  - L1, L5 (1559-1606 MHz)
- Power
  - Voltage Supply: 3.1—3.8 V
  - Max Current. 30 mA
- Temperature
  - Operating. -30 °C to 75 °C (-22 °F to 167 °F)
  - Storage: -40 °C to 85 °C (-40 °F to 185 °F)
- Humidity
  - Operating: 5% to 95%
  - Storage: 5% to 95%
- Power
  - DC input steody state voltoqe ronge: 9—36 VDC
- Physical
  - Size: 172 x 14B x 41mm (6.77 x 5 82 x 161 in)
  - Weight: 0.98 kg (2.15 lb)

3. CONSTRUCTION

3.1. **Installation**. Install P5G Gateway as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning P5G Gateway.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.2. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed P5G Gateway installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the P5G Gateway who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each P5G Gateway installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "P5G Gateway".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the P5G Gateway and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

City of Brownsville – Specification 680-0006
Traffic Signal Controller

1. DESCRIPTION

- **Installation**. Install highway traffic signals.
- **Upgrade.** Modify or change existing traffic signals as shown on the plans.
- **Removal**. Remove, store, and salvage traffic signals.

2. MATERIALS

Ensure electrical materials and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item and the following Items.

- Item 450, "Railing"
- Item 610, "Roadway Illumination Assemblies"
- Item 618, "Conduit"
- Item 620, "Electrical Conductors"
- Item 621, "Tray Cable"
- Item 625, "Zinc-Coated Steel Wire Strand"
- Item 628, "Electrical Services"
- Item 636, "Signs"
- Item 656, "Foundations for Traffic Control Devices"
- Item 682, "Vehicle and Pedestrian Signal Heads"
- Item 684, "Traffic Signal Cables"
- Item 686, "Traffic Signal Pole Assemblies"
- Item 687, "Pedestrian Pole Assemblies"
- Item 688, "Pedestrian and Vehicle Detectors"

Provide controller assemblies in accordance with DMS-11170, "Fully Actuated, Solid-State Traffic Signal Controller Assembly," and as shown on the plans. When shown on the plans, anti-gaffitti coating will be in accordance with DMS-8111, "Anti-Graffiti Coatings."

Provide devices in accordance with DMS-11171, "Malfunction Management Unit (MMU)," and as shown on the plans.

Provide controllers in accordance with DMS-11172, "Preemption Controller," and as shown on the plans.

Provide controllers in accordance with DMS-11173, "Traffic Controller," and as shown on the plans.

Provide prequalified controller assemblies from the Department's MPL.

Provide flasher assemblies in accordance with DMS-11160, "Flasher Controller Assembly," and as shown on the plans.

Provide prequalified flasher assemblies from the Department's MPL.

Sampling and testing of traffic signal controller assemblies and internal devices will be in accordance with Tex-1170-T.

3. CONSTRUCTION

3.1. **Installation**. Install traffic signal controller foundations in accordance with Item 656.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Electrical Services**. Arrange for electrical services and install and supply materials not provided by the utility company as shown on the plans. Install 120V, single-phase, 60-Hz AC electrical service unless otherwise shown on the plans.

3.1.1.2. **Conduit**. Install conduit and fittings of the sizes and types shown on the plans. Conduit of larger diameter size than that shown on the plans may be used with no additional compensation, providing the same diameter size is used for the entire length of the conduit run. Extend conduit in concrete foundations 2–3 in. above the concrete. Seal the ends of each conduit with approved sealant, after all cables and conductors are installed.

3.1.1.3. **Wiring**. Furnish stranded XHHW conductors as shown on the plans. If a size is not shown on the plans, use a minimum No. 14 AWG. Install aboveground cables and conductors in rigid metal conduit, except for span wire suspended cables and conductors, drip loops, and electrical wiring inside signal poles, unless otherwise shown on the plans. Make power entrances to ground-mounted controllers through underground conduit. Wire each signal installation to operate as shown on the plans.

Attach ends of wires to properly sized self-insulated solderless terminals. Attach terminals to the wires using a ratchet-type compression crimping tool properly sized to the wire. Place pre-numbered identification tags of plastic or tape around each wire adjacent to wire ends in the controller and signal pole terminal blocks.

Do not strip traffic signal cable until it has passed into the location that requires termination.

Splices will not be permitted except as shown on the plans, unless each individual splice is approved in writing. Make all allowed splices watertight.

Ensure both neutral buses are located with one on the left and one on the right bonded together. Relocate neutral bus if not oriented in the cabinet in this manner.

Ensure gauge of wire size used to connect electrical equipment inside the cabinet is sized appropriately for amperage load for the specific device, circuit breaker, or duplex receptacle in accordance with the NEC.

Install Category 6 Ethernet communication cables in accordance with Special Specification, "Networking Intelligent Transportation System (ITS) Communication Cable," and connect networked equipment inside the controller cabinet assembly to field Ethernet switch following the color scheme and assignment information as follows.

- **White**. Ethernet switch (1-ft. patch cord).
- **Blue**. Traffic signal controller.
- **Green**. Malfunction monitor unit (MMU).
- **Red**. Battery backup unit (BBU).
- **Yellow**. Accessible pedestrian system.
- **Black**. Detection (e.g., radar and video).
- **Purple**. Pan, tilt, and zoom (PTZ) camera.
- **Orange**. Other.
- **Gray**. Other.

- **Pink**. Broadband radio.

A standard bundle of cables provided by the cabinet vendor is identified in DMS-11170. Additional CAT 6 Ethernet cables, provided as necessary, must follow the color scheme and assignment above to connect additional networked equipment.

Railroad connection between traffic cabinet and bungalow must be a minimum No. 14 AWG 15-conductor and follow the color code chart shown in Table 1.

Table 1
Railroad Preemption Color Code and Functional Connection

Conductor	Color Code	Railroad Interface Field Terminal Connections	Conductor Identification
1	Black	HLTH-	Health Status DC-
2	White	–	Spare
3	Red	HLTH+	Health Status DC+
4	Green	–	Spare
5	Orange	XR IN	Simultaneous DC-
6	Blue	TCR IN	Advance DC-
7	White/black stripe	–	Spare
8	Red/black stripe	GD/ISLD IN	Gate Down/Island
9	Green/black stripe	APP OUT	Advance Pedestrian Preemption
10	Orange/black stripe	XR OUT	Simultaneous
11	Blue/black stripe	TCR OUT	Advance Primary
12	Black/white stripe	–	Spare
13	Red/white stripe	GD/ISLD OUT	Gate Down/Island DC-
14	Green/white stripe	APP IN	Advance Pedestrian Preemption DC -
15	Blue/white stripe	SUPR	Advance Secondary

3.1.1.4. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

Install a continuous bare or green insulated stranded copper wire (equipment ground) throughout the electrical system that is the same size as the neutral conductor. If a size is not shown on the plans, use a minimum No. 8 AWG. Connect the equipment ground to all metal conduit, signal poles, controller housing, electrical service ground, ground rods, and all other metal enclosures and raceways. Inside the controller cabinet assembly, jumper between neutral bus and ground bus is not required. Remove jumper if provided by cabinet manufacturer.

Provide stranded copper wire bonding jumpers that are minimum No. 8 AWG.

3.1.2. **Controller Assemblies**. Construct controller assembly foundations in accordance with Item 656. Immediately before mounting the controller assembly on the foundation, apply a bead of exterior rated penetrating sealant to the cabinet base or cabinet riser. Seal any space between conduit entering the controller assembly and the foundation with exterior rated penetrating sealant.

Stake cabinet foundation forms and underground conduit entering the foundation before installation and secure Department approval before pouring foundation. Cabinet location may vary from that shown on the plans to accommodate field conditions as approved. For controller cabinet assemblies installed on a slope, ensure the cabinet primary door faces and opens to the low side of the slope. If safety rail is required as shown on the plans, it must be in accordance with Item 450. Furnish anchor bolts to mount the cabinet or cabinet riser to the foundation. Manufacturer to determine the appropriate size and type of anchor bolt by cabinet type and foundation size. Provide appropriate mounting plates and any other necessary hardware to mount the cabinet on a foundation.

Coordinate with the Department on delivery of cabinet keys. Place the instruction manual and wiring diagrams for all equipment in the controller cabinet inside the controller cabinet.

3.1.3. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.4. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.5. **Intersection Illumination**. Install luminaires on signal poles as shown on the plans.

3.1.6. **Signal Timing Plan**. The traffic signal timing plan will be provided by the Department or local entity.

3.1.7. **Test Period**. Operate completed traffic signal installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the traffic signals who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement, except lamp replacement, will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The Department will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

3.2. **Upgrade**. Remove the existing items and install new items as shown on the plans or as directed. For newly installed items, refer to Section 680.3.1., "Installation." Ensure items designated for salvage are removed in a manner to avoid undue stress or damage. When the removed item leaves an opening, cover the opening with similar material to an equivalent condition. When the removed item leaves an unused signal cable, remove the cable. When the removed item leaves unused conductors within a signal cable still in use, trim back and tape off to ensure no electrical shorts by unused conductors. Store items designated for reuse or salvage at locations shown on the plans or as directed.

3.3. **Removal**. Remove existing electrical services, pedestal poles, strain poles, mast arm pole assemblies, luminaires, signal heads, vehicle detector equipment, controllers, cables, and other accessories. Remove materials so damage does not occur. Remove and store items designated for reuse or salvage at locations shown on the plans or as directed.

Remove abandoned concrete foundations, including steel, to a point 2 ft. below final grade. Backfill holes with material equal in composition and density to the surrounding area. Replace surfacing material with similar material to an equivalent condition.

Accept ownership and dispose of unsalvageable materials in conformance with federal, state, and local regulations.

4. MEASUREMENT

This Item will be measured by each traffic signal installed, upgraded, or removed. A traffic signal is a signalized intersection controlled by a single traffic signal controller.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Installation of Traffic Signals" of the type (traiffic signal or flashing beacon) specified, or "Removing Traffic Signals."

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the traffic signal controller and associated equipment with network cabling, controller assembly, foundations, luminaires, damping plates, mounting hardware, and Department-provided items; preservation and replacement of damaged sod, shrubbery, and trees; removal and replacement of curbs and walks; and materials, equipment, labor, tools, and incidentals. The Department will pay for electrical energy consumed by the traffic signal.

New drilled shaft foundations for traffic signal poles will be paid for under Item 416, "Drilled Shaft Foundations." New safety rail will be paid for under Item 450. New sidewalks or pedestrian ramps will be paid for under Item 531, "Sidewalks." New conduit will be paid for under Item 618. New electrical conductors will be paid for under Item 620. New ground boxes will be paid for under Item 624, "Ground Boxes." New span wire will be paid for under Item 625. Wire lashing or cable ties required to secure aerial cables to the messenger wire will be subsidiary. New electrical services will be paid for under Item 628. New signs will be paid for under Item 636. New internally illuminated signs will be paid for under Special Specification. New vehicle and pedestrian signal heads will be paid for under Item 682. New traffic signal cables will be paid for under Item 684. New traffic signal pole assemblies will be paid for under Item 686. New traffic signal detectors will be paid for under Item 688 or Special Specification.

If the design of the intersection control spans more than one intersection, such as a restricted crossing U-turn (RCUT), and requires more than one traffic signal cabinet, this Item will be measured by each traffic signal cabinet installed.

5.2. **Upgrade**. This price is full compensation for removing the various traffic signal components; removing the controller foundations; disposal of unsalvageable materials; hauling; and materials, equipment, labor, tools, and incidentals, as shown on the plans or as directed. This price is full compensation for furnishing, installing, and testing the completed installation, controller and associated equipment, controller foundations, luminaires, damping plates, and mounting hardware; preservation and replacement of damaged sod, shrubbery, and trees; removal and replacement of curbs and walks; and materials, equipment, labor, tools, and incidentals. The Department will pay for electrical energy consumed by the traffic signal.

New drilled shaft foundations for traffic signal poles will be paid for under Item 416. New sidewalks or pedestrian ramps will be paid for under Item 531. New conduit will be paid for under Item 618. New electrical conductors will be paid for under Item 620. New ground boxes will be paid for under Item 624. New span wire will be paid for under Item 625. Wire lashing or cable ties required to secure aerial cables to the messenger wire will be subsidiary. New electrical services will be paid for under Item 628. New signs will be paid for under Item 636. New internally illuminated signs will be paid for under Special Specification. New vehicle and pedestrian signal heads will be paid for under Item 682. New traffic signal cables will be paid for under Item 684. New traffic signal pole assemblies will be paid for under Item 686. New traffic signal detectors will be paid for under Item 688 or Special Specification.

5.3. **Removal**. This price is full compensation for removing the various traffic signal components; removing the controller foundations; disposal of unsalvageable materials; hauling; and materials, equipment, labor, tools, and incidentals.

City of Brownsville – Specification 6008-0001 and 6008-0002

6008-0001 RVDS (Presence Detection Only)

6008-0002 RVDS (Advance Detection Only)

1. DESCRIPTION

Furnish and install, radar vehicle detection systems (RVDS) of the specified devices at signalized intersections to provide the required zones of detection as shown on the plans, or as directed.

2. MATERIALS

2.1. **General**. Except as allowed for relocation of RVDS equipment, ensure all equipment and component parts are new in accordance with TxDOT Division Specification TO-8000, "Radar Vehicle Detection System," Section 1.0–Section 6.0, and in an operable condition at time of delivery and installation.

The TxDOT Traffic Safety Division, Traffic Management Section, (TRF-TM) updates TxDOT Material producer list (MPL) of all RVDSs conforming to this Specification. New materials appearing on the MPL require no further sampling and testing before use unless deemed necessary by the Engineer or TRF-TM. Provide prequalified RVDSs from the TxDOT MPL.

Ensure all RVDSs serving the same detection purpose within the project are from the same manufacturer. RVDS devices are classified by their functional requirements. The functional requirements are for radar presence detection devices (RPDDs) and radar advance detection devices (RADDs). The RVDS system classifications are RVDS (RPDD Only), RVDS (RADD Only), and RVDS (RPDD and RADD).

Provide each RVDS sensor with a mounting bracket designed to mount directly to a pole, mast arm, or other structure. Ensure bracket is designed such that the sensor can be tilted vertically and horizontally for alignment and then locked into place after proper alignment is achieved. All hardware must be designed to support the load of the RVDS sensor and mounting bracket.

2.2. **Configuration**. Ensure the RVDS provides vehicle detection as required on the plans, or as directed.

Ensure the RVDS does not require tuning or recalibration to maintain performance once initial calibration and configuration are complete. RVDS must not require cleaning or adjustment to maintain performance.

RVDS must self-recover from power failure once power is restored.

2.3. **Cabling**. Provide appropriate length of all cables necessary to make the RVDS fully operational at each installation site.

2.4. **Software**. Ensure the RVDS manufacturer includes all software required to configure and monitor operation of RVDS field equipment locally and remotely. RVDS software must be a stable production release.

Software must allow the user to configure, operate, exercise, diagnose, and read status of all RVDS features and functions using a laptop computer.

Software must include the ability to save a local copy of RVDS field device configurations and load saved configurations to RVDS field devices.

Ensure all licenses required for operation and use of software are included at no additional cost.

Software updates must be provided at no additional cost during the warranty period.

2.5. **Electrical**. All conductors supplying the equipment must meet NEC requirements.

Ensure equipment is designed to protect personnel from exposure to high voltage during installation, operation, and maintenance.

2.6. **Mechanical**. Ensure that all parts are fabricated from corrosion-resistant materials, such as plastic, stainless steel, aluminum, or brass.

Ensure that all screws, nuts, and locking washers are corrosion-resistant. Do not use self-tapping screws.

Ensure equipment is clearly and permanently marked with manufacturer name or trademark, part number, date of manufacture, and serial number.

Ensure RVDS is modular in design for ease of field replacement and maintenance. Provide a sensor that will minimize weight and wind loading when mounted on a traffic signal pole or mast arm.

All printed circuit boards must have conformal coating.

2.7. **Environmental**. RVDS sensor must be able to withstand the maximum wind load based on the Department's basic wind velocity zone map standard without any damage or loosening from structure.

The RVDS enclosure must conform to criteria set forth in NEMA 250 for Type 4X enclosures.

The RVDS must meet all NEMA TS2 environmental requirements for temperature, humidity, transients, vibration, and shock.

2.8. **Connectors and Harnesses**. Ensure all conductors are properly color-coded and identified.

Ensure cable connector design prohibits improper connections. Cable connector pins are plated to improve conductivity and resist corrosion.

Connections for data and power must be made to the RVDS sensor using waterproof, quick-disconnect connectors. Pigtails from the sensor to a waterproof junction box (NEMA 4) or an approved waterproof connector must be allowed for splicing. The pigtails must not be shorter than 3 ft. unless otherwise shown on the plans.

3. CONSTRUCTION

3.1. **System Installation**. Install RVDS system devices according to the manufacturer's recommendations to provide properly functioning detection as required. This must include the installation of sensors on signal poles or mast arms, controller interface modules, power and surge protection panels, cabling and all associated equipment, software, serial and Ethernet communication ports, and connectors and hardware required to set up and operate. Ensure that the supplier of the RVDS provides competent onsite support representative during installation to supervise installation and testing of the RVDS. Ensure the radar sensor locations are optimal for system operation and operate as required. Maintain safe construction practices during equipment installation.

Ensure installation and configuration of software on Department computers are included with the RVDS.

Take care to prevent damage to any support structures. Any equipment or structure damaged or lost must be replaced by the Contractor (with items approved) at no cost to the Department.

3.2. **Mechanical Components**. Ensure that all fasteners, including bolts, nuts, and washers with a diameter less than 5/8 in. are Type 316 or Type 304 stainless steel and meet ASTM F593 and ASTM F594 for corrosion resistance. Ensure that all bolts and nuts 5/8 in. and more in diameter are galvanized and meet ASTM A307. Separate dissimilar metals with an inert dielectric material.

3.3. **Wiring**. Install all wiring and electrical work supplying power to the equipment in a neat, skillful manner. Supply and install all wiring necessary to interconnect RVDS sensors to the traffic signal cabinet to complete the work. Furnish and install any additional required wiring at no additional cost to the Department.

Wiring must be cut to proper length before installation. Provide cable slack for ease of removal and replacement. All cable slack must be neatly laced with lacing or straps in the bottom of the cabinet. Ensure cables are secured with clamps.

3.4. **Grounding**. Ensure all RVDS components, cabinets, and supports are grounded in accordance with the NEC and manufacturer recommendations.

3.5. **Documentation**. Provide electronic copies of operation and maintenance manuals, along with a copy of all product documentation on electronic media. Include the following documentation.

- Complete and accurate schematic diagrams
- Complete installation procedures
- Manufacturer's specifications (functional, electrical, mechanical, and environmental)
- Complete maintenance and troubleshooting procedures
- Explanation of product operation
- Warranty as specified in Section 3.8., "Warranty"

The RVDS must pass testing to ensure functionality and reliability before delivery. This includes functional tests for internal subassemblies, a 24-hr. minimum unit level burn-in test, and a unit functionality test. Provide test results and supporting documentation, including serial number tested, for each RVDS. If requested, manufacturing data per serial number must be provided for each RVDS.

Unless deemed unnecessary by the Engineer or TRF-TM, provide certification from an independent laboratory demonstrating compliance with NEMA TS2 environmental requirements for temperature, humidity, transients, vibration, and shock.

Unless deemed unnecessary by the Engineer or TRF-TM, provide third-party enclosure test results demonstrating the sensor enclosure meets Type 4X criteria.

Unless deemed unnecessary by the Engineer or TRF-TM, provide evidence of RVDS manufacturer's quality assurance program, including proof of RVDS manufacturer ISO 9001 certification or other quality management system programs for manufacturing RVDS.

3.6. **Warranty**. Ensure that the detection system has a manufacturer's warranty covering defects for at least 5 yr. from the date of final acceptance. In addition to the terms required by TO-8000, Article 8, ensure the warranty includes providing replacements, within 10 calendar days of notification, for defective parts and equipment during the warranty period at no cost to the Department.

3.7. **Training and Support**. Provide manufacturer-approved end user training to the Department and their representatives. Training must include instruction in system configuration, operation, and maintenance. Provide training for at least 10 Department-designated representatives up to 8 hr., including class and field training.

Ensure that the detection system manufacturer will provide product support for at least 5 yr. from the date of final acceptance.

4. TESTING

Perform the following tests on equipment and systems unless otherwise shown on the plans. The Department may witness all the tests.

4.1. **Stand-Alone Test**. Conduct a stand-alone test for each unit after installation. The test must exercise all stand-alone (non-network) functional operations and verify that RVDS is placing detector contact closure to assigned detector channels in the traffic signal controller assembly. Notify the Engineer 5 working days before conducting this test.

4.2. **Consequences of Test Failure**. If a unit fails a test, provide a new unit, and then repeat the test until successfully completed.

4.3. **Final Acceptance Test**. Conduct a final acceptance test on the complete functional system. Demonstrate all control, monitoring, and communication requirements and operate the system for 30 days. The Engineer will furnish a letter of approval stating the first day of the final acceptance test.

4.4. **Consequences of Final Acceptance Test Failure**. If a defect within the system is detected during the final acceptance test, document and correct the source of failure. Once corrective measures are taken, monitor the point of failure until a consecutive 30-day period free of defects is achieved.

reinstallation, reinstall or replace the unit and repeat the test until the unit passes successfully, at no additional cost to the Department or extension of the Contract period.

5. MEASUREMENT

New RVDSs furnished and installed by the Contractor will be measured by each approach to the signalized intersection.

6. PAYMENT

6.1. **Furnish and Install**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit bid price for "RVDS (Presence Detection Only)," "RVDS (Advance Detection Only),"

This price is full compensation for furnishing, installing, configuring, integrating, and testing the completed installation, including RVDS equipment, voltage converters or injectors, cables, connectors, associated equipment, and mounting hardware. This price also fully compensates for all labor, tools, equipment, any required equipment modifications for electrical service, documentation, testing, training, software, warranty, and incidentals necessary to complete the work.

6.2. **Communication Cable**. All communication cables necessary to make the RVDS fully operational will be subsidiary to this Item.

City of Brownsville - Specification 6018-0001 and 6018-0002
6018-001 CCTV Field Equipment (Digital)
6018-002 CCTV Field Equipment (Digital)(Artificial Intelligence)

1. DESCRIPTION

Furnish and install, closed-circuit television (CCTV) field equipment at locations shown on the plans, or as directed.

2. MATERIALS

2.1. **General Requirements**. Fabricate, provide, assemble, and install materials that are new, corrosion-resistant, and in strict accordance with the details shown on the plans and in the Specifications.

Provide CCTV field equipment that is compatible with software currently in operation for the City of Brownsville Traffic Signal System.

CCTV field equipment must include the following.

- Color video camera units
- Camera lenses, filters, control circuits, and accessories
- Camera housing
- Medium-duty pan and tilt units with click-and-drag position control
- Video and camera control and power cable connectors and assemblies
- Video, data, and power surge suppression
- Built-in ID generator

2.2. **Functional Requirements for Digital CCTV**. Provide color video cameras that produce digital video in standard definition or high definition that meet the following functional requirements.

2.2.1. **General**.

2.2.1.1. **Digital Signal Processing (DSP)**.

- Digital zoom
- Auto and manual iris control
- Auto and manual exposure control with built-in frame buffer
- Auto and manual focus control
- Built-in ID generator, with white letters on black outline minimum or approved equivalent

2.2.1.2. **Image Pickup Device**. Progressive scan digital CCD or CMOS sensor, 1.2-megapixel (1,200,000 pixels) or better.

2.2.1.3. **Resolution**. Support the following resolutions.

- 720p (1,280-pixel × 720-pixel array)
- 1,080p (1,920-pixel × 1,080-pixel array)
- D1 (720-pixel × 480-pixel array)
- CIF (352-pixel × 240-pixel array)
- VGA (640-pixel × 480-pixel array) at minimum depending on video stream configuration

2.2.1.4. **Frame Rate**. Allow user-selectable frame rates at 30, 15, seven, four, two, and one frame per second.

2.2.1.5. **Data Rate**. Scalable from 64 Kbps to 8 Mbps.

2.2.1.6. **Video Stream Format**. Allow simultaneous encoding and transmission of at least two configurable digital video streams in conformance with Moving Picture Experts Group- (MPEG-) 4, Part 10 (H.264). Support configuration of the following at minimum.

- H.264
- H.265
- H.264 + H.264

2.2.1.7. **Video Stream**. Support uni-cast (one-to-one) and multi-cast (one-to-many).

2.2.1.8. **Aspect Ratio**. Support width-to-height aspect ratio of 16:9.

2.2.1.9. **Image Quality**. Ensure that video produced by the camera is true; accurate; distortion-free; and free of transfer smear, oversaturation, and any other image defect that negatively impacts image quality under all lighting and weather conditions in color and monochromatic modes.

2.2.1.10. **Wide Dynamic Range (WDR)**. Operation with manual override option.

2.2.1.11. **Overexposure Protection**. Minimize glare and incur no permanent damage to the camera when pointed directly at strong light sources, including the sun, for brief periods.

2.2.1.12. **Geometric Distortion**. Zero.

2.2.1.13. **Signal-to-Noise Ratio (AGC Off)**. Minimum 50 dB (weighted at 4.5 MHz).

2.2.1.14. **Electronic Shutter Speed**. Automatic shutter that is user selectable down to at least 1/10,000 sec.

2.2.1.15. **Electronic Image Stabilization**. User-selectable on or off electronic image stabilization at 5 Hz and 10 Hz minimum.

2.2.1.16. **Day (Color) and Night (Mono)**. Auto and manual switchover and iris control with user-selectable modes for auto and manual control capabilities.

2.2.1.17. **Auto White Balance**. Color quality that is maintained by a continuous through-the-lens automatic white balance for color temperatures from 2,850 K to greater than 5,100 K with less than 10-IRE unit unbalance.

2.2.1.18. **Inverted Operation**. Automatic image inversion or "flip" when rotating through 0° or 180° vertical tilt positions when not an integrated unit.

2.2.1.19. **Mean Time Before Failure**. At least 43,800 hr. or 5 yr. without mechanical malfunction or failure. Act of God failures are exempt.

2.2.2. **Lens**. Provide an integral lens assembly for each camera with the following features.

- An f/1.6 or better glass multi-coated zoom lens with variable focal lengths with a minimum 30X zoom range
- 12X auto and manual digital zoom minimum
- Automatic and manual focus and iris control

Provide lenses with capabilities for remote control of the zoom, focus, and iris operations. Provide mechanical or electrical means to protect the motors from over-running in extreme positions. Lens and controller system must be capable of auto iris and remote manual iris operation. Lens must be capable of

auto and manual zoom and focus control. Use motorized iris as opposed to auto iris type for system control capability.

2.2.3. **Network Interface Requirements**. Provide CCTV field equipment that can integrate with the existing City of Brownsville Traffic Signal System, for control.

Provide camera equipment with a local area network (LAN) connection that supports the requirements detailed in IEEE 802.3 for 10/100 Ethernet connections for half-duplex or full-duplex, and provide auto negotiation. Provide equipment with at least one Ethernet port that has a 10/100 Base-TX connection. Provide connectors that conform to EIA and TIA requirements.

Support, at minimum, RTP, RTSP, UDP/IP, TCP/IP, IPv4, HTTP, IGMPv2, DHCP, NTP, IEEE 802.1x, Ethernet 802.3u, SNMP, RADIUS Key, and Telnet.

Provide camera equipment that supports local and remote configuration and management. Configuration and management functions must include access to all user-programmed features, including, but not limited to, network configuration, video settings, device monitoring, control setting, and security functions. Configuration and management must be achieved by serial login, Telnet login, web-based interface, or manufacturer software. Provide manufacturer software with camera for local configuration, system maintenance, and management control.

2.3. **Cable Assembly**. Provide camera power and communication cable assembly equipped with cables used for video feed; camera control, including PTZ function; communications signaling; and power supply. Camera power and communication cable may be configured as a composite cable or series of isolated cables. The following cable functions may be required depending on the data and video communication interface requirements, as shown on the plans.

2.3.1. **Ethernet**. Provide a shielded twisted pair (STP) Category 6 (or equivalent) at minimum rated for outdoor use in conformance with TIA/EIA 568B. Cable must not exceed an attenuation of 30 dB per 300 ft. of cable at 100 MHz.

2.3.2. **Power**. Provide three-wire, insulated for 300 V minimum, 115-VAC or 24-VAC power cabling between the camera and the power supply. If 24-VAC power is required, provide needed power supply conversion equipment.

Power may be achieved using Power over Ethernet (PoE) by a power supply or mid-span PoE injector, that must be considered part of the camera unit, and must conform to IEEE 802.3af or IEEE 802.3at or latest revision.

Provide power and communication cable assembly the entire length of the camera support structure from the camera to the cabinet with an additional 25 ft. of slack in the cabinet. Determine the appropriate length required for each site. The cable assembly must be considered part of the camera unit.

Provide any necessary data, video, or power conversion hardware to successfully integrate the camera unit into the field equipment cabinet hardware components and onto the communications backbone.

2.4. **Video Encoding Interoperability**. Video encoding and decoding equipment may be used by software or hardware means. Ensure camera's encoded video is interoperable with hardware and software decoders from other manufacturers. Ensure the camera's encoded video can be decoded by at least two other manufacturer's software or hardware decoders that are in use by the City. Contact the City for decoders supported before procurement of camera unit.

2.5. **Camera Housing**. Provide camera housing assembly and hardware material that reflects sunlight.

Provide camera housing with a sunshield to reduce the solar heating of the camera. The total weight of the camera (including housing, sunshield, and all internal components) must not exceed 25 lb.

Construct viewing window so that unrestricted camera views can be obtained at all camera and lens positions.

Provide gaskets at cable entry point to the camera housing to prevent moisture or dust entry.

When shown on the plans or identified in the General Notes, provide heating or cooling functionality with temperature sensors to maintain internal temperatures within the manufacturer-required operating temperature range.

2.6. **Pan-Tilt Unit**. Furnish and install a medium-duty anodized aluminum weatherproof pan-tilt unit at each camera site, conforming to NEMA 4X and IP-66 rating or better, when not integral to the camera unit and housing. Provide mounting adapter and required attachment hardware to install the pan-tilt unit to the pole or mounting bracket. Identify the type of mounting bracket and bolt pattern on shop drawings.

Provide a unit capable of at least 180° vertical range of movement and horizontal movement of 360°, full, continuous-rotation movement.

Provide a unit that has a pan and tilt speed of 20° per second minimum and is user-adjustable through the full speed range. Unit must be capable of simultaneous pan-tilt movements with variable pan-tilt positioning control allowing variable speeds that are proportional through the zoom range.

Provide pan-tilt unit with drive accuracy and drive repeatability of less than 1° and an automatic pre-position speed of 120° per second minimum to a user-defined preset position that is user-adjustable.

Provide a pan-tilt unit, when not integral to the camera housing, that can maintain static position and does not move by more than 1° in any direction in speeds greater than 35 mph.

Ensure that the pan-tilt unit has seals and gaskets to protect the motors, gears, and cables and that the seals and gaskets are resistant to ozone, ultraviolet radiation, and other pollutants inherent to all local environmental conditions.

When shown on the plans or identified in the General Notes, provide pan-tilt unit with heater that conforms to NEMA 4X when not integral to the camera unit and housing.

2.7. **Preset Functions**. Provide a camera unit capable of storing at least 62 presets for pan, tilt, zoom, and focus settings.

Provide a camera unit capable of user-programmable tours with at least four tours of up to 32 presets per tour. Any tours may be programmed for panning tours.

Provide a camera unit capable of user-programmable sector zones with at least eight zones allowing right and left pan limitations.

Provide a camera unit capable of user-programmable privacy zones with at least eight zones and click-and-drag position control by software.

2.8. **Connectors**. Provide and install connectors that are compatible with the communications equipment interfaces identified in Section 2.2.3. Network Interface and Section 2.3. Cable Assembly. Supply all mating connectors. Provide all connector pins and mating connectors that are plated to achieve good electrical connection and resistance to corrosion.

2.9. **Source ID Generator**. Use a built-in ID generator to insert camera ID over each of the camera-generated videos.

Provide at least two lines of alphanumeric, case-specific text supporting at least 20 ASCII characters per line, with a minimum character height of 20 pixels, that is user-programmable for displaying any combination of ID

information consisting of at least camera, preset, privacy mask, low-pressure warning, compass, and time and date.

Allow user-selectable location of text to be displayed on the video image at the extreme top or bottom. Text display on the side of the image display is prohibited.

Automatically display the programmed ID with its associated video signal that can be turned on or off by user command.

In the event of signal loss or video signal failure, ID generator must automatically pass through failure message to display over video.

Submit list of available text displays to the City as part of the documentation requirements.

2.10. **Cabinet Installation**. Install video communication equipment in a pole-mounted equipment cabinet or in a ground-mounted equipment cabinet as shown on the plans. Meet the following criteria.

- Contains all the lightning protection devices for data and video.
- Grounded to earth ground.
- Provides connectors for all inputs and outputs for data and video and additional ports for testing video and communications. Use the external connectors for testing and for connections to communication devices.

2.11. **Surge Protection**. Provide surge protection for the camera meeting the following requirements.

- **Mounting Adapter**. Electrically bonded to mounting structure.
- **Pan-Tilt Mechanism**. Electrically bonded to mounting adapter.
- **Camera Housing**. Electrically bonded to pan-tilt mechanism.
- **Power and Control Cable Surge Protector**. Integrated into cabinet surge protection system.

2.12. **Power Requirements**. Provide CCTV field equipment meeting all its specified requirements when the input power is 115 VAC ±20%, 60 Hz ±3 Hz. Maximum power required must not exceed 200 W, including optional equipment.

Provide appropriate voltage conversion, power injectors, or other power supply hardware if the camera equipment or any camera-related ancillary devices require operating voltages other than 115 VAC ±20%, such as 24 VAC or 12 VDC from solar power systems, or rely on PoE. Appropriate voltage converters or injectors must accept an input voltage of 115 VAC or 12 VDC from solar power systems as shown on the plans.

2.13. **Primary Input Power Interruption**. Provide CCTV field equipment that meets NEMA TS2, Section 2.1.4., "Power Interruption," for traffic control system or most current version.

2.14. **Power Service Transients**. Provide CCTV field equipment that meets NEMA TS2, Section 2.1.6., "Transients, Power Service" or most current version.

2.15. **Power Service Protection**. Provide equipment that contains readily accessible, manually resettable or replaceable circuit protection devices (such as circuit breakers or fuses) for equipment and power source protection. Provide circuit breakers or fuses sized appropriately such that no wire, component, connector, PC board, or assembly is subject to current loads more than their respective design limits upon failure of any single circuit element or wiring.

2.16. **Modular Design**. Provide CCTV field equipment hardware installed inside the cabinet that is modular in design and that can be either shelf-mountable or EIA 19-in. rack mountable. Clearly identify modules and assemblies with name, model number, serial number, and any other pertinent information required to facilitate equipment maintenance.

2.17. **Connectors and Harnesses**. Make all external connections using connectors that are uniquely keyed to preclude improper hookups. Color-code and appropriately label with UV-resistant material all wires to and from the connectors. Provide connecting harnesses of appropriate length and terminated with matching connectors for interconnection with the communications system equipment. Provide corrosion-resistant plated pins and mating connectors to improve conductivity. All connectors using solder-type connections must have each soldered connection covered by a piece of heat-shrink tubing securely shrunk to protect the connection for short-circuiting.

Provide a wiring diagram detailing wire function and connector pin-out.

2.18. **Environmental Design Requirements**. Provide equipment that conforms to NEMA TS2-2003 (R2008), International Electrotechnical Commission (IEC) 60529, and NEMA 250-2008 or most current version, for the following categories.

2.18.1. **Temperature**. Provide equipment that conforms to NEMA TS2, Section 2.1.5.1, or latest revision, and meets all the specified requirements during and after being subjected to any combination of the following conditions.

- Ambient temperature range of -30°F–165°F
- Temperature shock not exceeding 30°F per hour
- Relative humidity of 0%–100%

  Moisture condensation on all exterior surfaces caused by temperature changes

Provisions for a heater and blower function are required to maintain internal temperatures within the manufacturer's operating temperatures for temperature ranges internal to the camera unit not conforming to NEMA TS2, Section 2.1.5.1.

2.18.2. **Vibration**. Provide equipment that conforms to NEMA TS2, Section 2.1.9. and Section 2.2.3., or most current version, and meets all the specified requirements during and after being subjected to a vibration of 5 Hz–30 Hz up to 0.5 g applied in each of three mutually perpendicular planes for 30 min.

2.18.3. **Shock**. Provide equipment that conforms to NEMA TS2, Section 2.1.10. and Section 2.2.4., or most current version, and does not yield permanent mechanical deformation or any damage that renders the unit inoperable when subjected to a shock of 10 g applied in each of three mutually perpendicular planes for 30 min.

2.18.4. **Environmental Contaminants**. Provide equipment that conforms to IEC 60529, Section 14.2.6, or most current version, for IP-66 or greater rating when providing a pressurized unit.

Provide equipment that conforms to IEC 60529, Section 14.2.7., or most current version, for IP-67 or greater rating when providing a non-pressurized unit.

2.18.5. **External Icing**. Provide equipment that is tested to conform to NEMA 250-2003, Section 5.6 or latest revision.

2.18.6. **Corrosion**. Provide equipment that is tested to conform to NEMA 250-2003, Section 5.10.or latest revision, when located in Coastal Districts. Coastal Districts are Beaumont (BMT), Corpus Christi (CRP), Houston (HOU), Pharr (PHR), and Yoakum (YKM).

2.18.7. **Wind Rating**. Equipment must be operational in adverse weather conditions and able to withstand wind loads in accordance with basic wind velocity zone map standard as shown on the plans without permanent damage to mechanical and electrical equipment.

3. CONSTRUCTION

3.1. **General**. Maximize standardization and consistency by using industry-standard techniques in equipment design and construction, with the minimum number of parts, subassemblies, circuits, cards, and modules. Design equipment for ease of maintenance.

Provide mounting bracket assemblies or apparatus to mount equipment on the structures as detailed on the plans.

Provide mounting bracket design with documentation submitted for approval before fabrication. Include all mounting plates, screws, bolts, nuts, washers, and ancillary hardware needed to fabricate the entire mounting bracket.

3.2. **Mechanical Components**. Provide stainless steel external screws, nuts, and locking washers. Self-tapping screws are not acceptable.

Provide parts that are made of corrosion-resistant material (e.g., plastic, stainless steel, anodized aluminum, or brass).

Protect all materials used in construction from fungus growth and deterioration due to sustained moisture.

Separate dissimilar metals by an inert dielectric material.

3.3. **Wiring**. Provide wiring that meets the NEC most current version. Provide wires that are cut to proper length before assembly. It is not acceptable to "double-back" wires to take up slack inside the cabinet. Lace wires neatly with nylon lacing or plastic straps. Organize cables inside the cabinet and secure cables with clamps. Provide service loops at connection points when connecting to hardware inside the cabinet. No splicing of cables or exposed wiring is allowed. Clearly label all wiring.

3.4. **Contractor Experience Requirements**. Contractor or designated subcontractor must meet the following experience requirements.

3.4.1. **Minimum Experience**. Three years of continuous existence offering services in the installation of CCTV camera systems.

Submit the names, addresses, and telephone numbers of the references that can be contacted to verify the experience requirements.

3.5. **Documentation Requirements**. Provide at least two complete sets of operation and maintenance manuals in bound hard-copy format, as well as an electronic copy in Adobe PDF format on a CD/DVD or removable flash drive, that include the following.

- Complete and accurate wiring schematic diagrams.
- Complete installation procedures.
- Compliance matrix documenting conformance to this Specification.
- Complete performance specifications (functional, electrical, mechanical, and environmental) on the unit
- Complete parts list, including names of vendors for parts not identified by universal part number, such as JEDEC, RETMA, or EIA.
- Pictorial of component layout on circuit board.
- ID generator list of text display options.
- Complete maintenance and troubleshooting procedures.
- Complete stage-by-stage explanation of circuit theory and operation.
- Testing procedures and blank test forms.
- Recovery procedures for malfunction.
- Instructions for gathering maintenance assistance from manufacturer.
- Certification documentation verifying conformance with environmental and testing requirements contained in the Special Specification. Certifications may be provided by the manufacturer or independent laboratories.

Identify material that is copyrighted or proprietary in nature as part of the documentation submittal. The City will comply with sensitive material, secure submittal documentation, and not distribute without written approval.

3.6. **Testing**.

3.6.1. **New Installations**. Unless otherwise shown on the plans, perform the following tests on the applicable equipment or systems.

3.6.1.1. **Test Procedures Documentation**. Provide five copies of the test procedures, including tests identified in Section 3.6.1.2. "Design Approval Test," Section 3.6.1.7. "Consequences of Test Failure," and blank data forms, to the Engineer for review and comment as part of material documentation requirements for each test required on this project. Include the sequence of the tests in the procedures. The Engineer will comment, approve, or reject test procedures within 30 days after Contractor submittal of test procedures. Contractor must resubmit if necessary rejected test procedures for final approval within 10 days. Review time is in calendar days. Conduct all tests in accordance with the approved test procedures.

Record test data on the data forms, as well as quantitative results. No bid item measurement or payment will be made until the Engineer has verified the test results meet the minimum requirements of the Specification. The data forms for all tests, except design approval tests, must be signed by an authorized representative of the Contractor.

Provide written notice within 48 hr. of discovery of any testing discrepancy identified during testing by the Contractor. Furnish data forms containing the acceptable range of expected results as well as the measured values.

3.6.1.2. **Design Approval Test**. Conduct a design approval test on one randomly selected unit from the prototype design manufacturing run. If only one design prototype is manufactured, perform this test on that unit. If supplying multiple types of equipment, provide and test a sample of each type.

Certification from an independent testing laboratory of a successfully completed design approval test is acceptable. Ensure that the testing by this laboratory is performed in accordance with this Specification. Failure of independent tests to comply with this Specification will be grounds for rejection of any certification.

Provide a copy of the certification to the District in which this Contract is executed. The data forms for the design approval tests must be signed by an authorized representative (company official) of the equipment manufacturer or by an authorized representative of an independent testing facility.

Notify the Engineer 10 working days before conducting this testing. The City may witness all the tests. Perform the following tests.

3.6.1.2.1. **Power Service Transients**. Provide equipment that meets the performance requirements specified herein when subjected to the power service transients as specified in NEMA TS2, Section 2.2.7.2, "Transient Tests (Power Service)." of the NEMA TS2 standard, most current version.

3.6.1.2.2. **Temperature and Condensation**. Provide equipment that meets the performance requirements specified herein when subjected to the following conditions in the order specified below.

- Stabilize the equipment at -30°F and test as specified in NEMA TS2, Section 2.2.7.3, "Low-Temperature Low-Voltage Tests," and Section 2.2.7.4, "Low-Temperature High-Voltage Tests." of the NEMA TS2 standard, most current version
- Allow the equipment to warm up to room temperature in an atmosphere with relative humidity of at least 40%. Operate the equipment for 2 hr., while wet, without degradation or failure.
- Stabilize the equipment at 165°F and test as specified in NEMA TS2, Section 2.2.7.5, "High-Temperature High Voltage Tests," and Section 2.2.7.6, "High-Temperature Low-Voltage Tests." of the NEMA TS2 standard, most current version

3.6.1.2.3. **Relative Humidity**. Provide equipment that meets the performance requirements specified herein within 30 min. of being subjected to a temperature of 165°F and a relative humidity of 18% for 48 hr.

3.6.1.2.4. **Vibration**. Provide equipment that shows no degradation of mechanical structure, soldered components, or plug-in components and operates in accordance with the manufacturer's equipment specifications after being subjected to the vibration tests as described in NEMA TS2, Section 2.2.8, "Vibration Test" of the NEMA TS2 standard, most current version.

3.6.1.2.5. **Power Interruption**. Provide equipment that meets the performance requirements specified herein when subjected to nominal input voltage variations as specified in NEMA TS2, Section 2.2.10., "Power Interruption Test." of the NEMA TS2 standard, most current version.

3.6.1.3. **Demonstration Test**. Conduct a demonstration test on applicable equipment at an approved Contractor facility. The Contractor may submit procedures and results from previous contracts in the same District as this Contract provided the materials and equipment are identical and results are less than 5 yr. old. Notify the Engineer 10 working days before conducting this testing. The City may witness all the tests. Perform the following tests.

3.6.1.3.1. **Examination of Product**. Examine each unit carefully and document that the materials, design, construction, markings, and workmanship comply with this Specification.

3.6.1.3.2. **Continuity Tests**. Check the wiring to determine conformance with the requirements of the appropriate paragraphs of this Specification.

3.6.1.3.3. **Operational Test**. Operate each unit for at least 15 min. to permit equipment temperature stabilization and an adequate number of performance characteristics to ensure compliance with this Specification.

3.6.1.4. **Field Acceptance (Stand-Alone) Test**. Conduct a field acceptance test for each unit after installation as required by the Engineer to demonstrate compliance with the functional requirements of this Specification. Exercise all stand-alone (non-network) functional operations. Notify the Engineer 5 working days before conducting this test. The field acceptance test may consist of the following.

3.6.1.4.1. **Physical Construction**. Document physical construction is completed in accordance with the plans and Specification.

3.6.1.4.2. **Electrical and Communication**. Document that all connectors for grounding, surge suppression, and electrical distribution are tightened correctly. Document all power supplies and circuits are operating under the proper voltages. Document all power and communications cables are terminated correctly, secured inside the cabinet, and fitted with appropriate connectors.

3.6.1.4.3. **Video Signal**. For analog signal format, conduct an impedance test, through a short 75-ohm coaxial cable connected to an oscilloscope waveform monitor, to ensure 75-ohm output impedance to conform to NTSC standards.

Using a digital, hand-held, battery-operated meter, conduct a test and measure the following video signal characteristics, if applicable.

3.6.1.4.3.1. **Sync**. Document the amplitude of the video synchronizing pulse and check for correct video level, coaxial cable continuity, and correct termination at 40 IRE.

3.6.1.4.3.2. **Luminance**. Document the white level and correct brightness setting at 100 IRE.

3.6.1.4.3.3. **Composite**. Document the overall amplitude of the video signal is at 140 IRE or 1 V peak to peak.

3.6.1.4.3.4. **Color Burst**. Document color burst amplitude at 40 IRE.

3.6.1.4.3.5. **Ground Loop**. Document that no ground loop exists in the video picture. Ground loop voltages in a video signal cause bars to be present on the video picture.

Document video image is present and free of oversaturation and any other image defect in color and monochrome modes.

Document video support of uni-cast and multi-cast video transmission modes.

Document the video signal from the camera is present and of consistent quality at all connection points between the camera, the cabinet, and any video conversion hardware.

3.6.1.4.4. **Communication**. For digital camera models, document network connection to the camera by ping or Telnet session from a remote PC.

3.6.1.4.5. **Pan-Tilt Mechanism**. Exercise pan, tilt, zoom, and focus on all directions, and execute at least three other unique programming commands, specified by the City, to ensure that the communication link between the cabinet and the camera is functioning properly.

3.6.1.5. **System Integration Test**. Conduct a system integration test on the complete functional system. Demonstrate all control and monitor functions for each system component for 72 hr. Notify the Engineer 10 working days before conducting this testing. The City may witness all the tests.

Provide systems integration test procedures for proper adjustment and calibration of subsystem components. Proper adjustment and calibration involve documenting settings used to meet functional requirements while providing a margin for adjustment when future conditions change. Use the City control software (when available) to perform subsystem testing. At minimum, use this software to verify commands and confirmations, as well as detector actuations and occupancy dwell time. The Contractor must be familiar with any existing City equipment and software.

The failure of any one component material or equipment item in a system integration test is justification for rejecting the entire subsystem. Each subsystem component must function as a complete integrated subsystem for a minimal continuous 72-hr. period during the system integration test.

3.6.1.6. **Final Acceptance Test**. Following completion of the demonstration test, stand-alone test, and system integration test for all subsystems, provide completed data forms containing all the data taken, including quantitative results for all tests, a set of as-built working drawings, and a written request to begin a data communication and final acceptance test. Provide as-built working drawings indicating the actual material, equipment, and construction of the various subsystem components, including established and calculated XY coordinates based on project control points, when shown on the plans. Perform field surveying and calculations under the supervision of and sealed by a licensed land surveyor.

Within 10 calendar days of the request, execute a data communications test using a City-supplied software program or Contractor-supplied software approved by the City. The data communications test may be executed by the Engineer or the Contractor with prior approval. The purpose of this test is to verify that the communications plant will operate with application software provided by the City.

Perform the data communications test for 72 hr. If a message error or component failure occurs anywhere in the network, resume the test once repairs are completed. All components of the communications network must operate as an integral system for the duration of the test.

A message error is defined as the occurrence of a parity error, framing error, or data error in any component of the message. The error-free message rate is defined as the ratio of the number of messages in which no message error occurs to the number of messages transmitted. The error-free message rate must exceed 99.99% for acceptable transmission quality, for the system and each component of the network.

Provide all additional test results for review once a successful data communications test has been completed. If all the requirements of this Specification have been satisfied, Contract time must stop, and all subsystems must be placed into operation and operate as a complete system for 90 days.

Notify the Engineer of any defects suspected in integration or function of material or equipment. Investigate any suspected defects and correct if necessary. Provide a report of finding within 2 calendar days of notice of any suspected defects. Describe the nature of any defects reported and any corrective action taken in the report. The integrated subsystems must operate defect-free as a single complete system for at least 72 hr. during a 30-calendar day review period. If the number of defects or frequency of failures prevents any subsystems from operating as described above, the Engineer may reject the entire subsystems integration test results and resume Contract time. Provide any necessary corrections and resubmit subsystems integration test results and a request to begin a final acceptance test that may include as-built plans and a data communications test.

The CCTV field equipment under this Specification will not be accepted until the system, including all subsystems, has operated satisfactorily for 90 days and in full compliance with the plans and Specifications after approval of all submitted test results and reports.

3.6.1.7. **Consequences of Test Failure**. If a unit fails a test, submit a report describing the nature of the failure and the actions taken to remedy the situation before modification or replacement of the unit. If a unit requires modification, correct the fault, and then repeat the test until successfully completed. Correct minor discrepancies within 30 days of written notice. If a unit requires replacement, provide a new unit, and then repeat the test until successfully completed. Major discrepancies that will delay receipt and acceptance of the unit will be enough cause for rejection of the unit.

Failure to satisfy the requirements of any test is considered a defect, and the equipment is subject to rejection. The rejected equipment may be offered again for retest provided all noncompliance has been corrected.

If a failure pattern develops in similar units within the system, implement corrective measures, including modification or replacement of units, on all similar units within the system as directed. Perform the corrective measures without additional cost or extension of the Contract period.

3.6.1.7.1. **Consequences of Design Approval Test Failure**. If the equipment fails the design approval test, correct the fault within 30 days and then repeat the design approval test until successfully completed.

3.6.1.7.2. **Consequences of Demonstration Test Failure**. If the equipment fails the demonstration test, correct the fault within 30 days and then repeat the demonstration test until successfully completed.

3.6.1.7.3. **Consequences of Field Acceptance (Stand-Alone) Test Failure**. If the equipment fails the stand-alone test, correct the fault within 30 days and then repeat the stand-alone test until successfully completed.

3.6.1.7.4. **Consequence of System Integration Test Failure**. If the equipment fails the system integration test, correct the fault within 30 days and then repeat the system integration test until successfully completed.

3.6.1.7.5. **Consequences of Final Acceptance Test Failure**. If a defect within the system is detected during the final acceptance test, document and correct the source of failure. Once corrective measures are taken, monitor the point of failure until a 30-consecutive-day period free of defects is achieved.

If after completion of the initial test period the system downtime exceeds 72 hr. or individual points of failure have not operated for 30 consecutive days free of defects, extend the test period by an amount of time equal to the greater of the downtime more than 72 hr. or the number of days required to complete the performance requirement of the individual point of failure.

3.7. **Warranty**. Warrant the equipment against defects or failure in design, materials, and workmanship for at least 3 yr. or in accordance with the manufacturer's standard warranty if that warranty period is greater. The start date of the manufacturer's standard warranty will begin after the equipment has successfully passed all

tests contained in the final acceptance test plan. Any CCTV field equipment with less than 90% of its warranty remaining after the final acceptance test is completed will not be accepted by the City. Guarantee that equipment furnished and installed for this project performs according to the manufacturer's published specifications. Assign, to the City, all manufacturer's normal warranties or guarantees on all electronic, electrical, and mechanical equipment, materials, technical data, and products furnished for and installed on the project.

CCTV field equipment must be repaired or replaced at the Contractor's expense before completion of the final acceptance test plan in the event of a malfunction or failure. Furnish replacement parts for all equipment within 10 days of notification of failure by the City.

3.8. **Training**. Conduct a training class on installation, operations, programming hardware settings, IP programming, port settings, testing, maintenance, troubleshooting, and repair of all equipment specified herein for at least 24 hr., unless otherwise directed, for up to 10 representatives designated by the City. Submit to the Engineer for approval 10 copies of the training material at least 30 days before the training begins. Conduct training within the local area unless otherwise authorized.

4. MEASUREMENT

This Item will be measured by each CCTV field equipment unit and mounting apparatus furnished and installed, of the types specified as shown on the plans, or as directed.

5. PAYMENT

5.1. **Furnish and install**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "CCTV Field Equipment (Digital)", "CCTV Field Equipment (Digital)(Artificial Intelligence)". This price is full compensation for making fully operational CCTV field equipment, including any voltage converters or injectors; cables and connectors as shown on the plans; and all documentation, testing, training, software, equipment, labor, materials, tools, and incidentals.

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Item 6043-0001
Antenna (Omni Directional)

1. DESCRIPTION

- **Installation**. Furnish and install antenna (omni directional)

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** Antenna (omni directional) is required to meet the following requirements:

- Electrical Specifications
  - 4G/5G
    - Frequency Range: 600~6000 MHz
    - Peak Gain: 3-5 dBi frequency dependent
    - Radiation Pattern: Omni-Directional
    - VSWR: < 2.0:1 in band
    - Inter-Element Isolation: -8.5 dB min in band
    - Input Impedance: 50 Ohm
    - Polarization: Vertical
    - Max Input Power: 50 W
    - Not DC grounded
    - Ground plane: 8 inch (20 cm) diameter min
  - GNSS
    - Frequency Range: 1575.42 ~1602.00 MHz ± 1.023 MHz
    - Passive Gain (Zenith°): 2 dBic min
    - Low Noise Amplifier Gain (LNA): 27~29 ± 3.0dB typical
    - VSWR: ≤ 1.5:1
    - Noise Figure: 1.5 dB typical
    - Ex-Band Attenuation
      - f_o = 1575.42 MHz Dfgfd
      - f_o ± 20 MHz 7dB min
      - f_o ± 30 MHz 12dB min
      - f_o ± 50 MHz 20dB min
      - f_o ± 100 MHz 30dB min
    - Impedance: 50 Ohm
    - Polarization: RHCP
    - Max Input Power: 50 W
    - DC Operating Voltage: 2.3 - 5.0
    - DC Current: 6.6 - 22 mA
    - Not DC grounded

- Mechanical Specifications
  - Connector Type: 5x SMA Male (plug)
  - Cable Type:
    - 4G/5G:4x 2 ft (0.6 m) or 6 ft (1.8 m) Low-loss CFD195 coax
    - GPS: 1x 2 ft (0.6 m) or 6 ft (1.8 m) Low-loss RG174 coax
  - Height:
    - Radome: 2.4 inches (60 mm) above mounting surface
    - Overall: 3.4 inches (84 mm)
  - Diameter:
    - Radome: 2.2 inches (54.7 mm) at base
    - Mounting post: 7/8 inches (20 mm x 1.5 mm thread)
  - Weight: 17 oz (482 g)
  - Materials:
    - Radome: UV Stabilized Polycarbonate
    - Connectors: Gold-Plated Brass
    - Mounting Post & Hardware: Stainless Steel
    - Gasket: Rubber
    - RoHS Compliant
  - Antenna Color: Black or White (must gain City approval prior to ordering)
  - Operating Temperature: -30°C to +75°C
  - Environmental Rating: IP67 (waterproof)
  - Shock (Drop Test): 60 cm drop on concrete
  - Shock (Half Sine Wave): 10 msec

3. CONSTRUCTION

3.1. **Installation**. Install antenna (omni directional) as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning antenna (omni directional).

3.1.1. **Electrical Requirements**.

3.1.1.1. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.2. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

- **Test Period**. Operate completed antenna (omni directional) installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the antenna (omni directional) who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment

fails during the 30-day test period, repair or replace that equipment. This repair or replacement will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each antenna (omni directional) installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "antenna (omni directional)".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the antenna (omni directional) and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

City of Brownsville -Specification 6061-001
Global Positioning System (GPS) Communication Unit

1. DESCRIPTION

Furnish, install, and make fully operational a GPS Communication Unit (GPSCU) at designated locations as shown on the plans and as detailed in accordance with this specification. Use the same manufacturer and model for each GPSCU. The GPSCU provides a reliable and independent GPS time reference for every traffic signal controller application.

2. MATERIALS

Provide only equipment that is new, corrosion resistant, and in strict accordance with the details shown on the plans, in this specification, and the pertinent requirements of the following items:

- Item 680, "Installation of Highway Traffic Signals"
- Item 681, "Temporary Traffic Signals"

Provide a GPSCU that is fully compatible with a Type 1 or Type 2 NEMA (National Electrical Manufacturers Association) traffic signal controller.

2.1. **GPS Communication Module.** Provide a GPS Communication Module (GPSCM) that has the following traffic signal controller interface features:

- Microwave clock update application included (operates with any traffic signal
- controller)
- Tracking LED that indicates GPS satellite acquisition status
- -34ºC to +74ºC operating temperature range
- A power consumption of 125mA at 12V
- LED power status indicator
- Complies with Part 15 of FCC rules
- Mounted inside of the traffic signal controller cabinet
- RS 232 communication to the NEMA signal controller

2.2. **GPS Antenna.** Provide a GPS Antenna that has the following features:

- 28dB gain
- 3m cable
- SMA Male
- Compliant with National Marine Electronics Association (NMEA) 0183 devices
- Water and dust resistant
- Mounted externally on the traffic signal controller cabinet

3. OPERATION

Once the GPSCM acquires satellite communication (as shown by LED indicator), ensure the GPSCU then operates as follows:

- It uses the operating software of the traffic signal controller interface with the GPSCU to sync the date and time of the traffic signal controller once per minute.

4. CONSTRUCTION

Provide equipment that utilizes the latest available techniques for design and construction with a minimum number of parts, subassemblies, circuits, cards, and modules to maximize standardization and commonality.

Design the equipment for ease of maintenance. Provide component parts that are readily accessible for inspection and maintenance. Provide test points that are for checking essential voltages and waveforms.

4.1. **Electronic Components.** Provide this item in accordance with Special Specification "Electronic Components."

4.2. **Mechanical Components.** Provide external screws, nuts, and locking washers that are stainless steel; no self-tapping screws will be allowed. Provide parts made of corrosion resistant material, such as plastic, stainless steel, anodized aluminum, or brass. Protect materials from fungus growth and moisture deterioration. Separate dissimilar metals by an inert dielectric material.

4.3. **Documentation Requirements.** Provide one copy of the manufacturer's operation manual at each installation location.

4.4. **Testing.** The Department reserves the right to test the GPSCU to ensure quality assurance before installations and random sampling of units being provided to the Department. The Department's testing procedures will include the following:

- The GPSCU will meet the criteria of the specification.
- The GPSCU demonstrates the operations described in Section 3 of this specification.
- The GPSCU and its components will be tested in an environmental chamber (temperature ranges from -34 °C to +74 °C).

4.5. **Technical Assistance.** Ensure that a manufacturer's technical representative is available on site to assist the technical personnel at each installation site and with GPS equipment installation and communication system configuration.

Do not execute the initial powering up of the GPS equipment without the permission of the manufacturer's representative.

4.6. **Warranty.** Guarantee equipment furnished and installed to perform according to the manufacturer's published specifications prior to the acceptance of the system by the Department. Warrant equipment against defects or failure in design, materials, and workmanship in accordance with the manufacturer's standard warranty for a minimum of 5 years.

5. SUBMITTALS

Submit manufacturers' cut sheets / specifications and software for the equipment proposed under these specifications to the Department's Traffic Operations section for approval at the following e-mail address: HOU-TrfShpDrwgs@txdot.gov.

6. MEASUREMENT

This Item will be measured as each unit furnished, installed, made fully functional, and tested in accordance with these special specifications or as directed. A unit will include one GPSCU meeting the specifications, standards, and requirements contained herein, module, antenna, and antenna cabling back to the module, mounting hardware, manufacturer's operation manual, required testing results, manufacturer's technical specification, and the cost of the materials, training, warranty, equipment, and accessories necessary to the complete installation of the unit.

7. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "GPS Communication Unit." This price is full compensation for the equipment described under this Item with module, antenna, cables, and connectors; for documentation and testing, and for the cost of furnishing labor, materials, software, warranty, training, equipment, and incidentals.

Foreword

OUTLINE OF SPECIFICATIONS

Each specification is outlined by articles and sections. The basic articles required for a specification are:

1. **DESCRIPTION**
2. **MATERIALS**
3. **EQUIPMENT**
4. **CONSTRUCTION OR WORK METHODS**
5. **MEASUREMENT**
6. **PAYMENT**

Some articles are not used in every item. Measurement and Payment articles are combined when the work described is subsidiary to bid items of the Contract.

HIERARCHY OF ORGANIZATIONAL ELEMENTS

Here "XXX" represents the item number. The hierarchy of organizational elements available below the item level is as follows:

XXX.1., Article
XXX.1.1., Section
XXX.1.1.1., Section
XXX.1.1.1.1., Section
XXX.1.1.1.1.1., Section
XXX.1.1.1.1.1.1., Section

The term section is used for all breaks below the article.

Items 1L–9L

Local Government General Requirements and Covenants

Item 1L
Abbreviations and Definitions

1. APPLICABILITY

Wherever the following terms are used in these specifications or other Contract documents, the intent and meaning will be interpreted as shown below.

2. ABBREVIATIONS

AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standard Committee, Inc.
AMPP	Association for Materials Protection and Performance
AMRL	AASHTO Materials Reference Laboratory
ANLA	American Nursery and Landscape Association
ANSI	American National Standards Institute
APA	The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREMA	American Railway Engineering and Maintenance-of-Way Association
ASBI	American Segmental Bridge Institute
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
AWC	American Wood Council
AWG	American Wire Gage
AWPA	American Wood Protection Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BMP	Best Management Practices
CFR	Code of Federal Regulations
CMP	Corrugated Metal Pipe
COE	U.S. Army Corps of Engineers
CRSI	Concrete Reinforcing Steel Institute
DBE	Disadvantaged Business Enterprise
DMS	Departmental Materials Specification
EIA	Electronic Industries Alliance
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration, U.S. Department of Transportation
FSS	Federal Specifications and Standards (General Services Administration)
GSA	General Services Administration
HUB	Historically Underutilized Business
ICEA	Insulated Cable Engineers Association

IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IMSA	International Municipal Signal Association
ISO	International Organization for Standardization
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation System
LG	Local Government
LRFD	Load and Resistance Factor Design
MASH	Manual for Assessing Safety Hardware
MPL	Material Producer List
NCHRP	National Cooperative Highway Research Program
NCR	Nonconformance Report
NEC	National Electrical Code (Published by NFPA)
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
NPCA	National Precast Concrete Association
NRM	Nonhazardous Recyclable Material
NRMCA	National Ready Mixed Concrete Association
NSBA	National Steel Bridge Alliance
OSHA	Occupational Safety and Health Administration, U.S. Department of Labor
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PPI	Plastics Pipe Institute
PS&E	Plans, Specifications, and Estimates
PSL	Project Specific Location
PTI	Post-Tension Institute
QA	Quality Assurance
QC	Quality Control
RCP	Reinforced Concrete Pipe
RPLS	Registered Public Land Surveyor
RRC	Railroad Commission of Texas
SBE	Small Business Enterprise
SFPA	Southern Forest Products Association
SI	International System of Units
SPIB	Southern Pine Inspection Bureau
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TDLR	Texas Department of Licensing and Regulation
TMUTCD	Texas Manual on Uniform Traffic Control Devices
UL	Underwriters Laboratory, Inc.
USC	United States Code
WRI	Wire Reinforcement Institute
WWPA	Western Wood Products Association

3. DEFINITIONS

3.1. **Abrasive Blasting**. Spraying blasts of pressurized air combined with abrasive media.

3.2. **Actual Cost**. Contractor's actual cost to provide labor, material, equipment, and project overhead necessary for the work.

3.3. **Addendum**. Change in proposal forms developed between advertising and bid submittal deadline.

3.4. **Additive Alternate**. A bid item contained in a proposal that is not a regular item or a replacement alternate bid item. The additive alternate item(s) include work that may be added to the base bid at the time of letting.

3.5. **Advertisement**. The public announcement required by law inviting bids for work to be performed or materials to be furnished.

3.6. **Affiliates**. Two or more Bidders are affiliated if they share common officers, directors, or stockholders; a family member of an officer, director, or stockholder of one Bidder serves in a similar capacity in another of the Bidders; an individual who has an interest in, or controls a part of, one Bidder either directly or indirectly also has an interest in, or controls a part of, another of the Bidders; the Bidders are so closely connected or associated that one of the Bidders, either directly or indirectly, controls or has the power to control another Bidder; one Bidder controls or has the power to control another Bidder; or the Bidders are closely allied through an established course of dealings, including, but not limited to, the lending of financial assistance. Refer to 43 TAC § 9.12(g), "Affiliated Entities."

3.7. **Air Blasting**. Spraying blasts of pressurized air free of oil and moisture.

3.8. **Air Temperature**. The temperature measured in degrees Fahrenheit (°F) in the shade, not in the direct rays of the sun, and away from artificial heat.

3.9. **Anticipated Profit**. Profit for work not performed.

3.10. **Apparent Low Bidder**. The Bidder determined to have the numerically lowest total bid as a result of the tabulation of bids by the Owner.

3.11. **Architect of Record**. A person registered as an architect or licensed as a landscape architect, in conformance with State law, exercising overall responsibility for the design or a significant portion of the design and performing certain Contract administration responsibilities as described in the Contract; or a firm employed by the Owner to provide professional architectural services.

3.12. **Arterial Highway**. A highway used primarily for through traffic and usually on a continuous route.

3.13. **Available Bidding Capacity**. Not applicable to Locally Let projects.

3.14. **Award**. The Owner's acceptance of a Contractor's bid for a proposed Contract that authorizes the Owner to enter into a Contract.

3.15. **Bid**. The offer from the Bidder for performing the work described in the proposal.

3.16. **Bid Bond**. The security executed by the Contractor and the Surety furnished to the Owner to guarantee payment of liquidated damages if the Contractor fails to enter into an awarded Contract.

3.17. **Bid Error**. A mathematical mistake made by a Bidder in the unit price entered into the proposal.

3.18. **Bidder**. An individual, partnership, limited liability company, corporation, or joint venture submitting a bid for a proposed Contract.

3.19. **Bidders Questionnaire**. A prequalification form that reflects detailed equipment and experience data but waives audited financial data.

3.20. **Bidding Capacity**. Not applicable to Locally Let projects.

3.21. **Blast Cleaning**. Using one of the blasting methods including, but not limited to water blasting, low-pressure water blasting, high-pressure water blasting, abrasive blasting, water-abrasive blasting, shot blasting, slurry blasting, water -injected abrasive blasting, and brush blasting.

3.22. **Bridge**. A structure, including supports, erected over a depression or an obstruction (e.g., water, a highway, or a railway) with a roadway or track for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 ft. between faces of abutments, spring lines of arches, or extreme ends of the openings for multiple box culverts.

3.23. **Brush Blasting**. Sweeping lightly with an abrasive blast to remove loose material.

3.24. **Building Contract**. Not applicable to Locally Let projects.

3.25. **Callout Work**. Contracts, or work items in Contracts, that require a Contractor's response on an as-needed basis (e.g., see Item 351, "Flexible Pavement Structure Repair").

3.26. **Certificate of Insurance**. A form approved by the Owner covering insurance requirements stated in the Contract.

3.27. **Change Order**. Written order to the Contractor detailing changes to the specified work, item quantities, or any other modification to the Contract.

3.28. **Commission**. The Texas Transportation Commission or authorized representative.

3.29. **Concrete Construction Joint**. A joint formed by placing plastic concrete in direct contact with concrete that has attained its initial set.

3.30. **Concrete Repair Manual**. TxDOT manual specifying methods and procedures for concrete repair as an extension of the standard specifications.

3.31. **ConcreteWorks©**. TxDOT-owned software for concrete heat analysis. Software is available on the TxDOT's website.

3.32. **Confidential Questionnaire**. A prequalification form that reflects detailed financial and experience data.

3.33. **Construction Contract**. A Contract entered under state law for the construction, reconstruction, repair, or maintenance of a segment of the Owner's or State transportation highway system.

3.34. **Consultant**. The licensed professional engineer or engineering firm, or the architect or architectural firm, registered in the State of Texas and under Contract to the Owner to perform professional services. The consultant may be the Engineer or architect of record or may provide services through and be subcontracted to the Engineer or architect of record.

3.35. **Contract**. The agreement between the Owner and the Contractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.

3.36. **Contract Documents**. Elements of the Contract including, but not limited to, the plans, specifications incorporated by reference, special provisions, special specifications, Contract bonds, change orders, and supplemental agreements.

3.37. **Contract Time**. The number of working days specified for completion of the work, including authorized additional working days.

3.38. **Contractor**. The individual, partnership, limited liability company, corporation, or joint venture and all principals and representatives with which the Contract is made by the Owner.

3.39. **Control of Access**. The condition in which the right to access of owners or occupants of abutting land or other persons in connection with a highway is fully or partially controlled by public authority.

3.40. **Control Point**. An established point shown on the plans to provide vertical and horizontal references for geometric control for construction.

3.41. **Controlled Access Highway**. Any highway to or from which access is denied or controlled, in whole or in part, from or to abutting land or intersecting streets, roads, highways, alleys, or other public or private ways.

3.42. **Cross-Sections**. Graphic representations of the original ground and the proposed facility, at right angles to the centerline or base line.

3.43. **Culvert**. Any buried structure providing an opening under a roadway for drainage or other purposes. Culverts may also be classified as bridges. (See Section 1.3.22., "Bridge.")

3.44. **Cycle**. The activity necessary for performing the specified work within the right of way project limits once.

3.45. **Daily Road-User Cost**. Damages based on the estimated daily cost of inconvenience to the traveling public resulting from the work.

3.46. **Debar (Debarment)**. Disqualification of an entity from bidding on or entering into a Contract with the Owner, from participating as a subcontractor under a Contract with the Owner, and from participating as a supplier of materials or equipment to be used under a Contract with the Owner.

3.47. **Department**. The Texas Department of Transportation (TxDOT).

3.48. **Departmental Materials Specifications**. Reference specifications for various materials published by the Materials and Tests Division.

3.49. **Detour**. A temporary traffic route around a closed portion of a road.

3.50. **Direct Traffic Culvert**. Concrete box culvert whose top slab is used as the final riding surface or is to have an overlay or other riding surface treatment.

3.51. **Disadvantaged Business Enterprise**. A for-profit small business certified through the Texas Unified Certification Program in accordance with 49 CFR Part 26, that is at least 51% owned by one or more socially and economically disadvantaged individuals, or in the case of a publicly owned business, in which at least 51% of the stock is owned by one or more socially and economically disadvantaged individuals, and whose management and daily business operations are controlled by one or more of the individuals who own it.

3.52. **Divided Highway**. A highway with separate roadways intended to move traffic in opposite directions.

3.53. **Easement**. A real property right acquired by one party to use land belonging to another party for a specified purpose.

3.54. **Electronic Vault**. The Owner's bidding system where electronic bids are stored before bid opening.

3.55. **Engineer**. The Chief Engineer of the Owner or the authorized representative of the Chief Engineer.

3.56. **Equipment Watch**. Publication containing equipment rental rates.

3.57. **Escalation Ladder**. A process to determine issue resolution during the course of the Contract.

3.58. **Expressway**. A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at intersections.

3.59. **Family Member**. A family member of an individual is the individual's parent, parent's spouse, stepparent, stepparent's spouse, sibling, sibling's spouse, spouse, child, child's spouse, spouse's child, spouse's child's

spouse, grandchild, grandparent, uncle, uncle's spouse, aunt, aunt's spouse, first cousin, or first cousin's spouse. Refer to 43 TAC § 9.12(g), "Affiliated Entities."

3.60. **Force Account**. Payment for directed work based on the actual cost of labor, equipment, and materials furnished with markups for project overhead and profit.

3.61. **Freeway**. An expressway with full control of access.

3.62. **Frontage Road**. A local street or road auxiliary to and located along an arterial highway for service to abutting property and adjacent areas and for control of access (sometimes known as a service road, access road, or insulator road).

3.63. **Hazardous Materials or Waste**. Hazardous materials or waste include, but are not limited to, explosives, compressed gas, flammable liquids, flammable solids, combustible liquids, oxidizers, poisons, radioactive materials, corrosives, etiologic agents, and other material classified as hazardous by 40 CFR 261, or applicable state and federal regulations.

3.64. **High-Pressure Water Blasting**. Water blasting with pressures between 5,000 and 10,000 psi.

3.65. **Highway, Street, or Road**. General terms denoting a public way for purposes of and related to vehicular, pedestrian, and bicycle travel, including the entire area within the right of way including Intersections and Easements; all related structures, improvements, and appurtenances, including but not limited to the roadside and roadside facilities, drainage systems, signal systems, and other traffic in formation and control systems; or other structures or improvements that directly or indirectly serve public travel. Recommended usage in urban areas is highway or street, and in rural areas, highway or road.

3.66. **Historically Underutilized Business (HUB)**. A corporation, sole proprietorship, partnership, or joint venture formed for the purpose of making a profit certified by the Texas Building and Procurement Commission, and 51% owned by one or more persons who are economically disadvantaged because of their identification as members of certain groups, including African Americans, Hispanic Americans, Asian-Pacific Americans, Native Americans, or women, and have a proportionate interest and demonstrate active participation in the control, operation, and management of the business' affairs. Individuals meeting the HUB definition are required to be residents of the State of Texas. Businesses that do not have their primary headquarters in the State of Texas are not eligible for HUB certification.

3.67. **In Writing**. Communication memorialized, including written or electronic documentation by email or letter only.

3.68. **Incentive and Disincentive Provisions**. An adjustment to the Contract price of a predetermined amount for each day the work is completed ahead of or behind the specified milestone, phase, or Contract completion dates. The amount of the incentive and disincentive is determined based on estimated costs for engineering, traffic control, delays to the motorists, and other items involved in the Contract.

3.69. **Independent Assurance Tests**. Tests used to evaluate the sampling and testing techniques and equipment used in the acceptance program. The tests are performed by the Owner and are not used for acceptance purposes.

3.70. **Inspector**. The person assigned by the Engineer to inspect for compliance with the Contract any or all parts of the work and the materials used.

3.71. **Intelligent Transportation System**. An integrated system that uses video and other electronic detection devices to monitor traffic flows.

3.72. **Intersection**. The general area where two or more highways, streets, or roads join or cross, including the roadway and roadside facilities for vehicular, pedestrian, and bicycle traffic movements within it.

3.73. **Island**. An area within a roadway from which vehicular traffic is intended to be excluded, together with any area at the approach occupied by protective deflecting or warning devices.

3.74. **Joint Venture**. Any combination of individuals, partnerships, limited liability companies, or corporations submitting a single bid proposal.

3.75. **Lane Rental**. A method to assess the Contractor daily or hourly rental fees for each lane, shoulder, or combination of lanes and shoulders taken out of service.

3.76. **Letting**. The receipt, opening, tabulation, and determination of the apparent low Bidder.

3.77. **Letting Official**. The employee empowered by the Owner to officially receive bids and close the receipt of bids at a letting.

3.78. **Licensed Professional Engineer**. A person who has been duly licensed by the Texas Board of Professional Engineers to engage in the practice of engineering in the State of Texas; also referred to as a Professional Engineer.

3.79. **Limits of Construction**. An area with established boundaries, identified within the highway right of way and easements, where the Contractor is permitted to perform the work.

3.80. **Local Street or Road**. A street or road primarily for access to residence, business, or other abutting property.

3.81. **Low-Pressure Water Blasting**. Water blasting with pressures between 3,000 and 5,000 psi.

3.82. **Major Item**. An item of work included in the Contract that has a total cost equal to or greater than 5% of the original Contract or $100,000 whichever is less. A major item at the time of bid will remain a major item. An item not originally a major item does not become one through the course of the Contract.

3.83. **Material Producer List**. TxDOT-maintained list of approved products, materials, laboratories, service providers, manufacturers, and producers.

3.84. **Materially Unbalanced Bid**. A bid that generates a reasonable doubt that award to the Bidder submitting a mathematically unbalanced bid will result in the lowest ultimate cost to the Owner.

3.85. **Materials Contract**. Not applicable to Locally Let projects.

3.86. **Materials Supplier's Questionnaire**. A prequalification form that reflects basic information, such as company contact, signature authority, and other requirements, but waives financial, equipment, and experience data.

3.87. **Mathematically Unbalanced Bid**. A bid containing bid prices that do not reflect reasonable actual costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs, and other indirect costs.

3.88. **Median**. The portion of a divided highway separating the traffic lanes in opposite directions.

3.89. **Milestone Date**. The date that a specific portion of the work is to be completed before the completion date for all work under the Contract.

3.90. **Monolithic Concrete Placement**. The placement of plastic concrete in such manner and sequence to prevent a construction joint.

3.91. **National Holidays**. January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, December 24, and December 25.

3.92. **Nonhazardous Recyclable Material**. A material recovered or diverted from the nonhazardous waste stream for the purposes of reuse or recycling in the manufacture of products that may otherwise be produced using raw or virgin materials.

3.93. **Nonresident Bidder**. A Bidder whose principal place of business is not in Texas. This includes a Bidder whose ultimate parent company or majority owner does not have its principal place of business in Texas.

3.94. **Nonresponsive Proposal**. A proposal that does not meet the criteria for acceptance contained in the proposal form.

3.95. **Non-Site-Specific Contracts**. Contracts where a geographic region is specified for the work and work orders, with or without plans, detail the limits and work to be performed.

3.96. **Notification**. Either written or oral instruction to the Contractor. Voice mail is oral notification.

3.97. **Pavement**. That part of the roadway with a constructed surface for the use of vehicular traffic.

3.98. **Pavement Structure**. Combination of surface course and base course placed on a subgrade to support the traffic load and distribute it to the roadbed.

3.98.1. **Base Course**. One or more layers of specified material thickness placed on a subgrade to support a surface course.

3.98.2. **Subgrade**. The top surface of a roadbed upon which the pavement structure, shoulders, and curbs are constructed.

3.98.3. **Subgrade Treatment**. Modifying or stabilizing material in the subgrade.

3.98.4. **Surface Course**. Pavement structure layers designed to accommodate the traffic load. The top layer resists skidding, traffic abrasion, and the disintegrating effects of climate and is sometimes called the wearing course.

3.99. **Payment Bond**. The security executed by the Contractor and the Surety, furnished to the Owner to guarantee payment of all legal debts of the Contractor pertaining to the Contract.

3.100. **Performance Bond**. The security executed by the Contractor and the Surety, furnished to the Owner to guarantee the completion of the work in accordance with the terms of the Contract.

3.101. **Plans**. The drawings approved by the Engineer, including true reproductions of the drawings that may show the location, character, dimensions, and details of the work and are a part of the Contract. Documents may include drawings or digital files.

3.102. **Power of Attorney for Surety Bonds**. An instrument under corporate seal appointing an attorney-in-fact to act on behalf of a Surety in signing bonds.

3.103. **Prequalification**. The process for determining a Contractor's eligibility to bid work.

3.104. **Prequalification Statement**. The forms on which required information is furnished concerning the Contractor's ability to perform and finance the work.

3.105. **Project-Specific Location**. A material source, plant, waste site, parking area, storage area, field office, staging area, haul road, or other similar location either outside the project limits or within the project limits but not specifically addressed in the Contract.

3.106. **Proposal**. The offer from the Bidder submitted on the prescribed form, including addenda issued, giving unit bid prices for performing the work described in the plans and specifications.

3.107. **Proposal Form**. The form printed and sent to the Bidder by the Owner or printed by the Bidder from the Owner's bidding system.

3.108. **Proposal Guaranty**. The security furnished by the Bidder as a guarantee that the Bidder will enter into a Contract if awarded the work.

3.109. **Quality Assurance (QA)**. Sampling, testing, inspection, and other activities conducted by the Engineer to determine payment and make acceptance decisions.

3.110. **Quality Control (QC)**. Sampling, testing, and other process control activities conducted by the Contractor to monitor production and placement operations.

3.111. **Ramp**. A section of highway for the primary purpose of making connections with other highways.

3.112. **Recurring Maintenance Work Contracts**. Contracts or work for which maintenance is needed at the same location on more than one occasion (e.g., mowing Contracts for which mowing cycles are requested on multiple occasions).

3.113. **Referee Tests**. Tests requested to resolve differences between Contractor and Engineer test results.

3.114. **Regular Item**. A bid item contained in a proposal and not designated as an additive alternate or replacement alternate bid item.

3.115. **Rental Rate Blue Book for Construction Equipment**. Publication containing equipment rental rates.

3.116. **Repair**. Performed under Transportation Code §223, Subchapter A for Highway Improvement Contracts and includes restoration of a Highway, Street, or Road by replacing or putting together, in whole or in part, what is torn, broken, or otherwise damaged. Repair denotes the process of restoring all or part of a Highway, Street, or Road that has been subjected to decay, waste, injury, partial destruction, erosion, dilapidation, degradation, etc.

3.117. **Replacement Alternate**. A bid item identified the proposal form that a Bidder may substitute for a specific regular item of work.

3.118. **Responsive Bid**. A proposal that meets all requirements of the proposal form for acceptance.

3.119. **Right of Way**. A general term denoting land or property devoted to transportation purposes.

3.120. **Roadbed**. The graded portion of a highway prepared as foundation for the pavement structure and shoulders. On divided highways, the depressed median type and the raised median type highways are considered to have two roadbeds. Highways with a flush median are considered to have one roadbed. Frontage roads are considered separate roadbeds.

3.121. **Road Master**. A railroad maintenance official in charge of a division of railway.

3.122. **Roadside**. The areas between the outside edges of the shoulders and the right of way boundaries. Unpaved median areas between inside shoulders of divided highways and areas within interchanges are included.

3.123. **Roadway**. The portion of the highway (including shoulders) used by the traveling public.

3.124. **Routine Maintenance Contract**. Not applicable to Locally Let projects.

3.125. **Sandblasting, Dry**. Spraying blasts of pressurized air combined with sand.

3.126. **Sandblasting, Wet**. Spraying blasts of pressurized water combined with sand.

3.127. **Shot Blasting**. Spraying blasts of pressurized air combined with metal shot.

3.128. **Shoulder**. That portion of the roadway contiguous with the traffic lanes for accommodation of stopped vehicles for emergency use or for lateral support of base and surface courses.

3.129. **Sidewalk**. Portion of the right of way constructed exclusively for pedestrian use.

3.130. **Slurry Blasting**. Spraying blasts of pressurized air combined with a mixture of water and abrasive media.

3.131. **Small Business Enterprise**. A firm (including affiliates) whose annual gross receipts do not exceed the U.S. Small Business Administration's size standards for 4 consecutive yr.

3.132. **Special Provisions**. Additions or revisions to these standard specifications or special specifications.

3.133. **Special Specifications**. Supplemental specifications applicable to the Contract not covered by these standard specifications.

3.134. **Specifications**. Directives or requirements issued or made pertaining to the method and manner of performing the work or to quantities and qualities of materials to be furnished under the Contract. References to DMSs, ASTM or AASHTO specifications imply the latest standard or tentative standard in effect on the date of the proposal. The Engineer will consider incorporation of subsequent changes to these documents in accordance with Item 4, "Scope of Work."

3.135. **State**. The State of Texas.

3.136. **State Holiday**. A holiday authorized by the State Legislature excluding optional State holidays and not listed in Section 1.3.91., "National Holidays." A list of State holidays can be found on the TxDOT's website.

3.137. **Station**. A unit of measurement consisting of 100 horizontal ft.

3.138. **Subcontract**. The agreement between the Contractor and subcontractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.

3.139. **Subcontractor**. An individual, partnership, limited liability company, corporation, or any combination thereof that the Contractor sublets, or proposes to sublet, any portion of a Contract, excluding a material supplier, a hauling firm hauling only from a commercial source to the project, a truck owner-operator, a wholly owned subsidiary, or specialty-type businesses such as security companies and rental companies.

3.140. **Subsidiary**. Materials, labor, or other elements that because of their nature or quantity have not been identified as a separate item and are included within the items on which they necessarily depend.

3.141. **Substantial Completion of Work**. The date (day) when all project work requiring lane or shoulder closures or obstructions is completed, and traffic is following the lane arrangement as shown on the plans for the finished roadway; all pavement construction and surfacing are complete; and traffic control devices and pavement markings are in their final position, unless otherwise shown on the plans. The Engineer may make an exception for permanent pavement markings provided the lack of markings does not cause a disruption to traffic flow or an unsafe condition for the traveling public, and work zone pavement markings are in place.

3.142. **Substructure**. The part of the structure below the bridge seats but not including bearings, drilled shafts, or piling. Parapets, back walls, wing walls of the abutments, and drainage structures are considered parts of the substructure.

3.143. **Superintendent**. The representative of the Contractor who is available at all times and able to receive instructions from the Engineer or authorized Owner representatives and to act for the Contractor.

3.144. **Superstructure**. The part of the structure above the bridge seats or above the springing lines of arches and including the bearings. Flatwork construction may be considered superstructure.

3.145. **Supplemental Agreement**. Written agreement entered into between the Contractor and the Owner and approved by the Surety, covering alterations and changes in the Contract. A supplemental agreement is used by the Owner whenever the modifications include assignment of the Contract from one entity to another or other cases as desired by the Owner.

3.146. **Surety**. The corporate body or bodies authorized to do business in Texas bound with and for the Contractor for the faithful performance of the work covered by the Contract and for the payment for all labor and material supplied in the prosecution of the work.

3.147. **Surplus Materials**. Any debris or material related to the Contract not incorporated into the work.

3.148. **Suspension**. Action taken by the Owner or federal government pursuant to regulation that prohibits a person or company from entering into a Contract, or from participating as a subcontractor, or supplier of materials or equipment used in a highway improvement Contract as defined in Transportation Code, Chapter 223, Subchapter A.

3.149. **Traffic Lane**. The strip of roadway intended to accommodate the forward movement of a single line of vehicles.

3.150. **Traveled Way**. The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

3.151. **Truck Owner-Operator**. An individual who owns and operates one truck for hire.

3.152. **UT-Bridge**. TxDOT-owned software for steel girder erection. Software is available on the TxDOT's website.

3.153. **UT-Lift**. TxDOT-owned software for steel girder erection. Software is available on the TxDOT's website.

3.154. **Utility**. Privately, publicly, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communications, power, heat, gas, oil, water, waste, or stormwater that are not connected with the highway drainage, signal systems, or other products that directly or indirectly serve the public; the utility company.

3.155. **Verification Tests**. Tests used to verify accuracy of QC and QA and mixture design testing.

3.156. **Water-Abrasive Blasting**. Spraying blasts of pressurized water combined with abrasive media.

3.157. **Water Blasting**. Spraying blasts of pressurized water of at least 3,000 psi.

3.158. **Water-Injected Abrasive Blasting**. Abrasive blasting with water injected into the abrasive and air stream at the nozzle.

3.159. **Wholly Owned Subsidiary**. A legal entity owned entirely by the Contractor or subcontractor.

3.160. **Work**. The furnishing of all labor, materials, equipment, and incidentals necessary for the successful completion of the Contract.

3.161. **Work Order**. Written notice to the Contractor to begin the work. The work order may include the date when work and time charges will begin, the allowable number of working days, and plan sheets providing details specific to a location or to an item of work for non-site-specific work. A work order is part of the Contract.

3.162. **Written Notice**. Written notice is considered to have been duly given if delivered in person to the individual or member to whom it is intended or if sent by regular, registered, or certified mail and delivered to the last

known business address; sent by facsimile to the last known phone number; or sent by email to the last known address. The date of the letter will serve as the beginning day of notice. Unclaimed mail or failure to provide current contact information will not be considered a failure to provide written notice.

Item 2L
Instructions to Bidders

1. INTRODUCTION

Instructions to the Contractor in these specifications are generally written in active voice, imperative mood. The subject of imperative sentences is understood to be "the Contractor." The Owner's responsibilities are generally written in passive voice, indicative mood. Phrases such as "as approved," "unless otherwise approved," "upon approval," "as directed," "as verified," "as ordered," and "as determined" refer to actions of the Engineer unless otherwise stated, and it is understood that the directions, orders, or instructions to which they relate are within the limitations of and authorized by the Contract.

2. ELIGIBILITY OF BIDDERS

Obtain a prequalification form from the Department's website. A Bidder must be prequalified by Confidential Questionnaire at the time of bid opening. Comply with all technical prequalification requirements in the proposal.

2.1. **Confidential Questionnaire (CQ)**. Submit a CQ and an audited financial statement for approval. Once prequalified, a Bidder's eligibility is valid for a period of 1 yr. from the balance sheet statement date.

2.2. **Bidder's Questionnaire (BQ)**. Bidders prequalified with a BQ are only eligible to bid on projects identified as being waived from the requirements of Section 2L.2.1., "Confidential Questionnaire (CQ)." These projects are designated with a "W" on the Proposal Request Form. Submit a BQ for approval. Once prequalified, a Bidder's eligibility is valid for a period of 1 yr. from the date the BQ was received by the Department.

3. ISSUING PROPOSAL FORMS

The Owner will issue a proposal form to a prequalified Bidder if the Engineer's estimate is within that Bidder's available bidding capacity. Request a proposal form electronically from the Owner's website. A proposal form printed directly from the Owner's website is for informational purposes only and will not be accepted as an official proposal form. In the case of a joint venture (JV), all JV participants must be prequalified. An equally divided portion of the Engineer's estimate must be within each participant's available bidding capacity.

The Owner will not issue a proposal form if one or more of the following apply:

- the Bidder is suspended or debarred by the Commission or TxDOT,
- the Bidder has not fulfilled the requirements for prequalification,
- the Bidder does not have the available bidding capacity,
- the Bidder is prohibited from rebidding a specific proposal form due to a bid error on the original proposal form,
- the Bidder failed to enter into a Contract on the original award,
- the Bidder was defaulted or terminated on the original Contract, unless the Owner terminated in the best interest of the State or the public,
- the Bidder or a subsidiary or affiliate of the Bidder has received compensation from the Owner to participate in the preparation of the plans or specifications on which the bid or Contract is based,
- the Bidder is ineligible to bid on any proposed Contract in accordance with Article 7L.15., "Responsibility for Damage Claims,"
- the Bidder failed to attend a mandatory pre-bid conference,

- the Bidder or affiliate of the Bidder that was originally determined as the apparent low Bidder on a project but was deemed nonresponsive for failure to register or participate in the Department of Homeland Security (DHS) E-Verify system as specified in Article 2.15., "Department of Homeland Security (DHS) E-Verify System," is prohibited from rebidding that specific project.

4. INTERPRETING ESTIMATED QUANTITIES

The quantities listed on the proposal form are approximate and will be used for the comparison of bids. Payments will be made for the work performed in accordance with the Contract.

5. EXAMINING DOCUMENTS AND WORK LOCATIONS

Examine the proposal form, plans, specifications, and specified work locations before submitting a bid for the work. Submitting a bid will be considered evidence that the Bidder has performed this examination. Borings, soil profiles, water elevations, and underground utilities shown on the plans were obtained for the Owner's use in the preparation of the plans. This information is provided for the Bidder's information only, and the Owner makes no representation as to the accuracy of the data. Be aware of the difficulty of accurately classifying all material encountered in making foundation investigations, the possible erosion of stream channels and banks after survey data have been obtained, and the unreliability of water elevations other than for the date recorded.

Oral explanations, instructions, or consideration for Contractor-proposed changes on the proposal form given during the bidding process are not binding. Only requirements included on the proposal form, associated specifications, plans, and Owner-issued addenda are binding. Request explanations of documents in adequate time to allow the Owner to reply before the bid opening.

Immediately notify the Owner of any error, omission, or ambiguity discovered in any part of the proposal form and Contract documents. The Owner will issue addenda when appropriate.

6. PREPARING THE BID

Prepare the bid on the proposal form furnished by the Owner. Informational proposal forms printed from the Owner's website will not be accepted.

Specify a unit price in dollars and cents for each regular item and additive alternate item, or replacement alternate item for which an estimated quantity is given.

When "Working Days" is an item, submit the number of working days to be used to complete the Contract or phases of the Contract shown on the plans.

The Owner will not accept an incomplete bid. A bid that has one or more of the deficiencies listed below is considered incomplete:

- certifications were not acknowledged,
- a regular item or the additive alternate item is left blank,
- a regular item and the corresponding replacement alternate item are left blank,
- the proposal form submitted had the incorrect number of items,
- the Bidder did not acknowledge all addenda, or
- additionally, for printed bids:

- the blank spaces for each item as required on the bid form are not filled in by writing in words in ink,
- the bid was not signed in ink in the complete and correct name of the bidder making the bid, and signed by the person or persons authorized to bind the bidder, or
- unit prices were not stated in dollars and cents for each bid item listed on the bid form, except in the case of a regular bid item that has an alternate bid item.

7. NONRESPONSIVE BID

The Owner will not accept a nonresponsive bid. A bid that has one or more of the deficiencies listed below is considered nonresponsive:

- the bid was not in the hands of the Letting Official at the time and location specified in the advertisement,
- a proposal form was submitted for the same project by a Bidder or Bidders and one or more of its partners or affiliates, the Bidder was not authorized to receive a proposal form under Article 2L.3., "Issuing Proposal Forms,"
- the Bidder failed to acknowledge receipt of all addenda issued,
- the proposal form was signed by a person who was not authorized to bind the Bidder or Bidders,
- the proposal guaranty did not comply with the requirements contained in this Item,
- the bid was in a form other than the official proposal form issued by the Owner,
- the Bidder modified the bid in a manner that altered the conditions or requirements for work as stated in the proposal form,
- the Bidder bid more than the maximum or less than the minimum number of allowable working days shown on the plans when working days was an item,
- a typed proposal form does not contain the information in the format shown on the "Example of Bid Prices Submitted by Computer Printout" on the proposal form,
- the Bidder did not meet the requirements of the technical qualification,
- the Bidder failed to participate in the DHS E-Verify system as specified in Article 2L.15., "Department of Homeland Security (DHS) E-Verify System." ■ The bidder is not prequalified by TxDOT

8. ELECTRONIC BID

The Bidder is responsible for taking the appropriate measures to submit a bid. These measures include, but are not limited to acquiring hardware, software, and Internet connectivity needed for submitting a bid via the Owner's bidding system.

8.1. **Proposal Form**. Use the electronic proposal form in the Owner's bidding system. When regular bid items have corresponding replacement alternate items, select the bid item or group of items to be used for the bid tabulation. Acknowledge all addenda listed in the Owner's bidding system.

The electronic proposal form does not contain the special provisions, special specifications, general notes, and other Contract documents. These documents are included by reference.

8.2. **Proposal Guaranty**. Provide a proposal guaranty in the amount indicated on the proposal form. Use an electronic bid bond. Guaranty checks or printed bid bonds will not be accepted.

For a JV, the bond must be in the name of all JV participants. Enter the bond authorization code into the Owner's bidding system.

It is the Bidder's responsibility to ensure the electronic bid bond is issued in the name or Owner vendor identification numbers of the Bidder or Bidders.

8.3. **Submittal of Bid**. Submit the bid to the vault using the Owner's bidding system.

8.4. **Revising the Proposal Form**. Make desired changes in the Owner's bidding system up until the time and date set for the opening of bids. The last bid submitted to the vault will be used for tabulation purposes.

8.5. **Withdrawing a Bid**. Submit an electronic or written request to withdraw a bid before the time and date set for the opening. The Owner will not accept oral requests. An electronic request must be made using the Owner's bidding system.

If a bidder is unable to withdraw an electronic bid using the Owner's bidding system, a written request may be submitted. A written request must be signed and submitted to the Letting Official conducting the letting, with proof of identification. The request must be made by a person authorized to bind the Bidder or Bidders. In the case of a JV, the Owner will accept a request from any person authorized to bind a party to the JV. The Owner may require written delegation of authority to withdraw a bid when the individual sent to withdraw the bid is not authorized to bind the Bidder or Bidders.

9. PRINTED BID

9.1. **Proposal Form**. Mark all entries in ink. As an alternative to hand writing the unit prices on the proposal form, submit a typed proposal form. A typed proposal form must contain the information in the format shown on the "Example of Bid Prices Submitted by Computer Printout" on the proposal form.

When regular bid items have corresponding replacement alternate items, select the bid item or group of items to be used for the bid tabulation. Acknowledge all addenda by checking the appropriate box on the addendum acknowledgement page. Provide the complete and correct name of the Bidder submitting the bid. A person authorized to bind the Bidder must sign the proposal form. In the case of a JV, provide the complete and correct name of all Bidders submitting the bid. In the case of a JV, the person signing the proposal form must be authorized to bind all JV participants.

9.2. **Proposal Guaranty**. Provide a proposal guaranty in the amount indicated on the proposal form. Use either a guaranty check or a printed bid bond. An electronic bid bond may be used as the guaranty. Ensure the electronic bid bond meets the requirements of Section 2L.8.2., "Proposal Guaranty," and submit the electronic bid bond with the printed bid.

9.2.1. **Guaranty Check**. When used, make the check payable to the Owner. The check must be a cashier's check, money order, or teller's check drawn by or on a state or national bank, or a state or federally chartered credit union (collectively referred to as "bank"). The check must be dated on or before the date of the bid opening. Postdated checks will not be accepted. The type of check or money order must be indicated on the face of the instrument, except in the case of a teller's check, and the instrument must be no more than 90 days old. A check must be made payable at or through the institution issuing the instrument, be drawn by a bank and on a bank, or be payable at or through a bank. The Owner will not accept personal checks, certified checks, or other types of money orders.

9.2.2. **Bid Bond**. When a bond is used, use the bid bond form provided by the Owner. Submit the bid bond in the amount specified with the powers of attorney dated and attached. The bond must be dated on or before the date of the bid opening, bear the impressed seal of the Surety, and be signed by the Bidder or Bidders and an authorized individual of the Surety. As an alternative for JV Bidders, each Bidder may submit a separate bid bond completed as outlined in this Section. Bid bonds will only be accepted from Sureties authorized to execute a bond under and in accordance with state law.

9.3. **Submittal of Bid**. Place the completed proposal form and the proposal guaranty in a sealed envelope marked to indicate the contents.

When submitting by mail or delivery service, place the envelope in another sealed envelope and address as indicated in the official advertisement. It is the Bidder's responsibility to ensure that the sealed bid arrives at the location described on or before the time and date set for the bid opening. To be accepted, the bid must be in the hands of the Letting Official by that time of opening regardless of the method chosen for delivery.

9.4. **Revising the Proposal Form**. Make desired changes to the proposal form in ink, initial each change made, and submit the proposal to the Letting Official. Correction fluid or tape will be considered a change to the bid and requires the initials of the Bidder. The Owner will not revise a bid on behalf of a Bidder.

9.5. **Withdrawing a Bid**. Submit to the Letting Official conducting the letting a written request to withdraw a bid before the time and date set for the opening. The Owner will not accept oral requests. A written request must be signed and submitted to the Letting Official conducting the letting, with proof of identification. The request must be made by a person authorized to bind the Bidder or Bidders. In the case of a JV, the Owner will accept a request from any person authorized to bind a party to the JV. The Owner may require written delegation of authority to withdraw a bid when the individual sent to withdraw the bid is not authorized to bind the Bidder or Bidders.

10. OPENING AND READING OF BIDS

At the time, date, and location specified in the official advertisement, the Letting Official will publicly open and read bids.

11. TABULATING BIDS

11.1. **Official Total Bid Amount**. The Owner will sum the products of the quantities and the unit prices bid on the proposal form to determine the official total bid amount, except as provided in Section 2L.11.5., "Consideration of Unit Prices." The official total bid amount is the basis for determining the apparent low Bidder. The total bid amounts will be compared and the results made public.

11.2. **Consideration of Bid Format**. When a Bidder submits both an electronic bid and a printed bid that are responsive, the unit bid prices in the electronic bid will be used to determine the total bid amount. If the electronic bid is incomplete or nonresponsive, the printed bid will be used in the tabulation of the total bid amount.

If a Bidder submits two or more printed bids, all responsive bids will be tabulated. The bid with the lowest tabulation will be used to determine the total bid amount.

11.3. **Rounding of Unit Prices**. The Owner will round off all unit bids involving fractional parts of a cent to the nearest one-tenth cent ($0.001) in determining the amount of the bid as well as computing the amount due for payment of each item under the Contract. For rounding purposes, entries that contain five-hundredths of a cent ($0.0005) or more will be rounded up to the next highest tenth of a cent, while entries that contain less than five-hundredths of a cent will be rounded down to the next lowest tenth of a cent and in accordance with Section 2L.11.5., "Consideration of Unit Prices." Bids less than one-tenth of a cent ($0.001) will be rounded to one-tenth of a cent ($0.001). When credit items are included (negative unit prices), rounding is performed on the absolute value.

11.4. **Interpretation of Unit Prices**. The Owner will make a documented determination of the unit bid price if a unit bid price is illegible or conflicting in the case of replacement alternate items. The Owner's determination will be final.

11.5. **Consideration of Unit Prices**. Unit bid price entries such as no dollars and no cents, zero dollars and zero cents, or numerical entries of less than $0.001 will be tabulated as one-tenth of a cent ($0.001). Proposals in which unit bid prices have been left blank are incomplete and nonresponsive.

11.5.1. **Alternate Items**. If a proposal has a regular and corresponding alternate item or group of items, the proposal will be considered complete if:

- the regular item or group of regular items has unit prices entered,
- the alternate item or group of alternate items has unit prices entered, or
- both regular item or group of regular items and alternate item or group of alternate items have unit prices entered. The Owner will use the price bid for the regular or the alternate item, or group of items, that will result in the lowest cost to the State.

The bid will be considered incomplete and nonresponsive if:

- a regular item or group of regular items is left blank, or
- a corresponding alternate item or group of alternate items is left blank.

11.5.2. **Additive Alternate Items**. The Owner will sum the products of the quantities and the unit prices bid for the regular items on the proposal form to determine the total bid amount for the base bid. The official total bid amount will be determined by the summation of the base bid plus a predetermined order of additive alternate items, not to exceed the Owner's budgeted amount for the Contract. An estimate of the budgeted amount may be shown on the plans.

The Contract will identify the base bid work and additive alternate work to be performed. The Owner makes no guarantee that the additive alternate work will be required.

11.5.3. **A + B Bidding**. The official total bid amount will be determined by the summation of the Contract amount and the time element. The Owner will use the following formula to make the calculation:

A + B1 + B2 + BX + … + BT

The Contract amount, equal to A in the formula, is determined by the summation of the products of the approximate quantities shown in the proposal and the unit bid prices bid, and the time element, equal to B1, B2, BX (when phases are included as bid components), and BT (substantial completion of the project when included as a bid component), of the bid is determined by multiplying the number of working days bid to substantially complete the project, or phases, by the daily road-user cost (RUC) shown on the plans. When partial days are bid, they will be rounded up to the nearest whole day.

The formula above determines the low Bidder and establishes the Contract time or time for specific phases of the Contract.

11.5.4. **Rubber Additives**. For proposed Contracts without federal funds, if an alternate item for "Hot Asphalt-Rubber Surface Treatments" or "Hot-Mix Asphalt Concrete Pavement" that contains ground tire rubber is shown on the proposal form and the Bidder bids that alternate item, the amounts bid for "Hot Asphalt-Rubber" and "Aggregate" or "Hot-Mix Asphalt Concrete" will be reduced to 85% of the amounts actually bid. This reduction will only be used for the purposes of determining the lowest Bidder. To qualify, the ground tire rubber used must be produced from scrap tire ground in a facility in Texas. Payment for "Hot Asphalt-Rubber" and "Aggregate" or "Hot-Mix Asphalt Concrete" will be at the actual unit prices bid.

11.5.5. **Home State Bidding Preference**. For the purpose of determining the apparent low Bidder on proposed Contracts without federal funds, the Owner will select the option that results in the greatest bidding preference to the resident Bidder.

11.5.5.1. **Reverse Application of Non-Resident Bidder's Home State Bidding Preference**. The total bid amount will be based upon the reverse application of the non-resident Bidder's home state bidding preference, if any. This will also apply to another state's preference for a Bidder that offers materials grown, produced, processed, or manufactured in that state.

Any reverse application of the home state bidding preference will be the greater of the following:

- the amount by which a resident Bidder would be required to underbid the non-resident Bidder to obtain a comparable contract in the state in which the non-resident's principal place of business is located; or

- the amount by which a resident Bidder would be required to underbid the non-resident Bidder to obtain a comparable contract in the state in which a majority of the manufacturing relating to the Contract will be performed.

11.5.5.2. **Texas Home State Bidding Preference**. A Bidder will be considered the apparent low Bidder if the Bidder's home office is located in this state and their bid does not exceed an amount equal to 105% of the apparent low bid received from a Bidder whose home office is not located in this state. This will not apply to a Bidder from a bordering state whose state does not give a preference to a Bidder in a manner similar to this Section.

12. CONSIDERATION OF BID ERRORS

The Owner will consider a claim of a bid error by the apparent low Bidder if the following requirements have been met:

- a written notification is submitted to the Owner within 5 business days after the date the bid is opened and
- the submittal identifies the items of work involved and includes bidding documentation. The Owner may request clarification of submitted documentation.

The Owner will evaluate the claim of a bid error by the apparent low Bidder by considering the following:

- the bid error relates to a material item of work,
- the bid error amount is a significant portion of the total bid,
- the bid error occurred despite the exercise of ordinary care, and
- the delay of the proposed work will not impact cost and safety to the public.

Acceptance of the bid error claim by the Owner will result in the rejection of all bids. The erring Contractor will not be allowed to bid the project when it is re-let. Rejection of bids due to the Contractor's bid error may result in the application of remedial actions by the Owner.

13. TIE BIDS

If the official total bid amount for two or more Bidders is equal and those bids are the lowest submitted, each tie Bidder will be given an opportunity to withdraw their bid. If two or more tie Bidders do not withdraw their bids, the low Bidder will be determined by a coin toss or a series of coin tosses when there are more than two Bidders. If all tie Bidders request to withdraw their bids, no withdrawals will be allowed and the low Bidder will be determined by a coin toss or a series of coin tosses when there are more than two Bidders. The Letting Official will preside over the proceedings.

14. DEPARTMENT OF HOMELAND SECURITY (DHS) E-VERIFY SYSTEM

The Owner will not award a Contract to a Contractor that is not registered in the DHS E-Verify system. Remain active in E-Verify throughout the life of the Contract. In addition, in accordance with Article 8L.2., "Subcontracting," sixth paragraph, include this requirement in all subcontracts and require that subcontractors remain active in E-Verify until their work is completed.

If the apparent low Bidder does not appear in the DHS E-Verify system before award, the Contractor must submit documentation showing that they are compliant within 5 calendar days after bid opening. A Contractor that fails to comply or respond within the deadline will be declared nonresponsive. The Bidder forfeiting the proposal guaranty will not be considered in future proposals for the same work unless there has been a substantial change in the scope of the work.

The Owner may recommend to:

- reject all bids or
- award the Contract to the new apparent low Bidder, if the Owner is able to verify the Bidder's participation in the DHS E-Verify system.

If the Owner is unable to verify the new apparent low Bidder's participation in the DHS E-Verify system:

- the new apparent low Bidder will not be deemed nonresponsive,
- the new apparent low Bidder's guaranty will not be forfeited,
- the Owner will reject all bids,
- the new apparent low Bidder will remain eligible to receive future proposals for the same project, and
- the proposal guaranty of the original low bidder will become the property of the Owner, not as a penalty, but as liquidated damages.

Item 3L
Award and Execution of Contract

1. AWARD OF CONTRACT

The Owner or original award authority will award, reject, or defer the Contract within 90 days after the opening of the proposal. The Owner reserves the right to reject any or all proposals and to waive technicalities in the best interest of the Owner.

1.1. **Award**. The Owner or original award authority will award the Contract to the low Bidder as determined in accordance with Article 2L.11., "Tabulating Bids." The Owner may award a Contract to the second lowest Bidder when the following requirements have been met:

- the low Bidder withdraws their bid or fails to enter into Contract,
- the second lowest Bidder agrees to perform the work at the unit bid prices of the low Bidder,
- the Owner recommends in writing the award of the Contract to the second lowest Bidder, and
- the Owner's governing body agrees with the Owner recommendation for award to the second lowest Bidder.

1.2. **Rejection**. The Owner or original award authority will reject the Contract if:

- collusion may have existed among the Bidders. Collusion participants will not be allowed to bid future proposals for the same Contract,
- the low bid is mathematically and materially unbalanced. The Bidder will not be allowed to bid future proposals for the same Contract,
- the lowest bid is higher than the Owner's estimate, and re-advertising for bids may result in a lower bid,
- the low bid contains a bid error that satisfies the requirements and criteria in Article 2L.12., "Consideration of Bid Errors," or
- rejection of the Contract is in the best interest of the Owner.

1.3. **Deferral**. The Owner may defer the award or rejection of the Contract when deferral is in the best interest of the Owner.

2. RESCINDING OF AWARD

The Owner or original award authority reserves the right to cancel the award of any Contract before Contract execution with no compensation due when the cancellation is in the best interest of the Owner. The Owner will return the proposal guaranty to the Contractor.

3. DISADVANTAGED BUSINESS ENTERPRISE (DBE) AND SMALL BUSINESS ENTERPRISE (SBE)

Submit all DBE and SBE information in the timeframe specified when required by the proposal.

4. EXECUTION OF CONTRACT

Provide the following within 15 days after written notification of award of the Contract.

4.1. **Contract**. Execute the Contract as prescribed by the Owner.

4.2. **Bonds**. Execute and date the performance and payment bond in the full amount of the Contract with the powers of attorney. Provide bonds in accordance with Table 1. Furnish the payment and performance bonds as a guaranty for the protection of the claimants and the Owner for labor and materials and the faithful performance of the work.

Table 1
Bonding Requirements

Contract Amount	Required Bonds
Less than $25,000	None
$25,000–$100,000	Payment
More than $100,000	Performance and payment

4.3. **Insurance**. For construction and building Contracts, submit a certificate of insurance showing coverages in accordance with the Contract requirements.

Insurances must cover the work for the duration of the Contract and must remain in effect until final acceptance. Provide project-specific insurance, not listed in Table 2, until acceptance of the work covered by the project-specific insurance or as approved by the Engineer. Failure to obtain and maintain insurance for the contracted work may result in suspension of work or default of the Contract. If the insurance expires and coverage lapses for any reason, stop all work until the Owner receives an acceptable certificate of insurance.

Provide the Owner with a certificate of insurance verifying the types and amounts of coverage shown in Table 2. The certificate of insurance must be in a form approved by the Texas Department of Insurance. Certificates of insurance for commercial general liability, auto liability, and workers' compensation must include the Contractor's prequalified name in the "Insured" field. Any certificate of insurance provided must be available for public inspection.

Table 2
Insurance Requirements

Type of Insurance	Amount of Coverage
Commercial general liability insurance	Not less than: $1,000,000 each occurrence
Business automobile policy	Not less than: $1,000,000combined single limit
Workers' compensation	Not less than: Statutory
All risk builder's risk insurance (for building-facilities contracts only)	100% of Contract price

By signing the Contract, the Contractor certifies compliance with all applicable laws, rules, and regulations pertaining to workers' compensation insurance. This certification includes all subcontractors. Pay all deductibles stated in the policy. Subcontractors must meet the requirements shown in Table 2, either through their own coverage or through the Contractor's coverage.

The workers' compensation policy must include a waiver of subrogation endorsement in favor of the Owner.

For building-facilities contracts, provide all risk builder's risk insurance to protect the Owner against loss by storm, fire, or extended coverage perils on work and materials intended for use on the project, including the adjacent structure. Name the Owner under the Lost Payable clause.

For contracts with railroad requirements, see project-specific details for additional insurance requirements.

Provide a substitute Surety on the Contract bonds in the original full Contract amount within 15 days of notification if the Surety is declared bankrupt or insolvent, the Surety's underwriting limitation drops below the Contract amount or the Surety's right to do business is terminated by the Owner. The substitute Surety must be authorized by the laws of the Owner and acceptable to the Owner. Work will be suspended until a substitute Surety is provided. Working day charges will be suspended for 15 days or until an acceptable Surety is provided, whichever is sooner.

The work performed under this Section will not be measured or paid for directly, but will be subsidiary to pertinent Items.

4.4. **Business Ownership Information**. Submit the names and Social Security numbers of all individuals owning 25% or more of the firm, or firms in the case of a joint venture, on the Owner's form.

4.5. **Railroad Documents**. Provide all required documents for satisfaction of railroad requirements for projects that have work involving railroad right of way. Comply with the requirements of Article 5L.8., "Cooperation with Railroads."

5. FAILURE TO ENTER CONTRACT

If the Contractor fails to comply with all the requirements in Article 3L.4., "Execution of Contract," the proposal guaranty will become the property of the Owner, not as a penalty, but as liquidated damages. The Contractor forfeiting the proposal guaranty will not be considered in future proposals for the same work unless there has been a substantial change in design of the work.

6. APPROVAL AND EXECUTION OF CONTRACT

The Contract will be approved and signed under authority of the Owner.

7. RETURN OF PROPOSAL GUARANTY

The proposal guaranty check of the low Bidder will be retained until after the Contract has been rejected or awarded and executed. Bid bonds will not be returned.

8. BEGINNING OF WORK

Do not begin work until authorized in writing by the Owner.

Verify all quantities of materials shown on the plans before ordering.

9. ASSIGNMENT OF CONTRACT

Do not assign, sell, transfer, or otherwise dispose of the Contract or any portion of the rights, title, or interest (including claims) without the approval of the Owner or original award authority. The Owner must deem any proposed assignment justified and legally acceptable before the assignment can take place.

10. EXCLUDED PARTIES

The Contractor certifies by signing the Contract that the Contractor will not enter into any subcontract with a subcontractor that is debarred or suspended by the Owner or any federal agency.

Item 4L
Scope of Work

1. CONTRACT INTENT

The intent of the Contract is to describe the completed work to be performed. Furnish materials, supplies, tools, equipment, labor, and other incidentals necessary for the proper prosecution and completion of the work in accordance with Contract documents.

2. PRECONSTRUCTION CONFERENCE

Before starting work, schedule and attend a preconstruction conference with the Engineer. Failure to schedule and attend a preconstruction conference is not grounds for delaying the beginning of working day charges. The preconstruction conference may be scheduled with the safety preconstruction meeting described in Section 7L 2.2., "Safety Preconstruction Meeting" and the railroad coordination meeting described in Article 5L 8., "Cooperation with Railroads." Work with the Engineer to resolve or escalate all issues. Execute the project pledge and establish an issue escalation ladder.

2.1. **Project Pledge**. Contractor representatives at the level of foreman and above will certify in writing they will approach the construction of this project in a manner consistent with delivering a high-quality project in a safe, cost-effective, and timely manner, and they will be committed to not allowing personality conflicts or personal interests to interfere with providing the public with a quality project. Failure to uphold this commitment may result in grounds for removal from the project.

2.2. **Issue Resolution Process**. An issue is any aspect of the Contract where parties of the Contract do not agree. The individuals identified at the lowest level of the issue escalation ladder will initiate the issue resolution process by escalating any issue that remains unresolved within the timeframe outlined in the issue escalation ladder.

Work with the Engineer to resolve all issues during the course of the Contract. Refer to Article 4L 7., "Dispute or Claims Procedure," for all unresolved issues.

3. PARTNERING – NOT APPLICABLE

The intent of this Article is to promote an environment of trust, mutual respect, integrity, and fair dealing between the Owner and the Contractor.

Informal partnering does not make use of a facilitator and is led by the Engineer in charge of the work and the Contractor's counterpart, while formal partnering uses the services of a facilitator (internal or external).

3.1. **Procedures for Partnering Meetings and Format**. Informal partnering is required, unless formal partnering is mutually agreed upon instead of the informal partnering.

3.2. **Facilitators**. The facilitator is to act as a neutral party seeking to initiate cooperative working relationships. This individual must have the technical knowledge and ability to lead and guide discussions. Choose either an internal or external facilitator. The facilitator must be acceptable to the Engineer.

3.2.1. **Internal Facilitators**. An Owner or Contractor staff member may be selected as the facilitator at no additional cost to either party.

3.2.2. **External Facilitators**. A private firm or individual that is independent of the Contractor and the Owner may be selected as the facilitator. Submit the facilitator's name and estimated fees for approval before contracting with the facilitator.

3.3. **Meetings and Arrangements**. Coordinate with the Engineer for meeting dates and times, locations including third party facilities, and other needs and appurtenances including but not limited to audio or visual equipment. Make all meeting arrangements for formal partnering. Use Owner facilities or facilities in the vicinity of the project if available. Submit the estimated meeting costs for approval before finalizing arrangements.

Coordinate facilitator discussions before the partnering meeting to allow the facilitator time to prepare an appropriate agenda. Prepare a list of attendees with job titles and include critical Contractor, subcontractor, and supplier staff on the list. Provide the facilitator with the list of attendees and invite the attendees listed.

The Owner will invite and provide a list of attendees that includes, but is not limited to Owner, TxDOT, other local governments, law enforcement, railroad, and utility representatives.

Participate in additional partnering meetings as mutually agreed upon.

3.4. **Payment**. Expenses for labor, Contractor equipment, or overhead will not be allowed. Markups as prescribed in Article 9L 7., "Payment for Extra Work and Force Account Method," will not be allowed.

Informal partnering will be conducted with each party responsible for their own costs.

For formal partnering using internal facilitators, the Contractor will be responsible for arrangements and for expenses incurred by their internal facilitator, including but not limited to meals, travel, and lodging. Owner facilitators may be used at no additional cost.

For formal partnering using external facilitators, submit an invoice to the Engineer for reimbursement. The Owner will reimburse the Contractor for half of the eligible expenses as approved. For external facilitators not approved by the Owner but used at the Contractor's option, the Contractor will be responsible for all costs of the external facilitator.

For meeting facilities and appurtenances, submit an invoice to the Engineer for reimbursement. The Owner will reimburse the Contractor for half of the eligible expenses as approved.

4. CHANGES IN THE WORK

The Engineer reserves the right to make changes in the work, including addition, reduction, or elimination of quantities and alterations needed to complete the Contract. Perform the work as altered. These changes will not invalidate the Contract nor release the Surety. The Contractor is responsible for notifying the sureties of any changes to the Contract.

If the changes in quantities or the alterations do not significantly change the character of the work under the Contract, the altered work will be paid for at the Contract unit price. If the changes in quantities or the alterations significantly change the character of the work, the Contract will be amended by a change order. If no unit prices exist, this will be considered extra work and the Contract will be amended by a change order. Provide cost justification as requested, in an acceptable format.

Payment will not be made for anticipated profits on work that is eliminated.

Agree on the scope of work and the basis of payment for the change order before beginning the work. If there is no agreement, the Engineer may order the work to proceed under Article 9L 7., "Payment for Extra Work and Force Account Method," or by making an interim adjustment to the Contract. In the case of an adjustment, the Engineer will consider modifying the compensation after the work is performed.

A significant change in the character of the work occurs when:

- the character of the work for any item as altered differs materially in kind or nature from that in the Contract, or
- a major item of work varies by more than 25% from the original Contract quantity,

When the quantity of work to be done under any major item of the Contract is more than 125% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price on the portion of the work that is above 125%.

When the quantity of work to be done under any major item of the Contract is less than 75% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price.

If the changes require additional working days to complete the Contract, Contract working days will be adjusted in accordance with Item 8L, "Prosecution and Progress."

5. DIFFERING SITE CONDITIONS

During the progress of the work, differing subsurface or latent physical conditions may be encountered at the site. The two types of differing site conditions are defined as:

- those that differ materially from those indicated in the Contract, and
- unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract.

Notify the Engineer in writing when differing site conditions are encountered. The Engineer will notify the Contractor in writing when the Owner discovers differing site conditions. Unless directed otherwise, suspend work on the affected items and leave the site undisturbed. The Engineer will investigate the conditions and determine whether differing site conditions exist. The Engineer will provide written notification of the determination whether or not an adjustment of the Contract is warranted. If the differing site conditions cause an increase or decrease in the cost or number of working days specified for the performance of the Contract, the Engineer will make adjustments, excluding the loss of anticipated profits, in accordance with the Contract. Additional compensation will be made only if the required written notice has been provided by either the Contractor or the Engineer.

6. REQUESTS FOR ADDITIONAL COMPENSATION AND DAMAGES

Notify the Engineer in writing of any intent to request additional compensation once there is knowledge of the basis for the request. An assessment of damages is not required to be part of this notice but is desirable. The intent of the written notice requirement is to provide the Engineer an opportunity to evaluate the request and to keep an accurate account of the actual costs that may arise. Minimize impacts and costs.

If written notice is not given, the Contractor waives the right to additional compensation unless the circumstances could have reasonably prevented the Contractor from knowing the cost impact before performing the work. Notice of the request and the documentation of the costs will not be construed as proof or substantiation of the validity of the request. Submit the request in enough detail to enable the Engineer to determine the basis for entitlement, adjustment in the number of working days specified in the Contract, and compensation.

Compensable damages occur when impacts that are the responsibility of the Owner result in additional costs to the Contractor that could not have been reasonably anticipated at the time of letting. Costs of performing additional work are not considered damages. Notify the Engineer in writing as soon as possible for Contractor damages. The intent is to reimburse the Contractor for actual expenses arising from a compensable impact. No profit or markups, other than labor burden, will be allowed. For damages, labor burden will be reimbursed at 35% unless the Contractor can justify higher actual cost. Justification for a higher percentage must be in conformance with the methodology provided by the Owner, submitted

separately for project overhead labor and direct labor, and determined and submitted by a Certified Public Accountant (CPA). Submit CPA-prepared labor burden rates directly to the Owner for approval.

The Owner will not consider fees and interest on requests for additional compensation and damages. Fees include, but are not limited to preparation, attorney, printing, shipping, and various other fees.

If the Contractor requests compensation for damages and the damages are determined to be compensable, then standby equipment costs and project overhead compensation will be based on the duration of the compensable damage and will be limited as follows.

6.1. **Standby Equipment Costs**. Payment will be made in accordance with Section 9L 7.1.4.3., "Standby Equipment Costs."

6.2. **Project Overhead**. Project overhead is defined as the administrative and supervisory expenses incurred at the work locations. When delay to project completion occurs, reimbursement for project overhead for the Contractor will be made using the following options at the Contractor's discretion:

- reimbursed at 6% (computed as daily cost by dividing 6% of the original Contract amount by the number of original Contract work days), or
- actual documented costs for the impacted period.

Project overhead for delays impacting subcontractors will be determined from actual documented costs submitted by the Contractor.

Time extensions and suspensions alone will not be justification for reimbursement for project overhead.

6.3. **Home Office Overhead**. The Owner will not compensate the Contractor for home office overhead.

7. DISPUTE OR CLAIMS PROCEDURE

The dispute resolution policy promotes a cooperative attitude between the Engineer, Contractor, and Contractor's subcontractors working through the Contractor. Emphasis is placed on resolving issues while they are still current, at the Owner's office, and in an informal manner. Open sharing of information is encouraged by all parties involved so the information provided completely and accurately reflects the issues and facts. If information is not shared, decisions may be limited to relying on the documentation that is available for review.

The Owner's goal is to have a dispute settled by the Engineer before elevating it as a claim to the Owner.

If a dispute cannot be resolved, initiate the Contract claim procedure by submitting a claim to the Owner.

The Contractor, or subcontractor through the Contractor, will file a Contract claim request and a detailed report that provides the basis for the claim. The detailed report will include relevant facts of the claim, cost or other data supporting the claim, a description of any additional compensation requested, and documents supporting the claim.

The claim must include the following certification: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Owner is liable; and that I am duly authorized to certify the claim on behalf of the Contractor."

File a claim after completion of the Contract or when required for orderly performance of the Contract. For a claim resulting from enforcement of a warranty period, file the claim no later than 1 yr. after expiration of the warranty period. For all other claims, file the claim no later than 1 yr. after the date the Owner issues notice to the Contractor that they are in default, the date the Owner terminates the Contract, or the date of final acceptance of the Contract. It is the Contractor's responsibility to submit requests in a timely manner.

Item 5L
Control of the Work

1. AUTHORITY OF ENGINEER

The Engineer has the authority to observe, test, inspect, approve, and accept the work (either in writing or orally). The Engineer decides all questions about the quality and acceptability of materials, work performed, work progress, Contract interpretations, applicability of standard details, and acceptable Contract fulfillment. The Engineer has the authority to enforce and make effective these decisions.

- Unless noted elsewhere in the Contract or by the Engineer, payment for Contractor work is in accordance with the Contract requirements at that time. This payment does not eliminate the Contractor's responsibilities for the work as defined in Article 7L.17., "Contractor's Responsibility for Work," or Article 5L.12., "Final Acceptance."
- The Engineer acts as a referee in all questions arising under the terms of the Contract.
- The Engineer's decisions are final and binding.

The Engineer will pursue and document actions against the Contractor as warranted to address Contract performance issues. Contract remedies include, but are not limited to, the following:

- requiring the Contractor to remove and replace defective work, or reducing payment for defective work,
- removing an individual from the project,
- suspending the work without suspending working day charges,
- assessing standard liquidated damages to recover the Owner's administrative costs, including additional project-specific liquidated damages when specified in the Contract withholding estimates, and
- declaring the Contractor to be in default of the Contract

The Engineer will consider and document any events outside the Contractor's control that contributed to the failure to meet performance standards, including consideration of sufficient time.

Follow the issue escalation ladder if there is disagreement regarding the application of Contract remedies.

2. PLANS AND WORKING DRAWINGS

When required, provide working drawings to supplement the plans with all necessary details not included on the Contract plans. Prepare and furnish working drawings in a timely manner and obtain approval, if required, before the beginning of the associated work. For all working drawing submittal requirements, the Engineer may allow electronic and other alternative submission procedures. Have a licensed professional engineer sign, seal, and date the working drawings as shown in Table 1.

Prepare working drawings using United States standard measures in the English language. The routing of submittals for review and approval will be established at the preconstruction conference. The Contractor is responsible for the accuracy, coordination, and conformity of the various components and details of the working drawings. Owner approval of the Contractor's working drawings will not relieve the Contractor of any responsibility under the Contract. The work performed in accordance with this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

Table 1
Signature and Approval Requirements for Working Drawings

Working Drawings For		Requires Licensed Professional Engineer's Signature, Seal, and Date	Requires Owner Approval
1. Alternate or optional designs submitted by Contractor		Yes	Yes
2. Supplementary shop and fabrication drawings for structural Items		No unless required on the plans	See applicable Item
3. Contractor-proposed temporary facilities that affect the public safety, not included on the plans		Yes	Yes
4. Form and falsework details	Bridges, retaining walls, and other major structures	Yes unless otherwise shown on the plans	No[1]
	Minor structures	No unless otherwise shown on the plans	No
5. Erection drawings		Yes	No[1,2]
6. Contractor-proposed major modifications to traffic control plan		Yes	Yes

1. The Engineer may require that the Contractor have a licensed professional engineer certify that the temporary works are constructed according to the sealed drawings.
2. Approval is required for items spanning over live traffic or where safety of the traveling public is affected, as determined by the Engineer.

Submit shop drawings electronically for the fabrication of structural items in accordance with the Owner's procedures and as directed for other items required by the Contract. References to 11 × 17-in. sheets in individual specifications for structural items imply electronic computer-aided design sheets.

3. CONFORMITY WITH PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

Furnish materials and perform work in reasonably close conformity with the lines, grades, cross-sections, dimensions, details, gradations, physical and chemical characteristics of materials, and other requirements shown in the Contract. Reasonably close conformity limits are defined in the respective Items of the Contract or, if not defined, as determined by the Engineer. Obtain approval before deviating from the plans and approved working drawings. Do not perform work beyond the lines and grades shown on the plans or any extra work without the Engineer's authority. Work performed beyond the lines and grades shown on the plans or any extra work performed without authority is considered unauthorized and excluded from pay consideration. The Owner will not pay for material rejected due to improper fabrication, excess quantity, or any other reasons within the Contractor's control.

3.1. **Acceptance of Defective or Unauthorized Work**. When work fails to meet Contract requirements, but is adequate to serve the design purpose, the Engineer will decide the extent to which the work will be accepted and remain in place. The Engineer will document the basis of acceptance by letter and may adjust the Contract price.

3.2. **Correction of Defective or Unauthorized Work**. When work fails to meet Contract requirements and is inadequate to serve the design purpose, it will be considered defective. Correct, or remove and replace, the work at the Contractor's expense, as directed.

The Owner has the authority to correct or to remove and replace defective or unauthorized work. The cost may be deducted from any money due or to become due to the Contractor.

4. COORDINATION OF PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

The specifications, accompanying plans, special provisions, change orders, and supplemental agreements are intended to work together and be interpreted as a whole.

Numerical dimensions govern over scaled dimensions. Special provisions govern over plans (including general notes), which govern over standard specifications and special specifications. Job-specific plan sheets govern over standard plan sheets.

However, in the case of conflict between plans (including general notes) and specifications regarding responsibilities for hazardous materials and traffic control in Items 1L–10L, "Local Government General Requirements and Covenants," and Item 502, "Barricades, Signs, and Traffic Handling," special provisions govern over standard specifications and special specifications, which govern over the plans.

Notify the Engineer promptly of any omissions, errors, or discrepancies upon discovery so necessary corrections and interpretations can be made. Failure to promptly notify the Engineer of discovered omissions, errors, or discrepancies will constitute a waiver of all Contract claims against the Owner for misunderstandings or ambiguities that result from the errors, omissions, or discrepancies.

5. COOPERATION OF CONTRACTOR

Cooperate with the Engineer. Respond promptly to instructions from the Engineer. Provide all information necessary for the successful completion of the Contract.

Designate in writing a competent, English-speaking Superintendent employed by the Contractor. The Superintendent must be experienced in the work being performed and capable of reading and understanding the Contract. Ensure the Superintendent is available at all times and able to receive instructions from the Engineer or authorized Owner representatives and to act for the Contractor. The Engineer may suspend work without suspending working day charges if a Superintendent is not available or does not meet the above criteria.

At the written request of the Engineer, immediately remove from the project any employee or representative of the Contractor or a subcontractor who, in the opinion of the Engineer, does not perform work in a proper and skillful manner or who is disrespectful, intemperate, disorderly, uncooperative, or otherwise objectionable. Do not reinstate these individuals without the written consent of the Engineer.

Furnish suitable machinery, equipment, and construction forces for the proper prosecution of the work.

Provide adequate lighting to address quality requirements and inspection of nighttime work.

6. COOPERATING WITH UTILITIES

Use established safety practices when working near utilities. Consult with the appropriate utilities before beginning work. Notify the Engineer immediately of utility conflicts. The Engineer will decide whether to adjust utilities or adjust the work to eliminate or lessen the conflict. Unless otherwise shown on the plans, the Engineer will make necessary arrangements with the utility owner when utility adjustments are required.

Use work procedures that protect utilities or appurtenances that remain in place during construction. Cooperate with utility companies to remove and rearrange utilities to avoid service interruption or duplicate work by the utility companies. Allow utilities access to the right of way.

Immediately notify the appropriate utility of service interruptions resulting from damage due to construction activities. Cooperate with utilities until service is restored. Maintain access to fire hydrants when necessary.

7. COOPERATION BETWEEN CONTRACTORS

Cooperate and coordinate with other Contractors working within the limits or adjacent to the limits.

8. COOPERATION WITH RAILROADS

Plan and prosecute portions of the work involving a railway to avoid interference with or hindrance to the railroad company.

If the work is on railroad right of way, do not interfere with the operation of the railroad company's trains or other property.

8.1. **Railroad Coordination Meeting**. When shown on the plans or directed by the Engineer, schedule and attend a railroad coordination meeting with the Engineer before beginning work or as agreed upon (may be a part of the preconstruction conference described in Article 4L.2., "Preconstruction Conference"). Prepare a list of attendees and invite personnel, including, but not limited to Owner, Contractor, subcontractor, and railroad representatives.

Provide the invitation to the railroad representatives at least 21 calendar days before the railroad coordination meeting.

8.2. **Project-Specific Information**. Refer to project-specific plan sheets in the Contract for specific information concerning the work to be completed by the Contractor and the railroad within railroad right of way; railroad right of way locations impacted by construction; percentage of Contract work at each location; train movements at each location; and requirements for railroad insurance, flagging, and Right of Entry (ROE) Agreements.

8.3. **Right of Entry Agreement by the Owner**. When shown on the plans, the process for obtaining a fully executed ROE Agreement is as follows.

- The Owner will send the unexecuted ROE Agreement to the Contractor with the unexecuted Contract.
- Partially execute the ROE Agreement and return it to the Owner with the partially executed Contract and required insurance.
- The Owner will coordinate with the railroad company regarding the further execution of the ROE Agreement and associated fees. The Owner will pay any ROE Agreement fees directly to the railroad company.
- Once the Owner has received the fully executed ROE Agreement from the railroad company, the Owner will forward the fully executed ROE Agreement to the Contractor.

8.4. **Right of Entry Agreement by the Contractor**. When shown on the plans, contact the railroad company to obtain the ROE Agreement before beginning work on the Contract.

Provide the required insurance to the Owner before beginning work on the Contract.

Execute the ROE Agreement and pay any associated fees to the railroad company. Provide a copy of the fully executed ROE Agreement to the Owner.

9. CONSTRUCTION SURVEYING

Use Method C unless otherwise specified in the Contract. Upon request, the Engineer will allow the Contractor to copy available earthwork cross-sections, computer printouts or data files, and other information necessary to establish and control work. Preserve all control points, stakes, marks, and right of way markers. Assume cost and responsibility of replacing disturbed control points, stakes, marks, and right of way markers damaged by the Contractor's or its subcontractor's operations. If the Owner repairs disturbed control points, stakes, marks, or right of way markers, the cost of repair may be deducted from money due or to become

due to the Contractor. Replace right of way markers under the direction of an RPLS. This work performed under this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

The Engineer reserves the right to make measurements and surveys to determine the accuracy of the work and determine pay quantities. The Engineer's measurements and surveys do not relieve the Contractor's responsibility for accuracy of work. Allow the Engineer adequate time to verify the surveying.

9.1. **Method A**. The Engineer will set control points for establishing lines, slopes, grades, and centerlines and for providing both vertical and horizontal control.

At minimum, provide a controlling pair of monument points at both the beginning and end of construction project for projects less than 2 mi. in length. For projects greater than 2 mi. in length, monuments will be set in pairs at a minimum of 2 mi. based on the overall length of the project. Use these control points as reference to perform the work.

Furnish materials, equipment, and qualified workforce necessary for the construction survey work. Place construction points, stakes, and marks at intervals sufficient to control work to established tolerances. Place construction stakes at intervals of no more than 100 ft., or as directed. Place stakes and marks so as not to interfere with normal maintenance operations.

9.2. **Method B**. The Engineer will set adequate control points, stakes, stationing, and marks to establish lines, slopes, grades, and centerlines. Furnish additional work, stakes, materials, and templates necessary for marking and maintaining points and lines.

9.3. **Method C**. Set adequate control points, stakes, and marks to establish lines, slopes, grades, and centerlines. Place construction points, stakes, and marks at intervals sufficient to control work to established tolerances. Place construction stakes at intervals of no more than 100 ft., or as directed. Place stakes and marks so as not to interfere with normal maintenance operations.

10. INSPECTION

Inspectors are authorized representatives of the Engineer. Inspectors are authorized to examine all work performed and materials furnished, including preparation, fabrication, and material manufacture. Inspectors inform the Contractor of failures to meet Contract requirements. Inspectors may reject work or materials and may suspend work until any issues can be referred to and decided by the Engineer. The Engineer may authorize Inspectors to adjust the traffic control. Inspectors cannot alter, add, or waive Contract provisions, issue instructions contrary to the Contract, act as foremen for the Contractor, or interfere with the management of the work. Inspection or lack of inspection will not relieve the Contractor from obligation to provide materials or perform the work in accordance with the Contract.

Provide safe access to all parts of the work and provide information and assistance to the Engineer to allow a complete and detailed inspection. Give the Engineer sufficient notice to inspect the work. Work performed without suitable inspection, as determined by the Engineer, may be ordered removed and replaced at Contractor's expense. Remove or uncover portions of finished work as directed. Once inspected, restore work to Contract requirements. If the uncovered work is acceptable, the costs to uncover, remove, and replace or make good the parts removed will be paid for in accordance with Article 4L.4., "Changes in the Work." If the work is unacceptable, assume all costs associated with repair or replacement, including the costs to uncover, remove, and replace or make good the parts removed.

When a government entity, utility, railroad company, or other entity accepts or pays a portion of the Contract, that organization's representatives may inspect the work but cannot direct the Contractor. The right of inspection does not make that entity a party to the Contract and does not interfere with the rights of the parties to the Contract.

11. FINAL CLEANUP

Upon completion of the work, remove construction project litter, debris, objectionable material, temporary structures, excess materials, and equipment from the work locations. Clean and restore property damaged by the Contractor's operations during the prosecution of the work. Leave the work locations in a neat and presentable condition.

Remove from the right of way cofferdams, construction buildings, material and fabrication plants, temporary structures, excess materials, and debris resulting from construction. Where work is in a stream, remove debris to the ground line of the bed of the stream. Leave stream channels and rights of way in a neat and presentable condition. Clean structures to the flow line or the elevation of the outfall channel, whichever is higher. Dispose of all excess material in accordance with federal, state, and local regulations.

The work performed under this Article will not be paid for directly, but will be subsidiary to Items of the Contract.

12. FINAL ACCEPTANCE

12.1. **Routine Maintenance Contracts**. Not applicable to Locally Let projects.

12.2. **Construction Contracts**. Final acceptance is made when all work is complete and the Engineer, in writing, accepts all work for the work locations in the Contract. Final acceptance relieves the Contractor from further Contract responsibilities.

12.2.1. **Work Completed**. Work completed must include work for vegetative establishment and maintenance, test and performance periods, and work to meet the requirements of Article 5L.11., "Final Cleanup."

12.2.2. **Final Inspection**. After all work is complete, the Engineer in charge of the work will request a final inspection by the Engineer authorized to accept the work.

The final inspection will be made as soon as possible and not later than 10 calendar days after the request. No working day charges will be made between the date of request and final inspection.

After the final inspection, if the work is satisfactory, the Engineer will notify the Contractor in writing of the final acceptance of the work. If the final inspection finds any work to be unsatisfactory, the Engineer will identify in writing all deficiencies in the work requiring correction. Correct the deficiencies identified. Working day charges will resume if these deficiencies are not corrected within 7 calendar days, unless otherwise authorized by the Engineer. Upon correction, the Engineer will inspect to verify that all deficiencies were corrected satisfactorily. The Engineer will provide written notice of the final acceptance.

12.2.3. **Final Measurement**. Final measurements and pay quantity adjustments may be made after final acceptance. Final acceptance will not be held for final measurements or pay quantity adjustments.

12.2.4. **Removal of Traffic Control Devices**. Remove any remaining construction traffic control devices and advance warning signs upon final acceptance or as directed.

12.3. **Multiple Work Orders**. Not applicable to Locally Let projects.

Item 6L
Control of Materials

1. SOURCE CONTROL

Use only materials that meet Contract requirements. Unless otherwise specified or approved, use new materials for the Work. Secure the Engineer's approval of the proposed source of materials to be used before their delivery. Materials can be approved at a supply source or staging area but may be inspected in accordance with Article 6L.4., "Sampling, Testing, and Inspection."

1.1. **Buy America**. Comply with the latest provisions of Buy America pertaining to steel and iron in accordance with 23 CFR § 635.410. Use steel or iron materials manufactured in the United States except when waived in accordance with Section 6L 1.2., "Buy America Exceptions."

Submit a notarized original of the TxDOT FORM D-9-USA-1 (Department Form 1818 or equivalent) with the proper attachments for verification of compliance.

Manufacturing includes any process that modifies the chemical content, physical shape or size, or final finish of a product. The manufacturing process begins with initial melting and mixing and continues through fabrication (e.g., cutting, drilling, welding, and bending) and coating (e.g., paint, galvanizing, and epoxy).

1.2. **Buy America Exceptions**. Use of iron and steel manufactured in the United States is required unless the material meets an exception below.

- A waiver exists exempting the material from Buy America compliance.
- The total value of foreign iron and steel products, including delivery, does not exceed 0.1% of the total Contract cost or $2,500, whichever is greater. The Contractor must provide documentation showing under threshold in advance for the Engineer's consideration.
- Foreign iron or steel may be allowed when the Contract contains an alternate item for a foreign source iron or steel product and the Contract is awarded based on the alternate item.
- The materials are temporarily installed or are supplies, tools, and equipment not incorporated into the project. Temporarily installed means the materials and products must be removed at the end of the project or may be removed at the Contractor's convenience with the Engineer's approval.

1.3. **Buy Texas**. For construction or maintenance Contracts without federal funds, buy materials produced in Texas when the materials are available at a comparable price and in a comparable period of time. Provide documentation of purchases or a description of good-faith efforts on request.

2. MATERIAL QUALITY

Correct or remove materials that fail to meet Contract requirements or that do not produce satisfactory results. Reimburse the Owner for cost incurred if additional sampling and testing are required by a change of source.

Materials not meeting Contract requirements will be rejected unless the Engineer approves corrective actions. Upon rejection, immediately remove and replace rejected materials.

If the Contractor does not comply with this Article, the Owner may remove and replace defective material. The cost of testing, removal, and replacement will be deducted from the payments due to the Contractor.

3. MANUFACTURER WARRANTIES

Transfer to the Owner warranties and guarantees required by the Contract or received as part of normal trade practice.

4. SAMPLING, TESTING, AND INSPECTION

Incorporate into the work only material that has been inspected, tested, and accepted by the Engineer. Remove, at the Contractor's expense, materials from the work locations that are used without prior testing and approval or written permission of the Engineer.

The material requirements and standard test methods in effect at the time the proposed Contract is advertised govern. Unless otherwise specified, the Engineer will perform testing at Owner's expense. In addition to facilities and equipment required by the Contract, furnish facilities and calibrated equipment required for tests to control the manufacture of construction items. If requested, provide a complete written statement of the origin, composition, and manufacture of materials.

All materials used are subject to inspection or testing at any time during preparation or use. Material that has been tested and approved at a supply source or staging area may be inspected or tested before or during incorporation into the work and rejected if it does not meet Contract requirements. Copies of test results are available upon request. Do not use material that, after approval, becomes unfit for use.

Unless otherwise specified in the Contract, all testing must be performed within the United States and witnessed by the Engineer. If materials or processes require testing outside the contiguous 48 United States, reimburse the Owner for inspection expenses.

5. PLANT INSPECTION AND TESTING

The Engineer may but is not obligated to inspect materials at the acquisition or manufacturing source. Material samples will be obtained and tested for compliance with quality requirements.

If inspection is at the plant, meet the following conditions unless otherwise specified:

- cooperate fully and assist the Engineer during the inspection,
- ensure the Engineer has full access to all parts of the plant used to manufacture or produce materials,
- in accordance with pertinent items and the Contract provide a facility at the plant for use by the Engineer as an office or laboratory
- provide and maintain adequate safety measures and restroom facilities, and
- furnish and calibrate scales, measuring devices, and other necessary equipment in accordance with the Contract.

The Engineer may provide inspection for periods other than daylight hours if:

- continuous production of materials for Owner's use is necessary due to the production volume being handled at the plant, and
- the lighting is adequate to allow satisfactory inspection.

6. STORAGE OF MATERIALS

Store and handle materials to preserve their quality and fitness for the work. Store materials so that they can be easily inspected and retested. Place materials under cover, on wooden platforms, or on other hard, clean surfaces as necessary or when directed.

Obtain approval to store materials on the right of way. Storage space off the right of way is at the Contractor's expense.

7. OWNER-FURNISHED MATERIAL

The Owner will supply materials as shown on the plans. The cost of handling and placing materials supplied by the Owner will not be paid for directly, but will be subsidiary to the Item in which they are used. Assume responsibility for materials upon receipt.

8. USE OF MATERIALS FOUND ON THE RIGHT OF WAY

Material found in the excavation areas and meeting the Owner's specifications may be used in the work. This material will be paid for at the Contract bid price for excavation and under the Item for which the material is used.

Do not excavate or remove any material from within the right of way that is not within the limits of the excavation without written permission. If excavation is allowed within a right of way project-specific location, replace the removed material with suitable material at no cost to the Owner as directed.

9. RECYCLED MATERIALS

The Owner will not allow hazardous wastes, as defined in 30 TAC § 335, proposed for recycling to be used on the project. Use nonhazardous recyclable materials (NRMs) only if the specification for the Item does not disallow or restrict use. Determine whether NRMs are regulated under 30 TAC §§ 312, 330, 332, 334, or 335, and comply with all general prohibitions and requirements. Use NRMs in accordance with DMS-11000, "Evaluating and Using Nonhazardous Recyclable Materials Guidelines," and furnish all documentation in the manner prescribed by the Owner.

10. HAZARDOUS MATERIALS

Comply with the requirements of Article 7L.12., "Responsibility for Hazardous Materials."

Notify the Engineer immediately when a visual observation or odor indicates that materials on sites owned or controlled by the Owner may contain hazardous materials. Except when the contract includes bid items for the Contractor to remove hazardous materials, the Owner is responsible for testing, removing, and disposing of hazardous materials not introduced by the Contractor. The Engineer may suspend work wholly or in part during the testing, removing, or disposing of hazardous materials, except in the case where hazardous materials are introduced by the Contractor.

Use materials that are free of hazardous materials. Notify the Engineer immediately if materials are suspected to contain hazardous materials. If materials delivered to the project by the Contractor are suspected to contain hazardous materials, have an approved commercial laboratory test the materials for the presence of hazardous materials as approved. Remove, remediate, and dispose of any of these materials found to contain hazardous materials. The work required to comply with this Section will be at the Contractor's expense if materials are found to contain hazardous materials. Working day charges will not be suspended and extensions of working days will not be granted for activities related to handling hazardous material introduced by the Contractor. If suspected materials are not found to contain hazardous materials, the Owner will reimburse the Contractor for hazardous materials testing and will adjust working day charges if the Contractor can show that this work impacted the critical path.

10.1. **Painted Steel Requirements**. Coatings on existing steel contain hazardous materials unless otherwise shown on the plans. Remove paint and dispose of steel coated with paint containing hazardous materials in accordance with the following.

Removing Paint from Steel. For contracts that are specifically for painting steel, include the cleaning and painting of steel under Item 446, "Field Cleaning and Painting Steel," as a pay item. Perform work in accordance with that Item.

For projects where paint must be removed to allow for the dismantling of steel or to perform other work, the Owner will provide for a separate contractor (third party) to remove paint containing hazardous materials before or during the Contract. Remove paint covering existing steel shown not to contain hazardous materials in accordance with Item 446.

10.1.1. **Removal and Disposal of Painted Steel**. For steel able to be dismantled by unbolting, paint removal will not be performed by the Owner. The Owner will remove paint, at locations shown on the plans or as agreed, for the Contractor's cutting and dismantling purposes. Use Owner-cleaned locations for dismantling when provided or provide own means of dismantling at other locations.

Painted steel to be retained by the Owner will be shown on the plans. For painted steel that contains hazardous materials, dispose of the painted steel at a steel recycling or smelting facility unless otherwise shown on the plans. Maintain and make available to the Engineer invoices and other records obtained from the facility showing the received weight of the steel and the facility name. Dispose of steel that does not contain hazardous material coatings in conformance with federal, state, and local regulations.

10.2. **Asbestos Requirements**. The plans will indicate locations or elements where asbestos-containing materials (ACMs) are known to be present. Where ACMs are known to exist or where previously unknown ACM has been found, the Owner will arrange for abatement by a separate contractor before or during the Contract. Notify the Engineer of proposed dates of demolition or removal of structural elements with ACM at least 60 days before beginning work to allow the Owner sufficient time for abatement.

The Texas Department of State Health Services (DSHS), Asbestos Programs Branch, is responsible for administering the requirements of the National Emissions Standards for Hazardous Air Pollutants, (NESHAP), in accordance with 40 CFR Part 61, Subpart M, and the Texas Asbestos Health Protection Rules (TAHPR). Based on EPA guidance and regulatory background information, bridges are considered to be a regulated "facility" under NESHAP; therefore, federal standards for demolition and renovation apply.

The Owner is required to notify DSHS at least 10 working days (by postmarked date) before initiating demolition or renovation of each structure shown on the plans. If the actual demolition, renovation, or removal date is changed or delayed, notify the Engineer in writing of the revised dates in sufficient time to allow for the Owner's notification to DSHS to be postmarked at least 10 days in advance of the actual work.

The Owner retains the right to determine the actual advance notice needed for the change in date to address post office business days and staff availability.

10.3. **Asbestos or Lead Abatement**. Provide traffic control as shown on the plans, and coordinate and cooperate with the third party and the Owner for managing or removing hazardous materials. Work for the traffic control shown on the plans and coordination work will not be paid for directly, but will be subsidiary to pertinent Items.

11. SURPLUS MATERIALS

Take ownership of surplus materials unless otherwise shown on the plans or directed. Remove and dispose of materials in conformance with federal, state, and local regulations. If requested, provide an appropriate level of documentation to verify proper disposal. When materials are disposed of on private property, provide written authorization from the property owner for the use of the property for this purpose upon request.

Item 7L
Legal Relations and Responsibilities

1. ETHICS – NOT APPLICABLE TO LOCALLY LET PROJECTS

2. SAFETY

2.1. **Safety Point of Contact**. Designate, in writing, a Contractor Safety Point of Contact (CSPOC). The Owner will assign an employee for their point of contact designated as Owner's Safety Point of Contact OSPOC. The Contract requires that the Contractor's and subcontractor's employees use the appropriate personal protective equipment (PPE) (e.g., hardhats, safety vests, and protective toe footwear) to meet regulations.

The Contractor will require that crew leaders and foremen (including subcontractors) have attended the required training.

2.2. **Safety Preconstruction Meeting**. In cooperation with the Engineer, schedule and attend a safety preconstruction meeting (may be a part of the preconstruction conference in accordance with Article 4L.2., "Preconstruction Conference"). Attendees for this safety preconstruction meeting will be:

- the Contractor,
- subcontractors,
- the Owner,
- local law enforcement, and
- other personnel who play an active role on the project.

2.3. **Safety Contingency**. To improve the effectiveness of traffic handling and enhance safety during the course of this project, a safety contingency fund may have been included in the project budget for traffic control plan adjustments and other safety-related improvements.

Costs associated with the adjustments or improvements will be paid for in accordance with Article 9L.7., "Payment for Extra Work and Force Account Method." Article 9L.7., "Payment for Extra Work and Force Account Method," is not intended to be used in lieu of bid items established by the Contract.

2.4. **Public Safety and Convenience**. In accordance with the Contract and as directed, provide for the safety and convenience of the public and property. Keep existing roadways open to traffic or construct and maintain detours and temporary structures for safe public travel. Manage construction to minimize disruption to traffic. Maintain the roadway in a good and passable condition, including proper drainage, and provide for ingress and egress to adjacent property.

If the construction of the project requires the closing of a roadway, as directed, coordinate the closure with the Engineer and work to ensure all lanes and ramps possible are available during peak traffic periods before, during, and after significant traffic generator events to avoid any adverse economic impact on the municipalities during:

- dates or events as shown on the plans, and
- other dates as directed.

Store all equipment not in use in a manner and at locations that will not interfere with the safe passage of traffic.

If the Engineer determines that any of the requirements of this Article have not been met, the Engineer may take corrective action. This will not change the legal responsibilities set forth in the Contract. The cost to the Owner for this work will be deducted from any money due or to become due to the Contractor.

2.5. **Use of Blue Warning Lights**. Texas Transportation Code § 547.105 authorizes the use of warning lights to promote safety and provides an effective means of gaining the traveling public's attention as they drive in areas where construction crews are present. To influence the public to move over when high-risk construction activities are taking place, minimize the use of blue warning lights. These lights must be used only while performing work on or near the travel lanes or shoulder where the traveling public encounters construction crews that are not protected by a standard work zone setup, such as a lane closure, a shoulder closure, or one-way traffic control. Refrain from leaving the warning lights engaged while traveling from one work location to another or while parked on the right of way away from the pavement or a work zone.

2.6. **Barricades, Signs, and Traffic Handling**. Comply with the requirements of Item 502 "Barricades, Signs, and Traffic Handling," and as directed. Provide traffic control devices as shown on the plans and in accordance with the TMUTCD. When authorized or directed, provide additional signs or traffic control devices not required by the plans.

If an unexpected situation arises that causes the Contractor to believe that the traffic control should be changed, make all reasonable efforts to promptly contact the Engineer. Take prudent actions until the Engineer can be contacted.

The Engineer will inspect the traffic control devices. Comply with the results of the inspection in the prescribed timeframe.

The work performed and materials furnished in accordance with this Section and Item 502 have no bearing on the prosecution of Items 1L–10L, "General Requirements and Covenants," of the Contract. This includes, but is not limited to installing, relocating, and removing project limit advance warning signs.

2.6.1. **Contractor Responsible Person and Alternate**. Designate in writing a Contractor's Responsible Person (CRP) and an alternate to be the representative of the Contractor who is responsible for taking or directing corrective measures regarding the traffic control. The CRP or alternate must be accessible by telephone 24 hr. per day and able to respond when notified. The CRP and alternate must comply with the requirements of Section 7L.2.6.5., "Training."

2.6.2. **Flaggers**. Designate, in writing, a flagger instructor who will serve as a flagging supervisor and is responsible for training and assuring that all flaggers are qualified to perform flagging duties. Certify to the Engineer that all flaggers will be trained and make available upon request a list of flaggers trained to perform flagging duties.

Provide flaggers as directed. Flaggers must be courteous and able to effectively communicate with the public. When directing traffic, flaggers must dress appropriately; wear high-visibility safety apparel; use flags, signs, stop-slow paddles, and other hand-signaling devices; and follow the flagging procedures in the TMUTCD. Comply with the requirements of Section 7L.2.6.5., "Training."

2.6.3. **Law Enforcement Personnel**. Provide uniformed law enforcement personnel with patrol vehicles as directed. Document the work zone traffic services provided in the manner prescribed by the Owner. Law enforcement personnel providing work zone traffic services must be trained for the service they perform. Comply with Section 7L.2.6.5., "Training."

2.6.4. **Other Work Zone Personnel**. Workers involved with traffic control, including the maintenance of the traffic control, must comply with the requirements of Section 7L.2.6.5., "Training."

2.6.5. **Training.** Train workers involved with the traffic control using Department-approved training as shown on the "Traffic Control Training" MPL.

Coordinate enrollment, pay associated fees, and successfully complete Department-approved training or Contractor-developed training. Training is valid for the period prescribed by the provider. Except for law enforcement personnel training, refresher training is required every 4 yr. from the date of completion unless otherwise specified by the course provider. The Engineer may require training at a specified frequency instead of the period prescribed based on the Owner's needs. Training and associated fees will not be measured or paid for directly, but will be subsidiary to pertinent Items.

Certify to the Engineer that workers involved in traffic control and other work zone personnel have been trained and make available upon request a copy of the certification of completion to the Engineer. The certification of completion includes:

- name of provider and course title,
- name of participant,
- date of completion, and
- date of expiration.

Where Contractor-developed training or a TxDOT-approved training course does not produce a certification, maintain a log of attendees. Make the log available upon request. Provide a log that is legible and includes:

- printed name and signature of participant,
- name and title of trainer, and
- date of training.

2.6.5.1. **Contractor-Developed Training**. Develop and deliver Contractor-developed training meeting the minimum requirements established by the Owner. The outline for this training must be submitted to the Engineer for approval at the preconstruction meeting. The CRP or designated alternate may deliver the training instead of the TxDOT-approved training. The work performed and materials furnished to develop and deliver the training will not be measured or paid for directly, but will be subsidiary to pertinent Items.

2.6.5.1.1. **Flagger Training Minimum Requirements**. A Contractor's certified flagging instructor is permitted to train other flaggers.

2.6.5.1.2. **Other Contractor-Developed Training for Other Work Zone Personnel**. For other work zone personnel, the Contractor may provide training meeting the curriculum described below instead of TxDOT-approved training.

Minimum curriculum for Contractor-provided training is as follows.

Contractor-developed training must provide information on the use of PPE, occupational hazards and health risks, and other pertinent topics related to traffic management. The type and amount of training will depend on the job duties and responsibilities. Develop training applicable to the work being performed. Develop training to include the following topics.

- Adopt a company safety motto: "The Life You Save May Be Your Own," or similar.
- Purpose of the training includes the following.
  - "It's the Law."
  - Make work zones safer for workers and motorists.
  - Understand what is needed for traffic control.
  - Save lives including your own.
- Personal and co-worker safety includes the following.
  - **High-Visibility Safety Apparel**. Discuss compliant requirements; inspect regularly for fading and reduced reflective properties; if night operations are required, discuss the additional and appropriate required apparel in addition to special night work risks; and if moving operations are underway, discuss appropriate safety measures specific to the situation and traffic control plan.

- **Blind Areas**. A blind area is the area around a vehicle or piece of construction equipment not visible to the operators, either by line of sight or indirectly by mirrors. Discuss the "Circle of Safety" around equipment and vehicles; use of spotters; maintaining eye contact with equipment operators; and use of hand signals.
- **Runovers and Backovers**. Remain alert at all times; keep a safe distance from traffic; avoid turning your back to traffic, and if you must, then use a spotter; and stay behind protective barriers, whenever possible. It is not safe to sit on or lean against a concrete barrier; these barriers can deflect 4 ft. or more when struck by a vehicle.
- Look out for each other and warn co-workers.
- Be courteous to motorists.
- Do not run across active roadways.
- Workers must obey traffic laws and drive courteously while operating vehicles in the work zones.
- Workers must be made aware of company distracted driving policies.

■ **Nighttime Operations**. Focus on projects with a nighttime element.

■ **Traffic Control Training**. Basics of traffic control include the following.

- Identify work zone traffic control supervisor and other appropriate persons to report issues to when they arise.
- Emphasize that work zone traffic control devices must be in clean and undamaged condition. If devices have been hit but not damaged, return them to their correct place and report to the traffic control supervisor. If devices have been damaged, replace with new devices and report to the traffic control supervisor. If devices are dirty, faded, or have missing or damaged reflective tape, clean or replace them and report to the traffic control supervisor. Show examples of unacceptable device conditions. Discuss various types of traffic control devices to be used and where spacing requirements can be found.
- **Channelizing Devices and Barricades with Slanted Stripes**. Stripes must slant in the direction in which you want traffic to stay or move; demonstrate this with a device.
- **Traffic Queuing**. Workers must be made aware of traffic queuing and the dangers created by it. Workers must be instructed to immediately notify the traffic control supervisor and other supervisory personnel if traffic is queuing beyond advance warning sign and devices or construction limits.
- **Signs**. Signs must be straight and not leaning. Report problems to the traffic control supervisor or other as designated for immediate repair. Covered signs must be fully covered. If covers are damaged or out of place, report to the traffic control supervisor or other as designated.

3. LAWS TO BE OBSERVED

Comply with all federal, state, and local laws, ordinances, and regulations that affect the performance of the work. The Contractor is not required to comply with city electrical ordinances not included in this Contract. Indemnify and save harmless the Owner and its representatives against any claim arising from violation by the Contractor of any law, ordinance, or regulation.

This Contract is between the Owner and the Contractor only. No person or entity may claim third-party beneficiary status under this Contract or any of its provisions, nor may any non-party sue for personal injuries or property damage under this Contract.

4. PERMITS, LICENSES, AND TAXES

Procure all permits and licenses; pay all charges, fees, and taxes; and give all notices necessary and incidental to the due and lawful prosecution of work, except for permits provided by the Owner and as specified in Article 7L.7., "Preservation of Cultural and Natural Resources and the Environment."

5. PATENTED DEVICES, MATERIAL, AND PROCESSES

Indemnify and save harmless the Owner from any claims for infringement from the Contractor's use of any patented design, device, material, process, trademark, or copyright selected by the Contractor and used in connection with the work. Indemnify and save harmless the Owner against any costs, expenses, or damages that it may be obliged to pay, by reason of this infringement, at any time during the prosecution or after the completion of the work.

6. PERSONAL LIABILITY OF PUBLIC OFFICIALS

Owner employees are agents and representatives of the Owner and will incur no liability, personal or otherwise, in carrying out the provisions of the Contract or in exercising any power or authority granted under the Contract.

7. PRESERVATION OF CULTURAL AND NATURAL RESOURCES AND THE ENVIRONMENT

Project-specific information pertinent to cultural and natural resources is included in the plan set in the General Notes and on the Environmental Permits, Issues, and Commitments (EPIC) sheet. Adhere to all guidance, Best Management Practices (BMPs), and permits shown on the plans. Signing the Contract certifies compliance with all applicable laws, rules, and regulations pertaining to the preservation of cultural resources, natural resources, and the environment as issued by the following or other agencies.

- OSHA
- TCEQ
- Texas Department of Transportation
- Texas Historical Commission
- Texas Parks and Wildlife Department
- Texas Railroad Commission
- U.S. Army Corps of Engineers (USACE)
- U.S. Department of Energy
- U.S. Department of Transportation
- EPA
- Federal Emergency Management Agency
- U.S. Fish and Wildlife Service

All subcontractors must also comply with applicable environmental laws, rules, regulations, and requirements in the Contract.

7.1. **Cultural Resources**. Cease all work immediately if a site, building, or location of historical, archeological, educational, or scientific interest is discovered within the right of way. The site, building, or location will be investigated and evaluated by the Owner.

7.2. **Protected and Imperiled Species and Wildlife**. Cease all work immediately and within 50 ft. if a protected or imperiled species, or any species assumed to be protected or imperiled, or wildlife is encountered onsite. Allow any animals to leave the area. Do not kill any wildlife. Contact Owner's environmental staff to investigate and evaluate any species or wildlife issues.

7.3. **Migratory Birds**. Bird and nest removal must not occur during vegetation clearing, construction, or maintenance activities on structures where birds or nests are present during the nesting season, as shown on the plans. If work will occur during the nesting season, measures to prevent nest establishment must be used before the start of nesting season or any activity. Contact Owner's environmental staff for assistance with birds and nests.

7.4. **Texas Pollutant Discharge Elimination System (TPDES) Permits and Stormwater Pollution Prevention Plans (SWP3s).**

7.4.1. Projects with Less than 1 Acre of Soil Disturbance Including Required Associated Project Specific Locations (PSLs) in Accordance with TPDES Construction General Permit (CGP) No. TXR150000. No construction site notice (CSN) posting will be required for soil disturbances within the right of way. Adhere to the requirements of the SWP3 and environmental layout as shown on the plans.

7.4.2. Projects with 1 Acre but Less than 5 Acres of Soil Disturbance Including Required Associated PSLs in Accordance with TPDES CGP No. TXR150000. The Owner and the Contractor will operate under a shared SWP3 for portions of the project in the right of way.

The Owner will be considered the primary operator with operational control over plans and specifications as defined in TPDES CGP No. TXR150000 for construction activity in the right of way. The Owner will post a small CSN and follow other requirements as defined in TPDES CGP No. TXR150000 as the entity having operational control over plans and specifications for work shown on the plans in the right of way.

The Contractor will be considered the primary operator with day-to-day operational control as defined in TPDES CGP No. TXR150000 for construction activity in the right of way. In addition to the Owner's actions, the Contractor will post a small CSN and follow other requirements as defined in TPDES CGP No. TXR150000 as the entity having day-to-day operational control of the work shown on the plans in the right of way. This is in addition to the Contractor being responsible for TPDES CGP No. TXR150000 requirements for on-right-of-way and off-right-of-way PSLs. The Contractor will adhere to all requirements of the SWP3 and environmental layout as shown on the plans. The Contractor will be responsible for implementing the SWP3 for the project site as shown on the plans, in conformance with specifications, in accordance with TPDES CGP No. TXR150000, and as directed. Notification to Municipal Separate Storm Sewer System (MS4) operators (when applicable) upon project initiation and completion must be provided in accordance with TPDES CGP No. TXR150000 requirements. A signed copy of the small CSN will be provided to MS4 operators (where applicable) at least 2 days before commencing construction.

With the Engineer's concurrence upon the completion of soil disturbing activities and achieving permanent stabilization of 70% native background vegetation cover, the CSN may be removed.

7.4.3. **Projects with 5 Acres or More of Soil Disturbance Including Required Associated PSLs in Accordance with TPDES CGP No. TXR150000**. The Owner and the Contractor will operate under a shared SWP3 for portions of the project in the right of way. The Owner will be considered the primary operator with operational control over plans and specifications as defined in TPDES CGP No. TXR150000 for construction activities in the right of way. The Owner will post a large CSN and file a Notice of Intent (NOI); Notice of Change (NOC), if applicable; and Notice of Termination (NOT), along with other requirements in accordance with TPDES CGP No. TXR150000, as the entity having operational control over plans and specifications for work shown on the plans in the right of way.

The Contractor will be considered the primary operator for day-to-day operational control as defined in TPDES CGP No. TXR150000 for construction activities in the right of way. In addition to the Owner's actions, the Contractor will file an NOI; NOC, if applicable; and NOT and post a large CSN along with other requirements as the entity having day-to-day operational control of the work shown on the plans in the right of way. This is in addition to the Contractor being responsible for TPDES CGP No. TXR150000 requirements for on-right-of-way and off-right-of way PSLs. Adhere to all requirements of the SWP3 and environmental layout as shown on the plans.

7.4.3.1. **Notice of Intent (NOI)**. Contractor will submit an NOI to TCEQ in accordance with TPDES CGP No. TXR150000 requirements. NOI must be submitted at least 7 days before commencement of construction activities at the project site. Contractor must file NOI under the same Regulated Entity Number (RN) as the Owner. Provide a signed copy to the Engineer and any other MS4 operators (where applicable) at the time of submittal. The Owner will submit their NOI before Contractor submission and will provide a copy for Contractor's use in completing the Contractor's NOI form.

7.4.3.2. **Notice of Change (NOC)**. Upon concurrence of the Engineer, submit an NOC to TCEQ within 14 days of discovery of a change or revision to the NOI as required by the CGP. Provide a signed copy of the NOC to the Engineer and any other MS4 operators (where applicable) at the time of submittal.

7.4.3.3. **Notice of Termination (NOT)**. Upon concurrence of the Engineer, submit an NOT to TCEQ within 30 days of the Engineer's approval that 70% native background vegetative cover is met or equivalent permanent stabilization has been employed in accordance with TPDES CGP No. TXR150000. Provide a signed copy of the NOT to the Engineer and any other MS4 operators (where applicable) at the time of submittal.

7.4.4. **Training**. Not applicable to Locally Let Projects.

7.5. **Work in Waters of the United States**. For work in the right of way, the Owner will obtain any required Section 404 permits from U.S. Army Corps of Engineers USACE before work begins. Adhere to all agreements, mitigation plans, and standard BMPs required by the permit. When Contractor-initiated changes in the construction method change the impacts on Waters of the United States, obtain new or revised Section 404 permits.

7.6. **Work in Navigable Waters of the United States**. For work in the right of way, the Owner will obtain any required Section 9 permits from the U.S. Coast Guard before work begins. Adhere to the stipulations of the permits and associated BMPs. When Contractor-initiated changes in the construction method change the impacts on Navigable Waters of the United States, obtain new or revised Section 9 permits.

7.7. **Work over Recharge or Contributing Zone of Protected Aquifers**. Make every reasonable effort to minimize the degradation of water quality resulting from impacts relating to work over the recharge or contributing zones of protected aquifers, as defined and delineated by TCEQ. Use BMPs and perform work in accordance with the Contract requirements.

7.8. **Project Specific Locations**. For all PSLs on or off the right of way (e.g., material sources, waste sites, parking areas, storage areas, field offices, staging areas, and haul roads), comply with all applicable laws, rules, and regulations pertaining to the preservation of cultural resources, natural resources, and the environment in accordance with Section 7L 7.1., "Cultural Resources." All subcontractors must also comply with applicable environmental laws, rules, regulations, and requirements in the Contract. Maintain documentation of environmental compliance activities, including environmental consultant reports and correspondence with the resource agencies. Provide documentation upon request. Obtain written approval from the Engineer for all PSLs in the right of way not specifically addressed on the plans. Prepare an SWP3 for all Contractor facilities, such as asphalt or concrete plants located within right of way. Comply with all TCEQ permit requirements for portable facilities, such as concrete batch plants, rock crushers, and asphalt plants. Ensure compliance with all environmental issues, such as Section 404 permits, wetland delineation, endangered species consultation requirements, or archeological and historic site impacts. Obtain all permits and clearances in advance.

7.9. **Contractor Responsibility**. If the Contractor initiates changes to the Contract and the Owner approves the changes, the Contractor is responsible for obtaining clearances and coordinating with the appropriate regulatory agencies.

8. AGRICULTURAL IRRIGATION

Regulate the sequence of work and make provisions as necessary to provide for agricultural irrigation or drainage during the work. Meet with the service provider or landowner to determine the proper time and sequence when irrigation demands will permit shutting off water flows to perform work.

Unless otherwise shown on the plans, the work performed in accordance with this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

9. SANITARY PROVISIONS

Provide and maintain adequate, neat, and sanitary toilet accommodations for employees, including State employees, in compliance with the requirements and regulations of the Texas Department of State Health Services or other authorities having jurisdiction.

10. ABATEMENT AND MITIGATION OF EXCESSIVE OR UNNECESSARY NOISE

Minimize noise throughout all phases of the Contract. Exercise particular and special efforts to avoid the creation of unnecessary noise impact on adjacent noise-sensitive receptors in the placement of non-mobile equipment, such as air compressors, generators, and pumps. Place mobile and stationary equipment to cause the least disruption to normal adjacent activities.

All equipment associated with the work must be equipped with components to suppress excessive noise, and these components must be maintained in their original operating condition considering normal depreciation. Noise attenuation devices installed by the manufacturer, such as mufflers, engine covers, and insulation, must not be removed or rendered ineffectual, or be permitted to remain off the equipment while the equipment is in use.

11. USING EXPLOSIVES

Do not endanger life or property. When required by the plans or requested, provide a written blasting plan. The Owner retains the right to reject the blasting plan. Store all explosives securely, and clearly mark all storage places with "DANGER—EXPLOSIVES." Store, handle, and use explosives and highly flammable material in compliance with federal, state, and local laws, ordinances, and regulations. Assume liability for property damage, injury, or death resulting from the use of explosives.

Give at least 48-hr. advance notice to the appropriate railroad representative before doing any blasting work involving the use of electric blasting caps within 200 ft. of any railroad track.

12. RESPONSIBILITY FOR HAZARDOUS MATERIALS

Comply with the requirements of Article 6L.10., "Hazardous Materials." Indemnify and save harmless the Owner and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property arising from the generation or disposition of hazardous materials introduced by the Contractor on any work done by the Contractor on Owner-owned or controlled sites. Indemnify and save harmless the Owner and its representatives from any liability or responsibility arising out of the Contractor's generation or disposition of any hazardous materials obtained, processed, stored, or shipped, on sites not owned or controlled by the Owner. Reimburse the Owner for all payments, fees, or restitution the Owner is required to make as a result of the Contractor's actions.

13. RESTORING SURFACES OPENED BY PERMISSION

Do not authorize anyone to make an opening in the highway for utilities, drainage, or any other reason without written permission from the Engineer. Repair all openings as directed. Payment for repair of surfaces opened by permission will be made in conformance with pertinent Items or in accordance with Article 4L.4., "Changes in the Work." Costs associated with openings made with Contractor authorization but without Owner approval will not be paid.

14. PROTECTING ADJACENT PROPERTY

Protect adjacent property from damage. If any damage results from an act or omission on the part of or on behalf of the Contractor, take corrective action to restore the damaged property to a condition similar or equal to that existing before the damage was done.

15. RESPONSIBILITY FOR DAMAGE CLAIMS

Indemnify and save harmless the Owner and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property due to the Contractor's negligence in the performance of the work and from any claims arising or amounts recovered under any laws, including workers' compensation and the Texas Tort Claims Act. Indemnify and save harmless the Owner and assume responsibility for all damages and injury to property of any character occurring during the prosecution of the work resulting from any act, omission, neglect, or misconduct on the Contractor's part in the manner or method of executing the work; from failure to properly execute the work; or from defective work or material.

Pipelines and other underground installations that may or may not be shown on the plans may be located within the right of way. Indemnify and save harmless the Owner from any suits or claims resulting from damage by the Contractor's operations to any pipeline or underground installation. Make available the scheduled sequence of work to the respective utility owners so that they may coordinate and schedule adjustments of their utilities that conflict with the proposed work.

16. HAULING AND LOADS ON ROADWAYS AND STRUCTURES

Comply with federal and state laws concerning legal gross and axle weights. Except for the designated Interstate system, vehicles with a valid yearly overweight tolerance permit may haul materials to the work locations at the permitted load. Provide copies of the yearly overweight tolerance permits to the Engineer upon request. Construction equipment is not exempt from oversize or overweight permitting requirements on roadways open to the traveling public.

Protect existing bridges and other structures that will remain in use by the traveling public during and after the completion of the Contract. Construction traffic on roadways, bridges, and culverts within the limits of the work, including any structures under construction that will remain in service during and after completion of the Contract, is subject to legal size and weight limitations.

Additional temporary fill may be required by the Engineer for hauling purposes for the protection of certain structures. This additional fill will not be paid for directly, but will be subsidiary to pertinent Items.

Replace or restore to original condition any structure damaged by the Contractor's operations.

The Engineer may allow equipment with oversize or non-divisible overweight loads to operate without a permit within the work locations on pavement structures not open to the traveling public. Submit Contractor-proposed changes to traffic control plans for approval, in accordance with Item 502. The following Sections further address overweight allowances. The Owner will make available to the Contractor any available plans and material reports for existing structures.

16.1. **Overweight Construction Traffic Crossing Structures**. The Engineer may allow crossing of a structure not open to the public within the work locations when divisible or non-divisible loads exceed legal weight limitations, including limits for load-posted bridges. Obtain written permission to make these crossings. Submit for approval a structural analysis by a licensed professional engineer indicating that the excessive loads should be allowed. Provide a manufacturer's certificate of equipment weight that includes the weight distribution on the various axles and any additional parts, such as counterweights, the configuration of the axles, or other information necessary for the analysis. Submit the structural analysis and supporting documentation sufficiently in advance of the move to allow for review by the Engineer. Permission may be granted if the Engineer finds that no damage or overstresses exceeding those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. Provide temporary matting or other protective measures as directed.

Schedule loads so that only one vehicle is on any span or continuous unit at any time. Use barricades, fences, or other positive methods to prevent other vehicular access to structures at any time the overweight load is on any span or continuous unit.

16.2. **Construction Equipment Operating on Structures**. Cranes and other construction equipment used to perform construction operations that exceed legal weight limits may be allowed on structures. Before any operation that may require placement of equipment on a structure, submit for approval a detailed structural analysis prepared by a licensed professional engineer.

Submit the structural analysis and supporting documentation sufficiently in advance of the use to allow for review by the Engineer. Include all axle loads and configurations, spacing of tracks or wheels, tire loads, outrigger placements, center of gravity, equipment weight, and predicted loads on tires and outriggers for all planned movements, swings, or boom reaches. The analysis must demonstrate that no overstresses exceeding those normally allowed for occasional overweight loads will occur.

16.3. **Loads on Structures**. Do not store or stockpile material on bridge structures without written permission. If required, submit a structural analysis and supporting documentation by a licensed professional engineer for review by the Engineer. Permission may be granted if the Engineer finds that no damage or overstresses exceeding those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. Provide temporary matting or other protective measures as directed.

16.4. **Hauling Divisible Overweight Loads on Pavement Within Work Locations**. The Engineer may allow divisible overweight loads on pavement structures within the work locations not open to the traveling public. Obtain written approval before hauling the overweight loads. Include calculations to demonstrate that there will be no damage or overstress to the pavement structure.

17. CONTRACTOR'S RESPONSIBILITY FOR WORK

Until final acceptance of the Contract, take every precaution against injury or damage to any part of the work by the action of the elements or by any other cause, whether arising from the execution or from the non-execution of the work. Protect all materials to be used in the work at all times, including periods of suspension.

When any roadway or portion of the roadway is in suitable condition for travel, it may be opened to traffic as directed. Opening of the roadway to traffic does not constitute final acceptance.

Repair damage to all work until final acceptance. Repair damage to existing facilities in accordance with the Contract or as directed by the Engineer. Repair damage to existing facilities or work caused by Contractor operations at the Contractor's expense. Repair work for damage that was not due to the Contractor's operations will not be paid for except as provided below.

17.1. **Reimbursable Repair**. Except for damage to appurtenances listed in Section 7L.17.2.1., "Unreimbursed Repair," the Contractor will be reimbursed for repair of damage caused by:

- motor vehicle, watercraft, aircraft, or railroad-train incident;
- vandalism; or
- Acts of God, such as earthquake, tidal wave, tornado, hurricane, or other cataclysmic phenomena of nature.

17.2. **Appurtenances**.

17.2.1. **Unreimbursed Repair**. Except for destruction (not reusable) due to Acts of God, reimbursement will not be made for repair of damage to the following temporary appurtenances, regardless of cause:

- signs,
- barricades, and
- other work zone traffic control devices.

Crash cushion attenuators and guardrail end treatments are reimbursed in accordance with Section 7L.17.2.2., "Reimbursed Repair." Truck-mounted attenuators, trailer attenuators, and portable changeable message signs are eligible for reimbursed repair in accordance with Section 7L.17.2.2.,

"Reimbursed Repair." Reimbursement will only be made when the Engineer directs the placement of the device in a location other than what is depicted in the Contract and the Contractor is unable to seek reimbursement from third-party insurance.

Where the Contractor retains replaced appurtenances after completion of the project, the Owner will limit the reimbursement to the cost that is above the salvage value at the end of the project.

17.2.2. **Reimbursed Repair**. Reimbursement will be made for repair of damage due to the causes listed in Section 7L.17.1, "Reimbursable Repair."

17.3. **Roadways and Structures**. Until final acceptance, the Contractor is responsible for all work constructed under the Contract. The Owner will not reimburse the Contractor for repair work to new construction, unless the failure or damage is due to one of the causes listed in Section 7L.17.1., "Reimbursable Repair."

The Owner will be responsible for the cost for repair of damage to existing roadways and structures not caused by the Contractor's operations.

17.4. **Detours**. The Contractor will be responsible for the cost of maintenance of detours constructed under the Contract, unless the failure or damage is due to one of the causes listed in Section 7L.17.1., "Reimbursable Repair." In addition, the Engineer will reimburse the Contractor for repairs to detours when failures occur for reasons beyond the Contractor's control. Reimbursement will be made for repairs to detours constructed unless the failure was due to materials and workmanship. The Owner will be responsible for the cost of maintenance of existing streets and roadways used for detours or handling traffic.

17.5. **Relief from Maintenance**. The Engineer may relieve the Contractor from responsibility of maintenance in accordance with this Section. This relief does not release the Contractor from responsibility for defective materials or work or constitute final acceptance. The Engineer will direct the Contractor to remove advance warning signs upon issuance of relief from maintenance.

17.5.1. **Isolated Work Locations**. For isolated work locations, when all work is completed, including work in accordance with Article 5L.11., "Final Cleanup," the Engineer may relieve the Contractor from responsibility for maintenance.

17.5.2. **Work Except for Vegetative Establishment and Test Periods**. When all work for all or isolated work locations has been completed, including work in accordance with Article 5L.11., "Final Cleanup," with the exception of vegetative establishment and maintenance periods and test and performance periods, the Engineer may relieve the Contractor from responsibility for maintenance of completed portions of work.

17.5.3. **Work Suspension**. When all work is suspended for an extended period of time, the Engineer may relieve the Contractor from responsibility for maintenance of completed portions of work during the period of suspension.

17.5.4. **When Directed by the Engineer**. The Engineer may relieve the Contractor from the responsibility for maintenance when directed.

17.6. **Basis of Payment**. When reimbursement for repair work is allowed and performed, payment will be made in conformance with pertinent Items or in accordance with Article 4L.4., "Changes in the Work."

18. ELECTRICAL REQUIREMENTS

18.1. **Definitions**.

18.1.1. **Electrical Work**. Electrical work is work performed for:

- Item 610, "Roadway Illumination Assemblies,"
- Item 614, "High Mast Illumination Assemblies,"
- Item 616, "Performance Testing of Lighting Systems,"

- Item 617, "Temporary Roadway Illumination,"
- Item 618, "Conduit,"
- Item 620, "Electrical Conductors,"
- Item 621, "Tray Cable,"
- Item 622, "Duct Cable,"
- Item 628, "Electrical Services,"
- Item 680, "Highway Traffic Signals,"
- Item 681, "Temporary Traffic Signals,"
- Item 684, "Traffic Signal Cables,"
- Item 685, "Roadside Flashing Beacon Assemblies,"
- other Items that involve either the distribution of electrical power greater than 50 volts or the installation of conduit and duct banks,
- the installation of conduit and wiring associated with Item 624, "Ground Boxes" and Item 656, "Foundations for Traffic Control Devices," and
- the installation of the conduit system for communication and fiber optic cable.

Electrical work does not include the installation of communications or fiber optic cable, or the connections for low-voltage and inherently power-limited circuits, such as electronic or communications equipment. Assembly and placement of poles, structures, cabinets, enclosures, manholes, or other hardware will not be considered electrical work if no wiring, wiring connection, or conduit work is done at the time of assembly and placement.

18.1.2. **Specialized Electrical Work**. Specialized electrical work is work that includes the electrical service and feeders, sub-feeders, branch circuits, controls, raceways, and enclosures for the following:

- pump stations,
- moveable bridges,
- ferry slips,
- motor control centers,
- facilities required in accordance with Item 504, "Field Office and Laboratory,"
- rest area or other public buildings,
- weigh-in-motion stations,
- electrical services larger than 200 amps,
- electrical services with main or branch circuit breaker sizes not shown in the Contract, and
- any three-phase electrical power.

18.1.3. **Certified Person**. A certified person is a person who has passed the test from TxDOT's course TRF450, "TxDOT Roadway Illuminations and Electrical Installations," or other courses as approved by the Traffic Safety Division. Submit a current and valid TRF certification upon request. Texas A&M Engineering Extension Service (TEEX) certifications for "TxDOT Electrical Systems" course will not be accepted.

18.1.4. **Licensed Electrician**. A licensed electrician is a person with a current and valid unrestricted master electrical license, or unrestricted journeyman electrical license, who is supervised or directed by an unrestricted master electrician. An unrestricted master electrician need not be on the work locations at all times while electrical work is being done, but the unrestricted master electrician must approve work performed by the unrestricted journeyman. Licensed electrician requirements by city ordinances do not apply to on State system work.

The unrestricted journeyman and unrestricted master electrician licenses must be issued by the Texas Department of Licensing and Regulation or by a city in Texas with a population of 50,000 or greater that issues licenses based on passing a written test and demonstrating experience.

The Engineer may accept other states' electrical licenses. Submit documentation of the requirements for obtaining that license. Acceptance of the license will be based on sufficient evidence that the license was issued based on:

- passing a test based on the NEC like that used by Texas licensing officials, and
- sufficient electrical experience commensurate with general standards for an unrestricted master and unrestricted journeyman electrician in the State of Texas.

18.2. **Work Requirements**. The qualifications required to perform electrical work and specialized electrical work are shown in Table 1.

Table 1
Work Requirements

Type of Work	Qualifications to Perform Work
Electrical work with plans	Licensed electrician, certified person, or workers directly supervised by a licensed electrician or certified person
Electrical work without plans	Licensed electrician or workers directly supervised by a licensed electrician
Specialized electrical work	Licensed electrician or workers directly supervised by a licensed electrician
Replace lamps, starting aids, and changing fixtures	Licensed electrician, certified person, or workers directly supervised by a licensed electrician or certified person
Conduit in precast section with approved working drawings	Inspection by licensed electrician or certified person
Conduit in cast-in-place section	Inspection by licensed electrician or certified person
All other electrical work (e.g., troubleshooting, repairs, and component replacement)	Licensed electrician or workers directly supervised by a licensed electrician

"Directly supervised by a licensed electrician" means that a licensed electrician is physically present during all electrical work. "Directly supervised by a licensed electrician or certified person" means that a licensed electrician or certified person is physically present during all electrical work.

A non-certified person may install conduit in cast-in-place concrete sections if the work is verified by a certified person before concrete placement.

When IMSA certification is specified on the plans, the requirements shown in Table 1 will still apply to the installation of the conduit, ground boxes, electrical services, pole grounding, and electrical conductors installed in accordance with Item 620.

19. PAYROLLS

Pay employees and contract labor no less than the predetermined wage rates shown in the Contract. Require that subcontractors pay no less than the predetermined wage rates shown in the Contract.

Payroll records must contain the information required by law. As an option, Form WH-347, "Payroll," is provided by the U.S. Department of Labor.

Maintain payroll and related records during the course of the Contract and preserve these records for 3 yr. following the completion of the Contract or as required by law.

19.1. **Minimum Wage Requirements for Federally Funded Contracts**. Comply with the requirements of FHWA-1273, "Required Contract Provisions Federal-Aid Construction Contracts."

For construction contracts, submit payroll records to the Engineer using the manner prescribed by the Owner.

19.2. **Minimum Wage Requirements for State-Funded Contracts**. Comply with the requirements of 29 USC § 206 unless otherwise shown in the Contract.

For construction contracts, submit payroll records to the Engineer in the manner prescribed.

20. SECURITY INCIDENTS – NOT APPLICABLE TO LOCALLY LET PROJECTS

Item 8L
Prosecution and Progress

1. PROSECUTION OF WORK

Begin work within 30 calendar days after the authorization date to begin work. Prosecute the work continuously to completion within the working days specified. Unless otherwise shown on the plans, work may be prosecuted in concurrent phases if no changes are required to the traffic control plan or if a revised traffic control plan is approved. Notify the Engineer at least 24 hr. before beginning work or before beginning any new operation. Do not start new operations to the detriment of work already begun. Minimize interference to traffic.

2. SUBCONTRACTING

Do not sublet any portion of a construction Contract without the Engineer's written approval. A subcontract does not relieve any responsibility under the Contract and bonds. Ensure that all subcontracted work complies with all governing labor provisions.

The Contractor certifies by signing the Contract that the Contractor will not enter into any subcontract with a subcontractor that is debarred or suspended by the Commission, Owner, or any federal agency.

For federally funded contracts, ensure the required federal documents are physically attached to each subcontract agreement, including all tiered subcontract agreements.

For all DBE subcontracts, including all tiered DBE subcontracts, submit a copy of the executed subcontract agreement.

Upon request, submit a copy of the executed non-DBE subcontracts, including all tiered non-DBE subcontracts.

2.1. **Construction Contracts and Federally Funded Maintenance Contracts**. Perform work with own organization on at least 30% of the total original Contract cost (25% if the Contractor is an SBE on a wholly State- or local-funded Contract), excluding any specialty items as determined by the Engineer. Specialty items are those that require highly specialized knowledge, abilities, or equipment not usually available in the contracting firm expected to bid on the proposed Contract as a whole.

Specialty items will be shown on the plans or as determined by the Engineer. Bid cost of specialty items performed by subcontractors will be deducted from the total original Contract cost before computing the required amount of work to be performed by the Contractor's own organization.

The term "perform work with own organization" includes only:

- workers employed and paid directly by the Contractor or wholly owned subsidiary;
- equipment owned by the Contractor or wholly owned subsidiary;
- rented or leased equipment operated by the Contractor's employees or wholly owned subsidiary's employees;
- materials incorporated into the work if the majority of the value of the work involved in incorporating the material is performed by the Contractor's own organization, including a wholly owned subsidiary's organization; and

- labor provided by staff leasing firms licensed under Chapter 91 of the Texas Labor Code for nonsupervisory personnel if the Contractor or wholly owned subsidiary maintains direct control over the activities of the leased employees and includes them in the weekly payrolls.

Mobilization is not included in calculation of 30%.

When staff leasing firms provide materials or equipment, they are considered subcontractors. In these instances, submit staff leasing firms for approval as a subcontractor.

Copies of canceled checks and certified statements may be required to verify compliance with the requirements of this Section.

2.2. **State-Funded Maintenance Contracts**. Not applicable to locally let projects.

2.3. **Payments to Subcontractors**. Report payments for DBE subcontracts, including tiered DBE subcontracts, in the manner as prescribed by the Owner by the 20th day of each month.

2.3.1. **Payment Records**. Make payment and related records, including but not limited to copies of canceled checks, available for inspection by the Owner. Retain payment records for a period of 3 yr. following the completion of the Contract.

2.4. **Payrolls**. Comply with Article 7L.19., "Payrolls."

3. COMPUTATION OF CONTRACT TIME FOR COMPLETION

The number of working days is established by the Contract. For Contracts with work orders, the number of working days is established in each work order. Working day charges will begin when work begins as prescribed in Article 8L.1., "Prosecution of Work." Working day charges will continue in accordance with the Contract.

The development of the conceptual time determination is intended to establish the number of working days on the Contract. Upon request, the Engineer will provide the conceptual time determination schedule to the Contractor for informational purposes only. The schedule assumes generic resources, production rates, sequences of construction and average weather conditions based on historic data. Schedule labor, equipment, procurement of materials, subcontractor work, and all other necessary means to prosecute the work within the number of working days specified by the Contract.

3.1. **Working Day Charges**. Working days will be charged in accordance with Section 8L.3.1.4., "Standard Workweek," unless otherwise shown on the plans. Working days will be computed and charged in accordance with one of the following:

3.1.1. **Five-Day Workweek**. Working days will be charged Monday–Friday, excluding national holidays, regardless of weather conditions or material availability. The Contractor has the option of working on Saturdays. Provide sufficient advance notice to the Engineer when scheduling work on Saturdays. Work on Sundays and national holidays will not be permitted without written permission of the Engineer. If work requiring an Inspector to be present or if critical path activities are performed on a Saturday, Sunday, or national holiday, and weather and other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.2. **Six-Day Workweek**. Working days will be charged Monday–Saturday, excluding national holidays, regardless of weather conditions or material availability. Work on Sundays and national holidays will not be permitted without written permission of the Engineer. If work requiring an Inspector to be present or if critical path activities are performed on a Sunday or a national holiday, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.3. **Seven-Day Workweek**. Working days will be charged Monday–Sunday, excluding national holidays, regardless of weather conditions or material availability. Work on national holidays will not be permitted without written permission of the Engineer. If work or critical path activities requiring an Inspector to be present are performed on any of these holidays, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.4. **Standard Workweek**. Working days will be charged Monday–Friday, excluding national or State holidays, if weather or other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. between 7:00 A.M. and 6:00 P.M., unless otherwise shown in the Contract. The Contractor has the option of working on Saturdays or State holidays. Provide sufficient advance notice to the Engineer when scheduling work on Saturdays. Work on Sundays and national holidays will not be permitted without written permission of the Engineer. If work requiring an Inspector to be present or critical path activities are performed on a Saturday, Sunday, or holiday, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.5. **Calendar Day**. Working days will be charged Sunday–Saturday, including all holidays, regardless of weather conditions, material availability, or other conditions not under the control of the Contractor.

3.1.6. **Other**. Working days will be charged as shown on the plans.

3.2. **Restricted Work Hours**. Restrictions on Contractor work hours and the related definition for working day charges are as prescribed in this Article unless otherwise shown on the plans.

3.3. **Nighttime Work**. Nighttime work is allowed only when shown on the plans or directed or allowed by the Engineer. Nighttime work is defined as work performed from 30 min. after sunset to 30 min. before sunrise.

3.3.1. **Five-, Six-, and Seven-Day Workweeks**. Nighttime work that extends past midnight will be assigned to the following day for the purposes of approval for allowing work on Sundays or national holidays.

3.3.2. **Standard Workweek**.

3.3.2.1. **Nighttime Work Only**. When nighttime work is allowed or required and daytime work is not allowed, working day charges will be made when weather and other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. for the nighttime period, as defined in Section 8L.3.3., "Nighttime Work," unless otherwise shown in the Contract.

3.3.2.2. **Nighttime Work and Daytime Work Requiring Inspector**. When nighttime work is performed or required and daytime work is allowed, working day charges will be made when weather and other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. for the nighttime period, as defined in Section 8L.3.3., "Nighttime Work," or for a continuous period of at least 7 hr. for the alternative daytime period unless otherwise shown in the Contract. Only one day will be charged for each 24hr. period. When the Engineer agrees to restrict work hours to the nighttime period only, working day charges will be in accordance with Section 8L.3.3.2.1., "Nighttime Work Only."

3.4. **Time Statements**. The Engineer will furnish the Contractor a monthly time statement. Review the monthly time statement for correctness. Report protests in writing, no later than 30 calendar days after receipt of the time statement, providing a detailed explanation for each day protested. Not filing a protest within 30 calendar days will indicate acceptance of the working day charges, and future consideration of that statement will not be permitted.

4. TEMPORARY SUSPENSION OF WORK OR WORKING DAY CHARGES

The Engineer may suspend the work, wholly or in part, and will provide notice and reasons for the suspension in writing. Suspend and resume work only as directed in writing.

When part of the work is suspended, the Engineer may suspend working day charges only when conditions not under the control of the Contractor prohibit the performance of critical path activities. When all of the work is suspended for reasons not under the control of the Contractor, the Engineer will suspend working day charges.

5. PROJECT SCHEDULES

Prepare, maintain, and submit project schedules for the work to be performed under this Contract. Project schedules are used to convey the Contractor's intended work plan to the Owner.

The work performed under this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

5.1. **Project Scheduler**. Designate an individual who will develop and maintain the progress schedule. The project scheduler will be prepared to discuss, in detail, the proposed sequence of work and methods of operation, and how that information will be communicated through the progress schedule at the preconstruction meeting. This individual will also attend the project meetings and make site visits to prepare, develop, and maintain the progress schedules.

5.2. **Progress Schedule**. Before starting work, prepare and submit a progress schedule based on the sequence of work and traffic control plan shown in the Contract. Prepare the progress schedule as a bar chart or critical path method (CPM) as shown on the plans. Include all planned work activities and sequences and show Contract completion within the number of working days specified. Incorporate major material procurements, known utility relocations, and other activities that may affect the completion of the Contract in the progress schedule. Show a beginning date, ending date, and duration in whole working days for each activity. Do not use activities exceeding 20 working days, unless agreed upon with the Engineer. Show an estimated production rate per working day for each work activity, unless otherwise agreed upon with the Engineer.

5.3. **Schedule Format**. Format all project schedules in accordance with the following.

- Begin the project schedule on the date of the start of Contract time or start of activities affecting work on the project.
- Show the sequence and interdependence of activities required for complete performance of the work. If using a CPM schedule, show a predecessor and a successor for each activity.
- Ensure all work sequences are logical and show a coordinated plan of the work.

CPM schedules must also:

- clearly and accurately identify the critical path as the longest continuous path;
- provide a legend for all abbreviations, run date, data date, project start date, and project completion date in the title block of each schedule submittal; and
- using calendars, incorporate seasonal weather conditions into the schedule for work (e.g., earthwork, concrete paving, structures, asphalt, and drainage) that may be influenced by temperature or precipitation. Also, incorporate non-work periods such as holidays, weekends, or other non-work days as identified in the Contract.

5.4. **Activity Format**. For each activity on the project schedule, provide:

- a concise description of the work represented by the activity,
- an activity duration in whole working days, and
- code activities so that organized plots of the schedule may be produced.

CPM schedules must also include the quantity of work and estimated production rate for major items of work. Provide enough information for review of the work being performed.

Total float is defined as the amount of time (in whole days) that an activity can be delayed before impacting the project's completion date. Total float is a shared commodity between the Owner and the Contractor.

5.5. **Schedule Types and Schedule Impacts**.

5.5.1. **Bar Chart**. Seven calendar days before the preconstruction meeting, prepare and submit a hard or electronic copy of the schedule using the bar chart method.

5.5.1.1. **Progress Schedule Reviews**. Update the project schedule and submit a hard or electronic copy when changes to the schedule occur or when requested.

5.5.2. **Critical Path Method**. Prepare and submit the schedule using the CPM. Submit an electronic copy to the Engineer within the timeframes specified. An electronic copy is defined as the scheduling software's native file, saved in a format acceptable to the Engineer. In all cases, an electronic format (.xer) of Primavera Project Planner and Enterprise Project Portfolio Management (P6) will be acceptable.

5.5.2.1. **Preliminary Schedule**. Unless otherwise agreed for a later submission, 7 calendar days before the preconstruction meeting, submit an electronic copy of the project schedule showing activities beginning with the authorization date to begin work and including activities to be performed within the first 90 calendar days from the work start date.

5.5.2.2. **Baseline Schedule**. The baseline schedule will be considered the Contractor's plan to successfully construct the project within the timeframe and construction sequencing indicated in the Contract. Submit electronic copies of the baseline schedule. When requested, submit two plots of the schedule: one organized with the activities logically grouped using the activity coding, and the other plot showing only the critical path determined by the longest path, not based on critical float.

Develop and submit the baseline schedule for review within the first 45 calendar days from the work start date unless the time for submission is extended by the Engineer.

5.5.2.2.1. **Review**. Within 15 calendar days of receipt of the schedule, the Engineer will evaluate and inform the Contractor if the schedule has been accepted. If the schedule is not accepted, the Engineer will provide comments to the Contractor for incorporation. Provide a revised schedule based on the Engineer's comments, or reasons for not doing so, within 10 calendar days. The Engineer's review and acceptance of the project schedule is for conformance to the requirements of the Contract documents only and does not relieve the Contractor of any responsibility for meeting the interim milestone dates (if specified) or the Contract completion date. Review and acceptance does not expressly or by implication warrant, acknowledge, or admit the reasonableness of the logic or durations of the project schedule. If the Contractor fails to define any element of work, activity, or logic and the Engineer's review does not detect this omission or error, the Contractor is responsible for correcting the error or omission.

Submit an acceptable baseline schedule before the 90th calendar day from the work start date unless the time for submission is extended by the Engineer.

5.5.2.3. **Progress Schedule**. Maintain and submit the progress schedule monthly for use by the Contractor and the Engineer. Submit an electronic copy as it will become an as-built record of the daily progress achieved on the project. If continuous progress of an activity is interrupted for any reason except non-work periods (e.g., holidays, weekend, or interference from temperature or precipitation), then the activity will show the actual finish date as that date of the start of the interruption and the activity will be broken into a subsequent activity (or activities, based on the number of interruptions) similarly numbered with successive alpha character as necessary. The original duration of the subsequent activity will be that of the remaining duration of the original activity. Relationships of the subsequent activity will match those of the original activity so that the integrity of the project schedule logic is maintained. Once established, the original durations and actual dates of all activities must remain unchanged. Revisions to the schedule may be made as necessary.

The project schedule must be revised when changes in construction phasing and sequencing occur or other changes that cause deviation from the original project schedule occur. Any revisions to the schedule must be

listed in the monthly update narrative with the purpose of the revision and description of the impact on the project schedule's critical path and project completion date. Create the schedule revision using the latest update before the start of the revision.

Monthly updating of the project schedule will include updating of:

- the actual start dates for activities started,
- the actual finish dates for activities completed,
- the percentage of work completed and remaining duration for each activity started but not yet completed, and
- the calendars to show days actual work was performed on the various work activities.

The cutoff day for recording monthly progress will be the last day of each month. Submit the updated project schedule no later than the 20th calendar day of the following month. The Engineer will evaluate the updated schedule within 5 calendar days of receipt and inform the Contractor if it has or has not been accepted. If the schedule is not accepted, the Engineer will provide comments to the Contractor for incorporation. Provide a revised schedule based on the Engineer's comments, or reasons for not doing so, within 5 calendar days.

Provide a brief narrative in a bulleted statement format for major items that have impacted the schedule. Notify the Engineer if resource-leveling is being used.

5.5.2.3.1. **Project Schedule Summary Report (PSSR)**. When shown on the plans, provide the PSSR instead of the narrative required in Section 8L.5.5.2.3., "Progress Schedule." The PSSR includes a listing of major items that have impacted the schedule and a summary of progress in days ahead or behind schedule. Include an explanation of the project progress for the period represented on the form provided by the Owner.

5.5.3. **Notice of Potential Time Impact**. Submit a notice of potential time impact when a Contract time extension or adjustment of milestone dates may be justified or when directed.

Failure to provide this notice in the timeframes specified above will compromise the Owner's ability to mitigate the impacts, and the Contractor forfeits the right to request a time extension or adjustment of milestone dates unless the circumstances are such that the Contractor could not reasonably have had knowledge of the impact at the time.

5.5.4. **Time Impact Analysis**. When directed, provide a time impact analysis. A time impact analysis is an evaluation of the effects of impacts on the project. A time impact analysis consists of the following steps.

- **Step 1**. Establish the status of the project immediately before the impact.
- **Step 2**. Predict the effect of the impact on the schedule update used in Step 1.
- **Step 3**. Track the effects of the impact on the schedule during its occurrence.
- **Step 4**. Establish the status of the project after the impact's effect has ended and provide details identifying any mitigating actions or circumstances used to keep the project ongoing during the impact period.

Determine the time impact by comparing the status of the work before the impact (Step 1) to the prediction of the effect of the impact (Step 2), if requested, and to actual effects of the impact once it is complete (Step 4). Unless otherwise approved by the Engineer, Steps 1, 3, and 4 must be completed before consideration of a Contract time extension or adjustment of a milestone date will be provided. Time extensions will be considered only when delays that affect milestone dates or the Contract completion date are beyond the Contractor's control. Submit Step 4 no later than 15 calendar days after the impact's effects have ended or when all the information on the effect has been realized.

Submit one electronic backup copy of the complete time impact analysis and a copy of the full project schedule incorporating the time impact analysis. If the project schedule is revised after the submittal of a time impact analysis, but before its approval, indicate in writing the need for any modification to the time impact analysis.

The Engineer will review the time impact analysis upon completion of Step 4. If this review detects revisions or changes to the schedule that had not been performed and identified in a narrative, the Engineer may reject the time impact analysis. If the Engineer is in agreement with the time impact analysis, a change order may be issued to grant additional working days, or to adjust interim milestones. Once a change order has been executed, incorporate the time impact analysis into the project schedule. The time impact analysis may also be used to support the settlement of disputes and claims. Compensation related to the time impact analysis may be provided at the completion of the analysis or the completion of the project to determine the true role the impact played on the final completion.

6. FAILURE TO COMPLETE WORK ON TIME

The time established for the completion of the work is an essential element of the Contract. If the Contractor fails to complete the work within the number of working days specified, working days will continue to be charged. Failure to complete the Contract, callout work, or a work order within the number of working days specified, including any approved additional working days, will result in liquidated damages for each working day charged over the number of working days specified. The dollar amount specified in the Contract will be deducted from any money due or to become due the Contractor for each working day the Contract, callout work, or work order remains incomplete. This amount will be assessed not as a penalty but as liquidated damages. The amount assessed for non-site-specific Contracts will be based on the estimated amount for each work order unless otherwise shown in the Contract. The amount assessed for each callout will be as specified in the Contract.

7. DEFAULT OF CONTRACT

7.1. **Declaration of Default**. The Engineer may declare the Contractor to be in default of the Contract if the Contractor:

- fails to begin the work within the number of days specified;
- fails to prosecute the work to assure completion within the number of days specified;
- is uncooperative, disruptive, or threatening;
- fails to perform the work in accordance with the Contract requirements;
- neglects or refuses to remove and replace rejected materials or unacceptable work;
- discontinues the prosecution of the work without the Engineer's approval;
- makes an unauthorized assignment;
- fails to resume work that has been discontinued within a reasonable number of days after notice to do so;
- fails to conduct the work in an acceptable manner; or
- commits fraud or other unfixable conduct as determined by the Owner.

If any of these conditions occur, the Engineer will give notice in writing to the Contractor and the Surety of the intent to declare the Contractor in default. If the Contractor does not proceed as directed within 10 days after the notice, the Owner will provide written notice to the Contractor and the Surety to declare the Contractor to be in default of the Contract. If the Contractor provides the Owner written notice of voluntary default of the Contract, the Owner may waive the 10-day notice of intent to declare the Contractor in default and immediately provide written notice of default to the Contractor and the Surety. Calendar day charges will continue until completion of the Contract. The Owner may suspend work in accordance with Article 8L.4., "Temporary Suspension of Work or Working Day Charges," to investigate apparent fraud or other unfixable conduct before defaulting the Contractor. The Contractor may be subject to sanctions under the state and/or federal laws and regulations. A default may result in the application of remedial action by the Owner.

The Owner will determine the method used for the completion of the remaining work as follows.

- For Contracts without performance bonds, the Owner will determine the most expeditious and efficient way to complete the work and recover damages from the Contractor.
- For Contracts with performance bonds, the Owner will require the Contractor's Surety to complete the remaining work in accordance with the terms of the original Contract. A completing Contractor will be

considered a subcontractor of the Surety. The Owner reserves the right to approve or reject proposed subcontractors. Work may resume after the Owner receives and approves Certificates of Insurance as required in Section 3.4.3., "Insurance." Certificates of Insurance may be issued in the name of the completing Contractor. The Surety is responsible for making every effort to expedite the resumption of work and completion of the Contract. The Owner may complete the work using any or all materials at the work locations that it deems suitable and acceptable. Any costs incurred by the Owner for the completion of the work under the Contract will be the responsibility of the Surety.

From the time of notification of the default until work resumes (either by the Surety or the Owner), the Owner will maintain traffic control devices and will do any other work it deems necessary, unless otherwise agreed upon by the Owner and the Surety. All costs associated with this work will be deducted from money due to the Surety.

The Owner will hold all money earned but not disbursed by the date of default. Upon resumption of the work after the default, all payments will be made to the Surety. All costs and charges incurred by the Owner resulting from the default, including the cost of completing the work under the Contract, costs of maintaining traffic control devices, costs for other work deemed necessary, and any applicable liquidated damages or disincentives will be deducted from money due the Contractor for completed work. If these costs exceed the sum that would have been payable under the Contract, the Surety will be liable and pay the Owner the balance of these costs in excess of the Contract price. In case the costs incurred by the Owner are less than the amount that would have been payable under the Contract if the work had been completed by the Contractor, the Owner will be entitled to retain the difference.

Comply with Article 8L.2., "Subcontracting," and abide by the DBE commitments previously approved by the Owner. Section 8L.2.1., "Construction Contracts and Federally Funded Maintenance Contracts," is waived.

No markups as defined in Article 9L.7., "Payment for Extra Work and Force Account Method," will be allowed for the Surety.

7.2. **Wrongful Default**. If it is determined after the Contractor is declared in default, that the Contractor was not in default, the rights and obligations of all parties will be the same as if termination had been issued for the convenience of the public as provided in Article 8L.8., "Termination of Contract."

8. TERMINATION OF CONTRACT

The Owner may terminate the Contract in whole or in part whenever:

- the Contractor is prevented from proceeding with the work as a direct result of an executive order of the President of the United States or the Governor of the State;
- the Contractor is prevented from proceeding with the work due to a national emergency, or when the work to be performed under the Contract is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment, or labor as the result of an order or a proclamation of the President of the United States;
- the Contractor is prevented from proceeding with the work due to an order of any federal authority;
- the Contractor is prevented from proceeding with the work by reason of a preliminary, special, or permanent restraining court order where the issuance of the restraining order is primarily caused by acts or omissions of persons or agencies other than the Contractor; or
- the Owner determines that termination of the Contract is in the best interest of the State or the public. This includes, but is not limited to, the discovery of significant hazardous material problems, right of way acquisition problems, or utility conflicts that would cause substantial delays or expense to the Contract.

8.1. **Procedures and Submittals**. The Owner will provide written notice to the Contractor of termination specifying the extent of the termination and the effective date. Upon notice, immediately proceed in accordance with the following:

- stop work as specified in the notice,
- place no further subcontracts or orders for materials, services, or facilities, except as necessary to complete a critical portion of the Contract, as approved by the Engineer,
- terminate all subcontracts to the extent they relate to the work terminated,
- complete performance of the work not terminated,
- settle all outstanding liabilities and termination settlement proposals resulting from the termination of the Contract,
- create an inventory report, including all acceptable materials and products obtained for the Contract that have not been incorporated in the work that was terminated (include in the inventory report a description, quantity, location, source, cost, and payment status for each of the acceptable materials and products), and
- take any action necessary, or that the Engineer may direct, for the protection and preservation of the materials and products related to the Contract that are in the possession of the Contractor and in which the Owner has or may acquire an interest.

8.2. **Settlement Provisions**. Within 60 calendar days of the date of the notice of termination, submit a final termination settlement proposal, unless otherwise approved. The Engineer will prepare a change order that reduces the affected quantities of work and adds acceptable costs for termination. No claim for loss of anticipated profits will be considered. The Owner will pay reasonable and verifiable termination costs, including:

- all work completed at the unit bid price and partial payment for incomplete work,
- the percentage of Item 500, “Mobilization,” equivalent to the percentage of work complete or actual cost that can be supported by cost records, whichever is greater,
- expenses necessary for the preparation of termination settlement proposals and support data;
- the termination and settlement of subcontracts,
- storage, transportation, restocking, and other costs incurred necessary for the preservation, protection, or disposition of the termination inventory, and
- other expenses acceptable to the Owner.

Item 9L
Measurement and Payment

1. MEASUREMENT OF QUANTITIES

The Engineer will measure all completed work using United States standard measures, unless otherwise specified.

1.1. **Linear Measurement**. Unless otherwise specified, all longitudinal measurements for surface areas will be made along the actual surface of the roadway and not horizontally. No deduction will be made for structures in the roadway with an area of 9 sq. ft. or less. For all transverse measurements for areas of base courses, surface courses, and pavements, the dimensions to be used in calculating the pay areas will be the neat dimensions and will not exceed those shown on the plans, unless otherwise directed.

1.2. **Volume Measurement**. Transport materials measured for payment by volume in approved hauling vehicles. Display a unique identification mark on each vehicle. Furnish information necessary to calculate the volume capacity of each vehicle. The Engineer may require verification of volume through weight measurement. Use body shapes that allow the capacity to be verified. Load and level the load to the equipment's approved capacity. Loads not hauled in approved vehicles may be rejected.

1.3. **Weight Measurement**. Transport materials measured for payment by weight or truck measure in approved hauling vehicles. Furnish certified measurements, tare weights, and legal gross weight calculations for all haul units. Affix a permanent, legible number on the truck and on the trailer to correspond with the certified information. Furnish certified weights of loaded haul units transporting material if requested.

The material will be measured at the point of delivery. The cost of supplying these volume and weight capacities is subsidiary to the pertinent Item. For measurement by the ton, in the field, provide measurements in accordance with Item 520, "Weighing and Measuring Equipment," except for Items where ton measurements are measured by standard tables.

The Engineer may reject loads and suspend hauling operations for overloading.

1.3.1. **Hauling on Routes Accessible to the Traveling Public**. For payment purposes on haul routes accessible to the traveling public:

- If the gross vehicle weight is less than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
- If the gross vehicle weight is more than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.

1.3.2. **Hauling on Routes Not Accessible to the Traveling Public**. For payment purposes on haul routes that are not accessible to the traveling public where advance permission is obtained in writing from the Engineer:

- If the gross vehicle weight is less than the maximum allowed by the Engineer, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
- If the gross vehicle weight is more than the maximum allowed by the Engineer, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.

2. PLANS QUANTITY MEASUREMENT

Plans quantities may or may not represent the exact quantity of work performed or material moved, handled, or placed during the execution of the Contract. The estimated bid quantities are designated as final payment quantities, unless revised by the governing specifications or this Article.

If the quantity measured as outlined under "Measurement" varies by more than 5% (or as stipulated under "Measurement" for specific Items) from the total estimated quantity for an individual Item originally shown in the Contract, an adjustment may be made to the quantity of authorized work done for payment purposes.

When quantities are revised by a change in design approved by the Owner, by change order, or to correct an error on the plans, the plans quantity will be increased or decreased by the amount involved in the change, and the 5% variance will apply to the new plans quantity.

If the total Contract quantity multiplied by the unit bid price for an individual Item is less than $250 and the Item is not originally a plans quantity Item, then the Item may be paid as a plans quantity Item if the Engineer and Contractor agree in writing to fix the final quantity as a plans quantity.

For Contracts with callout work and work orders, plans quantity measurement requirements are not applicable.

3. ADJUSTMENT OF QUANTITIES

The party to the Contract requesting the adjustment will provide field measurements and calculations showing the revised quantity. When approved, this revised quantity will constitute the final quantity for which payment will be made. Payment for revised quantity will be made at the unit price bid for that Item, except as provided for in Article 4L.4., "Changes in the Work."

4. SCOPE OF PAYMENT

Payment of the Contract unit price is full compensation for all materials, equipment, labor, tools, and supplies necessary to complete the Item of work under the Contract. Until final acceptance in accordance with Article 5L.12., "Final Acceptance," assume liability for completing the work according to the plans and specifications and any loss or damage arising from the performance of the work or from the action of the elements, infringement of patent, trademark, or copyright, except as provided elsewhere in the Contract.

The Owner will only pay for material incorporated into the work in accordance with the Contract. Payment of progress estimates will in no way affect the Contractor's obligation under the Contract to repair or replace any defective parts in the construction or to replace any defective materials used in the construction and to be responsible for all damages due to defects if the defects and damages are discovered on or before final inspection and acceptance of the work.

5. PROGRESS PAYMENTS

The Engineer will prepare a monthly estimate of the amount of work performed, including materials in place. Incomplete items of work may be paid at an agreed upon percentage approved by the Engineer. Payment of the monthly estimate is determined at the Contract item prices less any withholdings or deductions in accordance with the Contract. Progress payments may be withheld for failure to comply with the Contract.

It is the Owner's intent to pay a Contractor for work through the last working day of the month; however, the use of early cut-off dates for monthly estimates and MOH is a project management practice to manage workload at the local level. Approval for using early cut-off dates is at the Owner's discretion. The earliest cut-off date for pay applications is the 25th of the month.

6. PAYMENT FOR MATERIAL ON HAND (MOH)

If payment for MOH is desired, request compensation for the invoice cost of acceptable nonperishable materials that have not been used in the work before the request, and that have been delivered to the work location or are in acceptable storage places. Nonperishable materials are those that do not have a shelf life or whose characteristics do not materially change when exposed to the elements. Include only materials that have been sampled, tested, approved, or certified, and are ready for incorporation into the work. Only materials that are completely constructed or fabricated on the Contractor's order for a specific Contract and are so marked and on which an approved test report has been issued are eligible. Payment for MOH may include the following types of items: concrete traffic barrier, precast concrete box culverts, concrete piling, reinforced concrete pipe, and illumination poles. Any repairs required after fabricated materials have been approved for storage will require the Engineer's approval before being made and will be made at the Contractor's expense. Include only those materials and products, when cumulated under an individual item or similar bid items, that have an invoice cost of at least $1,000 in the request for MOH payment. (E.g., for MOH eligibility, various sizes of conductor are considered similar bid items and may be cumulated to meet the threshold; for small roadside signs, the sign supports, mounting bolts, and the sign face are considered one bid item or similar bid items for more than one pay item for sign supports.) Requests for MOH are to be submitted at least 2 days before but not later than the estimate cut-off date unless otherwise agreed. If there is a need to request MOH after the established cut-off date, the Owner can make accommodation as the need arises. This needed accommodation is to be the exception, though, and not the rule.

For Contracts with callout work and work orders, payment for MOH will only be made for materials authorized for purchase by the work order or by written approval of the Engineer.

If the request is acceptable, the Engineer will include payment for MOH in a progress payment. Payment for MOH does not constitute acceptance of the materials. Payment will not exceed the actual cost of the material as established by invoice, or the total cost for the associated item less reasonable placement costs, whichever is less. Materials for which the Contractor does not have a paid invoice within 60 days will not be eligible for payment and will be removed from the estimate. Payment may be limited to a portion of the invoice cost or unit price if shown elsewhere in the Contract. Payment for precast products fabricated or constructed by the Contractor for which invoices or freight bills are not available may be made based on statements of actual cost.

Submit the request on forms provided by the Owner. These forms may be electronically reproduced, provided they are in the same format and contain all the required information and certifications. Continue to submit monthly MOH forms until the total value of MOH is $0.

By submitting a request for MOH payment, the Contractor expressly authorizes the Owner to audit MOH records and to perform process reviews of the record-keeping system. If the Owner determines noncompliance with any of the requirements of this provision, the Owner may exclude payment for any or all MOH for the duration of the Contract.

Maintain all records relating to MOH payment until final acceptance. Provide these records to the Engineer upon request.

7. PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT METHOD

Payment for extra work directed, performed, and accepted will be made in accordance with Article 4L.4., "Changes in the Work." Payment for extra work may be established by agreed unit prices or by Force Account Method.

Agreed unit prices are unit prices that include markups and are comparable to recent bid prices for the same character of work. These unit prices may be established without additional breakdown justification.

When using Force Account Method, determine an estimated cost for the proposed work and establish labor and equipment rates and material costs. Maintain daily records of extra work and provide copies of these

records daily, signed by the Contractor's representative, for the Owner's verification. Request payment for the extra work no later than the 10th day of the month following the month in which the work was performed. Include copies of all applicable invoices. If the extra work to be performed has an estimated cost of less than $10,000, submit for approval and payment an invoice of actual cost for materials, equipment, labor, tools, and incidentals necessary to complete the extra work. When added work requires mobilization that is exclusive to the added work, mobilization may be added to the force account invoice for payment.

7.1. **Markups**. Payment for extra work may include markups as compensation for the use of small tools, overhead expense, and profit.

7.1.1. **Labor**. Compensation will be made for payroll rates for each hour that the labor and foremen or others approved by the Engineer are actually engaged in the work. In no case will the rate of wages be less than the minimum shown in the Contract for a particular category. An additional 25% of this sum will be paid as compensation for overhead, superintendence, profit, and small tools.

7.1.2. **Insurance and Taxes**. An additional 55% of the labor cost, excluding the 25% compensation provided in Section 9L.7.1.1., "Labor," will be paid as compensation for labor insurance and labor taxes including the cost of premiums on non-project-specific liability (excluding vehicular) insurance, workers compensation insurance, Social Security, unemployment insurance taxes, and fringe benefits.

7.1.3. **Materials**. Compensation will be made for materials associated with the work based on actual delivered invoice costs, less any discount. An additional 25% of this sum will be paid as compensation for overhead and profit.

7.1.4. **Equipment**. Payment will be made for the established equipment hourly rates for each hour that the equipment is involved in the work. An additional 15% of this sum will be paid as compensation for overhead and profit not included in the rates.

Transportation cost for mobilizing equipment will be included if the equipment is mobilized from an offsite location.

7.1.4.1. **Contractor-Owned Equipment**. For Contractor-owned machinery, trucks, power tools, or other equipment, use the FHWA rental rates found in Equipment Watch multiplied by the regional adjustment factor and the rate adjustment factor to establish hourly rates. Use the rates in effect for each section of Equipment Watch at the time of use.

If a rate has not been established for a particular piece of equipment in Equipment Watch, the Engineer will allow a reasonable hourly rate. This price will include operating costs.

Payment for equipment will be made for the actual hours used in the work. The Owner reserves the right to withhold payment for low production or lack of progress. Payment will not be made for time lost for equipment breakdowns, time spent to repair equipment, or time after equipment is no longer needed.

If equipment is used intermittently while dedicated solely to the work, payment will be made for the duration the equipment is assigned to the work but no more than 8 hr. will be paid during a 24-hr. day, nor more than 40 hr. per week, nor more than 176 hr. per month, except when time is computed using a 6-day or 7-day workweek. When using a 6-day workweek, no more than 8 hr. will be paid during a 24-hr. day, nor more than 48 hr. per week, nor more than 211 hr. per month. When using a 7-day workweek, no more than 8 hr. will be paid during a 24-hr. day, nor more than 56 hr. per week, nor more than 246 hr. per month.

7.1.4.2. **Equipment Not Owned by the Contractor**. For equipment rented from a third party not owned by the Contractor, payment will be made at the invoice daily rental rate for each day the equipment is needed for the work. The Owner reserves the right to limit the daily rate to comparable FHWA rental rates found in Equipment Watch multiplied by the regional adjustment factor and the rate adjustment factor. When the invoice specifies that the rental rate does not include fuel, lubricants, repairs, and servicing, the Equipment Watch hourly operating cost for each hour the equipment is operated will be added.

When the invoice specifies equipment operators as a component of the equipment rental, payment will be made at the invoice rate for each operator for each day the equipment is needed for the work.

7.1.4.3. **Standby Equipment Costs**. Payment for standby equipment will be made in accordance with Section 9L.7.1.4., "Equipment." The 15% markup will be paid when standby is associated with extra work but will not be paid when standby is associated with damages.

7.1.4.3.1. **Contractor-Owned Equipment**. For Contractor-owned equipment:

- Standby will be paid at 50% of the monthly Equipment Watch rate after the regional and age adjustment factors have been applied. Operating costs will not be allowed. Calculate the standby rate as follows.

  Standby rate = (FHWA hourly rate - operating costs) × 50%

- If an hourly rate is needed, divide the monthly Equipment Watch rate by 176.
- No more than 8 hr. of standby will be paid during a 24-hr. day period, nor more than 40 hr. per week.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

7.1.4.3.2. **Equipment Not Owned by the Contractor**. For equipment rented from a third party not owned by the Contractor:

- Standby will be paid at the invoice daily rental rate, excluding operating cost, which includes fuel, lubricants, repairs, and servicing. The Owner reserves the right to limit the daily standby rate to comparable FHWA rental rates found in Equipment Watch multiplied by the regional adjustment factor and the rate adjustment factor.
- Standby will be paid for equipment operators when included on the invoice and equipment operators are actually on standby.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

7.1.5. **Subcontracting**. An additional 5% of the actual invoice cost will be paid to the Contractor as compensation for administrative cost and profit.

7.1.6. **Law Enforcement Personnel**. An additional 5% of the actual invoice cost will be paid as compensation for administrative costs and profit.

7.1.7. **Railroad Flaggers**. An additional 5% of the actual invoice cost will be paid as compensation for administrative cost and profit.

7.1.8. **Bond Cost**. An additional 1% of the total compensation provided in Article 9.7., "Payment for Extra Work and Force Account Method," will be paid for the increase in bond.

8. RETAINAGE

The Owner will withhold retainage on the Contractor. The Contractor may withhold retainage on subcontractors in accordance with state and federal regulations.

9. PAYMENT PROVISIONS FOR SUBCONTRACTORS

For the purposes of this Article only, the term subcontractor includes suppliers, and the term work includes materials provided by suppliers at a location approved by the Engineer.

These requirements apply to all tiers of subcontractors. Incorporate the provisions of this Article into all subcontract or material purchase agreements.

Pay subcontractors for work performed within 10 days after receiving payment from the Owner.

Pay any retainage on a subcontractor's work within 10 days after satisfactory completion of all the subcontractor's work. Completed subcontractor work includes vegetative establishment, test, maintenance, performance, and other similar periods that are the responsibility of the subcontractor.

For the purpose of this Section, satisfactory completion is accomplished when:

- the subcontractor has fulfilled the Contract requirements of both the Owner and the subcontract for the subcontracted work, including the submittal of all information required by the Contract and the Owner, and
- the work done by the subcontractor has been inspected, approved, and paid by the Owner.

Provide a certification of prompt payment to certify that all subcontractors and suppliers were paid from the previous month's payments and retainage was released for those whose work is complete. Submit the certification in the manner prescribed by the Owner each month and the month following the month when final acceptance occurred.

The inspection and approval of a subcontractor's work does not eliminate the Contractor's responsibilities for the work as defined in Article 7L.17., "Contractor's Responsibility for Work."

10. FINAL PAYMENT

When the Contract has been completed, all work has been approved, final acceptance has been made in accordance with Article 5L.12., "Final Acceptance," and Contractor submittals have been received, the Engineer will prepare a final estimate for payment showing the total quantity of work completed and the money owed the Contractor. The final payment will reflect the entire sum due, less any sums previously paid.

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

> "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided,* That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a **wage determination may contain, pursuant to § 1.3(f), wage** and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in **§ 5.28, that the applicable standards of the Davis**-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that **is held by the same prime contractor (as defined in § 5.2). The** necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of **any of the applicable statutes referenced by § 5.1, available for** inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be **grounds for debarment action pursuant to § 5.12. In addition,** any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) **or § 5.12(a).**

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) **or § 5.12(a).**

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same **prime contractor (as defined in § 5.2). The** necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B) This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

CONTRACTOR'S ASSURANCE

(Subcontracts-Federal Aid Projects)

By signing this proposal, the contractor is giving assurances that all subcontract agreements will incorporate the Standard Specification and Special Provisions to Section 9.9., Payment Provisions for Subcontractors, all subcontract agreements exceeding $2,000 will incorporate the applicable Wage Determination Decision, and all subcontract agreements will incorporate the following:

Special Provision	Certification of Nondiscrimination in Employment
Special Provision	Standard Federal Equal Employment Opportunity
Form FHWA 1273	Required Contract Provisions Federal-aid Construction Contracts (Form FHWA 1273 must also be physically attached to subcontracts and all lower-tier subcontracts)
Special Provision	Nondiscrimination (Include provisions of Sections 3.1 – 3.6 in all subcontracts and agreements for materials)
Special Provision	Cargo Preference Act Requirements in Federal-Aid Contracts

CERTIFICATION TO NOT BOYCOTT ENERGY COMPANIES

Pursuant to Texas Government Code §809.051, the Department must include a provision requiring a written verification affirming that the Contractor does not boycott energy companies, as defined in Government Code §809.001, and will not boycott energy companies during the term of the contract. This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not boycott energy companies and will not boycott energy companies during the term of this contract. “Boycott” means taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (1) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (2) does business with a company described by (1).

Violation of this certification may result in action by the Department.

CERTIFICATION TO NOT BOYCOTT ISRAEL

Pursuant to Texas Government Code §2271.002, the Department must include a provision requiring a written verification affirming that the Contractor does not boycott Israel, as defined in Government Code §808.001, and will not boycott Israel during the term of the contract. This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not boycott Israel and will not boycott Israel during the term of this contract. “Boycott” means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

Violation of this certification may result in action by the Department.

CERTIFICATION REGARDING DISCLOSURE OF PUBLIC INFORMATION

Pursuant to Subchapter J, Chapter 552, Texas Government Code, contractors executing a contract with a governmental body that results in the expenditure of at least $1 million in public funds must:

1) preserve all contracting information* as provided by the records retention requirements applicable to Texas Department of Transportation (TxDOT) for the duration of the contract,
2) on request of TxDOT, promptly provide any contracting information related to the contract that is in the custody or possession of the entity, and
3) on completion of the contract, either:
    a. provide, at no cost to TxDOT, all contracting information related to the contract that is in the custody or possession of the entity, or
    b. preserve the contracting information related to the contract as provided by the records retention requirements applicable to TxDOT

The requirements of Subchapter J, Chapter 552, Government Code, may apply to this contract, and the contractor or vendor agrees that the contract can be terminated if the contractor or vendor knowingly or intentionally fails to comply with a requirement of that subchapter.

By entering into Contract, the Contractor agrees to:

- provide, or make available, to TxDOT and any authorized governmental investigating or auditing agency all records, including electronic and payment records related to the contract, for the same period provided by the records retention schedule applicable to TxDOT, and
- ensure that all subcontracts include a clause requiring the same.

* As defined in Government Code §552.003, "Contracting information" means the following information maintained by a governmental body or sent between a governmental body and a vendor, contractor, potential vendor, or potential contractor:

1) information in a voucher or contract relating to the receipt or expenditure of public funds by a governmental body;
2) solicitation or bid documents relating to a contract with a governmental body;
3) communications sent between a governmental body and a vendor, contractor, potential vendor, or potential contractor during the solicitation, evaluation, or negotiation of a contract;
4) documents, including bid tabulations, showing the criteria by which a governmental body evaluates each vendor, contractor, potential vendor, or potential contractor responding to a solicitation and, if applicable, an explanation of why the vendor or contractor was selected; and
5) communications and other information sent between a governmental body and a vendor or contractor related to the performance of a final contract with the governmental body or work performed on behalf of the governmental body.

CERTIFICATION TO NOT DISCRIMINATE AGAINST FIREARM ENTITIES OR FIREARM TRADE ASSOCIATIONS

Pursuant to Texas Government Code §2274.002, the Department must include a provision requiring a written verification affirming that the Contractor:

1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association, as defined in Government Code §2274.001, and
2) will not discriminate against a firearm entity or firearm trade association during the term of the contract.

This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not discriminate against a firearm entity or firearm trade association as described and will not do so during the term of this contract. "Discriminate against a firearm entity or firearm trade association" means, with respect to the entity or association, to: (1) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (2) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (3) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association. "Discriminate against a firearm entity or firearm trade association" does not include: (1) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories; (2) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency, or for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity's or association's status as a firearm entity or firearm trade association.

Violation of this certification may result in action by the Department.

Texas Department of Transportation

Wages by Classification for Proposal

The wage rates listed herein are those predetermined by the Secretary of Labor and State Statute and listed in the United States Department of Labor's (USDOL) General Decisions dated 01-02-2026 and are the minimum wages to be paid accordingly for each specified classification. To determine the applicable wage rate zone, a list entitled "TEXAS COUNTIES IDENTIFIED BY WAGE RATE ZONES" is provided in the contract. Any wage rate that is not listed in the USDOL's general decision, must be requested by the contractor through the completion of an Additional Classification and Wage Rate Request and be submitted for approval. A blank cell indicates that the classification and wage rate are not listed on the USDOL's general decision and therefore must be requested by the contractor through the completion of an Additional Classification and Wage Rate Request. IMPORTANT NOTICE FOR STATE PROJECTS: only the controlling wage rate zone applies to the contract. Effective 01-02-2026.

Table 1 - Wage Rates.

CLASS. #	CLASSIFICATION DESCRIPTION	ZONE TX46 *(TX20250046)	ZONE TX51 *(TX20250051)	ZONE TX55 *(TX20250055)	ZONE TX291 *(TX20250291)	ZONE TX292 *(TX20250292)	ZONE TX293 *(TX20250293)	ZONE TX294 *(TX20250294)	ZONE TX295 *(TX20250295)	ZONE TX296 *(TX20250296)	ZONE TX297 *(TX20250297)	ZONE TX298 *(TX20250298)	ZONE TX299 *(TX20250299)	ZONE TX300 *(TX20250300)
1106	Asphalt Raker	$18.97	$15.02	$18.76	$19.40	$18.20	$16.28	$19.87	$19.53	$17.40	$15.22	$19.58	$20.41	$19.02
1124	Concrete Finisher, Paving and Structures	$20.92	$19.13	$21.11	$20.61	$18.72	$17.99	$22.48	$20.66	$21.16	$18.15	$20.77	$20.79	$20.04
1139	Electrician	$23.70			$30.54		$25.73	$36.10	$32.38				$31.46	
1143	Telecommunication Technician							$23.14						
1145	Traffic Signal/Light Pole Worker	$25.43			$21.99									
1150	Flagger	$13.50	$14.56	$15.30	$15.52	$15.00		$14.80	$13.99	$14.59	$15.81	$14.82	$16.63	$15.16
1151	Form Builder/Setter, Structures	$21.78	$18.59	$19.31	$20.63	$20.18	$19.37	$22.50	$20.05	$19.82	$18.26	$22.09	$19.93	$19.89
1160	Form Setter, Paving & Curb	$20.39	$17.31	$18.50	$19.18			$20.89	$18.25	$18.16	$17.56	$19.44	$19.32	$20.25
1172	Laborer, Common	$17.76	$14.88	$16.80	$17.52	$17.12	$15.16	$18.01	$16.72	$16.63	$15.22	$18.10	$17.12	$16.69
1175	Laborer, Utility	$18.51	$16.79	$17.91	$19.05	$17.46	$16.73	$19.32	$18.80	$18.42	$16.75	$18.10	$19.11	$18.40
1187	Mechanic	$27.08	$23.80	$25.11	$26.15	$28.00	$23.84	$27.44	$24.13	$25.51	$22.98	$25.47	$23.38	$23.35
1194	Servicer	$21.29	$20.03		$23.75	$21.51	$17.87	$24.86	$20.94		$19.11	$21.31	$20.33	$20.75
1196	Painter, Structures				$23.76					$27.93			$26.40	
1202	Piledriver												$21.48	
1205	Pipelayer	$17.76	$15.48		$19.23		$17.11	$22.46	$19.97	$19.40	$15.22	$18.10	$20.03	$17.56
1300	Asphalt Distributor Operator	$22.68	$19.62	$23.09	$24.07	$23.76	$21.93	$24.40	$22.69	$23.20	$24.54	$23.46	$23.26	$23.99
1303	Asphalt Paving Machine Operator	$20.34	$15.99	$20.95	$22.12	$22.45	$19.02	$22.52	$21.26	$19.14	$17.58	$21.32	$22.67	$20.70
1305	Broom or Sweeper Operator	$17.76	$15.22	$17.75	$18.09	$17.12		$18.01	$17.58	$16.63	$16.92	$18.10	$17.63	$17.30
1306	Crawler Tractor Operator	$20.95	$20.27	$20.00	$20.92				$19.82	$23.23		$22.51	$20.33	$20.83
1315	Concrete Paving, Curing, Float, Texturing Machine Operator								$23.12				$22.62	
1318	Concrete Pavement Finishing Machine Operator	$20.00		$24.85	$22.81			$24.07	$23.11				$22.18	
1329	Joint Sealer						$15.16							
1333	Concrete Saw Operator	$25.25		$20.69	$25.97			$20.34	$25.50				$21.57	$22.93
1341	Small Slipform Machine Operator							$25.09						
1342	Crane Operator, Lattice Boom 80 Tons or Less	$24.25	$29.80	$25.57	$26.47			$29.90	$24.33			$24.40	$25.74	$26.15
1343	Crane Operator, Lattice Boom Over 80 Tons				$28.87			$33.55	$23.75	$34.20			$23.85	$31.28
1344	Crane Operator, Hydraulic 80 Tons or less				$29.24		$23.37	$31.32	$27.22	$27.88	$28.75	$27.09	$24.75	$23.89
1345	Crane Operator, Hydraulic Over 80 Tons									$30.25				$31.44
1346	Loader/Backhoe Operator	$20.99	$16.37	$20.20	$20.32	$18.00	$17.92	$23.22	$20.42	$19.01	$16.93	$21.03	$21.37	$19.94
1347	Excavator Operator, 50,000 pounds or less	$25.59	$18.99		$22.93	$22.91	$19.70	$25.08	$21.05	$19.69	$21.86	$24.67	$21.53	$22.25
1348	Excavator Operator, Over 50,000 pounds		$19.29	$20.36	$22.90			$25.34	$22.80	$22.05	$25.35		$22.24	$22.47
1360	Foundation Drill Operator, Crawler Mounted							$29.25					$22.25	
1363	Foundation Drill Operator, Truck Mounted				$24.28			$29.86	$25.95		$27.81	$32.17	$26.04	$24.05
1369	Front End Loader Operator, 3 CY or Less	$19.42	$15.59	$18.40	$20.33	$18.28	$17.42	$20.93	$18.58	$18.80	$17.47	$19.06	$19.72	$19.34
1372	Front End Loader Operator,Over 3 CY	$19.52	$16.41	$17.25	$20.20	$19.83	$18.26	$22.56	$19.55	$18.71	$18.12	$20.11	$20.34	$20.00
1380	Milling Machine Operator	$20.98	$18.47	$19.48	$21.73	$18.49	$23.02	$20.94	$19.99	$22.53	$19.21	$20.37	$21.65	$19.88
1384	Reclaimer/Pulverizer Operator	$21.17			$19.05	$23.25		$22.17	$18.15	$18.83				$19.67
1390	Motor Grader Operator, Fine Grade	$27.00	$21.55	$23.01	$26.56	$26.38	$20.04	$27.09	$24.43	$26.88	$22.98	$26.74	$23.91	$24.96
1393	Motor Grader Operator, Rough	$23.50	$18.78	$19.00	$22.95	$23.69		$24.90	$21.43	$23.06	$19.60	$23.08	$21.20	$21.04
1396	Pavement Marking MachineOperator	$20.62		$16.80	$22.00	$18.99		$22.35	$22.96		$19.26	$23.48	$17.12	$17.50
1402	Roller Operator, Asphalt	$17.76	$14.88	$18.35	$20.24	$17.12		$20.35	$18.34	$17.27	$16.83	$18.76	$19.79	$18.13
1405	Roller Operator, Other	$17.76	$14.88	$16.80	$17.52	$17.12		$18.60	$17.09	$16.90	$15.38	$18.10	$18.93	$16.94
1411	Scraper Operator	$20.00	$14.88		$17.52		$18.33	$21.54	$17.71		$15.33	$19.49		$17.21
1413	Off Road Hauler				$17.52			$23.70	$16.90			$18.10	$17.12	
1428	Agricultural Tractor Operator				$19.14				$19.97			$23.21		
1445	Directional Drilling Operator				$25.19									
1446	Directional Drilling Locator				$21.39		$16.50							
1500	Reinforcing Steel Worker	$22.94	$19.62	$24.99	$22.46		$20.57	$23.50	$22.24	$22.76	$20.91	$25.70	$22.34	$23.47
1509	Structural Steel Worker												$22.64	
1513	Sign Erector				$17.52			$18.01						

CLASS. #	CLASSIFICATION DESCRIPTION	ZONE TX46 *(TX20250046)	ZONE TX51 *(TX20250051)	ZONE TX55 *(TX20250055)	ZONE TX291 *(TX20250291)	ZONE TX292 *(TX20250292)	ZONE TX293 *(TX20250293)	ZONE TX294 *(TX20250294)	ZONE TX295 *(TX20250295)	ZONE TX296 *(TX20250296)	ZONE TX297 *(TX20250297)	ZONE TX298 *(TX20250298)	ZONE TX299 *(TX20250299)	ZONE TX300 *(TX20250300)
1515	Spreader Box Operator	$18.50		$19.28	$19.31			$23.59	$18.52	$20.63	$23.00	$18.31	$17.84	$19.96
1520	Work Zone Barricade Servicer	$17.76	$15.81	$16.80	$17.75	$17.12		$18.01	$16.89	$17.52	$16.49	$18.10	$17.37	$17.66
1600	Truck Driver, Single Axle	$21.59	$17.93	$19.19	$19.70	$18.24	$15.16	$20.60	$19.22	$17.99	$19.02	$22.02	$21.93	$19.20
1606	Truck Driver, Single or Tandem Axle Dump Truck	$20.87	$18.50	$21.94	$20.91	$21.14	$16.58	$22.64	$20.30	$20.30	$18.63	$21.04	$18.60	$19.19
1607	Truck Driver, Tandem Axle Tractor with Semi-Trailer	$21.52	$19.81	$20.66	$21.71	$21.97		$23.22	$20.32	$22.08	$23.00	$21.91	$20.17	$19.52
1609	Truck Driver Lowboy-Float	$23.01	$27.10	$23.18	$25.96			$25.57	$23.97	$22.90	$25.75	$23.22	$25.94	$22.60
1612	Truck Driver Transit-Mix		$18.00					$21.97						
1615	Boom Truck Operator				$27.82									
1706	Welder		$21.35		$23.38		$17.34	$23.72				$22.00	$20.97	

Notes:
*Represents the USDOL wage decision.
Any worker employed on this project shall be paid at the rate of one and one half (1-1/2) times the regular rate for every hour worked in excess of forty (40) hours per week.

For reference, the titles and descriptions for the classifications listed here are detailed further in the Associated General Contractors (AGC) of Texas' Standard Job Classifications and Descriptions for Highway, Heavy, Utilities, and Industrial Construction in Texas posted on the AGC's Web site for any contractor.

Texas Counties Identified By
Wage Rate Zones: 46, 51, 55, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300

Table 2 - Counties by Zone.

County Name	Zone	County Name	Zone	County Name	Zone	County Name	Zone
Anderson	295	Donley	298	Karnes	300	Reagan	298
Andrews	298	Duval	297	Kaufman	294	Real	298
Angelina	295	Eastland	298	Kendall	291	Red River	295
Aransas	296	Ector	46	Kenedy	297	Reeves	292
Archer	46	Edwards	292	Kent	298	Refugio	300
Armstrong	46	El Paso	293	Kerr	300	Roberts	298
Atascosa	291	Ellis	294	Kimble	298	Robertson	291
Austin	299	Erath	295	King	298	Rockwall	294
Bailey	298	Falls	295	Kinney	292	Runnels	298
Bandera	291	Fannin	295	Kleberg	300	Rusk	55
Bastrop	291	Fayette	300	Knox	298	Sabine	295
Baylor	298	Fisher	298	Lamar	295	San Augustine	295
Bee	300	Floyd	298	Lamb	298	San Jacinto	299
Bell	291	Foard	298	Lampasas	291	San Patricio	296
Bexar	291	Fort Bend	299	LaSalle	297	San Saba	298
Blanco	300	Franklin	295	Lavaca	300	Schleicher	298
Borden	298	Freestone	295	Lee	300	Scurry	298
Bosque	295	Frio	297	Leon	295	Shackelford	298
Bowie	55	Gaines	298	Liberty	299	Shelby	295
Brazoria	299	Galveston	299	Limestone	295	Sherman	298
Brazos	291	Garza	298	Lipscomb	298	Smith	55
Brewster	292	Gillespie	300	Live Oak	300	Somervell	295
Briscoe	298	Glasscock	298	Llano	300	Starr	297
Brooks	297	Goliad	296	Loving	298	Stephens	298
Brown	298	Gonzales	300	Lubbock	46	Sterling	298
Burleson	291	Gray	298	Lynn	298	Stonewall	298
Burnet	300	Grayson	294	Madison	295	Sutton	292
Caldwell	291	Gregg	55	Marion	295	Swisher	298
Calhoun	296	Grimes	295	Martin	298	Tarrant	294
Callahan	46	Guadalupe	291	Mason	300	Taylor	46
Cameron	51	Hale	298	Matagorda	300	Terrell	292
Camp	295	Hall	298	Maverick	297	Terry	298
Carson	46	Hamilton	295	McCulloch	298	Throckmorton	298
Cass	295	Hansford	298	McLennan	291	Titus	295
Castro	298	Hardeman	298	McMullen	297	Tom Green	46
Chambers	299	Hardin	299	Medina	291	Travis	291
Cherokee	295	Harris	299	Menard	298	Trinity	295
Childress	298	Harrison	55	Midland	46	Tyler	295
Clay	46	Hartley	298	Milam	295	Upshur	55
Cochran	298	Haskell	298	Mills	298	Upton	298
Coke	298	Hays	291	Mitchell	298	Uvalde	297
Coleman	298	Hemphill	298	Montague	298	Val Verde	292
Collin	294	Henderson	295	Montgomery	299	Van Zandt	295
Collingsworth	298	Hidalgo	51	Moore	298	Victoria	296
Colorado	300	Hill	295	Morris	295	Walker	295
Comal	291	Hockley	298	Motley	298	Waller	299
Comanche	298	Hood	295	Nacogdoches	295	Ward	298
Concho	298	Hopkins	295	Navarro	295	Washington	295
Cooke	298	Houston	295	Newton	295	Webb	51
Coryell	291	Howard	298	Nolan	298	Wharton	300
Cottle	298	Hudspeth	292	Nueces	296	Wheeler	298
Crane	298	Hunt	294	Ochiltree	298	Wichita	46
Crockett	292	Hutchinson	298	Oldham	298	Wilbarger	298
Crosby	46	Irion	46	Orange	299	Willacy	297
Culberson	292	Jack	295	Palo Pinto	295	Williamson	291
Dallam	298	Jackson	300	Panola	295	Wilson	291
Dallas	294	Jasper	295	Parker	294	Winkler	298
Dawson	298	Jeff Davis	292	Parmer	298	Wise	294
Deaf Smith	298	Jefferson	299	Pecos	292	Wood	295
Delta	294	Jim Hogg	297	Polk	295	Yoakum	298
Denton	294	Jim Wells	300	Potter	46	Young	298
DeWitt	300	Johnson	294	Presidio	292	Zapata	297
Dickens	298	Jones	46	Rains	295	Zavala	297
Dimmit	297			Randall	46		

CHILD SUPPORT STATEMENT

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

State of Texas Child Support Business Ownership Form

County: _____ Project Name: _____

TxDOT CSJ: _____ LG Project Number: _____

Business Entity Submitting Bid:_____

Section 231.006, Family Code, requires a bid for a contract paid from state funds to include the names and social security number of individuals owning 25% or more of the business entity submitting the bid.

1. In the spaces below please provide the names and social security number of individuals owning 25% or more of the business.

Name	Social Security Number
_____	_____
_____	_____
_____	_____
_____	_____

2. Please check the box below if no individual owns 25% or more of the business.

( ) No individual own 25% or more of the business.

Except as provided by Section 231.302(d), Family Code, a social security number is confidential and may be disclosed only for the purpose of responding to a request for information from an agency operating under the provisions of Part A and D to Title IV of the Federal Social Security Act (42 USC Section 601-617 and 651-699).

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

The information collected on this form will be maintained by Enter Local Government Name. With few exceptions, you are entitled on request to be informed about the information collected about you. Under Sections 552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under Section 559.004 of the Government Code, you are also entitled to have information about you corrected that you believe is incorrect.

_____ _____

Signature Date

_____

Printed Name

IF THIS PROJECT IS A JOINT VENTURE,

ALL PARTIES TO THE JOINT VENTURE MUST PROVIDE A COMPLETED FORM.

Prohibition on Certain Telecommunications Equipment or Services

The Federal Register Notice issued the Final Rule and states that the amendment to 2 CFR 200.216 is effective on August 13, 2020. The new 2 CFR 200.471 regulation provides clarity that the telecommunications and video surveillance costs associated with 2 CFR 200.216 are unallowable for services and equipment from these specific providers. OMB's Federal Register Notice includes the new 2 CFR 200.216 and 2 CFR 200.471 regulations.

Per the Federal Law referenced above, use of services, systems, or services or systems that contain components produced by any of the following manufacturers is strictly prohibited for use on this project. Therefore, for any telecommunications, CCTV, or video surveillance equipment, services or systems cannot be manufactured by, or have components manufactured by:

- Huawei Technologies Company,
- ZTE Corporation (any subsidiary and affiliate of such entities),
- Hyatera Communications Corporation,
- Hangzhou Hikvision Digital Technology Company,
- Dahua Technology Company (any subsidiary and affiliate of such entities).

Violation of this requirement will require replacement of the equipment at the contractor's expense.

Special Provision to Item 000
Nondiscrimination

1. DESCRIPTION

All recipients of federal financial assistance are required to comply with various nondiscrimination laws, including Title VI of the Civil Rights Act of 1964, as amended (Title VI). Title VI forbids discrimination against anyone in the United States on the grounds of race, color, or national origin by any agency receiving federal funds.

The Owner, as a recipient of federal financial assistance, and under Title VI and related statutes, ensures that no person will on the grounds of race, religion (where the primary objective of the financial assistance is to provide employment in accordance with 42 USC 2000d-3), color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any of Owner's programs or activities.

2. DEFINITION OF TERMS

Where the term "Contractor" appears in the following six nondiscrimination clauses, the term "Contractor" is understood to include all parties to Contracts or agreements with the Owner.

3. NONDISCRIMINATION PROVISIONS

During the performance of this Contract, the Contractor agrees as follows.

3.1. **Compliance with Regulations**. The Contractor must comply with the Regulations pertinent to nondiscrimination in federally assisted programs of the United States Department of Transportation 49 CFR 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

3.2. **Nondiscrimination**. The Contractor, regarding the work performed during the Contract, must not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor must not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

3.3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment**. In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, the Contractor must notify each potential subcontractor or supplier of the Contractor's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

3.4. **Information and Reports**. The Contractor must provide all information and reports required by the Regulations or directives issued pursuant thereto, and must permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the Recipient or the Owner to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor must so certify to the Owner, or the Texas Department of Transportation as appropriate, and must set forth what efforts it has made to obtain the information.

3.5. **Sanctions for Noncompliance**. In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the Owner must impose such Contract sanctions as it or the Owner may

determine to be appropriate, including, but not limited to actions defined in Article 5.1., "Authority of Engineer."

3.6. **Incorporation of Provisions**. The Contractor must include the provisions of Sections 3.1–3.6 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Contractor must take such action with respect to any subcontract or procurement as the Owner may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that, in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the Owner to enter into such litigation to protect the interests of the Owner, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Special Provision to Item 000
Certification of Nondiscrimination in Employment

1. GENERAL

By signing this proposal, the Bidder certifies that it has participated in a previous Contract or subcontract subject to the equal opportunity clause, as required by Executive Order (EO) 10925, 11114, or 11246, or if it has not participated in a previous Contract of this type, or if it has had previous Contracts or subcontracts and has not filed, it will file with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity (EEO), all reports due under the applicable filing requirements.

Note—The above certification is required by the EEO Regulations of the Secretary of Labor [41 CFR 60-1.7(b)(1)], and must be submitted by Bidders and proposed subcontractors only in connection with Contracts and subcontracts that are subject to the equal opportunity clause. Contracts and subcontracts that are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only Contracts or subcontracts of $10,000 or less are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the EOs or their implementing regulations.

Proposed prime Contractors and subcontractors that have participated in a previous Contract or subcontract subject to the EO and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of Contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by FHWA or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

Special Provision 000

Cargo Preference Act Requirements in Federal Aid Contracts

1. DESCRIPTION

All recipients of federal financial assistance are required to comply with the U.S. Department of Transportation's Cargo Preference Act requirements, 46 CFR 381, "Use of United States-Flag Vessels."

This requirement applies to material or equipment that is acquired specifically for a federal-aid highway project. It is not applicable to goods or materials that come into inventories independent of an FHWA-funded Contract.

When oceanic shipments are necessary for materials or equipment acquired for a specific federal-aid construction project, the Contractor agrees to:

- use privately owned United States-flag commercial vessels to ship at least 50% of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this Contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels;

- furnish a legible copy of a rated, onboard commercial ocean bill of lading in English for each shipment of cargo described in Paragraph (b)(1) of 46 CFR 381, Section 7, "Federal Grant, Guaranty, Loan and Advance of Funds Agreements," within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, to both the Engineer (through the prime Contractor in the case of subcontractor bills of lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590; and

- insert the substance of the provisions of this clause in all subcontracts issued pursuant to this Contract.

Special Provision to Item 000
Schedule of Liquidated Damages

The dollar amount of daily contract administration Liquidated Damages per Working Day is $1000

In addition to the amount shown above, the Liquidated Damages will be increased by the amount shown in Item 8 of the General Notes for Road User Cost (RUC), when applicable.

Special Provision to Item 2L
Instructions to Bidders

Item 2, "Instructions to Bidders" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 7., "Nonresponsive Bid," is voided and replaced by the following.

The Owner will not accept a nonresponsive bid. A bid that has one or more of the deficiencies listed below is considered nonresponsive:

- the bid was not in the hands of the Letting Official at the time and location specified in the advertisement,
- a proposal form was submitted for the same project by a Bidder or Bidders and one or more of its partners or affiliates
- the Bidder was not authorized to receive a proposal form under Article 2.3., "Issuing Proposal Forms,"
- the Bidder failed to acknowledge receipt of all addenda issued,
- the proposal form was signed by a person who was not authorized to bind the Bidder or Bidders,
- the proposal guaranty did not comply with the requirements contained in this Item,
- the bid was in a form other than the official proposal form issued by the Owner,
- the Bidder modified the bid in a manner that altered the conditions or requirements for work as stated in the proposal form,
- the Bidder bid more than the maximum or less than the minimum number of allowable working days shown on the plans when working days was an item,
- a typed proposal form does not contain the information in the format shown on the "Example of Bid Prices Submitted by Computer Printout" on the proposal form,
- the Bidder did not meet the requirements of the technical qualification,
- the Bidder failed to submit a DBE commitment as specified in Article 2.14., "Disadvantaged Business Enterprise (DBE),"
- the Bidder failed to participate in the DHS E-Verify system as specified in Article 2.15., "Department of Homeland Security (DHS) E-Verify System," or
- the apparent low bid is mathematically and materially unbalanced.
- The bidder is not prequalified by TxDOT

Special Provision to Item 3L
Award and Execution of Contract

Item 3L, "Award and Execution of Contract," of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Section 1.2., "Rejection," is voided and replaced by the following.

1.2. **Rejection**. The Owner will reject the Contract if:

- collusion may have existed among the Bidders. Collusion participants will not be allowed to bid future proposals for the same Contract,
- the lowest bid is higher than the Owner's estimate, and re-advertising for bids may result in a lower bid,
- the low bid contains a bid error that satisfies the requirements and criteria in Article 2.12., "Consideration of Bid Errors," or
- rejection of the Contract is in the best interest of the Owner.

Special Provision to Item 6L
Control of Materials

Item 6L, "Control of Materials" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Section 1.1. "Buy America," and Section 1.2., "Buy America Exceptions," are voided and replaced by the following.

1.1. **Buy America**. Comply with the latest provisions of Build America, Buy America Act (BABA Act) and applicable CFR, which restrict funds being made available from Federal financial assistance programs unless all the iron products, steel products, manufactured products, and construction materials used in the project are manufactured in the United States. Use iron or steel products, manufactured products, or construction materials manufactured in the United States for all permanently installed materials and products except when defined in Section 1.1.5., "Buy America Exceptions."

A material is solely classified based on its status at the time it is brought to the work site as either an iron or steel product, construction material, manufactured product, or excluded material. Refer to the Buy America Material Classification Sheet found at https://www.txdot.gov/business/resources/materials/buy-america/buy-america-material-classification-sheet.html for additional clarification on material classification.

Texas Department of Transportation's MPLs include Gold Star listings for certain manufacturers, construction materials, or products. Gold Star items are manufacturers, materials, or products that have submitted a Buy America certification (as listed on an MPL) to be in compliance with the Buy America requirements. For items identified as a Gold Star manufacturer, material, or product; the only Material Sourcing documentation as stated in Table 1 BABA Submissions is required.

Table1
BABA Submission Requirements

Classification	Form 1818 [2 & 3] (notarized original Form D-9 USA-1)	Material Sourcing Documentation [4]	Form 2806 [5 & 6]	De Minimis Tracking Log [7]
Iron or Steel Products	✓	✓		✓
Construction Material		✓	✓	✓
Manufactured Product [1]		✓	✓	✓

1. For ITS enclosures and precast concrete products as stated under Manufactured Products, submission requirements for Iron and Steel Products and Manufactured Products apply. Reinforcing Steel or items covered by TxDOT's Gold Star Program do not require a Form 1818 submission.
2. For miscellaneous steel exceptions may be allowed to submit a notarized certification letter in lieu of submitting Form 1818, as approved by the Owner. There are no exceptions for iron or steel products required to be furnished in accordance with item 441, "Steel Structures", or requested otherwise. Items covered by TxDOT's Gold Star Program do not require a Form 1818.
3. Item 450 aluminum metal railing and Item 610 aluminum roadway illumination poles, will require Form 1818 to be submitted when requested by the Owner.
4. For materials that are BABA compliant and are on TxDOT's Material Producer List (MPL). Material Sourcing Documentation is documentation, along with any necessary attachments, that connects the Material's source to project. Provide additional documentation at the request of the Owner.
5. Form 2806 is required to be submitted for products and materials to certify BABA compliance when an MPL does not exist for the corresponding material.
6. Form 2806 is required for materials that are not listed as BABA compliant on the associated MPL.
7. De Minimis Tracking Log is required for materials that are not BABA compliant and must be submitted in advance when de minimis waiver is being pursued. De Minimis Tracking Log must track non-compliant iron or steel products separately from non-compliant construction materials and manufactured products. Contact the Owner when either thresholds in 6.1.1.5, "Buy America Exceptions" is reached. Non-compliant items above the de minimis threshold will require removal and replacement with BABA compliant item, or not paid for as determined by the Engineer.

1.1.1. **Materials Excluded from Buy America.** Excluded Materials mean cement and cementitious material; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. Excluded Materials do not require domestic sourcing or Buy America certification.

Materials combined as an unsettled mixture delivered to a work site without final form, for incorporation into a project, such as hot mix asphalt, or wet concrete mixtures, are not a manufactured product and are considered excluded from Buy America.

1.1.2. **Iron or Steel Product**. Iron or steel products means articles, materials, or supplies that consist wholly or predominantly of iron or steel or a combination of both.

Predominantly of iron or steel or a combination of both means the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

For iron or steel products, manufacturing includes any process that modifies the chemical content, physical shape or size, or final finish of a product. The manufacturing process begins with initial melting and mixing and continues through fabrication (e.g., cutting, drilling, welding, bending.) and coating (e.g., paint, galvanizing, epoxy).

1.1.3. **Construction Materials**. Construction materials are classified as articles, materials, or supplies that consist of only one of the items listed in bullets below. Minor additions of articles, materials, supplies, or binding agents (as determined by the plans or the Engineer) to any of the items listed does not change the classification of a construction material.

- non-ferrous metals,
- plastic and polymer-based products (including polyvinyl chloride, composite building materials, and polymers used in fiber optic cables),
- glass (including optic glass),
- fiber optic cable (including drop cable),
- optical fiber,
- lumber,
- engineered wood, or
- drywall.

Each construction material has specific certification requirements stated below which constitute Buy America Compliance. Provide additional documentation as requested.

For non-ferrous metals, certification requires all manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.

For plastic and polymer-based products (including polyvinyl chloride, composite building materials, and polymers used in fiber optic cables), certification requires all manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.

For glass (including optic glass), certification requires all manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.

For fiber optic cable (including drop cable), certification requires all manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.

For optical fiber, certification requires all manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.

For lumber, certification requires all manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.

For engineered wood, certification requires all manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

For drywall, certification requires all manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.

1.1.4. **Manufactured Product** means articles, materials, or supplies that have been processed into a specific form and shape, or combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. Manufactured products may include components that are iron or steel products, excluded materials, or construction materials. Any product classified as an iron or steel product, excluded material, or construction material is not a manufactured product. In addition, mixtures of excluded materials, such as asphalt or concrete mixtures, delivered to a work site without final form for incorporation into a project are not a manufactured product and are considered excluded.

Manufactured products are required to be Manufactured in the United States. For manufactured products, submit per submission table above.

Manufactured in the United States (for Manufactured Products) means the final assembly occurred in the United States of America.

Precast Concrete products classified as a manufactured product (not predominantly of iron and steel) are to be Manufactured in the United States and require iron or steel components to comply with manufacturing requirements for Iron or Steel Products stated in Section 6.1.1.2.

Intelligent Transportation Systems and other electronic hardware systems classified as a manufactured product are to be Manufactured in the United States and must require iron or steel cabinets or other enclosures of such systems to comply with manufacturing requirements for Iron or Steel Products stated in Section 6.1.1.2

Component means an article, material, or supply, whether manufactured or unmanufactured, incorporated directly into a manufactured product or where applicable, an iron or steel product.

1.1.5. **Buy America Exceptions**. Use of iron or steel products, construction materials, and manufactured products manufactured in the United States is required unless the material meets an exception below.

- A waiver exists exempting the material from Buy America compliance.
- The total value of the non-compliant products (other than iron or steel products) is no more than the lesser of $1,000,000 or 5% of Total Applicable Costs for the project. Total Applicable Cost means the actual cost of all materials requiring Buy America compliance including iron, steel, or other materials that are within the scope of existing waivers. Contractor must provide documentation showing under threshold in advance for Engineer's consideration.
- The total value of foreign iron or steel products, including delivery, does not exceed 0.1% of the total Contract cost or $2,500, whichever is greater. The Contractor must provide documentation showing under threshold in advance for the Engineer's consideration.
- Foreign iron or steel products may be allowed when the Contract contains an alternate item for a foreign source iron or steel product and the Contract is awarded based on the alternate item.
- The materials are temporarily installed or are supplies, tools, and equipment not incorporated into the project. Temporarily installed means the materials and products must be removed at the end of the project or may be removed at the Contractor's convenience with the Engineer's approval.

Special Provision to Item 506

Temporary Erosion, Sedimentation, and Environmental Controls

For this project, item 506, "Temporary Erosion, Sedimentation, and Environmental Controls," of the standard specifications, is hereby voided and replaced with the following.

1. DESCRIPTION

Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants in accordance with the Storm Water Pollution Prevention Plan (SWP3) in the plans and the Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR150000.

2. MATERIALS

Furnish materials in accordance with the following:

- Item 161, "Compost"
- Item 432, "Riprap"
- Item 556, "Pipe Underdrains"

2.1. **Rock Filter Dams**.

2.1.1. **Aggregate**. Furnish aggregate with hardness, durability, cleanliness, and resistance to crumbling, flaking, and eroding acceptable to the Owner. Provide the following:

- Types 1, 2, and 4 Rock Filter Dams. Use 3 to 6 in. aggregate.
- Type 3 Rock Filter Dams. Use 4 to 8 in. aggregate.

2.1.2. **Wire**. Provide minimum 20 gauge galvanized wire for the steel wire mesh and tie wires for Types 2 and 3 rock filter dams. Type 4 dams require:

- a double-twisted, hexagonal weave with a nominal mesh opening of 2-1/2 in. × 3-1/4 in.;
- minimum 0.0866 in. steel wire for netting;
- minimum 0.1063 in. steel wire for selvages and corners; and
- minimum 0.0866 in. for binding or tie wire.

2.1.3. **Sandbag Material**. Furnish sandbags meeting Section 506.2.8., "Sandbags," except that any gradation of aggregate may be used to fill the sandbags.

2.2. **Temporary Pipe Slope Drains**. Provide corrugated metal pipe, polyvinyl chloride (PVC) pipe, flexible tubing, watertight connection bands, grommet materials, prefabricated fittings, and flared entrance sections that conform to the plans. Recycled and other materials meeting these requirements are allowed if approved.

Furnish concrete in accordance with Item 432, "Riprap."

2.3. **Temporary Paved Flumes**. Furnish asphalt concrete, hydraulic cement concrete, or other comparable non-erodible material that conforms to the plans. Provide rock or rubble with a minimum diameter of 6 in. and a maximum volume of 1/2 cu. ft. for the construction of energy dissipaters.

2.4. **Construction Exits**. Provide materials that meet the details shown on the plans and this Section.

2.4.1. **Rock Construction Exit**. Provide crushed aggregate for long- and short-term construction exits. Furnish aggregates that are clean, hard, durable, and free from adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials, and organic and injurious matter. Use 4- to 8-in. aggregate for Type 1. Use 2- to 4-in. aggregate for Type 3.

2.4.2. **Timber Construction Exit**. Furnish No. 2 quality or better railroad ties and timbers for long-term construction exits, free of large and loose knots and treated to control rot. Fasten timbers with nuts and bolts or lag bolts, of at least 1/2 in. diameter, unless otherwise shown on the plans or allowed. Provide plywood or pressed wafer board at least 1/2 in. thick for short-term exits.

2.4.3. **Foundation Course**. Provide a foundation course consisting of flexible base, bituminous concrete, hydraulic cement concrete, or other materials as shown on the plans or directed.

2.5. **Embankment for Erosion Control**. Provide rock, loam, clay, topsoil, or other earth materials that will form a stable embankment to meet the intended use.

2.6. **Pipe**. Provide pipe outlet material in accordance with Item 556, “Pipe Underdrains,” and details shown on the plans.

2.7. **Construction Perimeter Fence**.

2.7.1. **Posts**. Provide essentially straight wood or steel posts that are at least 60 in. long. Furnish soft wood posts with a minimum diameter of 3 in., or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/5 in. Furnish T- or L-shaped steel posts with a minimum weight of 0.5 lb. per foot.

2.7.2. **Fence**. Provide orange construction fencing as approved.

2.7.3. **Fence Wire**. Provide 11 gauge or larger galvanized smooth or twisted wire. Provide 16 gauge or larger tie wire.

2.7.4. **Flagging**. Provide brightly-colored flagging that is fade-resistant and at least 3/4 in. wide to provide maximum visibility both day and night.

2.7.5. **Staples**. Provide staples with a crown at least 1/2 in. wide and legs at least 1/2 in. long.

2.7.6. **Used Materials**. Previously used materials meeting the applicable requirements may be used if approved.

2.8. **Sandbags**. Provide sandbag material of polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 oz. per square yard, a Mullen burst-strength exceeding 300 psi, and an ultraviolet stability exceeding 70%.

Use natural coarse sand or manufactured sand meeting the gradation given in Table 1 to fill sandbags. Filled sandbags must be 24 to 30 in. long, 16 to 18 in. wide, and 6 to 8 in. thick.

Table 1
Sand Gradation

Sieve #	Retained (% by Weight)
4	Maximum 3%
100	Minimum 80%
200	Minimum 95%

Aggregate may be used instead of sand for situations where sandbags are not adjacent to traffic. The aggregate size shall not exceed 3/8 in.

2.9. **Temporary Sediment Control Fence**. Provide a net-reinforced fence using woven geo-textile fabric. Logos visible to the traveling public will not be allowed.

2.9.1. **Fabric**. Provide fabric materials in accordance with DMS-6230, "Temporary Sediment Control Fence Fabric."

2.9.2. **Posts**. Provide essentially straight wood or steel posts with a minimum length of 48 in., unless otherwise shown on the plans. Furnish soft wood posts at least 3 in. in diameter, or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/2 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.3 lb. per foot.

2.9.3. **Net Reinforcement**. Provide net reinforcement of at least 12-1/2 gauge galvanized welded wire mesh, with a maximum opening size of 2 × 4 in., at least 24 in. wide, unless otherwise shown on the plans.

2.9.4. **Staples**. Provide staples with a crown at least 3/4 in. wide and legs 1/2 in. long.

2.9.5. **Used Materials**. Use recycled material meeting the applicable requirements if approved.

2.10. **Biodegradable Erosion Control Logs**.

2.10.1. **Core Material**. Furnish core material that is biodegradable or recyclable. Use compost, mulch, aspen excelsior wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or any other acceptable material unless specifically called out on the plans. Permit no more than 5% of the material to escape from the containment mesh. Furnish compost meeting the requirements of Item 161, "Compost."

2.10.2. **Containment Mesh**. Furnish containment mesh that is 100% biodegradable, photodegradable, or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or any other acceptable material.

Furnish biodegradable or photodegradable containment mesh when log will remain in place as part of a vegetative system.

Furnish recyclable containment mesh for temporary installations.

2.10.3. **Size**. Furnish biodegradable erosion control logs with diameters shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

3. CONSTRUCTION

3.1. **Contractor Responsibilities**. Implement the Owner's Storm Water Pollution Prevention Plan (SWP3) for the project in accordance with the plans and specifications, TPDES General Permit TXR150000, and as directed by the Owner. Develop and implement an SWP3 for project-specific material supply plants within and outside of the Owner's right of way in accordance with the specific or general storm water permit requirements. Prevent water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site.

3.2. **General.**

3.2.1. **Phasing**. Implement control measures in the area to be disturbed before beginning construction, or as directed. Limit the disturbance to the area shown on the plans or as directed. If, in the opinion of the Owner, the Contractor cannot control soil erosion and sedimentation resulting from construction operations, the Owner will limit the disturbed area to that which the Contractor is able to control. Minimize disturbance to vegetation.

3.2.2. **Maintenance**. Immediately correct ineffective control measures. Implement additional controls as directed. Remove excavated material within the time requirements specified in the applicable storm water permit.

3.2.3. **Stabilization**. Stabilize disturbed areas where construction activities will be temporarily stopped in accordance with the applicable storm water permit. Establish a uniform vegetative cover. The project will not be accepted until a 70% density of existing adjacent undisturbed areas is obtained, unless otherwise shown on the plans. When shown on the plans, the Owner may accept the project when adequate controls are in place that will control erosion, sedimentation, and water pollution until sufficient vegetative cover can be established.

3.2.4. **Finished Work**. Upon acceptance of vegetative cover, remove and dispose of all temporary control measures, temporary embankments, bridges, matting, falsework, piling, debris, or other obstructions placed during construction that are not a part of the finished work, or as directed.

3.2.5. **Restricted Activities and Required Precautions**. Do not discharge onto the ground or surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment on-site to prevent actual or potential water pollution. Manage, control, and dispose of litter on-site such that no adverse impacts to water quality occur. Prevent dust from creating a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Wash out concrete trucks only as described in the TPDES General Permit TXR150000. Utilize appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water (i.e. dewatering). Prevent discharges that would contribute to a violation of Edwards Aquifer Rules, water quality standards, the impairment of a listed water body, or other state or federal law.

3.3. **Installation, Maintenance, and Removal Work**. Perform work in accordance with the SWP3, according to manufacturers' guidelines, and in accordance with the TPDES General Permit TXR150000. Install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until soil disturbing activities are completed and permanent erosion control features are in place or the disturbed area has been adequately stabilized as determined by the Owner. . If a device ceases to function as intended, repair or replace the device or portions thereof as necessary. Remove sediment, debris, and litter. When approved, sediments may be disposed of within embankments, or in the right of way in areas where the material will not contribute to further siltation. Dispose of removed material in accordance with federal, state, and local regulations.

Remove devices upon approval or as directed. Finish-grade and dress the area upon removal. Stabilize disturbed areas in accordance with the permit, and as shown on the plans or directed. Materials removed are considered consumed by the project. Retain ownership of stockpiled material and remove it from the project when new installations or replacements are no longer required.

3.3.1. **Rock Filter Dams for Erosion Control.** Remove trees, brush, stumps, and other objectionable material that may interfere with the construction of rock filter dams. Place sandbags as a foundation when required or at the Contractor's option.

Place the aggregate to the lines, height, and slopes specified, without undue voids for Types 1, 2, 3, and 5. Place the aggregate on the mesh and then fold the mesh at the upstream side over the aggregate and secure it to itself on the downstream side with wire ties, or hog rings for Types 2 and 3, or as directed. Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams according to the following criteria unless otherwise shown on the plans:

3.3.1.1. **Type 1 (Non-reinforced)**.

3.3.1.1.1. **Height**. At least 18 in. measured vertically from existing ground to top of filter dam.

3.3.1.1.2. **Top Width**. At least 2 ft.

3.3.1.1.3. **Slopes**. No steeper than 2:1.

3.3.1.2. **Type 2 (Reinforced)**.

3.3.1.2.1. **Height**. At least 18 in. measured vertically from existing ground to top of filter dam.

3.3.1.2.2. **Top Width**. At least 2 ft.

3.3.1.2.3. **Slopes**. No steeper than 2:1.

3.3.1.3. **Type 3 (Reinforced)**.

3.3.1.3.1. **Height**. At least 36 in. measured vertically from existing ground to top of filter dam.

3.3.1.3.2. **Top Width**. At least 2 ft.

3.3.1.3.3. **Slopes**. No steeper than 2:1.

3.3.1.4. **Type 4 (Sack Gabions)**. Unfold sack gabions and smooth out kinks and bends. Connect the sides by lacing in a single loop–double loop pattern on 4- to 5-in. spacing for vertical filling. Pull the end lacing rod at one end until tight, wrap around the end, and twist 4 times. Fill with stone at the filling end, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires 4 times.

Place the sack flat in a filling trough, fill with stone, connect sides, and secure ends as described above for horizontal filling.

Lift and place without damaging the gabion. Shape sack gabions to existing contours.

3.3.1.5. **Type 5**. Provide rock filter dams as shown on the plans.

3.3.2. **Temporary Pipe Slope Drains**. Install pipe with a slope as shown on the plans or as directed. Construct embankment for the drainage system in 8-in. lifts to the required elevations. Hand-tamp the soil around and under the entrance section to the top of the embankment as shown on the plans or as directed. Form the top of the embankment or earth dike over the pipe slope drain at least 1 ft. higher than the top of the inlet pipe at all points. Secure the pipe with hold-downs or hold-down grommets spaced a maximum of 10 ft. on center. Construct the energy dissipaters or sediment traps as shown on the plans or as directed. Construct the sediment trap using concrete or rubble riprap in accordance with Item 432, “Riprap,” when designated on the plans.

3.3.3. **Temporary Paved Flumes**. Construct paved flumes as shown on the plans or as directed. Provide excavation and embankment (including compaction of the subgrade) of material to the dimensions shown on the plans unless otherwise indicated. Install a rock or rubble riprap energy dissipater, constructed from the materials specified above, to a minimum depth of 9 in. at the flume outlet to the limits shown on the plans or as directed.

3.3.4. **Construction Exits**. Prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits when tracking conditions exist. Construct exits for either long- or short-term use.

3.3.4.1. **Long-Term**. Place the exit over a foundation course as required. Grade the foundation course or compacted subgrade to direct runoff from the construction exits to a sediment trap as shown on the plans or as directed. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed.

3.3.4.1.1. **Type 1**. Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.

3.3.4.1.2. **Type 2**. Construct using railroad ties and timbers as shown on the plans or as directed.

3.3.4.2. **Short-Term**.

3.3.4.2.1. **Type 3**. Construct using crushed aggregate, plywood, or wafer board. This type of exit may be used for daily operations where long-term exits are not practical.

3.3.4.2.2. **Type 4**. Construct as shown on the plans or as directed.

3.3.5. **Earthwork for Erosion Control**. Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.

3.3.5.1. **Excavation and Embankment for Erosion Control Features**. Place earth dikes, swales, or combinations of both along the low crown of daily lift placement, or as directed, to prevent runoff spillover. Place swales and dikes at other locations as shown on the plans or as directed to prevent runoff spillover or to divert runoff. Construct cuts with the low end blocked with undisturbed earth to prevent erosion of hillsides. Construct sediment traps at drainage structures in conjunction with other erosion control measures as shown on the plans or as directed.

Create a sediment basin, where required, providing 3,600 cu. ft. of storage per acre drained, or equivalent control measures for drainage locations that serve an area with 10 or more disturbed acres at one time, not including offsite areas.

3.3.5.2. **Excavation of Sediment and Debris**. Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.

3.3.6. **Construction Perimeter Fence**. Construct, align, and locate fencing as shown on the plans or as directed.

3.3.6.1. **Installation of Posts**. Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8 to 10 ft.

3.3.6.2. **Wire Attachment**. Attach the top wire to the posts at least 3 ft. from the ground. Attach the lower wire midway between the ground and the top wire.

3.3.6.3. **Flag Attachment**. Attach flagging to both wire strands midway between each post. Use flagging at least 18 in. long. Tie flagging to the wire using a square knot.

3.3.7. **Sandbags for Erosion Control**. Construct a berm or dam of sandbags that will intercept sediment-laden storm water runoff from disturbed areas, create a retention pond, detain sediment, and release water in sheet flow. Fill each bag with sand so that at least the top 6 in. of the bag is unfilled to allow for proper tying of the open end. Place the sandbags with their tied ends in the same direction. Offset subsequent rows of sandbags 1/2 the length of the preceding row. Place a single layer of sandbags downstream as a secondary debris trap. Place additional sandbags as necessary or as directed for supplementary support to berms or dams of sandbags or earth.

3.3.8. **Temporary Sediment-Control Fence**. Provide temporary sediment-control fence near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the fence into erosion-control measures used to control sediment in areas of higher flow. Install the fence as shown on the plans, as specified in this Section, or as directed.

3.3.8.1. **Installation of Posts**. Embed posts at least 18 in. deep, or adequately anchor, if in rock, with a spacing of 6 to 8 ft. and install on a slight angle toward the runoff source.

3.3.8.2. **Fabric Anchoring**. Dig trenches along the uphill side of the fence to anchor 6 to 8 in. of fabric. Provide a minimum trench cross-section of 6 × 6 in. Place the fabric against the side of the trench and align approximately 2 in. of fabric along the bottom in the upstream direction. Backfill the trench, then hand-tamp.

3.3.8.3. **Fabric and Net Reinforcement Attachment**. Attach the reinforcement to wooden posts with staples, or to steel posts with T-clips, in at least 4 places equally spaced unless otherwise shown on the plans. Sewn vertical pockets may be used to attach reinforcement to end posts. Fasten the fabric to the top strand of reinforcement by hog rings or cord every 15 in. or less.

3.3.8.4. **Fabric and Net Splices**. Locate splices at a fence post with a minimum lap of 6 in. attached in at least 6 places equally spaced unless otherwise shown on the plans. Do not locate splices in concentrated flow areas.

Requirements for installation of used temporary sediment-control fence include the following:

- fabric with minimal or no visible signs of biodegradation (weak fibers),
- fabric without excessive patching (more than 1 patch every 15 to 20 ft.),
- posts without bends, and
- backing without holes.

3.3.9. **Biodegradable Erosion Control Logs**. Install biodegradable erosion control logs near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the biodegradable erosion control logs into the erosion measures used to control sediment in areas of higher flow. Install, align, and locate the biodegradable erosion control logs as specified below, as shown in plans or as directed.

Secure biodegradable erosion control logs in a method adequate to prevent displacement as a result of normal rain events, prevent damage to the logs, and to the satisfaction of the Owner such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs as to facilitate daily work is allowed at the Contractor's expense.

3.3.10. **Vertical Tracking**. Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring a minimum of 12 in. long × 2 to 4 in. wide × 1/2 to 2 in. deep. Do not exceed 12 in. between track impressions. Install continuous linear track impressions where the 12 in. length impressions are perpendicular to the slope. Vertical tracking is required on projects where soil disturbing activities have occurred unless otherwise approved.

4. MEASUREMENT

4.1. **Rock Filter Dams**. Installation or removal of rock filter dams will be measured by the foot or by the cubic yard. The measured volume will include sandbags, when used.

4.1.1. **Linear Measurement**. When rock filter dams are measured by the foot, measurement will be along the centerline of the top of the dam.

4.1.2. **Volume Measurement**. When rock filter dams are measured by the cubic yard, measurement will be based on the volume of rock computed by the method of average end areas.

4.1.2.1. **Installation**. Measurement will be made in final position.

4.1.2.2. **Removal**. Measurement will be made at the point of removal.

4.2. **Temporary Pipe Slope Drains**. Temporary pipe slope drains will be measured by the foot.

4.3. **Temporary Paved Flumes**. Temporary paved flumes will be measured by the square yard of surface area. The measured area will include the energy dissipater at the flume outlet.

4.4. **Construction Exits**. Construction exits will be measured by the square yard of surface area.

4.5. **Earthwork for Erosion and Sediment Control**.

4.5.1. **Equipment and Labor Measurement**. Equipment and labor used will be measured by the actual number of hours the equipment is operated and the labor is engaged in the work.

4.5.2. **Volume Measurement**.

4.5.2.1. **In Place**.

4.5.2.1.1. **Excavation**. Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.

4.5.2.1.2. **Embankment**. Embankment will be measured by the cubic yard in its final position by the method of average end areas. The volume of embankment will be determined between:

- the original ground surfaces or the surface upon that the embankment is to be constructed for the feature and
- the lines, grades and slopes of the accepted embankment for the feature.

4.5.2.2. **In Vehicles**. Excavation and embankment quantities will be combined and paid for under "Earthwork (Erosion and Sediment Control, In Vehicle)." Excavation will be measured by the cubic yard in vehicles at the point of removal. Embankment will be measured by the cubic yard in vehicles measured at the point of delivery. Shrinkage or swelling factors will not be considered in determining the calculated quantities.

4.6. **Construction Perimeter Fence**. Construction perimeter fence will be measured by the foot.

4.7. **Sandbags for Erosion Control**. Sandbags will be measured as each sandbag or by the foot along the top of sandbag berms or dams.

4.8. **Temporary Sediment-Control Fence**. Installation or removal of temporary sediment-control fence will be measured by the foot.

4.9. **Biodegradable Erosion Control Logs**. Installation or removal of biodegradable erosion control logs will be measured by the foot along the centerline of the top of the control logs.

4.10. **Vertical Tracking**. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

5. PAYMENT

The following will not be paid for directly but are subsidiary to pertinent Items:

- erosion-control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (such as construction and haul roads, field offices, equipment and supply areas, plants, and material sources);
- removal of litter, unless a separate pay item is shown on the plans;
- repair to devices and features damaged by Contractor operations;
- added measures and maintenance needed due to negligence, carelessness, lack of maintenance, and failure to install permanent controls;
- removal and reinstallation of devices and features needed for the convenience of the Contractor;
- finish grading and dressing upon removal of the device; and
- minor adjustments including but not limited to plumbing posts, reattaching fabric, minor grading to maintain slopes on an erosion embankment feature, or moving small numbers of sandbags.

Stabilization of disturbed areas will be paid for under pertinent Items.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly but is subsidiary to the excavation and embankment under this Item.

5.1. **Rock Filter Dams**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

5.1.1. **Installation**. Installation will be paid for as "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

5.1.2. **Removal**. Removal will be paid for as "Rock Filter Dams (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

When the Owner directs that the rock filter dam installation or portions thereof be replaced, payment will be made at the unit price bid for "Rock Filter Dams (Remove)" and for "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

5.2. **Temporary Pipe Slope Drains**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Pipe Slope Drains" of the size specified. This price is full compensation for furnishing materials, removal and disposal, furnishing and operating equipment, labor, tools, and incidentals.

Removal of temporary pipe slope drains will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the pipe slope drain installation or portions thereof be replaced, payment will be made at the unit price bid for "Temporary Pipe Slope Drains" of the size specified, which is full compensation for the removal and reinstallation of the pipe drain.

Earthwork required for the pipe slope drain installation, including construction of the sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

Riprap concrete or stone, when used as an energy dissipater or as a stabilized sediment trap, will be measured and paid for in accordance with Item 432, "Riprap."

5.3. **Temporary Paved Flumes**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Paved Flume (Install)" or "Temporary Paved Flume (Remove)." This price is full compensation for furnishing and placing materials, removal and disposal, equipment, labor, tools, and incidentals.

When the Owner directs that the paved flume installation or portions thereof be replaced, payment will be made at the unit prices bid for "Temporary Paved Flume (Remove)" and "Temporary Paved Flume (Install)." These prices are full compensation for the removal and replacement of the paved flume and for equipment, labor, tools, and incidentals.

Earthwork required for the paved flume installation, including construction of a sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

5.4. **Construction Exits**. Contractor-required construction exits from off right of way locations or on-right of way PSLs will not be paid for directly but are subsidiary to pertinent Items.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for construction exits needed on right of way access to work areas required by the Owner will be paid for at the unit price bid for "Construction Exits (Install)" of the type specified or "Construction Exits (Remove)." This price is full compensation for furnishing and placing materials, excavating, removal and disposal, cleaning vehicles, labor, tools, and incidentals.

When the Owner directs that a construction exit or portion thereof be removed and replaced, payment will be made at the unit prices bid for "Construction Exit (Remove)" and "Construction Exit (Install)" of the type specified. These prices are full compensation for the removal and replacement of the construction exit and for equipment, labor, tools, and incidentals.

Construction of sediment traps used in conjunction with the construction exit will be measured and paid for under "Earthwork for Erosion and Sediment Control."

5.5. **Earthwork for Erosion and Sediment Control**.

5.5.1. **Initial Earthwork for Erosion and Sediment Control**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Erosion and Sediment Control, In Place)," "Embankment (Erosion and Sediment Control, In Place)," "Excavation (Erosion and Sediment Control, In Vehicle)," "Embankment (Erosion and Sediment Control, (In Vehicle)," or "Earthwork (Erosion and Sediment Control, In Vehicle)."

This price is full compensation for excavation and embankment including hauling, disposal of material not used elsewhere on the project; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

5.5.2. **Maintenance Earthwork for Erosion and Sediment Control for Cleaning and Restoring Control Measures**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid under a Contractor Force Account Item from invoice provided to the Owner.

This price is full compensation for excavation, embankment, and re-grading including removal of accumulated sediment in various erosion control installations as directed, hauling, and disposal of material not used elsewhere on the project; excavation for construction of erosion-control features; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Earthwork needed to remove and obliterate erosion-control features will not be paid for directly but is subsidiary to pertinent Items unless otherwise shown on the plans.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

5.6. **Construction Perimeter Fence**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Construction Perimeter Fence." This price is full compensation for furnishing and placing the fence; digging, fence posts, wire, and flagging; removal and disposal; and materials, equipment, labor, tools, and incidentals.

Removal of construction perimeter fence will be not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the perimeter fence installation or portions thereof be removed and replaced, payment will be made at the unit price bid for "Construction Perimeter Fence," which is full compensation for the removal and reinstallation of the construction perimeter fence.

5.7. **Sandbags for Erosion Control**. Sandbags will be paid for at the unit price bid for "Sandbags for Erosion Control" (of the height specified when measurement is by the foot). This price is full compensation for materials, placing sandbags, removal and disposal, equipment, labor, tools, and incidentals.

Removal of sandbags will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the sandbag installation or portions thereof be replaced, payment will be made at the unit price bid for "Sandbags for Erosion Control," which is full compensation for the reinstallation of the sandbags.

5.8. **Temporary Sediment-Control Fence**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

5.8.1. **Installation**. Installation will be paid for as "Temporary Sediment-Control Fence (Install)." This price is full compensation for furnishing and operating equipment finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

5.8.2. **Removal**. Removal will be paid for as "Temporary Sediment-Control Fence (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

5.9. **Biodegradable Erosion Control Logs**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

5.9.1. **Installation**. Installation will be paid for as "Biodegradable Erosion Control Logs (Install)" of the size specified. This price is full compensation for furnishing and operating equipment finish backfill and grading, staking, proper disposal, labor, materials, tools, and incidentals.

5.9.2. **Removal**. Removal will be paid for as "Biodegradable Erosion Control Logs (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

5.10. **Vertical Tracking**. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

Special Provision to Item 000
Important Notice to Contractors

1. GENERAL

The Contractor's attention is directed to the fact that there are experience requirements associated with the Intelligent Transportation Systems (ITS) items contained on this project. The Contractor or its subcontractor must provide information to the Engineer that it meets these requirements with the initial submittals for the pertinent bid items and before installing or testing ITS items. Following are the ITS items and requirements that must be met if the item is on this project.

Should the Contractor have subcontractors that meet the following requirements, and should these subcontractors be unable to complete the ITS items contained within the project, the Contractor must resubmit qualification material of alternate subcontractors for approval before the applicable category of work can be continued.

1.1. **Category A. Pulling Fiber Optic Cable**. Contractor or subcontractor must meet the following experience requirements:

- three yr. continuous existence offering services in the installation of fiber optic cable through an outdoor conduit system and terminating in ground boxes, field cabinets or enclosures, or buildings; and
- three completed projects where the personnel pulled fiber optic cable, minimum 5 mi. in length, through an outdoor conduit system for each project. The completed fiber optic cable systems must have been in continuous satisfactory operation for at least 1 yr.

1.2. **Category B. Splicing and Testing of Fiber Optic Cable**. Contractor or subcontractor must meet the following experience requirements:

- three yr. continuous existence offering services in the fields of fusion splicing and testing of fiber optic cable installed through a conduit system and terminating in ground boxes, field cabinets or enclosures, or buildings. Experience must include the following:
  - termination of at least 48 fibers within a fiber distribution frame,
  - optical time-domain reflectometer (OTDR) testing and measurement of end-to-end attenuation of single-mode and multimode fibers,
  - system troubleshooting and maintenance,
  - training of personnel in system maintenance,
  - use of watertight splice enclosures, and
  - fusion splicing of fiber optic cable that meets the tolerable decibel (dB) losses shown in Table 1; and

Table 1
Tolerable dB Losses

Mode	dB Loss Range
Single mode	0.05–0.10
Multimode	0.20–0.30

- three completed projects where the personnel performed fiber optic cable splicing and terminations, system testing, system troubleshooting, and maintenance during the project and provided training in system maintenance. Each project must have consisted of a minimum 5-mi. length of fiber optic cable. The completed fiber optic cable systems must have been in continuous satisfactory operation for at least 1 yr.

1.3. **Category C. System Integration**. Contractor or subcontractor must meet the following experience requirements:

- three yr. providing system integration on wire line and wireless projects, including, but not limited to, programming of layer 2 Ethernet switches, integrating into existing systems, and coordination with traffic management centers; and
- three completed projects requiring system integration and configuration of hardware, including, but not limited to Ethernet switches, video encoders and decoders, and radios.

1.4. **Category D. Dynamic Message Sign (DMS) Installation**. Contractor or subcontractor must meet the following experience requirements:

- three yr. continuous existence offering services in the installation of DMS signs;
- three completed projects consisting of at least two signs in each project where the personnel installed, integrated, and tested DMS on outdoor, permanently mounted overhead structures and pertinent sign control equipment. The completed sign system installations must have been in continuous satisfactory operation for at least 1 yr.; and
- one project (may be one of the three projects in the preceding bulleted item) in which the personnel worked in cooperation with technical representatives of the equipment supplier to perform the installation, integration, or acceptance testing of the work. The Contractor will not be required to furnish equipment on this project from the same supplier that was referenced in the qualification documentation.

1.5. **Category E. Closed-Circuit Television (CCTV) Equipment Installation**. Contractor or subcontractor must meet the following experience requirements:

- three yr. continuous existence offering services in the installation of CCTV camera systems;
- three completed projects consisting of at least five cameras in each project where the personnel installed, tested, and integrated CCTV cameras on outdoor, permanently mounted structures and pertinent camera control and transmission equipment. The completed CCTV camera system installations must have been in continuous satisfactory operation for at least 1 yr.; and
- one project (may be one of the three projects in the preceding bulleted item) in which the personnel worked in cooperation with technical representatives of the equipment supplier to perform installation, integration, or acceptance testing of the work. The Contractor will not be required to furnish equipment on this project from the same supplier that was referenced in the qualification documentation.

1.6. **Category F. Wireless Communications**. Contractor or subcontractor must meet the following experience requirements:

- three yr. continuous existence offering services in the installation of wireless communications. Experience must include the following:
  - conducting radio installation studies, including signal noise studies, spectrum analysis, antenna gain and radio power calculations, system attenuation, and measurement of standing wave ratios;
  - installation, troubleshooting, and repair of broadband radio systems, including equipment installation, configuration of radios, antenna calibration, and cabling; and
  - installation, troubleshooting, and repair of interconnected Ethernet networks (local area network and wide area network), including cabling, switch or router configuration, and network analysis;
- three projects consisting of wireless communications installation, troubleshooting, and repair. Each project must include transmitting signals over at least 1-mi. distance and installation of at least three devices; and
- one project (may be one of the three projects in the preceding bulleted item) in which the personnel worked in cooperation with technical representatives of the equipment supplier to perform installation, integration, or acceptance testing of the work. The Contractor will not be required to furnish equipment on this project from the same supplier that was referenced in the qualification documentation.

1.7. **Category G. Radar Detection Systems**. Contractor or subcontractor must meet the following experience requirements:

- three yr. continuous existence offering services in the installation of radar detection systems. Experience must include the following:
  - freeway and arterial management,
  - forward fire and side fire applications,
  - single-zone and dual beam detection, and
  - equipment setup, testing, and troubleshooting;
- three projects consisting of installation, configuration, and setup of radar detection systems; and
- one project (may be one of the three projects in the preceding bullet) in which the personnel worked in cooperation with technical representatives of the equipment supplier to perform installation, integration, or acceptance testing of the work. The Contractor will not be required to furnish equipment on this project from the same supplier that was referenced in the qualification documentation.

Special Specification 5047
Relocate Fire Hydrant

1. DESCRIPTION

Furnish materials, labor, and equipment necessary to relocate fire hydrants in accordance with the City of Fort Worth (City) requirements and 33 12 40 D120—Standard Fire Hydrant (Straight) detail as shown on the plans.

2. PREQUALIFICATION

In addition to the Department's prequalification, water and sewer utility improvements included in this project must be performed by a Contractor that is prequalified by the Fort Worth Water Department at the time of the bid opening. Reference the following specifications for bidder prequalification requirements by following the link provided in Section 5047.5.2.1., "City Specifications Location."

- 00 45 11—Bidder's Prequalifications
- 00 45 12—Prequalification Statement
- 00 45 13—Prequalification Application

3. MATERIALS

Furnish materials so designated in conformance with all material requirements of AWWA, ASTM, ANSI, and local government or utility district requirements, as documented on the plans and in the City specifications. See Section 5047.5.2.1., "City Specifications Location," for link to relevant City specification.

Materials must meet the Buy America requirements set forth by FHWA and the Department.

4. PERMITS, TESTING, AND INSPECTION

4.1. **Permits**. Acquire all necessary permits from the City to perform the work. Contact the following entities at least 7 days before beginning work.

- Fort Worth Water Department—Field Operations: (817) 392-8296, to locate and mark existing water and sanitary sewer mains. Contractor must maintain markings and update as necessary.
- Water Engineering: (817) 392-8480.
- Water Field Operations: (817) 475-2656 for water mains, (817) 996-5848 for sanitary sewer mains.
- Fort Worth Transportation and Public Works: (817) 392-8100.

If revised plan sheets have been issued for construction at locations in close vicinity to City utilities, the Contractor must submit revised plans and schedule a meeting onsite at least 7 days before beginning work, to review the changes and their impact on existing water and sewer mains. Conflicts may require additional Level A subsurface utility engineering to confirm horizontal and vertical alignment.

Install and maintain temporary orange construction fencing around existing structures, such as water valves, vaults, and sanitary sewer manholes, during construction to avoid damage and buried aboveground appurtenances.

4.2. **Testing**. Provide testing for water mains in conformance with the City requirements or as directed. Perform water main, hydrostatic, poly-pigging, and sterilization testing at minimum (reference 33 04 40—Cleaning and Acceptance Testing of Water Mains).

4.3. **Inspection**. All water mains and their appurtenances will be inspected by a representative of the City. These representatives' decision of acceptability of the installation will be final. The City will conduct two final inspections, one at water line completion and the other at roadway completion for final utility grade adjustments, in accordance with 33 05 14—Adjusting Manholes, Inlets, Valve Boxes, and Other Structures to Grade provided in the link referenced in Section 5047.5.2.1., "City Specifications Location."

5. CONSTRUCTION

5.1. **Protection of Existing Utilities**. Always protect all water mains, sewer lines, vaults, and appurtenances during the construction. Promptly repair, at no additional cost to the owner, any damage to the existing water or sewer system and any interruption to the services such as line stoppages or breakage caused by the Contractor's operation. Follow 33 05 30—Location of Existing Utilities Handout per City of Fort Worth requirements.

5.2. **Specifications**. Perform the work in such a manner consistent with current City standards and specifications Division 00 and 01 and 33 12 40—Fire Hydrants.

5.2.1. **City Specifications Location**. The specifications can be viewed on the City's project resources page at https://apps.fortworthtexas.gov/ProjectResources/.

5.3. **Submittals**. Submit the various types of required submittals in accordance with "Submittal Log Table" in 01 33 00—Submittals. See Section 5047.5.2.1., "City Specifications Location" for link to review City specifications.

6. MEASUREMENT

This Item will be measured by each fire hydrant relocation.

7. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for the various items specified on the plans. This price is full compensation for furnishing all equipment, materials, tools, labor, permits, testing, and incidentals necessary to satisfactorily complete the work as shown on the plans, including excavation, embedment, and backfill.

Backfill requirements for utilities in the Department right of way or supporting pavement must be in accordance with Item 400, "Excavation and Backfill for Structures," or City standards and specifications, whichever are more stringent, and will not be paid for directly, but will be subsidiary to pertinent Items.

Special Specification 6001
LED Internally Lighted Street Name Signs

1. DESCRIPTION

Furnish, fabricate, and install light emitting diode (LED) internally lighted street name (ILSN) signs attached to traffic signal poles as shown on the plans.

2. MATERIALS

Provide new materials as shown on the plans and in accordance with this Item and the pertinent requirements of the following Items.

- Item 445, "Galvanizing"
- Item 446, "Field Cleaning and Painting Steel"
- Item 620, "Electrical Conductors"

Furnish and fabricate LED ILSN sign assemblies and associated mounting hardware from new materials in accordance with this specification. Provide single- or double-faced message signs as shown on the plans.

Furnish electronic submittals of the LED ILSN sign assemblies and mounting hardware to the Engineer at the project address. Do not begin work or purchase materials before the submittals are approved.

2.1. **General Requirements**. Ensure sign assembly standard lengths are between 6 ft. and 10 ft. and standard viewable heights are between 15 in. and 30 in. Use single- or double-faced signs as shown on the plans. Ensure maximum weight of the sign does not exceed maximum capacity of ILSN support arms.

Construct sign fixture housing from 5000 or 6000 series aluminum. Powder-coat paint all exterior fixture housing glossy black or as shown on the plans. Ensure paint exceeds 1,000-hr. salt-spray test in accordance with ASTM B117. Provide ILSN housing rated as NEMA, Type 3R. Use stainless steel screws and hardware.

Ensure sign panels, light sources, light engines, and power supplies can be replaced without sign removal. Provide sign that is capable of continuous operation over a range in temperatures from -10°F to +140°F.

2.2. **LED Requirements**. Provide high flux LEDs that are rated to maintain a minimum 70% of their initial lumens after 60,000 hr. at 25°C in accordance with IESNA LM-80-08. Ensure the LED arrays or modules will continue to operate if one LED goes out.

2.3. **Sign Panel Requirements**. Ensure the front panel of the sign is ultraviolet-, weather-, abrasion-, and impact-resistant high-impact strength polycarbonate, acrylic, or glass-fiber reinforced polyester fluoride. Ensure the front panel is replaceable for future maintenance purposes. Provide translucent reflective Type D sheeting and colored transparent acrylic film in accordance with DMS-8300, "Sign Face Materials."

In accordance with the TMUTCD, Section 2D.43, street name signs must have a white legend on a green background. A border, if used, will be the same color as the legend. Ensure letter font type and letter height are in accordance with the *Standard Highway Sign Designs for Texas*, D3-1 Overhead Mount.

2.4. **Electrical and Illumination Requirements**. Provide ILSN that will operate at 120V AC. Ensure product meets standard for electric signs UL 48. Provide voltage surge protection to withstand high-repetition noise transients and low-repetition high-energy transients in accordance with NEMA Standard TS 2-2003, Section 2.1.8. Locate the power supply inside the sign enclosure. Provide power supply with UL Class 2 limited output voltage and current plus isolation for safe operation, and UL-rated for outdoor damp locations.

Provide power supply with an Ingress Protection 64 outdoor rating. Ensure the light source evenly illuminates the sign panel and the average luminance over the entire panel surface is uniform.

2.5. **Support Requirements**. Design and construct the sign to withstand 110-mph wind loads in accordance with the AASHTO publication *Standard Specifications for Structural Supports of Highway Signs, Luminaires and Traffic Signals* (6th Edition 2013).

Supply the sign with mounting brackets from the manufacturer (swinging or rigid mounting) as shown on the plans.

2.6. **Color**. The color of the legend, symbols, and background must fall within the International Commission on Illumination (CIE) color coordinates and reflectance values shown in Table 1.

Table 1
CIE Chromaticity Coordinates and Reflectance Values

White			Green		
x	y	Reflectance	x	y	Reflectance
0.300	0.290	40 Min	0.255	0.330	3.5–10
280	0.310		0.255	0.520	
0.360	0.360		0.020	0.540	

2.7. **Workmanship**. The panels must exhibit good workmanship and be free of objectionable marks or defects that would adversely affect appearance or serviceability.

2.8. **Warranty**. The manufacturer will replace failed ILSNs, when non-operable due to defect in material or workmanship, within 5 yr. of installation, with a new ILSN that passes all testing, delivered and installed at the project location.

3. CONSTRUCTION

Fabricate and install ILSN signs as shown on the plans. Install in accordance with the Electrical Detail Standards. Install signs level and plumb using brackets or clamps. Attach ILSN to traffic signal pole in conformance with the manufacturer's instructions and as shown on the plans.

Use established industry and utility safety practices when installing ILSNs located near overhead or underground utilities. Consult with the appropriate utility company before beginning work.

Prevent scarring or marring of the poles, mast arms, and ILSNs. Replace damaged components. Repair damaged galvanizing in accordance with Section 445.3.5., "Repairs." Repair damaged painted areas of a roadway illumination assembly in accordance with Item 446.

4. MEASUREMENT

This Item will be measured as each LED ILSN sign installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "LED Internally Lighted Street Name Signs" of the sizes and types specified. This price is full compensation for furnishing, fabricating, and installing the signs; support arm clamp assembly; liquid-tight flexible metal conduit; and equipment, labor, tools, and incidentals.

New conduit will be paid for under Item 618, "Conduit." New conductors, except the conductors internal to the pole, will be paid for under Item 620. New tray cable, except the tray cable internal to the pole, will be paid for under Item 621, "Tray Cable."

Special Specification 6005

Networking Intelligent Transportation System (ITS) Communications Cable

1. DESCRIPTION

Furnish, install, and test twisted-pair cable for networking and telecommunication uses in the field environment.

2. MATERIALS

2.1. **General Requirements**. Provide new cable and connectors that are in conformance with the details shown on the plans and in the Specifications. The cable must be free of deformations, holes, splits, and splices.

ITS networking copper cables must be constructed for installation in an outdoor underground conduit environment. All cable provided for underground installation must contain the outside plant designation for outdoor usage and must be rated non-plenum.

Provide cable in compliance with the most current version of the following industry standards:

- NFPA National Electric Code (NEC),
- Rural Electrification Administration (REA) -PE-22 (7 CFR 1755.403), PE-39 (7 CFR 1755.390),
- ANSI /TIA-568-C, EIA/TIA-568-B.2-2001 (Category 5E Cable),
- EIA-232, EIA-422, EIA-485,
- TSB-36, and
- Underwriters Laboratory (UL).

Included in this Item are the ITS cable types listed in Table 1.

Table 1
Common Networking ITS Communication Cable Types

Cable Type	Nominal AWG Gauge	Application
category 5e Ethernet cable	#24 AWG	Standard 100Base-Tx, Gigabit Ethernet, up to 100 MHz bandwidth performance
category 6 Ethernet cable	#24 AWG	Gigabit Ethernet; up to 250MHz bandwidth performance
category 7 Ethernet cable	#24 AWG	10-Gigabit Ethernet, up to 600 MHz bandwidth performance. Category 7 cable is not typically utilized for ITS device applications. Category 7 cable applications include high bandwidth performance at network layer switches with 10 Gigabit connections.
serial communications cable (RS-232, RS-422, RS-485)	#22, #24 AWG	Serial port applications, low bandwidth, and small data rate transmission (<100 kb/s)
shielded twisted pair cable	#18-24 AWG	Telephone communications, below 16 MHz bandwidth performance
unshielded twisted pair (UTP) cable	#18-24 AWG	

Included in this Item are all terminating connectors and associated equipment required for installation and testing in a field environment.

Provide cable conforming to the gauge, type, and length shown on the plans. Ensure the cable gauge supplied meets the bandwidth requirements specific to the cable application and run length.

Provide signal amplification or repeater locations for communications cable runs as shown on the plans and in the Specifications.

When selecting serial communications cable for longer cable runs, verify the conductor gauge to be provided will meet signal loss requirements for cable application. Refer to Table 2 for typical cable distance limitations for ITS serial communications cable.

Table 2
Typical Network Communications Cable
Distance Limitations

Cable Type	Recommended Maximum Cable Run[1]
RS-232	50 ft.
RS-422 (4 wire system)	500 ft.
RS-485 (2 wire system)	500 ft.
category 5e	300 ft.
category 6	300 ft.

1. Cable distance limitation to be verified according to manufacturer for the cable application.

All cable provided must be manufactured with permanent markings at approximate 2-ft. intervals on the outer jacket according to manufacturer name, serial number, type, UL list and classification for identification purposes. All pairs must be color coded using standard North American communication industry colors to uniquely identify each pair in the cable.

2.2. **Physical Requirements**. Provide networking communications cable meeting the following physical requirements.

2.2.1. **Conductor**. All networking cable must be constructed of solid bare copper conductor.

2.2.2. **Insulation**. All networking cable must be of foamed, cellular dielectric construction. Dielectric material must adhere to and support the center cable conductor.

2.2.2.1. **Insulation Material**. Serial communications cable insulation must be high-density polyethylene (HDPE) or equivalent. Ethernet networking cable insulation must be polyolefin or HDPE. UTP cable insulation must be polyethylene, polyolefin, polypropylene, or fluorinated ethylene propylene.

2.2.3. **Shielding**. Serial communications cable shielding must contain combination foil-polyester and copper braid shield to reduce EMI interference. Ethernet networking cable must contain a combination foil-polyester shield.

2.2.3.1. **Coverage**. Serial communications cable must be constructed of 100% effective foil coverage, minimum 65% braided coverage. Ethernet networking cable (category 5e, 6, 7) must contain 100% effective foil cover.

2.2.4. **Outer Jacket**. Outer jacket must be rated for heavy duty ultraviolet (UV) exposure, sunlight, oil, and weather resistance necessary for outdoor installation.

2.2.4.1. **Jacket Material**. All networking cable outer jackets must be of PVC or polyethylene construction.

2.2.5. **Connectors**. Connectors must be matching, weather resistant, water and moisture proof, and outdoor-rated hardware that meet cable operating voltage, temperature, and impedance characteristics. Connectors must prevent the entry and collection of moisture to the cable and electrical connection point. Provide cable sealant during installation to seal connections from moisture and corrosion.

2.3. **Electrical and Mechanical Requirements**. Ethernet networking cable as shown on the plans must be in accordance with the TIA/EIA-568-C standard, and according to performance characteristics defined in TIA/EIA-568-C.4-1. All Ethernet networking cable provided must meet IEEE 802.3af and IEEE 802.3at for Power over Ethernet (PoE) applications.

Serial communications cable and UTP must conform to the following requirements:

2.3.1. **Capacitance**. Serial communications cable capacitance must not exceed 35 picofarads (pF) per foot of cable. UTP cable capacitance must not exceed 15 pF per foot of cable.

2.3.2. **Inductance**. Serial communications cable inductance must not exceed 0.30 microhenry's (μH) per foot of cable.

2.3.3. **Impedance**. Provide 100-ohm nominal impedance for UTP cables and according to the manufacturer recommendation for cable application.

2.3.4. **Attenuation**. Attenuation of the cable must be compliant with requirements of the proposed application.

2.3.5. **Resistance**. The DC resistance of the serial communications cable inner conductor must not exceed 20 ohms per 1000 ft.

2.4. **Environmental Design Requirements**.

2.4.1. **Installation Temperature Rating**. Cable must be rated for an outside ambient temperature range of -20°F to 165°F.

2.4.2. **Storage Temperature Rating**. Cable must be rated for a storage temperature range of -40°F to 165°F.

3. CONSTRUCTION METHODS

3.1. **General**. Cable must be installed in accordance with the following industry procedures:

- ANSI/TIA -568-C,
- BICSI Telecommunications Distribution Methods Manual (TDMM) and Information Transport Systems Installation (ITSIM),
- NFPA National Electric Code (NEC),
- USDA Construction of Direct Buried Plant, and
- ICEA Standard for Aerial Service Wire - ANSI/ICEA 5-89-648.

3.1.1. **Cable Storage**. All uninstalled cable must be stored according to manufacturer recommended bend radius and cable reel requirements.

3.1.2. **Cable Labeling**. All cable must be labeled using pre-laminated labels with UV protection according to usage at all terminations. Provide weatherproof labels rated for outdoor use.

3.1.3. **Installation Procedure**. All cable must be inspected and tested for continuity when received, with results compared with factory pre-shipping tests. Inspect the cable nomenclature to make certain that the correct product has been received. Notify the supplier (or manufacturer) of all discrepancies for immediate correction.

Install the network cable routed as shown on the plans and follow the manufacturer recommendations for installation.

Ensure that all exposed cable ends are covered and protected against moisture and dust penetration at all times during installation. Protect cable ends during storage, cable pulls, and post-installation.

3.1.4. **Conduit Fill Requirements**. Install cable as shown on the plans and ensure that NEC and TIA/EIA fill requirements must be met for all cable runs.

3.1.5. **Cable Slack Requirements**. Provide 25 ft. cable slack maximum in pull boxes and per manufacturer requirements.

3.1.6. **Spacing Requirements**. Provide minimum 12-in. spacing between electrical power cable and communications cable types as described for underground installations within NEC Sections 840.44 and 840.47.

3.2. **Testing**. Procedures for the tests noted below are to be in accordance with industry standard practice and recorded in accordance with ANSI/TIA/EIA rules for documentation for the cable type. Perform tests in accordance with testing requirements in this Item. For all tests, provide test forms to be used that compare measured results with threshold values. The following tests must be performed, recorded, and submitted to verify the cable performance and installation:

3.2.1. **Cable Continuity**. Perform cable continuity test for center conductor and shield continuity and record results. The test must be performed on received cable reels to identify any discrepancies and upon final installed cable interconnections. Test continuity of each pair to show a resistance of not more than 8 ohms per 1000 ft. of conductor. Use meter with a minimum input resistance measurement to be in accordance with RUS 7 CFR 1755.403 Copper Cable Telecommunications Plant Measurements.

3.2.2. **Time Domain Reflectometry (TDR)**. Perform TDR test for impedance continuity per manufacturer recommendations in coaxial cable interconnections and record results.

3.2.3. **Ground Resistance**. Use a Megohmmeter to perform ground resistance testing of all conductors including the shield, and conductor-to-conductor, including all individual conductors to the shield. Ensure that all conductor tests, including the shield, read infinity to ground, and from conductor to conductor and all individual conductors to the shield, read infinity. Replace cable not meeting the infinity test result at no expense to the department, whether one or multiple readings per cable are defective.

3.2.4. **Visual Inspection**. Where cable installation is visible, perform visual inspection (with a Department representative) to verify any evidence of the following:

- cable damage (cracks, shield damage, kinks, knots, jacket damage, crushed cable),
- bend radius violations (at conduit fittings, cabinet locations), and
- cable crimping method—use of manufacturers specified cable crimp tool only (use of pliers not permitted).

3.3. **Documentation**. Submit three copies of the following materials for each cable type provided for approval prior item supply:

- manufacturer cutsheets and complete specifications (physical, electrical, mechanical, and environmental),
- manufacturer warranty information,
- independent test lab certification, and
- blank test forms.

Submit three copies of the following materials for each cable run provided for approval post installation:

- test results,
  - completed test forms,

- cable continuity test,
- TDR test,
- "As-built" documentation for cable path as shown on the plans,
- complete maintenance and trouble-shooting procedures, and
- furnish additional information as shown on the plans.

3.4. **Warranty**. Warrant all cable against defects or failure in design, materials, and workmanship in conformance with the manufacturer's standard warranty.

Supply cable with no less than 95% of the manufacturer's warranty remaining on the date that equipment invoices are submitted for final payment. Any material with less than 95% warranty remaining will be rejected.

Warrant all cable furnished and installed to perform in conformance with the manufacturer published specifications for a period of 1 yr. after final acceptance of the project by the Department. Provide for "on-site" repair or replacement within two working days and at no cost to the Department. Repair or replace any defective cable, at the manufacturer's option, at no cost to the Department.

4. MEASUREMENT

This Item will be measured by the foot of cable or by each connector.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "ITS Communications Cable (Ethernet)," "ITS Communication Cable (Serial)," and "ITS Communication Cable Connector." For twisted pair communications cable runs, work performed, and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "ITS Communications Cable" of the type, size, and number of pairs specified. The price is full compensation for furnishing, installing, splicing, and testing cable and connectors, as well as for installation equipment, materials, tools, and incidentals.

Special Specification 6007
Battery Back-Up System for Signal Cabinets

1. DESCRIPTION

Install a battery back-up (BBU) system for traffic signals that provides reliable emergency power in case of utility power failure or interruption. The BBU system should also function as a power conditioner or voltage regulation device.

The BBU system should consist of inverter/charger, manual bypass switch, power transfer switch or automatic bypass switch, batteries, battery monitoring device, wiring, external cabinet or stand-alone cabinet, concrete pad, all necessary hardware and software, and any associated equipment required to operate in a field environment.

The BBU system should be able to operate a light-emitting diode- (LED-) only signalized intersection (700-W load) for 4 hr. of full runtime when utility power is disabled and under ambient temperature of 25°C. The BBU system should switch the intersection to flash mode of operation when approximately 40% of battery charge is remaining, using relay contact connection points on the front panel of the unit. The BBU system should operate the intersection in the flash mode of operation (300-W load) for an additional 2 hr. BBU system components must be rated for a minimum 1,400-W load capacity.

Design the BBU system for outdoor applications in accordance with NEMA TS2-2003, Section 2. All components of the BBU system should be rated to operate under temperature extremes of -34°C–+74°C.

2. DEFINITIONS

2.1. **Automatic Bypass Switch**. A unit connected between the utility power supply and the inverter/charger that can automatically switch power to the controller cabinet service panel from inverter output power to utility line power.

2.2. **BBU System**. Includes, but is not limited to, a manual bypass switch, automatic bypass switch or power transfer switch, inverter/charger, batteries, battery monitoring device, wiring, external cabinet, and any necessary hardware for system operation.

2.3. **BBU System Software**. All software associated with operation, programming, and functional requirements of the BBU system.

2.4. **Battery Monitoring Device**. The device that monitors battery temperatures and charge rate of the batteries used in the BBU system.

2.5. **Batteries**. Standard 12-V batteries wired in series to create 36-V DC – 96-V DC storage.

2.6. **Boost**. When enabled, the BBU system inverter/charger should automatically switch into this mode to raise the utility line voltage when it drops below a preset limit. The limit may be user-defined or use manufacturer default settings (typically 100 V AC).

2.7. **Buck**. When enabled, the unit should automatically switch into this mode to reduce the utility line voltage when it rises above a preset limit. The limit may be user-defined or use manufacturer default settings (typically 135 V AC).

2.8. **External or Stand-Alone Cabinet**. The structure that houses the system components or batteries.

2.9. **Inverter/Charger**. The unit that converts the DC voltage input into 120-V AC output for the traffic signal cabinet to operate. At minimum, the inverter/charger should be rated for 1,400 W.

2.10. **Inverter Line Voltage**. The power supplied from the BBU system inverter to the traffic signal cabinet.

2.11. **Manual Bypass**. Manual switch that allows user to bypass BBU power to service system equipment. The manual bypass switch switches utility line power directly to cabinet.

2.12. **Power Transfer Switch**. A unit connected between the utility power supply and the inverter/charger that can automatically switch from utility line power to inverter output power. The power transfer relay may be a separate unit or combined with the manual bypass switch. In case of battery voltage loss, the power transfer switch must automatically return to utility line power.

2.13. **Signal Operation Mode**. A signalized intersection generating a 700-W load when running in normal operation.

2.14. **Signal Flash Mode**. A signalized intersection generating a 300-W load when running in the flash mode of operation.

2.15. **Utility Line Voltage**. The 120-V AC power supplied to the BBU system.

3. EQUIPMENT

Ensure electrical materials and construction methods conform to NEC and additional local utility requirements. Furnish BBU systems prequalified by the Department. The Traffic Operations Division maintains an MPL of prequalified BBU systems. Ensure all materials and construction methods conform to the details shown on the plans, this Specification, and the pertinent requirements of the following Items.

- Item 420, "Concrete Substructures"
- Item 620, "Electrical Conductors"

Provide and install a BBU system that can fulfill the following requirements.

3.1. **Method of Operation**. The BBU system should operate using one or more of the following methods.

3.1.1. **Buck-and-Boost Method**. When the buck-and-boost functions are enabled, they should set the upper and lower control limit allowable for the utility line voltage.

If the utility line voltage fluctuates above or below the buck-and-boost values, the BBU system should raise or lower the voltage by approximately 10%–15% of the utility line voltage to bring the voltage back within the upper and lower control limits. Provide a buck-and-boost system with preset manufacturer defaults.

If the utility line voltage falls above or below the functional capabilities of buck and boost, then the BBU system must transfer power from the utility line voltage to the inverter line voltage.

3.1.2. **Standby Method**. The standby method should set upper and lower control limits for the utility line power. If the utility line voltage falls above or below the upper or lower control limits, then the BBU system should transfer power from the utility line voltage to the inverter line voltage.

3.1.3. **Continuous Operating Mode, Double Conversion Method**. The continuous method always supplies the cabinet with inverter line voltage. This method requires the disabling of buck-and-boost functions.

3.2. **BBU System Capabilities**. The BBU system should be able to provide 1,400-W peak load, with at least 80% inverter efficiency, for at least 10 sec.

The BBU system should be able to provide 700-W signal operation load for at least 4 hr., and then switch to and provide 300-W signal flash load for an additional 2-hr. minimum, when batteries are fully charged.

When the BBU system runs on battery power, the inverter/charger should enable a user to select the voltage at which the transition from normal operating load to flash mode occurs (usually 47.5 V), using relay contacts and connection points on the front panel of the inverter/charger.

The allowed transfer time, from disruption of normal utility line voltage to stabilized inverter line voltage from batteries, should be less than 65 milliseconds. The same allowable transfer time must also apply when switching from inverter line voltage to utility line voltage.

The BBU system should **bypass utility line voltage whenever the voltage is outside the manufacturer's** default, or a user-programmed voltage range, ±2 V AC.

When the utility line power has been restored to a normal operating voltage for more than a user-defined setting (default 30 sec.), the BBU system should transfer from inverter line voltage to utility line voltage. The BBU system should be equipped to prevent malfunction feedback to the cabinet or the utility service.

Provide a BBU system that is compatible with TS1, TS2, and Model 170/2070 controllers and cabinet components for full runtime operation.

Unless the plans indicate otherwise, provide a BBU system in an external battery cabinet. When indicated by the plans, provide a BBU system that can be shelf-mounted in NEMA TS-1 and NEMA TS-2 cabinets, or rack-mounted for Model 170/2070 332 cabinets. Provide a manual bypass that can be shelf-mounted or attached to the side of the signal cabinet. Provide interconnect cables that are no less than 10 ft. long.

Relay contact wiring for each set of NO/NC relay contact closure terminals should be no less than 6 ft. long and #18 AWG wire. Use manufacturer recommendations for size of wire for any **cable's** lengths greater than 10 ft.

The BBU system should have lightning surge protection compliant with IEEE/ANSI C 62.41 and UL 1449. Provide lightning surge protection to the utility line voltage entering the inverter/charger. The surge protection device should be easily accessible and mounted externally from the inverter/charger.

The BBU system, including batteries and hardware, should be easily replaceable and should not require any special tools for installation.

The BBU system should operate in automatic fail-safe mode. Should a breaker trip the inverter/charger or power transfer switch on, the system must automatically operate from utility line power and bypass the BBU system.

As stated above, in addition to the inverter/charger, provide BBU with an external manual bypass switch and either an external automatic transfer switch or external automatic bypass switch.

The BBU system must be able to log up to 100 events. Events should date- and time-stamp faults with utility line voltage and battery voltages. At a minimum, the BBU system should log an event when:

- the utility line voltage falls above or below the upper or lower control limits,
- the BBU system automatically switches to battery power, or
- self-monitoring BBU system components fail.

3.3. **Displays, Controls, Diagnostics, and Maintenance**. The BBU system should include a front panel display. All applicable programmable functions of the operational methods described in this Specification should be viewable from the front panel display.

All events described in Section 3.2., "System Capabilities," should be viewable from the front panel display.

The BBU system software should be programmable from the front panel of the inverter/charger using a keyboard or momentary buttons, allowing user to step through menu-driven software.

Provide a 10/100 Ethernet port on the front panel of the inverter/charger.

Provide a RS232 port on the front panel of the inverter/charger.

Include software for the **BBU system's** operational needs. The user/operator should be able to access the system software via the Ethernet and RS232 ports on the front panel of the inverter/charger. The user should be able to read logged events and change programmable parameters from the keyboard, laptop, or local area network by the Ethernet port.

System software must be upgradeable by the RS232 port on the front panel of the inverter/charger.

3.4. **Inverter/Charger**. The inverter/charger is the unit that provides voltage regulation, conditioning of utility line power, DC voltage input conversion into 120-V AC output for the traffic signal cabinet to operate, emergency backup power upon loss of utility power, and temperature-compensated battery charging. At a minimum, the inverter/charger should be rated for 1,400 W. Provide at least six sets of Normally Open (NO) and Normally Closed (NC) single-pole double-throw dry contact relay closures on the front face of the inverter/charger, labeled to identify each contact. The relay closures should consist of NO/NC contact closures energized whenever the unit switches to battery power (label or mark contacts **as "**on b**attery" or equivalent)**, and a second set of NO/NC contact closures should be energized whenever the battery approaches 40% remaining capacity (label or mark **contact as "low battery" or equivalent), which** must determine when the unit will switch from normal operation to flash. A third set of NO/NC contact closures should be energized after a user-**settable time after the unit switches to battery power. The contact may be labeled "**timer.**"** The remaining relays should be user-definable.

Operating temperature range for the inverter/charger and power transfer relay should be -34°F–+74°F. When battery power is used, the BBU system output voltage must be between 110 V AC and 125 V AC, pure sine wave output, ≤3% THD, 60 Hz ±3 Hz.

3.5. **Manual Bypass Switch**. The manual bypass switch should be provided as a separate unit external to the inverter/charger unit. The manual bypass switch must consist of housing, two-position switch, terminal blocks, internal wiring, service outlet, circuit breakers, and mounting hardware. The components should be rated at least 240 V AC/30 A. Provide the manual bypass switch with No. 8 terminal blocks. The manual bypass switch should be two-position and allow the user to switch utility line power directly to the cabinet service panel. The switch positions must provide the following functions.

- **In the "Bypass" position**, the inverter is bypassed, and utility power is removed from the BBU and passed directly to the signal power panel.
- **In the "UPS" position**, the inverter/switch is powered, and the signal circuits are supplied by the output of the inverter.

When the manual bypass switch is in the "Bypass" position, the user may replace the automatic bypass switch (or transfer switch) and the inverter/charger without interrupting power to the intersection. Provide the manual bypass switch with overcurrent protection (20-A circuit breaker).

3.6. **Power Transfer Switch**. These requirements are for BBU systems provided with a power transfer switch. The power transfer switch must operate such that the inverter/charger input and cabinet power panel are supplied with power from the utility line. If the utility line power is lost or requires conditioning (buck or boost), the power transfer switch must automatically connect the inverter/charger output to the cabinet power panel such that the inverter/charger output provides the power. In case of inverter/charger failure, battery failure, or complete battery discharge, the power transfer should revert to the NC (de-energized) state, where utility line power is connected to the cabinet service panel.

Size the wire going to the power transfer switch from the manual bypass switch, to and from the inverter/charger, and from the manual bypass switch to utility power service according to the system requirements.

3.7. **Automatic Bypass Switch**. These requirements are for BBU systems provided with an automatic bypass switch. The automatic bypass switch must operate such that the inverter/charger input is supplied with power from the utility line and the cabinet power panel is supplied with power from the output of the inverter/charger. In case of inverter/charger failure, battery failure, or complete battery discharge, or other loss of power from the output of the inverter/charger, the automatic bypass switch should revert to the NC (de-energized) state, where utility line power is connected to the cabinet service panel.

3.8. **Batteries**. Provide batteries from the same manufacturer and vendor as the BBU system.

Individual batteries should be 12-V type, easily replaceable, and available for purchase, or common off-the-shelf equivalent.

Select batteries sized and rated to operate a 700-W load for 4 hr. (normal operation) followed by a 300-W load for 2 hr. (flash operation), for a total of 6 hr.

Battery configuration should consist of 12-V batteries arranged for total voltages of 36, 48, 60, 72, 84, or 96.

Batteries should be deep-discharge, sealed prismatic lead-calcium based, valve-regulated, and maintenance-free.

Batteries should operate over a temperature range of -34°F–+74°F.

Batteries should indicate maximum recharge data and recharging cycles, and manufacturer defaults on the inverter/charger should not allow the recharging process to exceed the batteries' maximum values.

Connect the battery interconnect wiring to the inverter unit using a modular harness with red and black cabling that terminates into a typical power-pole style connector. Equip the harness with mating power flag-style connectors for batteries and a single insulated plug-in style connection to inverter/charger unit. Harness should allow batteries to be quickly and easily connected in any order, and keyed to ensure proper polarity and circuit configuration. Size the fusible link or device accordingly with BBU system requirements. To protect against currents exceeding each battery current rating, provide links within 3 in. of the negative and positive leads of each battery. Provide fusible links made of insulated stranded wire.

Provide insulated covers at the connection points (posts) to prevent accidental shorting.

Provide battery cables to connect battery to battery harness main cable at least 18 in., or long enough to accommodate the battery covers provided with the battery ground box, whichever is longer. Size the battery harness accordingly with BBU system requirements.

3.9. **Battery Monitoring System**. The BBU system should use a temperature-compensated battery charging system. The charging system should compensate over 2.5 mV/°C–4.0 mV/°C per cell.

Use a temperature sensor to monitor the temperature and regulate the charge rate of the batteries. Unless required otherwise by the plans, provide a temperature sensor wire as follows.

- 8 ft. long if external side-mounted cabinet is attached to existing controller cabinet
- 8 ft. long if batteries are housed in traffic signal base used for cabinet foundation and are stored on shelf within base
- 8 ft. long if a stand-alone cabinet is used

Should the temperature sensor fail, the inverter/charger should not allow the BBU system to overcharge the batteries. The BBU system should provide an alarm should the temperature sensor fail.

Recharge time for the batteries to obtain 80% or more of full battery charge capacity should not exceed 20 hr. at 70°F.

Batteries should not be allowed to charge when the battery temperature exceeds 50°F.

The BBU system should monitor battery strings within a system and set a fault indicator if the battery voltage falls below normal operating voltage.

3.10. **Battery Housing**. Unless plans require otherwise, provide an external battery cabinet or stand-alone BBU and battery cabinet as specified below.

3.10.1. **External Battery Cabinet**. The external cabinet should be NEMA Type 3R all-aluminum with stainless steel hardware, or approved equivalent. Design the external cabinet to attach on the side of a TS2 Size 6 base-mount cabinet. Mount the batteries, inverter, transfer switches, manual bypass, and associated hardware in the external cabinet.

Equip the external cabinet with proper ventilation, electric fan, and air filter in accordance with NEMA TS2.

Equip external cabinets with a door opening to the entire cabinet. Attach the door to the cabinet with a full-length stainless steel piano hinge or four two-bolts-per-leaf hinges. Provide a door with the same latch and lock mechanism as required for a standard traffic signal cabinet. In addition, provide a padlock clasp.

When using battery ground boxes, an external cabinet is required for the non-battery components.

3.10.2. **Stand-Alone BBU and Battery Cabinet**. When required for installation by the plans, provide a stand-alone cabinet conforming to the specifications of the external BBU and battery cabinet, except that it must not mount to the controller cabinet. Design the stand-alone cabinet to attach to a concrete pad.

3.11. **Concrete Pad**. Provide a Class B concrete pad as a foundation for stand-alone cabinets. For external cabinets, extend the controller foundation to provide a Class B concrete pad under the external cabinet.

3.12. **Documentation**. Provide operation and maintenance manuals. The operation manual should include a block diagram schematic of system hardware components. The manual should include instructions for programming and viewing software features. The manual should also include uploading and downloading (communications protocol) requirements by RS232 or Ethernet port.

Provide board-level schematics when requested.

Provide battery documentation and replacement information.

3.13. **Testing**. The Department reserves the right to test BBU systems to ensure quality assurance on unit before installation and random sampling of units being provided to the State. BBU systems that fail must be removed from the Qualified Products List (QPL).

Department QPL testing procedures must check compliance with the criteria of this Specification, including the following.

- Event logging for fault and alarm conditions
- Demonstrated use of one or more of the operating methods described in Section 3.1., **"Method of Operation"**
- Testing of ability to power a 700-W load for 4 hr., transfer to flash mode, and power a 300-W load for additional 2 hr., at an ambient temperature of +75°F
- Testing of all components in environmental chamber (temperature ranges from -30°F–+74°F) following NEMA TS2 2003, Section 2.

3.14. **Warranty, Maintenance, and Support**. Provide a BBU with a warranty that requires the manufacturer to replace failed BBUs when non-operable due to defect in material or workmanship within 5 yr. of date of **purchase from manufacturer. Supply a BBU with no less than 95% of the manufacturer's warranty remaining** on the date when the BBU is installed and begins operating. The replacement BBU must meet this Specification. The Contractor must manage any warranty issues until the date of final acceptance.

Batteries should be warranted for full replacement for 5 yr. Batteries must be defined as bad if they are not able to deliver 80% of battery rating.

4. MEASUREMENT

This Item will be measured by each BBU system installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "BBU System" of the type of BBU cabinet specified. This price is full compensation for furnishing, installing, and testing the completed BBU system and associated equipment; mounting hardware; Class B concrete pad; software; conduit; conductors; and equipment, labor, tools, and incidentals.

Special Specification 6008
Radar Vehicle Detection System for Signalized Intersection Control

1. DESCRIPTION

Furnish, install, relocate, or remove radar vehicle detection systems (RVDS) of the specified devices at signalized intersections to provide the required zones of detection as shown on the plans, or as directed.

2. MATERIALS

2.1. **General**. Except as allowed for relocation of RVDS equipment, ensure all equipment and component parts are new in accordance with Division Specification TO-8000, "Radar Vehicle Detection System," Section 1.0–Section 6.0, and in an operable condition at time of delivery and installation.

The Traffic Safety Division, Traffic Management Section, (TRF-TM) updates TxDOT Material producer list (MPL) of all RVDSs conforming to this Specification. New materials appearing on the MPL require no further sampling and testing before use unless deemed necessary by the Engineer or TRF-TM. Provide prequalified RVDSs from the TxDOT MPL.

Ensure all RVDSs serving the same detection purpose within the project are from the same manufacturer. RVDS devices are classified by their functional requirements. The functional requirements are for radar presence detection devices (RPDDs) and radar advance detection devices (RADDs). The RVDS system classifications are RVDS (RPDD Only), RVDS (RADD Only), and RVDS (RPDD and RADD).

Provide each RVDS sensor with a mounting bracket designed to mount directly to a pole, mast arm, or other structure. Ensure bracket is designed such that the sensor can be tilted vertically and horizontally for alignment and then locked into place after proper alignment is achieved. All hardware must be designed to support the load of the RVDS sensor and mounting bracket.

2.2. **Configuration**. Ensure the RVDS provides vehicle detection as required on the plans, or as directed.

Ensure the RVDS does not require tuning or recalibration to maintain performance once initial calibration and configuration are complete. RVDS must not require cleaning or adjustment to maintain performance.

RVDS must self-recover from power failure once power is restored.

2.3. **Cabling**. Provide appropriate length of all cables necessary to make the RVDS fully operational at each installation site.

2.4. **Software**. Ensure the RVDS manufacturer includes all software required to configure and monitor operation of RVDS field equipment locally and remotely. RVDS software must be a stable production release.

Software must allow the user to configure, operate, exercise, diagnose, and read status of all RVDS features and functions using a laptop computer.

Software must include the ability to save a local copy of RVDS field device configurations and load saved configurations to RVDS field devices.

Ensure all licenses required for operation and use of software are included at no additional cost.

Software updates must be provided at no additional cost during the warranty period.

2.5. **Electrical**. All conductors supplying the equipment must meet NEC requirements.

Ensure equipment is designed to protect personnel from exposure to high voltage during installation, operation, and maintenance.

2.6. **Mechanical**. Ensure that all parts are fabricated from corrosion-resistant materials, such as plastic, stainless steel, aluminum, or brass.

Ensure that all screws, nuts, and locking washers are corrosion-resistant. Do not use self-tapping screws.

Ensure equipment is clearly and permanently marked with manufacturer name or trademark, part number, date of manufacture, and serial number.

Ensure RVDS is modular in design for ease of field replacement and maintenance. Provide a sensor that will minimize weight and wind loading when mounted on a traffic signal pole or mast arm.

All printed circuit boards must have conformal coating.

2.7. **Environmental**. RVDS sensor must be able to withstand the maximum wind load based on the Department's basic wind velocity zone map standard without any damage or loosening from structure.

The RVDS enclosure must conform to criteria set forth in NEMA 250 for Type 4X enclosures.

The RVDS must meet all NEMA TS2 environmental requirements for temperature, humidity, transients, vibration, and shock.

2.8. **Connectors and Harnesses**. Ensure all conductors are properly color-coded and identified.

Ensure cable connector design prohibits improper connections. Cable connector pins are plated to improve conductivity and resist corrosion.

Connections for data and power must be made to the RVDS sensor using waterproof, quick-disconnect connectors. Pigtails from the sensor to a waterproof junction box (NEMA 4) or an approved waterproof connector must be allowed for splicing. The pigtails must not be shorter than 3 ft. unless otherwise shown on the plans.

3. CONSTRUCTION

3.1. **System Installation**. Install RVDS system devices according to the manufacturer's recommendations to provide properly functioning detection as required. This must include the installation of sensors on signal poles or mast arms, controller interface modules, power and surge protection panels, cabling and all associated equipment, software, serial and Ethernet communication ports, and connectors and hardware required to set up and operate. Ensure that the supplier of the RVDS provides competent onsite support representative during installation to supervise installation and testing of the RVDS. Ensure the radar sensor locations are optimal for system operation and operate as required. Maintain safe construction practices during equipment installation.

Ensure installation and configuration of software on Department computers are included with the RVDS.

Take care to prevent damage to any support structures. Any equipment or structure damaged or lost must be replaced by the Contractor (with items approved) at no cost to the Department.

3.2. **Mechanical Components**. Ensure that all fasteners, including bolts, nuts, and washers with a diameter less than 5/8 in. are Type 316 or Type 304 stainless steel and meet ASTM F593 and ASTM F594 for corrosion

resistance. Ensure that all bolts and nuts 5/8 in. and more in diameter are galvanized and meet ASTM A307. Separate dissimilar metals with an inert dielectric material.

3.3. **Wiring**. Install all wiring and electrical work supplying power to the equipment in a neat, skillful manner. Supply and install all wiring necessary to interconnect RVDS sensors to the traffic signal cabinet to complete the work. Furnish and install any additional required wiring at no additional cost to the Department.

Wiring must be cut to proper length before installation. Provide cable slack for ease of removal and replacement. All cable slack must be neatly laced with lacing or straps in the bottom of the cabinet. Ensure cables are secured with clamps.

3.4. **Grounding**. Ensure all RVDS components, cabinets, and supports are grounded in accordance with the NEC and manufacturer recommendations.

3.5. **Relocation of RVDS Field Equipment**. Perform the relocation in strict conformance with the requirements herein and as shown on the plans. Completion of the work must present a neat, skillful, and finished appearance. Maintain safe construction practices during relocation.

Inspect the existing RVDS field equipment with a representative from the Department and document any evidence of damage before removal. Conduct a pre-removal test in accordance with the testing requirements contained in this Specification to document operational functionality. Remove and deliver equipment that fails inspection to the Department.

Before removal of existing RVDS field equipment, disconnect and isolate the power cables from the electric power supply and disconnect all communication cabling from the equipment located inside the cabinet. Coil and store power and communication cabling inside the cabinet until relocation. Remove existing RVDS field equipment as shown on the plans only when authorized.

Take care to prevent damage to any support structures. Any equipment or structure damaged or lost must be replaced by the Contractor (with items approved) at no cost to the Department.

Make all arrangements for connection to the power supply and communication source, including any permits required for the work under the Contract. Provide wire for the power connection at least the minimum size indicated on the plans and insulated for 600 V. Meet the NEC.

3.6. **Removal of RVDS Field Equipment**. Perform the removal in strict conformance with the requirements herein and as shown on the plans. Completion of the work must present a neat, skillful, and finished appearance. Maintain safe construction practices during removal.

Disconnect and isolate any existing electrical supply before removal of existing field equipment.

Take care to prevent damage to any support structures. Any equipment or structure damaged or lost must be replaced by the Contractor (with items approved) at no cost to the Department.

All materials not designated for reuse or retention by the Department will become the property of the Contractor and be removed from the project site at the Contractor's expense. Deliver items to be retained by the Department to a location shown on the plans or General Notes. The Contractor is fully responsible for any removed equipment until released.

3.7. **Documentation**. Provide electronic copies of operation and maintenance manuals, along with a copy of all product documentation on electronic media. Include the following documentation.

- Complete and accurate schematic diagrams
- Complete installation procedures
- Manufacturer's specifications (functional, electrical, mechanical, and environmental)
- Complete maintenance and troubleshooting procedures

- Explanation of product operation
- Warranty as specified in Section 3.8., "Warranty"

The RVDS must pass testing to ensure functionality and reliability before delivery. This includes functional tests for internal subassemblies, a 24-hr. minimum unit level burn-in test, and a unit functionality test. Provide test results and supporting documentation, including serial number tested, for each RVDS. If requested, manufacturing data per serial number must be provided for each RVDS.

Unless deemed unnecessary by the Engineer or TRF-TM, provide certification from an independent laboratory demonstrating compliance with NEMA TS2 environmental requirements for temperature, humidity, transients, vibration, and shock.

Unless deemed unnecessary by the Engineer or TRF-TM, provide third-party enclosure test results demonstrating the sensor enclosure meets Type 4X criteria.

Unless deemed unnecessary by the Engineer or TRF-TM, provide evidence of RVDS manufacturer's quality assurance program, including proof of RVDS manufacturer ISO 9001 certification or other quality management system programs for manufacturing RVDS.

3.8. **Warranty**. Ensure that the detection system has a manufacturer's warranty covering defects for at least 5 yr. from the date of final acceptance. In addition to the terms required by TO-8000, Article 8, ensure the warranty includes providing replacements, within 10 calendar days of notification, for defective parts and equipment during the warranty period at no cost to the Department.

3.9. **Training and Support**. Provide manufacturer-approved end user training to the Department and their representatives. Training must include instruction in system configuration, operation, and maintenance. Provide training for at least 10 Department-designated representatives up to 8 hr., including class and field training.

Ensure that the detection system manufacturer will provide product support for at least 5 yr. from the date of final acceptance.

4. TESTING

Perform the following tests on equipment and systems unless otherwise shown on the plans. The Department may witness all the tests.

4.1. **Stand-Alone Test**. Conduct a stand-alone test for each unit after installation. The test must exercise all stand-alone (non-network) functional operations and verify that RVDS is placing detector contact closure to assigned detector channels in the traffic signal controller assembly. Notify the Engineer 5 working days before conducting this test.

4.2. **Consequences of Test Failure**. If a unit fails a test, provide a new unit, and then repeat the test until successfully completed.

4.3. **Final Acceptance Test**. Conduct a final acceptance test on the complete functional system. Demonstrate all control, monitoring, and communication requirements and operate the system for 30 days. The Engineer will furnish a letter of approval stating the first day of the final acceptance test.

4.4. **Consequences of Final Acceptance Test Failure**. If a defect within the system is detected during the final acceptance test, document and correct the source of failure. Once corrective measures are taken, monitor the point of failure until a consecutive 30-day period free of defects is achieved.

4.5. **Relocation**.

4.5.1. **Pre-Test**. Provide five copies of the test procedures, including tests of the basic functionality of the unit, and blank data forms to the Engineer for review and comment as part of material documentation requirements. Functionality tests may include, but not be limited to, physical inspection of the unit and cable assemblies. Include the sequence of the tests in the procedures along with acceptance thresholds. The Engineer will comment on and approve or reject test procedures within 30 days after Contractor submittal of test procedures. Rejected test procedures must be resubmitted within 10 days. Review time is in calendar days. Conduct all tests in accordance with the approved test procedures.

Conduct basic functionality testing before removal of RVDS field equipment. Test all functional operations of the equipment in the presence of representatives of the Contractor and the Department. Ensure that both representatives sign the test report indicating that the equipment has passed or failed each function. Once removed, the equipment will become the responsibility of the Contractor until accepted by the Department. Compare test data prior to removal and after installation. The performance test results after relocation must be equal to or better than the test results before removal. Repair or replace the failing components within the systemso that the system can pass the performance test after relocation.

4.5.2. **Post-Test**. Testing of the RVDS field equipment is to relieve the Contractor of system maintenance. The Contractor will be relieved of the responsibility for system maintenance in accordance with Item 7, "Legal Relations and Responsibilities," after a successful test period. The Contractor will not be required to pay for electrical energy consumed by the system.

After all existing RVDS field equipment has been installed, conduct approved continuity, stand-alone, and performance tests. Furnish test data forms containing the sequence of tests, including all the data taken as well as quantitative results for all tests. Submit the test data forms to the Engineer at least 30 days before the day the tests are to begin. Obtain approval of test procedures before submission of equipment for tests. Send at least one copy of the data forms to the Engineer.

Conduct an approved stand-alone test of the equipment installation at the field sites. At minimum, exercise all stand-alone (non-network) functional operations of the field equipment with all the equipment installed per the plans as directed. Complete the approved data forms with test results and submit them to the Engineer for review and either acceptance or rejection of equipment. Give at least 30 working days' notice before all tests to allow the Engineer or their representative to observe each test.

The Department must conduct approved RVDS field equipment system tests on the field equipment with the central equipment. The tests must, at minimum, exercise all remote-control functions and display the return status codes from the controller.

If any unit fails to pass a test, prepare and deliver a report to the Engineer. Describe the nature of the failure and the corrective action needed. If the failure is the result of improper installation or damage during reinstallation, reinstall or replace the unit and repeat the test until the unit passes successfully, at no additional cost to the Department or extension of the Contract period.

5. MEASUREMENT

New RVDSs furnished and installed by the Contractor will be measured by each approach to the signalized intersection.

RVDSs furnished by the Department for Contractor installation only will be measured by each approach to the signalized intersection.

Existing RVDSs to be relocated or removed will be measured by each sensor relocated or removed.

6. PAYMENT

6.1. **Furnish and Install**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit bid price for "RVDS (Presence Detection Only)," "RVDS (Advance Detection Only)," and "RVDS (Presence and Advance Detection)."

This price is full compensation for furnishing, installing, configuring, integrating, and testing the completed installation, including RVDS equipment, voltage converters or injectors, cables, connectors, associated equipment, and mounting hardware. This price also fully compensates for all labor, tools, equipment, any required equipment modifications for electrical service, documentation, testing, training, software, warranty, and incidentals necessary to complete the work.

6.2. **Install Only**. The work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "RVDS (Presence Detection Only) (Install Only)," "RVDS (Advance Detection Only) (Install Only)," and "RVDS (Presence and Advance Detection) (Install Only)."

This price is full compensation for making fully operational an RVDS furnished by the Department; for installing, configuring, integrating, and testing the completed installation, including RVDS equipment, voltage converters or injectors, cables, connectors, associated equipment, and mounting hardware; and for all labor, tools, equipment, any required equipment modifications for electrical service, documentation, testing, training, software, and incidentals necessary to complete the work.

6.3. **Relocate**. The work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Relocate RVDS." This price is full compensation for relocating and making fully operational existing RVDS field equipment; for furnishing and installing additional cables or connectors; for testing, delivery, and storage of components designated for salvage or reuse; and for all testing, training, software, equipment, any required equipment modifications for electrical service, labor, materials, tools, and incidentals necessary to complete the work.

6.4. **Remove**. The work performed and materials furnished in accordance with this Item will be paid for at the unit bid price for "Remove RVDS." This price is full compensation for removing existing RVDS equipment; for removal of cables and connectors; for testing, delivery, and storage of components designated for salvage; and for all testing, training, software, equipment, labor, materials, tools, and incidentals necessary to complete the work.

6.5. **Communication Cable**. All communication cables necessary to make the RVDS fully operational will be subsidiary to this Item.

Special Specification 6018
Digital Closed-Circuit Television (CCTV) Field Equipment

1. DESCRIPTION

Furnish, install, relocate, or remove closed-circuit television (CCTV) field equipment at locations shown on the plans, or as directed.

2. MATERIALS

2.1. **General Requirements**. Fabricate, provide, assemble, and install materials that are new, corrosion-resistant, and in strict accordance with the details shown on the plans and in the Specifications.

Provide CCTV field equipment that is compatible with software currently in operation to interface with the existing equipment and software located in the Department's Traffic Management Control (TMC) Centers across the state.

CCTV field equipment must include the following.

- Color video camera units
- Camera lenses, filters, control circuits, and accessories
- Camera housing
- Medium-duty pan and tilt units with click-and-drag position control
- Video and camera control and power cable connectors and assemblies
- Video, data, and power surge suppression
- Built-in ID generator

2.2. **Functional Requirements for Digital CCTV**. Provide color video cameras that produce digital video in standard definition or high definition that meet the following functional requirements.

2.2.1. **General**.

2.2.1.1. **Digital Signal Processing (DSP)**.

- Digital zoom
- Auto and manual iris control
- Auto and manual exposure control with built-in frame buffer
- Auto and manual focus control
- Built-in ID generator, with white letters on black outline minimum or approved equivalent

2.2.1.2. **Image Pickup Device**. Progressive scan digital CCD or CMOS sensor, 1.2-megapixel (1,200,000 pixels) or better.

2.2.1.3. **Resolution**. Support the following resolutions.

- 720p (1,280-pixel × 720-pixel array)
- 1,080p (1,920-pixel × 1,080-pixel array)
- D1 (720-pixel × 480-pixel array)
- CIF (352-pixel × 240-pixel array)
- VGA (640-pixel × 480-pixel array) at minimum depending on video stream configuration

2.2.1.4. **Frame Rate**. Allow user-selectable frame rates at 30, 15, seven, four, two, and one frame per second.

2.2.1.5. **Data Rate**. Scalable from 64 Kbps to 8 Mbps.

2.2.1.6. **Video Stream Format**. Allow simultaneous encoding and transmission of at least two configurable digital video streams in conformance with Moving Picture Experts Group- (MPEG-) 4, Part 10 (H.264). Support configuration of the following at minimum.

- H.264
- H.265
- H.264 + H.264

2.2.1.7. **Video Stream**. Support uni-cast (one-to-one) and multi-cast (one-to-many).

2.2.1.8. **Aspect Ratio**. Support width-to-height aspect ratio of 16:9.

2.2.1.9. **Image Quality**. Ensure that video produced by the camera is true; accurate; distortion-free; and free of transfer smear, oversaturation, and any other image defect that negatively impacts image quality under all lighting and weather conditions in color and monochromatic modes.

2.2.1.10. **Wide Dynamic Range (WDR)**. Operation with manual override option.

2.2.1.11. **Overexposure Protection**. Minimize glare and incur no permanent damage to the camera when pointed directly at strong light sources, including the sun, for brief periods.

2.2.1.12. **Geometric Distortion**. Zero.

2.2.1.13. **Signal-to-Noise Ratio (AGC Off)**. Minimum 50 dB (weighted at 4.5 MHz).

2.2.1.14. **Electronic Shutter Speed**. Automatic shutter that is user selectable down to at least 1/10,000 sec.

2.2.1.15. **Electronic Image Stabilization**. User-selectable on or off electronic image stabilization at 5 Hz and 10 Hz minimum.

2.2.1.16. **Day (Color) and Night (Mono)**. Auto and manual switchover and iris control with user-selectable modes for auto and manual control capabilities.

2.2.1.17. **Auto White Balance**. Color quality that is maintained by a continuous through-the-lens automatic white balance for color temperatures from 2,850 K to greater than 5,100 K with less than 10-IRE unit unbalance.

2.2.1.18. **Inverted Operation**. Automatic image inversion or “flip” when rotating through 0° or 180° vertical tilt positions when not an integrated unit.

2.2.1.19. **Mean Time Before Failure**. At least 43,800 hr. or 5 yr. without mechanical malfunction or failure. Act of God failures are exempt.

2.2.2. **Lens**. Provide an integral lens assembly for each camera with the following features.

- An f/1.6 or better glass multi-coated zoom lens with variable focal lengths with a minimum 30X zoom range
- 12X auto and manual digital zoom minimum
- Automatic and manual focus and iris control

Provide lenses with capabilities for remote control of the zoom, focus, and iris operations. Provide mechanical or electrical means to protect the motors from over-running in extreme positions. Lens and controller system must be capable of auto iris and remote manual iris operation. Lens must be capable of

auto and manual zoom and focus control. Use motorized iris as opposed to auto iris type for system control capability.

2.2.3. **Network Interface Requirements**. Provide CCTV field equipment that can integrate with the Department's Lonestar™ software and into the Department's TMC CCTV control sub-systems by NTCIP 1205 Version 1.08 or higher, Open Network Video Interface Forum (ONVIF), or approved equal. Support Cohu, Pelco D, or Pelco P protocols, or approved equal, for control.

Provide camera equipment with a local area network (LAN) connection that supports the requirements detailed in IEEE 802.3 for 10/100 Ethernet connections for half-duplex or full-duplex, and provide auto negotiation. Provide equipment with at least one Ethernet port that has a 10/100 Base-TX connection. Provide connectors that conform to EIA and TIA requirements.

Support, at minimum, RTP, RTSP, UDP/IP, TCP/IP, IPv4, HTTP, IGMPv2, DHCP, NTP, IEEE 802.1x, Ethernet 802.3u, SNMP, RADIUS Key, and Telnet.

Provide camera equipment that supports local and remote configuration and management. Configuration and management functions must include access to all user-programmed features, including, but not limited to, network configuration, video settings, device monitoring, control setting, and security functions. Configuration and management must be achieved by serial login, Telnet login, web-based interface, or manufacturer software. Provide manufacturer software with camera for local configuration, system maintenance, and management control.

2.3. **Cable Assembly**. Provide camera power and communication cable assembly equipped with cables used for video feed; camera control, including PTZ function; communications signaling; and power supply. Camera power and communication cable may be configured as a composite cable or series of isolated cables. The following cable functions may be required depending on the data and video communication interface requirements, as shown on the plans.

2.3.1. **Ethernet**. Provide a shielded twisted pair (STP) Category 6 (or equivalent) at minimum rated for outdoor use in conformance with TIA/EIA 568B. Cable must not exceed an attenuation of 30 dB per 300 ft. of cable at 100 MHz.

2.3.2. **Power**. Provide three-wire, insulated for 300 V minimum, 115-VAC or 24-VAC power cabling between the camera and the power supply. If 24-VAC power is required, provide needed power supply conversion equipment.

Power may be achieved using Power over Ethernet (PoE) by a power supply or mid-span PoE injector, that must be considered part of the camera unit, and must conform to IEEE 802.3af or IEEE 802.3at or latest revision.

Provide power and communication cable assembly the entire length of the camera support structure from the camera to the cabinet with an additional 25 ft. of slack in the cabinet. Determine the appropriate length required for each site. The cable assembly must be considered part of the camera unit.

Provide any necessary data, video, or power conversion hardware to successfully integrate the camera unit into the field equipment cabinet hardware components and onto the communications backbone.

2.4. **Video Encoding Interoperability**. Video encoding and decoding equipment may be used by software or hardware means. Ensure camera's encoded video is interoperable with hardware and software decoders from other manufacturers. Ensure the camera's encoded video can be decoded by at least two other manufacturer's software or hardware decoders that are in use by the Department. Contact the Department for decoders supported before procurement of camera unit.

2.5. **Camera Housing**. Provide camera housing assembly and hardware material that reflects sunlight.

Provide camera housing with a sunshield to reduce the solar heating of the camera. The total weight of the camera (including housing, sunshield, and all internal components) must not exceed 25 lb.

Construct viewing window so that unrestricted camera views can be obtained at all camera and lens positions.

Provide gaskets at cable entry point to the camera housing to prevent moisture or dust entry.

When shown on the plans or identified in the General Notes, provide heating or cooling functionality with temperature sensors to maintain internal temperatures within the manufacturer-required operating temperature range.

2.6. **Pan-Tilt Unit**. Furnish and install a medium-duty anodized aluminum weatherproof pan-tilt unit at each camera site, conforming to NEMA 4X and IP-66 rating or better, when not integral to the camera unit and housing. Provide mounting adapter and required attachment hardware to install the pan-tilt unit to the pole or mounting bracket. Identify the type of mounting bracket and bolt pattern on shop drawings.

Provide a unit capable of at least 180° vertical range of movement and horizontal movement of 360°, full, continuous-rotation movement.

Provide a unit that has a pan and tilt speed of 20° per second minimum and is user-adjustable through the full speed range. Unit must be capable of simultaneous pan-tilt movements with variable pan-tilt positioning control allowing variable speeds that are proportional through the zoom range.

Provide pan-tilt unit with drive accuracy and drive repeatability of less than 1° and an automatic pre-position speed of 120° per second minimum to a user-defined preset position that is user-adjustable.

Provide a pan-tilt unit, when not integral to the camera housing, that can maintain static position and does not move by more than 1° in any direction in speeds greater than 35 mph.

Ensure that the pan-tilt unit has seals and gaskets to protect the motors, gears, and cables and that the seals and gaskets are resistant to ozone, ultraviolet radiation, and other pollutants inherent to all local environmental conditions.

When shown on the plans or identified in the General Notes, provide pan-tilt unit with heater that conforms to NEMA 4X when not integral to the camera unit and housing.

2.7. **Preset Functions**. Provide a camera unit capable of storing at least 62 presets for pan, tilt, zoom, and focus settings.

Provide a camera unit capable of user-programmable tours with at least four tours of up to 32 presets per tour. Any tours may be programmed for panning tours.

Provide a camera unit capable of user-programmable sector zones with at least eight zones allowing right and left pan limitations.

Provide a camera unit capable of user-programmable privacy zones with at least eight zones and click-and-drag position control by software.

2.8. **Connectors**. Provide and install connectors that are compatible with the communications equipment interfaces identified in Section 2.2.3. Network Interface and Section 2.3. Cable Assembly. Supply all mating connectors. Provide all connector pins and mating connectors that are plated to achieve good electrical connection and resistance to corrosion.

2.9. **Source ID Generator**. Use a built-in ID generator to insert camera ID over each of the camera-generated videos.

Provide at least two lines of alphanumeric, case-specific text supporting at least 20 ASCII characters per line, with a minimum character height of 20 pixels, that is user-programmable for displaying any combination of ID information consisting of at least camera, preset, privacy mask, low-pressure warning, compass, and time and date.

Allow user-selectable location of text to be displayed on the video image at the extreme top or bottom. Text display on the side of the image display is prohibited.

Automatically display the programmed ID with its associated video signal that can be turned on or off by user command.

In the event of signal loss or video signal failure, ID generator must automatically pass through failure message to display over video.

Submit list of available text displays to the Department as part of the documentation requirements.

2.10. **Cabinet Installation**. Install video communication equipment in a pole-mounted equipment cabinet or in a ground-mounted equipment cabinet as shown on the plans. Meet the following criteria.

- Contains all the lightning protection devices for data and video.
- Grounded to earth ground.
- Provides connectors for all inputs and outputs for data and video and additional ports for testing video and communications. Use the external connectors for testing and for connections to communication devices.

2.11. **Surge Protection**. Provide surge protection for the camera meeting the following requirements.

- **Mounting Adapter**. Electrically bonded to mounting structure.
- **Pan-Tilt Mechanism**. Electrically bonded to mounting adapter.
- **Camera Housing**. Electrically bonded to pan-tilt mechanism.
- **Power and Control Cable Surge Protector**. Integrated into cabinet surge protection system.

2.12. **Power Requirements**. Provide CCTV field equipment meeting all its specified requirements when the input power is 115 VAC ±20%, 60 Hz ±3 Hz. Maximum power required must not exceed 200 W, including optional equipment.

Provide appropriate voltage conversion, power injectors, or other power supply hardware if the camera equipment or any camera-related ancillary devices require operating voltages other than 115 VAC ±20%, such as 24 VAC or 12 VDC from solar power systems, or rely on PoE. Appropriate voltage converters or injectors must accept an input voltage of 115 VAC or 12 VDC from solar power systems as shown on the plans.

2.13. **Primary Input Power Interruption**. Provide CCTV field equipment that meets NEMA TS2, Section 2.1.4., "Power Interruption," for traffic control system or most current version.

2.14. **Power Service Transients**. Provide CCTV field equipment that meets NEMA TS2, Section 2.1.6., "Transients, Power Service" or most current version.

2.15. **Power Service Protection**. Provide equipment that contains readily accessible, manually resettable or replaceable circuit protection devices (such as circuit breakers or fuses) for equipment and power source protection. Provide circuit breakers or fuses sized appropriately such that no wire, component, connector, PC board, or assembly is subject to current loads more than their respective design limits upon failure of any single circuit element or wiring.

2.16. **Modular Design**. Provide CCTV field equipment hardware installed inside the cabinet that is modular in design and that can be either shelf-mountable or EIA 19-in. rack mountable. Clearly identify modules and

assemblies with name, model number, serial number, and any other pertinent information required to facilitate equipment maintenance.

2.17. **Connectors and Harnesses**. Make all external connections using connectors that are uniquely keyed to preclude improper hookups. Color-code and appropriately label with UV-resistant material all wires to and from the connectors. Provide connecting harnesses of appropriate length and terminated with matching connectors for interconnection with the communications system equipment. Provide corrosion-resistant plated pins and mating connectors to improve conductivity. All connectors using solder-type connections must have each soldered connection covered by a piece of heat-shrink tubing securely shrunk to protect the connection for short-circuiting.

Provide a wiring diagram detailing wire function and connector pin-out.

2.18. **Environmental Design Requirements**. Provide equipment that conforms to NEMA TS2-2003 (R2008), International Electrotechnical Commission (IEC) 60529, and NEMA 250-2008 or most current version, for the following categories.

2.18.1. **Temperature**. Provide equipment that conforms to NEMA TS2, Section 2.1.5.1, or latest revision, and meets all the specified requirements during and after being subjected to any combination of the following conditions.

- Ambient temperature range of -30°F–165°F
- Temperature shock not exceeding 30°F per hour
- Relative humidity of 0%–100%

  Moisture condensation on all exterior surfaces caused by temperature changes

Provisions for a heater and blower function are required to maintain internal temperatures within the manufacturer's operating temperatures for temperature ranges internal to the camera unit not conforming to NEMA TS2, Section 2.1.5.1.

2.18.2. **Vibration**. Provide equipment that conforms to NEMA TS2, Section 2.1.9. and Section 2.2.3., or most current version, and meets all the specified requirements during and after being subjected to a vibration of 5 Hz–30 Hz up to 0.5 g applied in each of three mutually perpendicular planes for 30 min.

2.18.3. **Shock**. Provide equipment that conforms to NEMA TS2, Section 2.1.10. and Section 2.2.4., or most current version, and does not yield permanent mechanical deformation or any damage that renders the unit inoperable when subjected to a shock of 10 g applied in each of three mutually perpendicular planes for 30 min.

2.18.4. **Environmental Contaminants**. Provide equipment that conforms to IEC 60529, Section 14.2.6, or most current version, for IP-66 or greater rating when providing a pressurized unit.

Provide equipment that conforms to IEC 60529, Section 14.2.7., or most current version, for IP-67 or greater rating when providing a non-pressurized unit.

2.18.5. **External Icing**. Provide equipment that is tested to conform to NEMA 250-2003, Section 5.6 or latest revision.

2.18.6. **Corrosion**. Provide equipment that is tested to conform to NEMA 250-2003, Section 5.10.or latest revision, when located in Coastal Districts. Coastal Districts are Beaumont (BMT), Corpus Christi (CRP), Houston (HOU), Pharr (PHR), and Yoakum (YKM).

2.18.7. **Wind Rating**. Equipment must be operational in adverse weather conditions and able to withstand wind loads in accordance with Department's basic wind velocity zone map standard as shown on the plans without permanent damage to mechanical and electrical equipment.

3. CONSTRUCTION

3.1. **General**. Maximize standardization and consistency by using industry-standard techniques in equipment design and construction, with the minimum number of parts, subassemblies, circuits, cards, and modules. Design equipment for ease of maintenance.

Provide mounting bracket assemblies or apparatus to mount equipment on the following structures as detailed on the plans or in the ITS standards.

- ITS pole
- Overhead sign bridge or cantilever overhead sign structure
- Retaining wall
- Concrete column or parapet

Provide mounting bracket design with documentation submitted for approval before fabrication. Include all mounting plates, screws, bolts, nuts, washers, and ancillary hardware needed to fabricate the entire mounting bracket.

3.2. **Mechanical Components**. Provide stainless steel external screws, nuts, and locking washers. Self-tapping screws are not acceptable.

Provide parts that are made of corrosion-resistant material (e.g., plastic, stainless steel, anodized aluminum, or brass).

Protect all materials used in construction from fungus growth and deterioration due to sustained moisture.

Separate dissimilar metals by an inert dielectric material.

3.3. **Wiring**. Provide wiring that meets the NEC most current version. Provide wires that are cut to proper length before assembly. It is not acceptable to “double-back” wires to take up slack inside the cabinet. Lace wires neatly with nylon lacing or plastic straps. Organize cables inside the cabinet and secure cables with clamps. Provide service loops at connection points when connecting to hardware inside the cabinet. No splicing of cables or exposed wiring is allowed. Clearly label all wiring.

3.4. **Relocation of CCTV Field Equipment**. Perform the relocation in strict conformance with the requirements herein and as shown on the plans. Completion of the work must present a neat, workmanlike, and finished appearance. Maintain safe construction practices during relocation.

Inspect the existing CCTV field equipment with a representative from the Department, and document any evidence of damage before removal. Conduct a pre-removal test in accordance with the testing requirements contained in this Specification to document operational functionality. Remove and deliver to the Department existing CCTV field equipment that fails inspection.

Before removal of existing CCTV field equipment, disconnect and isolate the power cables from the electric power supply and disconnect all communication cabling from the equipment located inside the cabinet. Coil and store power and communication cabling inside the cabinet until it can be relocated. Remove existing CCTV field equipment as shown on the plans only when authorized.

Use care to prevent damage to any support structures. Any portion of CCTV field equipment or camera pole structure damaged or lost must be replaced by the Contractor at their expense. Contractor must document and report to the Department any existing damage to equipment before removal.

Make all arrangements for connection to the power supply and communication source, including any permits required for the work under the Contract. Provide wire for the power connection at least the minimum size indicated on the plans and insulated for 600 V. Meet the requirements of the NEC most current version.

3.5. **Removal of CCTV Field Equipment**. Disconnect and isolate any existing electrical power supply before removal of existing CCTV field equipment.

Perform removal in strict conformance with this Specification and the lines, grades, details, and dimensions shown on the plans. Completion of the work must present a neat, workmanlike, and finished appearance.

Any portion of the CCTV field equipment or cabinet internal components damaged or lost must be replaced by the Contractor (with items requiring approval) at no cost to the Department.

All materials not designated for reuse or retention by the Department will become the property of the Contractor and be removed from the project site at the Contractor's expense. Deliver items to be retained by the Department to a location shown on the plans or in the General Notes. The Contractor is fully responsible for any removed equipment until released.

3.6. **Contractor Experience Requirements**. Contractor or designated subcontractor must meet the following experience requirements.

3.6.1. **Minimum Experience**. Three years of continuous existence offering services in the installation of CCTV camera systems.

3.6.2. **Completed Projects**. Three completed projects consisting of at least five cameras in each project where the personnel installed, tested, and integrated CCTV cameras on outdoor, one or more permanently mounted structures and related camera control and transmission equipment. The completed CCTV camera system installations must have been in continuous satisfactory operation for at least 1 yr.

3.6.3. **Equipment Experience**. Three projects (may be the three in Section 3.6.2., "Completed Projects") in which the personnel worked in cooperation with technical representatives of equipment suppliers to perform specific stages of work. The Contractor is not required to furnish equipment on this project from the supplier that furnished documentation demonstrating this experience.

Submit the names, addresses, and telephone numbers of the references that can be contacted to verify the experience requirements.

3.7. **Documentation Requirements**. Provide at least two complete sets of operation and maintenance manuals in bound hard-copy format, as well as an electronic copy in Adobe PDF format on a CD/DVD or removable flash drive, that include the following.

- Complete and accurate wiring schematic diagrams.
- Complete installation procedures.
- Compliance matrix documenting conformance to this Specification.
- Complete performance specifications (functional, electrical, mechanical, and environmental) on the unit
- Complete parts list, including names of vendors for parts not identified by universal part number, such as JEDEC, RETMA, or EIA.
- Pictorial of component layout on circuit board.
- ID generator list of text display options.
- Complete maintenance and troubleshooting procedures.
- Complete stage-by-stage explanation of circuit theory and operation.
- Testing procedures and blank test forms.
- Recovery procedures for malfunction.
- Instructions for gathering maintenance assistance from manufacturer.
- Certification documentation verifying conformance with environmental and testing requirements contained in the Special Specification. Certifications may be provided by the manufacturer or independent laboratories.

Identify material that is copyrighted or proprietary in nature as part of the documentation submittal. The Department will comply with sensitive material, secure submittal documentation, and not distribute without written approval.

3.8. **Testing**.

3.8.1. **New Installations**. Unless otherwise shown on the plans, perform the following tests on the applicable equipment or systems.

3.8.1.1. **Test Procedures Documentation**. Provide five copies of the test procedures, including tests identified in Section 3.8.1.2. "Design Approval Test," Section 3.8.1.7. "Consequences of Test Failure," and blank data forms, to the Engineer for review and comment as part of material documentation requirements for each test required on this project. Include the sequence of the tests in the procedures. The Engineer will comment, approve, or reject test procedures within 30 days after Contractor submittal of test procedures. Contractor must resubmit if necessary rejected test procedures for final approval within 10 days. Review time is in calendar days. Conduct all tests in accordance with the approved test procedures.

Record test data on the data forms, as well as quantitative results. No bid item measurement or payment will be made until the Engineer has verified the test results meet the minimum requirements of the Specification. The data forms for all tests, except design approval tests, must be signed by an authorized representative of the Contractor.

Provide written notice within 48 hr. of discovery of any testing discrepancy identified during testing by the Contractor. Furnish data forms containing the acceptable range of expected results as well as the measured values.

3.8.1.2. **Design Approval Test**. Conduct a design approval test on one randomly selected unit from the prototype design manufacturing run. If only one design prototype is manufactured, perform this test on that unit. If supplying multiple types of equipment, provide and test a sample of each type.

Certification from an independent testing laboratory of a successfully completed design approval test is acceptable. Ensure that the testing by this laboratory is performed in accordance with this Specification. Failure of independent tests to comply with this Specification will be grounds for rejection of any certification.

Provide a copy of the certification to the District in which this Contract is executed. The data forms for the design approval tests must be signed by an authorized representative (company official) of the equipment manufacturer or by an authorized representative of an independent testing facility.

Notify the Engineer 10 working days before conducting this testing. The Department may witness all the tests. Perform the following tests.

3.8.1.2.1. **Power Service Transients**. Provide equipment that meets the performance requirements specified herein when subjected to the power service transients as specified in NEMA TS2, Section 2.2.7.2, "Transient Tests (Power Service)." of the NEMA TS2 standard, most current version.

3.8.1.2.2. **Temperature and Condensation**. Provide equipment that meets the performance requirements specified herein when subjected to the following conditions in the order specified below.

- Stabilize the equipment at -30°F and test as specified in NEMA TS2, Section 2.2.7.3, "Low-Temperature Low-Voltage Tests," and Section 2.2.7.4, "Low-Temperature High-Voltage Tests." of the NEMA TS2 standard, most current version
- Allow the equipment to warm up to room temperature in an atmosphere with relative humidity of at least 40%. Operate the equipment for 2 hr., while wet, without degradation or failure.
- Stabilize the equipment at 165°F and test as specified in NEMA TS2, Section 2.2.7.5, "High-Temperature High Voltage Tests," and Section 2.2.7.6, "High-Temperature Low-Voltage Tests." of the NEMA TS2 standard, most current version

3.8.1.2.3. **Relative Humidity**. Provide equipment that meets the performance requirements specified herein within 30 min. of being subjected to a temperature of 165°F and a relative humidity of 18% for 48 hr.

3.8.1.2.4. **Vibration**. Provide equipment that shows no degradation of mechanical structure, soldered components, or plug-in components and operates in accordance with the manufacturer's equipment specifications after being subjected to the vibration tests as described in NEMA TS2, Section 2.2.8, "Vibration Test" of the NEMA TS2 standard, most current version.

3.8.1.2.5. **Power Interruption**. Provide equipment that meets the performance requirements specified herein when subjected to nominal input voltage variations as specified in NEMA TS2, Section 2.2.10., "Power Interruption Test." of the NEMA TS2 standard, most current version.

3.8.1.3. **Demonstration Test**. Conduct a demonstration test on applicable equipment at an approved Contractor facility. The Contractor may submit procedures and results from previous contracts in the same District as this Contract provided the materials and equipment are identical and results are less than 5 yr. old. Notify the Engineer 10 working days before conducting this testing. The Department may witness all the tests. Perform the following tests.

3.8.1.3.1. **Examination of Product**. Examine each unit carefully and document that the materials, design, construction, markings, and workmanship comply with this Specification.

3.8.1.3.2. **Continuity Tests**. Check the wiring to determine conformance with the requirements of the appropriate paragraphs of this Specification.

3.8.1.3.3. **Operational Test**. Operate each unit for at least 15 min. to permit equipment temperature stabilization and an adequate number of performance characteristics to ensure compliance with this Specification.

3.8.1.4. **Field Acceptance (Stand-Alone) Test**. Conduct a field acceptance test for each unit after installation as required by the Engineer to demonstrate compliance with the functional requirements of this Specification. Exercise all stand-alone (non-network) functional operations. Notify the Engineer 5 working days before conducting this test. The field acceptance test may consist of the following.

3.8.1.4.1. **Physical Construction**. Document physical construction is completed in accordance with the plans and Specification.

3.8.1.4.2. **Electrical and Communication**. Document that all connectors for grounding, surge suppression, and electrical distribution are tightened correctly. Document all power supplies and circuits are operating under the proper voltages. Document all power and communications cables are terminated correctly, secured inside the cabinet, and fitted with appropriate connectors.

3.8.1.4.3. **Video Signal**. For analog signal format, conduct an impedance test, through a short 75-ohm coaxial cable connected to an oscilloscope waveform monitor, to ensure 75-ohm output impedance to conform to NTSC standards.

Using a digital, hand-held, battery-operated meter, conduct a test and measure the following video signal characteristics, if applicable.

3.8.1.4.3.1. **Sync**. Document the amplitude of the video synchronizing pulse and check for correct video level, coaxial cable continuity, and correct termination at 40 IRE.

3.8.1.4.3.2. **Luminance**. Document the white level and correct brightness setting at 100 IRE.

3.8.1.4.3.3. **Composite**. Document the overall amplitude of the video signal is at 140 IRE or 1 V peak to peak.

3.8.1.4.3.4. **Color Burst**. Document color burst amplitude at 40 IRE.

3.8.1.4.3.5. **Ground Loop**. Document that no ground loop exists in the video picture. Ground loop voltages in a video signal cause bars to be present on the video picture.

Document video image is present and free of oversaturation and any other image defect in color and monochrome modes.

Document video support of uni-cast and multi-cast video transmission modes.

Document the video signal from the camera is present and of consistent quality at all connection points between the camera, the cabinet, and any video conversion hardware.

3.8.1.4.4. **Communication**. For digital camera models, document network connection to the camera by ping or Telnet session from a remote PC.

3.8.1.4.5. **Pan-Tilt Mechanism**. Exercise pan, tilt, zoom, and focus on all directions, and execute at least three other unique programming commands, specified by the Department, to ensure that the communication link between the cabinet and the camera is functioning properly.

3.8.1.5. **System Integration Test**. Conduct a system integration test on the complete functional system. Demonstrate all control and monitor functions for each system component for 72 hr. Notify the Engineer 10 working days before conducting this testing. The Department may witness all the tests.

Provide systems integration test procedures for proper adjustment and calibration of subsystem components. Proper adjustment and calibration involve documenting settings used to meet functional requirements while providing a margin for adjustment when future conditions change. Use the Department control software (when available) to perform subsystem testing. At minimum, use this software to verify commands and confirmations, as well as detector actuations and occupancy dwell time. The Contractor must be familiar with any existing Department equipment and software.

The failure of any one component material or equipment item in a system integration test is justification for rejecting the entire subsystem. Each subsystem component must function as a complete integrated subsystem for a minimal continuous 72-hr. period during the system integration test.

3.8.1.6. **Final Acceptance Test**. Following completion of the demonstration test, stand-alone test, and system integration test for all subsystems, provide completed data forms containing all the data taken, including quantitative results for all tests, a set of as-built working drawings, and a written request to begin a data communication and final acceptance test. Provide as-built working drawings indicating the actual material, equipment, and construction of the various subsystem components, including established and calculated XY coordinates based on project control points, when shown on the plans. Perform field surveying and calculations under the supervision of and sealed by a licensed land surveyor.

Within 10 calendar days of the request, execute a data communications test using a Department-supplied software program or Contractor-supplied software approved by the Department. The data communications test may be executed by the Engineer or the Contractor with prior approval. The purpose of this test is to verify that the communications plant will operate with application software provided by the State.

Perform the data communications test for 72 hr. If a message error or component failure occurs anywhere in the network, resume the test once repairs are completed. All components of the communications network must operate as an integral system for the duration of the test.

A message error is defined as the occurrence of a parity error, framing error, or data error in any component of the message. The error-free message rate is defined as the ratio of the number of messages in which no message error occurs to the number of messages transmitted. The error-free message rate must exceed 99.99% for acceptable transmission quality, for the system and each component of the network.

Provide all additional test results for review once a successful data communications test has been completed. If all the requirements of this Specification have been satisfied, Contract time must stop, and all subsystems must be placed into operation and operate as a complete system for 90 days.

Notify the Engineer of any defects suspected in integration or function of material or equipment. Investigate any suspected defects and correct if necessary. Provide a report of finding within 2 calendar days of notice of any suspected defects. Describe the nature of any defects reported and any corrective action taken in the report. The integrated subsystems must operate defect-free as a single complete system for at least 72 hr. during a 30-calendar day review period. If the number of defects or frequency of failures prevents any subsystems from operating as described above, the Engineer may reject the entire subsystems integration test results and resume Contract time. Provide any necessary corrections and resubmit subsystems integration test results and a request to begin a final acceptance test that may include as-built plans and a data communications test.

The CCTV field equipment under this Specification will not be accepted until the system, including all subsystems, has operated satisfactorily for 90 days and in full compliance with the plans and Specifications after approval of all submitted test results and reports.

3.8.1.7. **Consequences of Test Failure**. If a unit fails a test, submit a report describing the nature of the failure and the actions taken to remedy the situation before modification or replacement of the unit. If a unit requires modification, correct the fault, and then repeat the test until successfully completed. Correct minor discrepancies within 30 days of written notice. If a unit requires replacement, provide a new unit, and then repeat the test until successfully completed. Major discrepancies that will delay receipt and acceptance of the unit will be enough cause for rejection of the unit.

Failure to satisfy the requirements of any test is considered a defect, and the equipment is subject to rejection. The rejected equipment may be offered again for retest provided all noncompliance has been corrected.

If a failure pattern develops in similar units within the system, implement corrective measures, including modification or replacement of units, on all similar units within the system as directed. Perform the corrective measures without additional cost or extension of the Contract period.

3.8.1.7.1. **Consequences of Design Approval Test Failure**. If the equipment fails the design approval test, correct the fault within 30 days and then repeat the design approval test until successfully completed.

3.8.1.7.2. **Consequences of Demonstration Test Failure**. If the equipment fails the demonstration test, correct the fault within 30 days and then repeat the demonstration test until successfully completed.

3.8.1.7.3. **Consequences of Field Acceptance (Stand-Alone) Test Failure**. If the equipment fails the stand-alone test, correct the fault within 30 days and then repeat the stand-alone test until successfully completed.

3.8.1.7.4. **Consequence of System Integration Test Failure**. If the equipment fails the system integration test, correct the fault within 30 days and then repeat the system integration test until successfully completed.

3.8.1.7.5. **Consequences of Final Acceptance Test Failure**. If a defect within the system is detected during the final acceptance test, document and correct the source of failure. Once corrective measures are taken, monitor the point of failure until a 30-consecutive-day period free of defects is achieved.

If after completion of the initial test period the system downtime exceeds 72 hr. or individual points of failure have not operated for 30 consecutive days free of defects, extend the test period by an amount of time equal to the greater of the downtime more than 72 hr. or the number of days required to complete the performance requirement of the individual point of failure.

3.8.2. **Relocation and Removal**.

3.8.2.1. **Pre-Test**. Provide five copies of the test procedures, including tests of the basic functionality of the unit and blank data forms, to the Engineer for review and comment as part of material documentation requirements. Functionality tests may include, but are not limited to, physical inspection of the unit and cable assemblies, lens iris and zoom control, video signal, and pan-tilt mechanism. Include the sequence of the tests in the procedures along with acceptance thresholds. The Engineer will comment, approve, or reject test procedures within 30 days after Contractor submittal of test procedures. Contractor must resubmit if necessary rejected test procedures for final approval within 10 days. Review time is in calendar days. Conduct all tests in accordance with the approved test procedures.

Conduct basic functionality testing before removal of CCTV field equipment. Test all functional operations of the equipment in the presence of Contractor and Department representatives. Ensure that both representatives sign the test report indicating that the equipment has passed or failed each function. Once removed, the equipment will become the responsibility of the Contractor until accepted by the Department. Compare test data before removal and test data after installation. The performance test results after relocation must be equal to or better than the test results before removal. Repair or replace those components within the system that failed after relocation but passed before removal.

3.8.2.2. **Post-Test**. Testing of the CCTV field equipment is to relieve the Contractor of system maintenance. The Contractor will be relieved of the responsibility for maintenance of the system in accordance with Item 7, "Legal Relations and Responsibilities," after a successful test period. The Contractor is not required to pay for electrical energy consumed by the system.

After all existing CCTV field equipment has been installed, conduct approved continuity, stand-alone, and equipment system tests. Furnish test data forms containing the sequence of tests, including all the data taken as well as quantitative results for all tests. Submit the test data forms at least 30 days before the day the tests are to begin. Obtain approval of test procedures before submission of equipment for tests. Send at least one copy of the data forms to the Engineer.

Conduct an approved stand-alone test of the equipment installation at the field site. At minimum, exercise all stand-alone (non-network) functional operations of the field equipment with all the equipment installed per the plans as directed. Complete the approved data forms with test results and submit to the Engineer for review and either acceptance or rejection of equipment. Provide at least 30 working days' notice before all tests to permit the Engineer or their representative to observe each test.

The Department will conduct approved CCTV field equipment system tests on the field equipment with the central equipment. The tests must, at minimum, exercise all remote control functions and display the return status codes from the controller.

If any unit fails to pass a test, prepare and deliver a report to the Engineer. Describe in the report the nature of the failure and the corrective action needed. If the failure is the result of improper installation or damage during reinstallation, reinstall or replace the unit and repeat the test until the unit passes successfully, at no additional cost to the Department or extension of the Contract period.

3.9. **Warranty**. Warrant the equipment against defects or failure in design, materials, and workmanship for at least 3 yr. or in accordance with the manufacturer's standard warranty if that warranty period is greater. The start date of the manufacturer's standard warranty will begin after the equipment has successfully passed all tests contained in the final acceptance test plan. Any CCTV field equipment with less than 90% of its warranty remaining after the final acceptance test is completed will not be accepted by the Department. Guarantee that equipment furnished and installed for this project performs according to the manufacturer's published specifications. Assign, to the Department, all manufacturer's normal warranties or guarantees on all electronic, electrical, and mechanical equipment, materials, technical data, and products furnished for and installed on the project.

CCTV field equipment must be repaired or replaced at the Contractor's expense before completion of the final acceptance test plan in the event of a malfunction or failure. Furnish replacement parts for all equipment within 10 days of notification of failure by the Department.

3.10. **Training**. Conduct a training class on installation, operations, programming hardware settings, IP programming, port settings, testing, maintenance, troubleshooting, and repair of all equipment specified herein for at least 24 hr., unless otherwise directed, for up to 10 representatives designated by the Department. Submit to the Engineer for approval 10 copies of the training material at least 30 days before the training begins. Conduct training within the local area unless otherwise authorized. Consider operations using Department's Lonestar software when developing training modules.

4. MEASUREMENT

This Item will be measured by each CCTV field equipment unit and mounting apparatus furnished, installed, relocated, or removed, of the types specified as shown on the plans, or as directed.

5. PAYMENT

5.1. **Furnish and Install**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "CCTV Field Equipment (Analog)," "CCTV Field Equipment (Digital)," and "CCTV Field Controller." This price is full compensation for making fully operational CCTV field equipment, including any voltage converters or injectors; cables and connectors as shown on the plans; and all documentation, testing, training, software, equipment, labor, materials, tools, and incidentals.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for CCTV field equipment mounting assemblies will be paid for at the unit price bid for "CCTV Mount (Pole)," "CCTV Mount (Post)," "CCTV Mount (Wall)," "CCTV Mount (Parapet)," "CCTV Mount (Pendant)," and "CCTV Mount (Mast)." This price is full compensation for furnishing and installing mounting bracket assemblies; mounting bracket hardware; and all equipment, labor, materials, tools, equipment, and incidentals necessary to mount CCTV field equipment to mounting structures as shown on the plans.

5.2. **Install Only**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "CCTV Field Equipment (Analog) (Install Only)" and "CCTV Field Equipment (Digital) (Install Only)." This price is full compensation for making fully operational CCTV field equipment, including any voltage converters or injectors; furnishing and installing additional cables and connectors as shown on the plans; and all documentation, testing, training, software, equipment, labor, materials, tools, and incidentals.

5.3. **Relocate**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for relocation of CCTV field equipment will be paid for at the unit price bid for "Relocate CCTV Field Equipment." This price is full compensation for relocating and making fully operational existing CCTV field equipment as shown on the plans; furnishing and installing additional cables or connectors as shown on the plans; testing, delivery, and storage of components designated for salvage or reuse; and all testing, training, software, equipment, labor, materials, tools, and incidentals.

5.4. **Remove**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for removal of CCTV field equipment will be paid for at the unit price bid for "Remove CCTV Field Equipment." This price is full compensation for removing existing CCTV field equipment as shown on the plans; removal of cables and connectors; testing, delivery, and storage of components designated for salvage; and all testing training, software, equipment, labor, materials, tools, and incidentals.

Special Specification 6027

Intelligent Transportation System (ITS) Fiber Optic Cable

1. DESCRIPTION

Furnish, install, relocate, and remove Intelligent Transportation System (ITS) fiber optic cable, fiber patch panels, and splice enclosures as shown on the plans.

2. MATERIALS

2.1. **General Requirements**. Provide, assemble, fabricate, and install materials that are new, corrosion-resistant, and in conformance with the details shown on the plans and in these Specifications.

Furnish, install, splice, and test new fiber optic cable. Provide splicing kits, fiber optic cable caps, connectors, moisture or water sealants, terminators, splice trays, fiber optic jumpers, pig tails, fiber patch panels, fiber interconnect housing, and accessories necessary to complete the fiber optic network. Provide equipment necessary for installation, splicing, and testing.

2.2. **Cable Requirements**. Furnish all-dielectric, dry-filled, gel-free, loose tube fiber optic cable, with low water peak, suitable for underground conduit environments or aerial applications.

Furnish self-supporting, all-dielectric, dry-filled, gel-free, loose tube fiber optic cable, with low water peak suitable for aerial applications when not lashing to strand cable.

All fiber optic cable furnished must have a design life of 20 yr. **when installed to the manufacturer's** specifications.

Splice fiber optic cables in ground boxes, field cabinets, or buildings. Terminate fiber optic cables in field cabinets and buildings that comply with the details shown on the plans and in this Specification.

Provide fiber optic cable from the same manufacturer and confirm the manufacturer is ISO-9001 certified. Ensure the cables meet or exceed United States Department of Agriculture Rural Utilities Service (RUS) CFR § 1755.900, ANSI/ICEA S-87-640, and Telecommunications Industry Association/EIA- (TIA/EIA-) 492CAAB.

2.3. **Optical Requirements**.

2.3.1. **Optical Fiber**. Provide ITU G.652 single-mode fiber optic cable with a core diameter of 8.3 microns (µm) ±0.7 µm and a cladding diameter of 125 µm ±0.7 µm. Provide optical fiber made of glass consisting of a silica core surrounded by concentric silica cladding, free of imperfections and inclusions.

2.3.2. **Core and Clad Concentricity**. Provide an offset between the center of the core and cladding less than 0.5 µm.

2.3.3. **Mode Field Diameter**. Provide single-mode fiber optic cable with the effective area or mode field diameter of the fiber 9.2 µm ±0.4 µm at 1,310 (nanometers [nm]) and 10.5 µm ±1.0 µm at 1,550 nm.

2.3.4. **Primary Coating**. Provide fiber with a coating diameter of 250 µm ±15 µm.

2.3.5. **Attenuation**. Provide single-mode fiber optic cable with nominal attenuation of 0.35 dB/km maximum at a wavelength of 1,310 nm and nominal attenuation of 0.25 dB/km maximum at a wavelength of 1,550 nm.

Attenuation at water peak must be less than 0.35 dB/km at 1,383 nm.

2.3.6. **Bandwidth and Dispersion**. Provide single-mode fiber optic cable with a maximum dispersion of:

- 3.2 ps/nm-km at a wavelength of 1,310 nm, and
- 18 ps/nm-km at a wavelength of 1,550 nm.

Zero-dispersion wavelength must be between 1,300 nm and 1,324 nm, and the zero-dispersion slope at the zero-dispersion wavelength must be less than 0.092 ps/($nm^2 \cdot km$).

The cutoff wavelength must be less than 1,260 nm for single mode fibers specified to operate at 1,310 nm. The cutoff wavelength must be less than 1,480 for single mode fibers specified to operate only at 1,550 nm or higher.

The macrobend attenuation per 100 turns must not exceed 0.05 dB at 1,310 nm and 1,550 nm.

2.3.7. **Mechanical Requirements (Tensile Strength)**. Provide a cable withstanding a pulling tension of 600 lbf without increasing attenuation by more than 0.8 dB/mi when installing in underground conduit systems in accordance with EIA-455-33A. Conduct an impact test in accordance with TIA/EIA-455-25C (FOTP-25) and a compression load test in accordance with TIA/EIA-455-41A (FOTP-41).

For -dielectric self-supporting cable (ADSS) and other self-supporting cables, meet tensile strength requirements in accordance with Section 25, "Loading of Grades B and C," of the NESC, for the maximum span and sag information as shown on the plans for aerial construction.

2.3.8. **Bend Radius**. Provide a cable withstanding a minimum bending radius of 10 times its outer diameter during operation, and 20 times its outer diameter during installation, removal, and reinstallation without changing optical fiber characteristics. Test the cable in accordance with EIA-455-33A.

2.3.9. **Buffering**. Use a buffering tube or jacket with an outer diameter of 1.0–3.0 mm containing 12 individual fiber strands. The fibers must not adhere to the inside of the buffer tube.

2.3.10. **Color Coding**. Provide fiber and buffer tubes with a color coating applied to them by the manufacturer. Coating must not affect the optical characteristics of the fiber. Provide color configuration in accordance with TIA/EIA-598 as follows.

- 1. Blue
- 2. Orange
- 3. Green
- 4. Brown
- 5. Slate
- 6. White
- 7. Red
- 8. Black
- 9. Yellow
- 10. Violet
- 11. Rose
- 12. Aqua

3. EQUIPMENT

3.1. **Cable Type**. Provide cables with a reverse oscillation or planetary stranding structure.

Jacket construction and group configuration should separate at splice points to cut and splice one set of fibers while the others remain continuous. Cable jackets must have a ripcord to aid in the removal of the outer jacket. Submit cable designs for approval.

Strand loose buffer tubes around a dielectric central anti-buckling strength member. Provide dielectric aramid or fiber glass strength members with specified strength for the cable. Provide cable with a water-blocking material that is non-hygroscopic, non-nutritive to fungus, non-conductive, non-toxic, and homogeneous. The water blocking material must comply with TIA/EIA-455-81B and 455-82B as well as TIA/EIA-455-98.

Ensure a polyethylene inner jacket is applied over the cable core, and that the entire cable is enclosed with a polyethylene outer jacket. Ensure the outer jacket contains black carbon to provide ultraviolet (UV) protection for the cable. Ensure each cable is marked with the manufacturer's name, the date of manufacture (mo. and yr.), the fiber count (example 48F SM), and sequential length markings at maximum 2-ft. increments, measured in U.S. units.

For aerial installation, provide standard fiber optic cable lashed to steel messenger cable or ADSS in accordance with the IEEE 1222 Standard for "Testing and Performance for All-Dielectric Self-Supporting (ADSS) Fiber Optic Cable for Use on Electric Utility Power Lines," or most current version. Provide ADSS cable in conformance with the maximum span distance, weather load rating, and allowable sag as shown on the plans. "Figure 8" self-supporting cable with integrated messenger cable within the outer jacket for aerial installation is acceptable.

3.1.1. **Cable Size**. Furnish cables with a maximum diameter not exceeding 19 mm.

3.1.2. **Environmental Requirements**. Provide cable that functions in a temperature range from -40°F–158°F.

3.2. **Fiber Optic Accessories**.

3.2.1. **Splice Enclosures**. Furnish and install one of three types of underground splice enclosures at locations shown on the plans to accommodate the cables being spliced at that point. The types are as follows.

- **Type 1**. Four cable entry ports total—two ports to accommodate backbone fiber of up to 144 fibers and two ports for drop cables of up to 48 fibers.
- **Type 2**. Six cable entry ports total—four ports to accommodate backbone or arterial cables of up to 144 fibers and two ports for drop cables of up to 48 fibers.
- **Type 3**. Eight cable entry ports total—four ports to accommodate backbone or arterial cables of up to 144 fibers and four ports for drop cables of up to 48 fibers.

Provide the end cap of the canister splice closure with re-enterable quick-seal cable entry ports to accommodate additional branch cables or backbone cables. Provide fiber optic splice enclosures with strain relief, splice organizers, and splice trays from the same manufacturer as the splice enclosure. Select the appropriate splice enclosure type based on the number of splices called for on the plans. Suspend splice closures off floor of the ground box and secure to cable rack assembly on side wall of ground box.

For end of reel splicing, use a fiber optic splice enclosure sized to accommodate full cable splice in one enclosure. Fiber optic splice enclosure must be of the same manufacturer as other supplied on a project.

Comply with the Telcordia Technologies' GR-711-CORE standard and applicable NEC requirements.

Contain optical fiber splices within a splice enclosure, providing storage for fiber splices, non-spliced fiber, and buffer tubes. Provide enough space inside the enclosure to prevent micro-bending of buffer tubes when coiled.

Ensure that the splice enclosure maintains the mechanical and environmental integrity of the fiber optic cable, encases the sheath opening in the cable, and organizes and stores optical fiber. Ensure hinges and latching devices are stainless steel or of a non-corrosive material designed for harsh environments. Ensure that the enclosure is airtight and prevents water intrusion. Ensure that splice enclosures allow re-entry and are hermetically sealed to protect internal components from environmental hazards and foreign material such as moisture, dust, insects, and UV light.

3.2.2. **Field Rack Mount Splice Enclosures**. Provide a 19-in. EIA rack-mounted splice enclosure module to hold spliced fibers as shown on the plans inside field equipment cabinets or buildings.

Splice or terminate fibers inside rack-mounted fiber optic splice enclosures. Provide an enclosed unit designed to house at least four cables, sized to accommodate the cables shown on the plans plus future expansion.

Provide splice enclosures containing mounting brackets with a minimum of four cable clamps. Install cable according to manufacturer recommendations for the cable distribution panel.

3.2.3. **Fiber Patch Panels**. Provide fiber patch panels that are compatible with the fiber optic cable being terminated and color-coded to match the optical fiber color scheme. Coil and protect a maintenance loop of at least 5 ft. of buffer tube inside the rack mount enclosure, patch panel, or splice tray. Allow for future splices in the event of a damaged splice or pigtail.

3.2.3.1. **Cabinet**. Terminate or splice fibers inside the compact and modular fiber patch panel in the cabinet. Provide fiber patch panel for installation inside a 19-in. EIA rack and sized appropriately to accommodate the fiber terminations shown on the plans or as directed. Furnish and install factory-pre-terminated simplex connector patch panel modules with integrated pigtail cable in a protective housing at locations called for in the plans to accommodate the cables being terminated at that point. Each module needs to have a minimum of six fiber termination or connection capabilities. Provide modules with a removable cover having six pre-connectorized fiber pigtails, interconnection sleeves, and dust caps installed by the manufacturer. Provide a 12-fiber or greater fusion splice tray capability housing, each tray holding 12 fusion splices as shown on the plans. Furnish patch panel housing with an epoxy fill material that is environmentally and temperature stable to permanently secure the connectors and the cable inside the housing to protect the fiber optic components from vibration and shock. Provide housing with strain relief boot around the exiting pigtail cable to provide bend radius protection and short-term retention of at least 200 lbf. Provide housing with integrated mounting notches. Provide patch panel with ST connectors and dust caps installed by the manufacturer. Stack splice trays on a rack to permit access to individual trays without disturbing other trays. Locate splice trays in a rack within a pull-out shelf. Protect the housing with doors capable of pivoting up or down. Document the function of each terminated or spliced fiber, along with the designation of each connector, on labels or charts located either on the inside or outside of the housing door. Provide labels or charts that are UV-resistant design for harsh environments and used inside field equipment cabinets. Use permanent marker or method of identification that can withstand harsh environments. Provide each housing with strain relief. Terminate single-mode fiber optic cable with SC connectors to the patch panels, unless otherwise shown on the plans. Document the designation of each connector on labels and charts. Place charts in the cabinet in an approved heavy plastic envelope.

Install the fiber patch panel as an integral unit as shown on the plans.

3.2.3.2. **Building**. Provide a fiber patch panel with a modular design allowing interchangeability of connector panel module housing and splice housing within the rack, as shown on the plans.

Provide the number of single-mode fibers, connector panel module housings, and splice housings for the patch panel unit in the building as shown on the plans.

Provide a fiber patch panel unit, installed at a height less than 7 ft., capable of housing eight connector panel module housings or eight splice housings. Protect the housing with doors capable of pivoting up or down and sliding into the unit.

Provide 12 snap-in simplex connector panel modules with each connector panel module housing, each module having six fiber termination or connector capabilities. Use a pre-assembled compact modular unit with a removable cover for the snap-in simplex connector panel module having six pre-connectorized fiber pigtails, interconnection sleeves, and dust caps installed by the manufacturer. Provide each connector panel module housing with a jumper routing shelf, storing up to 5 ft. (minimum) of cable slack for each termination within the housing. Provide the fiber distribution unit with strain relief.

Provide splice enclosure with 24-fusion splice tray capabilities, each splice tray holding 12 or more fusion splices. Stack splice trays on a rack to permit access to individual trays without disturbing other trays. Locate the rack on a pull-out shelf.

Document the function of each terminated or spliced fiber, along with the designation of each connector, on labels or charts located either on the inside or outside of the housing door. Provide labels or charts that are UV-resistant design for harsh environments and used inside field equipment cabinets. Use permanent marker or method of identification that can withstand harsh environments. Also provide documentation of the function of each terminated or spliced fiber along with the designation of each connector on charts or diagrams matching the fiber patch panel configuration and locate inside cabinet document drawer. Provide documentation at the conclusion of fiber terminations and splicing.

Allow terminations only in the fiber interconnect housings placed in the cabinets as shown on the plans or as directed.

3.2.4. **Splice Trays**. Use splice tray and fan-out tubing kit for handling each fiber. Provide a splice tray and 12 fiber fan-out tubing with each housing for use with the 250-µm coated fiber. The fan-out must occur within the splice tray (no splicing of the fiber required). Allow each tube to fan out each fiber for ease of connectorization. Label fibers in splice tray on a log sheet, securing it to the inside or outside of the splice tray. Provide UV-resistant log sheet suitable for harsh environments, located inside field cabinets or splice enclosures. Provide fan-out tubing with three layers of protection consisting of fluoropolymer inner tube, a dielectric strength member, and a 2.9-mm minimum outer protective PVC orange jacketing.

3.2.5. **Jumpers**. Provide fiber optic jumper cables to cross-connect the fiber patch panel to the fiber optic transmission equipment as shown on the plans or as directed. Match the core size, type, and attenuation from the cable to the simplex jumper. Use yellow jumpers and provide strain relief on the connectors. Provide fiber with a 900-µm polymer buffer, Kevlar strength member, and a PVC jacket with a maximum outer jacket of 2.4 mm in diameter.

Provide 5-ft. long jumpers, unless otherwise shown on the plans. On the patch panel end of each jumper, provide an SC connector. On the opposite end of the jumper, provide a connector that is suitable to be connected to the fiber optic transmission equipment selected. When providing jumpers for existing equipment, provide connectors suitable to be connected to patch panels and fiber optic transmission equipment in use. Jumpers must have factory-terminated connectors. Field terminations of connectors is prohibited.

3.2.6. **Fiber Optic Cable Storage Device**. Furnish fiber optic cable storage device designed to store slack fiber optic cable by means of looping back from device to device on an aerial run. Furnish storage devices that are non-conductive and resistant to fading when exposed to UV sources and changes in weather. Ensure storage devices have a captive design such that fiber-optic cable can be supported when installed in the aerial rack apparatus and the minimum bending radius cannot be violated. Provide stainless steel attachment hardware for securing storage devices to messenger cable and black UV-resistant tie-wraps for securing fiber-optic cable to storage device. Provide tie-wraps that do not damage fiber when securing to storage device. Ensure storage devices are stackable, so multiple cable configurations are possible. Ensure cable storage devices furnished are compatible with the type of aerial cable furnished and installed.

4. CONSTRUCTION

Install fiber optic cable in accordance with United States Department of Agriculture Rural Utilities Service CFR § 1755.900 specifications for underground and aerial plant construction without changing the optical and mechanical characteristics of the cables.

Use available machinery, jacking equipment, cable pulling machinery with appropriate tension monitors, splicing and testing equipment, and other miscellaneous tools to install cable, splice fibers, attach connectors, and mount hardware in cabinets employed with the above "Mechanical Requirements." Do not jerk the cable during installation. Adhere to the maximum pulling tensions of 600 lbf. and bending radius of 20 times the cable diameter or as specified by the manufacturer, whichever is greater.

Use installation techniques and fixtures that provide for ease of maintenance and easy access to components for testing and measurements. Take precautions necessary to ensure the cable is not damaged

during transport, storage, or installation. Protect as necessary the cables to prevent damage if being pulled over or around obstructions along the ground.

Where plans call for removal of existing cable to salvage or reuse elsewhere, take care to prevent damaging the existing cable during removal, adhering to the requirements for installation that pertain to removal.

4.1. **Packaging, Shipping, and Receiving**. Ensure the completed cable is packaged for shipment on reels. Ensure the cable is wrapped in weather- and temperature-resistant covering. Ensure both ends of the cable are sealed to prevent the ingress of moisture.

Securely fasten each end of the cable to the reel to prevent the cable from coming loose during transit. Provide 6 ft. of accessible cable length on each end of the cable for testing. Ensure that the complete outer jacket marking is visible on these 6 ft. of cable length. Provide each cable reel with a durable weatherproof **label or tag showing the Manufacturer's name, the cable type, the actual length of cable on the reel, the Contractor's name, the contract number, and the reel number. Include a shipping record in a weatherproof** envelope showing the above information and include the date of manufacture, cable characteristics (e.g., size, attenuation, and bandwidth), factory test results, cable identification number, and any other pertinent information. Ensure that cable delivered has been manufactured within 6 mo. of the delivery date. Ensure that the minimum hub diameter of the reel is at least 30 times the diameter of the cable. Provide the cable in one continuous length per reel with no factory splices in the fiber. Provide a copy of the transmission loss test results as required by the TIA/EIA-455-61 standard, as well as results from factory tests performed before shipping.

4.2. **Installation in Conduit**. Install fiber optic cable in conduits in a method that does not alter the optical properties of the cable. If required, relocate existing cable to allow new fiber optic cable routing in conduits.

When pulling the cable, do not exceed the installation bending radius. Use rollers, wheels, or guides that have radii greater than the bending radius. Use a lubricating compound to minimize friction. Use fuse links and breaks to ensure that the cable tensile strength is not exceeded. Measure the pulling tension with a mechanical device and mechanism to ensure the maximum allowable pulling tension of 600 lbf. is not exceeded at any time during installation.

Provide a single 1/C #14 XHHW insulated tracer wire in conduit runs where fiber optic cable is installed. Provide cable that is UL-listed solid copper wire with orange color low-density polyethylene insulation suitable for conduit installation and with a voltage rating of 600 V. When more than one fiber optic cable is installed through a conduit run, only one tracer wire is required. Fuse or join tracer wires used in backbone, arterial, and drop runs, resulting in one continuous tracer wire. Terminate tracer wire at fiber optic test markers or equipment cabinets as identified in the plans for access to conduct a continuity test. Tracer wire will be paid for under Item 620, **"Electrical Conductors."**

Provide flat pull cord with a minimum tensile strength of 1,250 lb. in each conduit containing fiber optic cable. A traceable pull cord, with a metallic conducting material integral to the pull cord, may be substituted for a 1/C #14 tracer wire only with approval from the Department.

Seal conduit ends with a two-part urethane after installation of fiber optic cable.

4.3. **Cable Installation Between Pull Boxes and Cabinets or Buildings**. Do not break or splice a second fiber optic cable to complete a run when pulling the cable from the nearest ground box to a cabinet or building. Pull enough length of cable in the ground box to reach the designated cabinet or building. Pull the cable through the cabinet to coil, splice, or terminate the cable in the cabinet or building. Do not bend the cable beyond its minimum bend radius of 20 times the diameter.

Coil and tie cable inside cabinet, building, or boxes for future splicing or termination as shown in the plans. Cut off and remove the first 10 ft. of pulled or blown fiber stored. Coat the open end of the coiled cable with protective coating and provide a dust cap.

4.4. **Aerial Installation**. Use pole attachment hardware and roller guides with safety clips to install aerial run cable. Maintain maximum allowable pulling tension of 600 lb. ft. during the pulling process for aerial run cable by using a mechanical device. Do not allow cable to contact the ground or other obstructions between poles during installation. Do not use a motorized vehicle to generate cable pulling forces. Use a cable suspension clamp when attaching cable tangent to a pole. Select and place cable blocks and corner blocks so as not to **exceed the cable's minimum bending radius.** Do not pull cable across cable hangers. Store 100 ft. of fiber optic cable slack, for future use, on cable runs that are continuous, without splices or where specified on the plans. Store spare fiber optic cable on fiber-optic cable storage racks of the type compatible with the aerial cable furnished. Locate spare cable storage in the middle of spans between termination points. Do not store spare fiber-optic cable over roadways, driveways, or railroads.

Install standard cable on timber poles by lashing to steel messenger cable. Provide steel messenger cable in **accordance with Item 625, "Zinc Coated Steel Wire Strand."** Install all-dielectric self-supporting cable (ADSS) cable on timber poles using clinching clamp with cable hanger. Install aerial run cable in accordance with these Specifications and as shown on the plans.

Locate aerial fiber in accordance with the NESC, Section 23, with respect to vertical clearances over the ground; between conductors carried on different supporting structures; and required separation distance of the cable from bridges, buildings, and other structures.

4.5. **Blowing Fiber Installation**. Use either the high-air speed blowing (HASB) method or the piston method. When using the HASB method, ensure that the volume of air passing through the conduit does not exceed 600 cu. ft. per min. or the conduit **manufacturer's recommended air volume, whichever is more restrictive.** When using the piston method, ensure that the volume of air passing through the conduit does not exceed 300 cu. ft. per min. **or the conduit manufacturer's recommended air volume, whichever is more** restrictive.

4.6. **Slack Cable**. Pull and store excess cable slack inside ITS ground boxes as shown on the plans. The following are minimum required lengths of slack cable, unless otherwise directed.

- Ground boxes (No Splice)—25 ft.
- Ground boxes (With Splice)—100 ft.
- Future splice point—100 ft.
- Cabinets—25 ft.

Note that the slack is to be equally distributed on either side of the splice enclosure and secured to cable storage racks within the ground boxes.

Provide proper storage of slack cable, both long-term and short-term. Neatly bind cables to be spliced together from conduit to splice enclosure with tape. Do not over-bind by pinching cable or fiber. Ground and bond the armor when installing armored fiber optic cable. Meet NEC and NESC requirements for grounding and bonding when using armored cable.

4.7. **Removal, Relocation, and Reinstallation of Fiber Optic Cable**. Remove fiber optic cable from conduit as shown on plans. Use care in removing existing fiber optic cables so as not to damage them. Provide cable removal and reinstallation procedures that meet the minimum bending radius and tensile loading requirements during removal and reinstallation so that optical and mechanical characteristics of the existing cables are not degraded. Use entry guide chutes to guide the cable out of and into existing or proposed conduit, using lubricating compound where possible to minimize cable-to-conduit friction. Use corner rollers (wheels) with a radius not less than the minimum installation bending radius of cable. Dispose of removed fiber optic cable unless plans show for it to be re-used (relocated/re-installed) or salvaged and delivered to the Department. See the plans for details. Test each optical fiber in the cable for performance and for loss at existing terminations or splices before cutting and removal. Retest following removal and following reinstallation to ensure the removal and reinstallation have not affected the optical properties of the cable. Any fiber optic cable damaged by the Contractor that is to be re-used must be replaced by the Contractor at no cost to the Department, with new fiber optic cable meeting approval. The Engineer reserves the right to reject the fiber based on the test results.

Maintain the integrity of existing cables, conduit, junction boxes, and ground boxes contiguous to the section of cables to be removed. Replace or repair any cables, conduit, junction boxes, or ground boxes damaged during work at the Contractor's expense. The replacement or repair method must be approved before implementation.

4.8. **Splicing Requirements**. Fusion-splice fibers as shown on the plans, in accordance with TIA/EIA-568 and TIA/EIA-758.

Use fusion splicing equipment recommended by the cable manufacturer. Clean, calibrate, and adjust the fusion splicing equipment at the start of each shift. Use splice enclosures, organizers, cable end preparation tools, and procedures compatible with the cable furnished. Employ local injection and detection techniques and auto fusion time control power monitoring to ensure proper alignment during fusion splicing.

When approaching end of shift or end of day, complete splicing at the location. Package each spliced fiber in a protective sleeve or housing. Re-coat bare fiber with a protective 8 RTV, gel or similar substance, before application of the sleeve or housing.

Perform splices with losses no greater than 0.10 dB. Use an Optical Time Domain Reflectometer (OTDR) to test splices in accordance with Section 4.13.1.1., **"OTDR Tests."** Record splice losses on a tabular form and submit for approval.

4.9. **Termination Requirements**. Provide matching connectors with 900-µm buffer fiber pigtails of enough length and splice the corresponding optical fibers in cabinets where the optical fibers are to be connected to terminal equipment. Buffer, strengthen, and protect pre-terminated fiber assemblies (pigtails) with dielectric aramid yarn and outer PVC jacket to reduce mishandling that can damage the fiber or connection. Pigtails must be duplex-stranding with a yellow PVC outer jacket. Fiber optic pigtails must be factory-terminated with SC connectors, unless otherwise shown on the plans. When providing pigtails for existing equipment, provide connectors suitable to be connected to patch panels and fiber optic transmission equipment in use.

Connectors must meet the TIA/EIA-568 and TIA/EIA-758 standards and be tested in accordance with the Telcordia/Bellcore GR-326-CORE standard. When tested according to TIA/EIA-455-171 (FOTP-171), ensure that the connectors test to an average insertion loss of less than or equal to 0.4 dB and a maximum loss of less than or equal to 0.75 dB for any mated connector. Maintain this loss characteristic for a minimum of 500 disconnections and reconnections with periodic cleanings per EIA-455-21A (FOTP-21). Qualify and accept connectors by connector-to-connector mating using similar fibers. Ensure that the connector operating range is -40°F–167°F. Provide connectors with a yellow color body or boot.

Test connections at the patch panel and splices made between cables to pigtails with the OTDR to verify acceptable losses.

Remove 5 ft. of unused optical fibers at the ends of the system from the buffer tubes and place coiled fibers into a splice tray. Clean the water blocking compound from optical fibers destined for splice tray use.

Install cable tags at splice points identifying key features of each cable, such as cable name or origin and destination and fiber count. Ensure tags are self-laminating or water-resistant. Print the information onto the tags electronically or write neatly using a permanent marker. Locate tags just before entrance into splice enclosure.

4.10. **Mechanical Components**. Provide stainless steel external screws, nuts, and locking washers. Do not use self-tapping screws unless approved. Provide corrosion-resistant material parts and materials resistant to fungus growth and moisture deterioration.

4.11. **Experience Requirements**.

4.11.1. **Installing Fiber Optic Cable**. The Contractor or designated subcontractor involved in the installation of the fiber optic cable must meet the experience requirements in conformance with the following.

- At least 3 yr. of continuous existence offering services in the installation of fiber optic cable through an outdoor conduit system or aerial and terminating in ground boxes, field cabinets, enclosures, or buildings.
- Completion of at least three projects where the personnel pulled at least 5 mi. in length of fiber optic cable through an outdoor conduit system of aerial for each project. The completed fiber optic cable systems must have been in continuous satisfactory operation for at least 1 yr.

4.11.2. **Splicing and Testing of Fiber Optic Cable**. The Contractor or designated subcontractor involved in the splicing and testing of fiber optic cable must meet the experience requirements in conformance with the following.

4.11.2.1. **Minimum Experience**. At least 3 yr. continuous existence offering services in the fields of fusion splicing and testing of fiber optic cable installed through a conduit system and terminating in ground boxes, field cabinets, enclosures, or buildings. Experience must include the following.

- Termination of a minimum of 48 fibers within a fiber distribution frame
- OTDR testing and measurement of end-to-end attenuation of single-mode and multimode fibers
- System troubleshooting and maintenance
- Training of personnel in system maintenance
- Use of watertight splice enclosures
- Fusion splicing of fiber optic cable that meets the tolerable decibel (dB) losses within the range of 0.05 dB–0.10 dB for single mode

4.11.2.2. **Completed Projects**. At least three completed projects where the personnel performed fiber optic cable splicing and terminations, system testing, and system troubleshooting and maintenance during the project, and provided training on system maintenance. Each project must have consisted of at least 5 mi. of fiber optic cable installed and measured by project length, not linear feet, of fiber installed. The completed fiber optic cable systems must have been in continuous satisfactory operation for at least 1 yr.

4.12. **Documentation Requirements**. Provide at least two complete sets of fiber optic equipment submittal literature documenting compliance with the requirements of this Specification, including operation and maintenance manuals in bound hard copy format and an electronic version in Adobe PDF format on a CD/DVD or removable flash drive, including the following.

- Fiber optic cable literature consisting of manufacturer specification and cut sheets
- Fiber optic equipment literature consisting of manufacturer specification and cut sheets for splice enclosures, patch panels, splice trays, jumpers, cable storage devices, and fiber optic labeling devices
- Complete factory performance data documenting conformance with the performance and testing standards referenced in this Specification, including pre-installation test results of the cable system
- Installation, splicing, terminating, and testing plan and procedures
- Documentation of final terminated or spliced fibers, function, and equipment designation
- OTDR calibration certificate
- Post-installation, post-termination, subsystem, and final end-to-end test results
- Loss budget calculation and documentation
- Complete parts list, including names of vendors
- Complete maintenance and trouble-shooting procedures
- Proof of minimum experience and completed projects

4.12.1. **Installation Practice**. Submit for approval an electronic copy of the Contractor's installation practices 30 working days before installation. Submit installation practices and procedures and a list of installation, splicing, and test equipment used. Provide detailed field quality control procedures and corrective action procedures.

4.12.2. **Manufacturer's Certification**. Accompany each reel of fiber optic cable with the manufacturer's test data showing the conformance to the requirements in this Specification.

4.12.3. **Test Procedures**. Submit test procedures and data forms for the pre-installation, post-installation, subsystem, end-to-end test, and loss budget calculations for approval. Test procedures will require approval before performing tests. Submit one copy of data forms containing data and quantitative results, as well as an authorized signature. Submit a copy of the OTDR results as a hard copy or electronic copy in PDF format, including OTDR traces and clearly identifying each event (e.g., fusion splice, jumper, and connector) with the measured loss identified.

4.13. **Testing**. Perform tests in accordance with testing requirements in this Specification, USDA RUS CFR § 1755.900, and TIA/EIA-455-61 test specifications. For tests, provide test forms to be used that compare measured results with threshold values.

4.13.1. **Test Methods**.

4.13.1.1. **OTDR Tests**. Use the OTDR to measure fiber optic cable for overall attenuation (signal loss dB/km); measure fiber cable length; and identify fiber optic cable anomalies, such as breaks. Perform the following four OTDR tests.

- Pre-installation test (Acceptance test)
- Post-installation test
- Post-termination test
- Final end-to-end test

OTDR settings:

- generate a file name for each OTDR scan. The file name must indicate the location or direction from which the test was run, as well as the fiber number being tested;
- set the "A" cursor at the beginning of the fiber trace and set the "B" cursor at the end of the fiber trace. The distance to cursor "B" indicates the length of the fiber cable segment being measured;
- match the index of refraction to the index of the factory report;
- set the loss indicator to dB/km for the acceptance test;
- the reflectance is automatically set internally by the OTDR;
- set the pulse width at a medium range. Change the pulse width to a slow pulse width when an anomaly occurs on the fiber trace so that it can be examined closely;
- set the average at medium speed. Change the average to slow when an anomaly appears on the fiber trace to allow for closer examination of the anomaly; and
- set wavelength at two windows for single-mode cable: 1,310 nm and 1,550 nm.

Provide the current OTDR calibration certificate for the device used, showing the unit has been calibrated within the last year. Show settings on test result fiber scans.

4.13.1.2. **Pre-installation Tests**. Test and record the fiber optic cable at the site storage area before installation.

Conduct bi-directional OTDR tests for each fiber strand. Test each optical fiber in the cable from one end with an OTDR compatible with wavelength and fiber type. Check testing for length, point discontinuity, and approximate attenuation. Record each measurement by color, location, and type of fiber measured. Perform a measurement from the opposite end of that fiber in case a measurement cannot be made from one end. Wait for notification if loss per kilometer **exceeds manufacturer's test data by more than 0.5** dB/km or point discontinuity greater than 0.05 dB.

Perform this test within 5 days from receipt of the fiber optic cable. Test overall attenuation (dB/km), total cable length, anomalies, and cable problems. Test cable at both wavelengths (1,310 nm and 1,550 nm for single-mode cable). Verify that the cable markings on the outer jacket are within 1% of the total cable length.

Compare factory test results with test results and return to manufacturer if test results are not identical to factory test results. If identical, document the test results. Deliver documentation for future reference.

4.13.1.3. **Post-Installation Tests**. Re-test and re-record each optical fiber in the cable after installation, before termination, for loss characteristics. Test both directions of operations of the fiber.

Immediately perform the post-installation test after the fiber optic cable has been installed. Test cable for overall attenuation, cable segment length, and evidence of damage or microbend with the OTDR. Replace any cable segment that is damaged during the test and document test results. Submit test results for approval.

Use the same OTDR settings for post-installation tests as the pre-installation tests.

4.13.1.4. **Post-Termination Tests**. Perform the post-termination test after the cable is terminated or spliced, including termination of fiber cable to fiber cable or fiber cable to fiber pigtail and fiber cable to patch panels. Check attenuation, fusion or termination point problems, and overall fiber cable segment. Determine if the attenuation and quality of the termination complies with these Specifications; if not, re-terminate the fiber and re-test until the Specification requirements are met. Test the fiber segment for attenuation and anomalies after termination acceptance. Document and submit test results after fiber segment acceptance.

4.13.1.5. **Subsystem Tests**. Perform network subsystem tests after integration to the fiber optic network. Test the capability of the fiber optic cable to transmit video and digital information from node to node. A node is defined as a communication cabinet, hub cabinet, surveillance cabinet, or hub building where network hub switches are located. Complete and submit approved data forms for approval.

Correct and substitute components in the subsystem if the subsystem tests fail and repeat the tests. Components may include cable, jumper, patch panel module, or connector.

Prepare and submit a report if a component was modified as result of the subsystem test failure. Describe in the report the failure and action taken to remedy the situation.

4.13.1.6. **Final End-to-End Test**. Perform final end-to-end test after fiber cable segments of the system are terminated using the OTDR and an optical Power Meter and Light Source (PMLS).

Perform part one of the final end-to-end test using OTDR as follows.

- Measure the overall fiber cable system length
- Measure the overall system attenuation
- Check for anomalies

Perform part two of the final end-to-end test using a PMLS as follows:

- Measure the absolute power of the fiber optic signal across all links
- Check for anomalies

Document and submit results after test acceptance.

4.13.2. **Loss Budget Calculation and Documentation**. Calculate the total loss budget of the system according to the following calculations and compare the actual loss in each segment of the system to the calculated budget. Submit the results for each section of fiber optic cable in tabular format, reporting if the total loss is **within the limits of these Specifications by noting "pass" or "fail" for each segment of fiber. A segment of fiber** is defined as one that terminates at each end. Use the following calculations to determine the loss budget for each segment.

- Splice loss budget = number of splices × 0.1 dB/splice
- Connector loss budget = number of connectors × 0.75 dB/connector
- Length loss budget = length of fiber optic cable (measured by OTDR) × 0.35 dB/km for 1,310-nm wavelength or 0.25 dB/km for 1,550 nm wavelength

- Total loss budget = splice loss budget + connector loss budget + length loss budget

Provide loss budget calculation equations on test form to be submitted as part of the documentation requirements. Provide threshold calculations described above along with measured results.

4.14. **Training**. Conduct a BISCI- or IMSA-certified training class (at least 16 hr.) for up to 10 representatives designated by the Department on procedures of installation, operations, testing, maintenance, and repair of equipment specified within this Specification. Submit for approval 10 copies of the training material at least 30 days before the training begins. Conduct training within the local area unless otherwise authorized. Include the following training material.

- NESC, NEC, and ANSI/TIA 590 code compliance
- Fiber optic cable pulling and installation techniques
- Use of installation tools
- Splicing and terminating equipment and test instruments
- Trouble-shooting procedures
- Methods of recording installation and test data

4.15. **Warranty**. Provide a warranty for materials furnished in this Specification. Ensure that the fiber optic cable, the splice enclosures, splice centers, and cable markers have at least a 2-yr. **manufacturer's warranty** and that 95% of that warranty remains at **the date of final acceptance. If the manufacturer's warranties for the** components are for a longer period, those longer period warranties must apply. Guarantee that the materials **and equipment furnished and installed for this project perform according to the manufacturer's specifications.**

Ensure that the manufacturer's warranties for off-the-shelf equipment consisting of splice enclosures, splice trays, connectors, fiber jumper cables, and fiber patch panels are fully transferable from the Contractor to the Department. Ensure that these warranties require the manufacturer to furnish replacements for any off-the-shelf part or equipment found to be defective during the warranty period at no cost to the Department within 10 calendar days of notification by the Department.

Ensure that the manufacturer's warranty for fiber optic cable is fully transferable from the Contractor to the Department. Ensure that the warranty requires the manufacturer to furnish replacement fiber optic cable found to be defective during the warranty period at no cost to the Department within 45 calendar days of notification by the Department.

5. MEASUREMENT

Fiber optic cable installed, relocated, and removed will be measured by the foot. Fiber optic splice enclosures, rack-mounted splice enclosures, fiber optic patch panels, pre-terminated fiber patch panels, fiber patch panel units, and fiber optic jumpers will be measured by each unit installed. Splicing of fiber optic cables will be measured by each fusion splice performed.

6. PAYMENT

6.1. **Furnish and Install**.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid **for at the unit price bid for "Fiber Optic Cable"** of the various types and number of fibers specified. This price is full compensation for furnishing and installing cable; for pulling through conduit or duct; aerial installation; terminating; testing; and for materials, equipment, labor, tools, documentation, warranty, training, and incidentals.

The work performed and materials furnished in accordance with this Item and measured as provided under **"Measurement" will be paid for at the unit price bid for "Fiber Optic Splice Enclosure" of the various types.** This price is full compensation for furnishing and installing enclosures whether aerial or underground, and for materials, equipment, labor, tools, documentation, warranty, training, and incidentals.

The work performed and materials furnished in accordance with this Item and measured as provided under **"Measurement" will be paid for at the unit price bid for "Rack Mounted Splice Enclosure." This price is full** compensation for furnishing and installing enclosures in the building as shown in the plans; for the splice housing with doors, splice trays, and hardware; and for materials, equipment, labor, tools, documentation, warranty, training, and incidentals.

The work performed and materials furnished in accordance with this Item and measured as provided under **"Measurement" will be paid for at the unit price bid for "Fiber Optic Fusion Splice" for each fusion splice** shown on the plans or as directed and performed. This price is full compensation for splicing; testing; and materials, equipment, labor, tools, documentation, warranty, training, and incidentals.

The work performed and materials furnished in accordance with this Item and measured as provided under **"Measurement" will be paid for at the unit price bid for "Fiber Optic Patch Panel" of the various types and** sizes specified. This price is full compensation for furnishing and installing patch panels with connector panel modules with factory pre-connectorized fiber pigtails, patch panel housing with doors, and terminating fibers on the panel as shown on the plans or as directed, and for materials, equipment, labor, tools, documentation, warranty, training, and incidentals.

The work performed and materials furnished in accordance with this Item and measured as provided under **"Measurement" will be paid for at the unit price bid for "Preterminated Fiber Patch Panels" of the various** types and sizes specified. This price is full compensation for furnishing and installing in the cabinet pre-terminated fiber patch panels with pre-connectorized fiber pigtails and terminating fibers on the panel as shown on the plans or as directed, and for materials, equipment, labor, tools, documentation, warranty, training, and incidentals.

The work performed and materials furnished in accordance with this Item and measured as provided under **"Measurement" will be paid for at the unit price bid for "Fiber Patch Panel Unit." This price is full** compensation for furnishing and installing in the building the 7-ft. high 19-in. rack system with supports, rack end caps, inter-bay storage units, and hardware, and for materials, equipment, labor, tools, documentation, warranty, training, and incidentals.

The work performed and materials furnished in accordance with this Item and measured as provided under **"Measurement" will be paid for at the unit price bid for "Fiber Optic Jumpers." This price is full compensation** for furnishing and installing the fiber optic jumpers with factory-terminated connectors as shown on the plans or as directed, and for materials, equipment, labor, tools, documentation, warranty, training, and incidentals.

Conduit will be paid for under Item 618, "Conduit" and Item 619, "Intelligent Transportation System (ITS) Multi-Duct Conduit."

Electrical conductors will be paid for under Item 620, "Electrical Conductors."

6.2. **Install Only**. The work performed and materials furnished in accordance with this Item and measured as **provided under "Measurement" will be paid for at the unit price** bid for "Fiber Optic Cable (Install Only)" **of the** various types and number of fibers specified. This price is full compensation for installing fiber optic cable furnished by the Department; for pulling through conduit or duct; aerial installation; terminating; testing; and materials, equipment, labor, tools, documentation, warranty, training, and incidentals.

Conduit will be paid for under Item 618, "Conduit" and Item 619, "Intelligent Transportation System (ITS) Multi-Duct Conduit."

Electrical conductors will be paid for under Item 620, "Electrical Conductors."

6.3. **Relocate**. The work performed and materials furnished in accordance with this Item and measured as **provided under "Measurement" will be paid for at the unit price bid for "**Relocate Fiber Optic Cable." This price is full compensation for relocating cable, regardless of cable size; for pulling through conduit or duct; aerial installation; terminating; testing; and materials, equipment, labor, tools, documentation, and incidentals.

6.4. **Remove**. The work performed and materials furnished in accordance with this Item and measured as provided under **"Measurement" will be paid for at the unit price bid for "Remove Fiber Optic Cable."** This price is full compensation for removing cable for salvage, regardless of cable size or number of cables; testing; returning to the Department; and materials, equipment, labor, tools, documentation, and incidentals.

Special Specification 6036
Ethernet Switch

1. DESCRIPTION

Transport, install, and test Department-furnished Cisco IE3300 or equivalent Ethernet Switch and Power Module.

2. MATERIALS

Provide all materials not supplied by the Department necessary for the Ethernet Switch installation. All materials provided by the Contractor must be new. Provide a minimum of 30 days' notice to the Department for pick-up of Department-furnished materials. Unless otherwise shown on the plans, Ethernet Switch will be stored by the Department for pick up at a location identified by the Engineer.

Ensure that all materials and construction methods necessary to complete the installation conform to the requirements of this Item, the plans, and the pertinent requirements of the following Items:

- Item 618, "Conduit"
- Item 620, "Electrical Conductors"

3. CONSTRUCTION

3.1. **Installation**. Install Ethernet Switch in equipment cabinets in accordance with this Item and details and dimensions as shown on the plans or as directed. Maintain safe construction practices. Equipment shall be installed in a neat and workmanlike manner.

Adjustments or additions of attachment hardware, support brackets, and appurtenances may be necessary for compatibility, as shown on the plans, or as directed.

Prevent damage to all components. Do not use any materials furnished by the Department on any work which is not required by and which does not constitute a part of the Contract. Materials not used which were furnished by the Department must be returned undamaged to the location from which the materials were obtained upon completion of the work. Any unused or removed material deemed salvageable by the Engineer shall remain the property of the Department and shall be delivered to a designated site. Accept ownership of unsalvageable materials and dispose of in accordance with federal, state, and local regulations.

Stockpile all materials designated for reuse or to be retained by the Department within the project limits or at a designated location as directed.

Equipment to be installed at each Closed-Circuit Television (CCTV), Vehicle Detector field site or hub building shown on the plans may include, but not be limited to, the following:

- Ethernet Switch (provided by the Department).
- Cabling and connectors from power source to Ethernet Switch connection point as specified by the manufacturer (Provided by the Contractor).
- Cabling and connectors from telecommunications source to Ethernet Switch connection point as specified by the Ethernet Switch manufacturer when required (provided by the Contractor).
- Communications as shown on the plans.

Make all arrangements for connection to the power supply and telecommunications source including any required permits. Supply and install any required materials not provided by the utility companies (power or communications service provider).

3.2. **Working Drawings**. Before fabrication submit for approval five prints of the working drawings for attachment of each Ethernet Switch. Show the details of any additional brackets, connections, and methods of attachment.

3.3. **Testing**. Testing of the Ethernet Switch is for the purpose of relieving the Contractor of maintenance of the system. The Contractor will be relieved of the responsibility for maintenance of the Ethernet Switch in accordance with Item 7, "Legal Relations and Responsibilities," after all testing is successfully completed.

After all switches have been installed, the Department will conduct approved continuity, stand alone, and Ethernet Switch tests on the installed field equipment with central, remote, and laptop equipment. A final acceptance test must be conducted to demonstrate all control, monitor, and communication requirements for 90 days. The Engineer will furnish a letter acknowledging the final acceptance testing commencement date stating the first day of the final acceptance test. The completion of the final acceptance test occurs when system downtime due to mechanical, electrical, or other malfunctions to equipment furnished or installed does not exceed 72 hr. and any individual points of failure identified during the test period have operated free of defects. Assume responsibility only for test failures directly related to the work in accordance with this Item.

4. MEASURMENT

This Item will be measured as each Ethernet Switch system installed and tested.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Ethernet Switch (Install Only)." This price is full compensation for transportation and installation of Ethernet Switch; furnishing and installing any new mounting hardware; storing the Ethernet Switch when required; testing the Ethernet Switch; replacement and repair of damaged components; disposal of unsalvageable material and for all manipulations, labor, tools, working drawings, equipment, and incidentals. All adjustments or additional materials will not be paid for directly but will be subsidiary to this Item.

Special Specification 6061
Global Positioning System (GPS) Communication Unit

1. DESCRIPTION

Furnish, install, and make fully operational a GPS Communication Unit (GPSCU) at designated locations as shown on the plans and as detailed in accordance with this specification. Use the same manufacturer and model for each GPSCU. The GPSCU provides a reliable and independent GPS time reference for every traffic signal controller application.

2. MATERIALS

Provide only equipment that is new, corrosion resistant, and in strict accordance with the details shown on the plans, in this specification, and the pertinent requirements of the following items:

- Item 680, "Installation of Highway Traffic Signals"
- Item 681, "Temporary Traffic Signals"

Provide a GPSCU that is fully compatible with a Type 1 or Type 2 NEMA (National Electrical Manufacturers Association) traffic signal controller.

2.1. **GPS Communication Module.** Provide a GPS Communication Module (GPSCM) that has the following traffic signal controller interface features:

- Microwave clock update application included (operates with any traffic signal
- controller)
- Tracking LED that indicates GPS satellite acquisition status
- -34ºC to +74ºC operating temperature range
- A power consumption of 125mA at 12V
- LED power status indicator
- Complies with Part 15 of FCC rules
- Mounted inside of the traffic signal controller cabinet
- RS 232 communication to the NEMA signal controller

2.2. **GPS Antenna.** Provide a GPS Antenna that has the following features:

- 28dB gain
- 3m cable
- SMA Male
- Compliant with National Marine Electronics Association (NMEA) 0183 devices
- Water and dust resistant
- Mounted externally on the traffic signal controller cabinet

3. OPERATION

Once the GPSCM acquires satellite communication (as shown by LED indicator), ensure the GPSCU then operates as follows:

- It uses the operating software of the traffic signal controller interface with the GPSCU to sync the date and time of the traffic signal controller once per minute.

4. CONSTRUCTION

Provide equipment that utilizes the latest available techniques for design and construction with a minimum number of parts, subassemblies, circuits, cards, and modules to maximize standardization and commonality.

Design the equipment for ease of maintenance. Provide component parts that are readily accessible for inspection and maintenance. Provide test points that are for checking essential voltages and waveforms.

4.1. **Electronic Components. Provide this item in accordance with Special Specification "Electronic Components."**

4.2. **Mechanical Components.** Provide external screws, nuts, and locking washers that are stainless steel; no self-tapping screws will be allowed. Provide parts made of corrosion resistant material, such as plastic, stainless steel, anodized aluminum, or brass. Protect materials from fungus growth and moisture deterioration. Separate dissimilar metals by an inert dielectric material.

4.3. **Documentation Requirements.** Provide one copy of the manufacturer's operation manual at each installation location.

4.4. **Testing.** The Department reserves the right to test the GPSCU to ensure quality assurance before installations and random sampling of units being provided to the Department. The Department's testing procedures will include the following:

- The GPSCU will meet the criteria of the specification.
- The GPSCU demonstrates the operations described in Section 3 of this specification.
- The GPSCU and its components will be tested in an environmental chamber (temperature ranges from -34 °C to +74 °C).

4.5. **Technical Assistance. Ensure that a manufacturer's technical representative is available on site to assist** the technical personnel at each installation site and with GPS equipment installation and communication system configuration.

Do not execute the initial powering up of the GPS equipment without the permission of the manufacturer's representative.

4.6. **Warranty.** Guarantee equipment furnished and installed to perform according to the manufacturer's published specifications prior to the acceptance of the system by the Department. Warrant equipment against defects or failure in design, materials, and workmanship in accordance with the manufacturer's standard warranty for a minimum of 5 years.

5. SUBMITTALS

Submit manufacturers' cut sheets / specifications and software for the equipment proposed under these specifications to the Department's Traffic Operations section for approval at the following e-mail address: HOU-TrfShpDrwgs@txdot.gov.

6. MEASUREMENT

This Item will be measured as each unit furnished, installed, made fully functional, and tested in accordance with these special specifications or as directed. A unit will include one GPSCU meeting the specifications, standards, and requirements contained herein, module, antenna, and antenna cabling back to the module, mounting hardware, manufacturer's operation manual, required testing results, manufacturer's technical specification, and the cost of the materials, training, warranty, equipment, and accessories necessary to the complete installation of the unit.

7. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under **"Measurement" will be paid for at the unit price bid for "GPS Communication Unit." This price is full** compensation for the equipment described under this Item with module, antenna, cables, and connectors; for documentation and testing, and for the cost of furnishing labor, materials, software, warranty, training, equipment, and incidentals.

Exhibit I

GENERAL CONDITIONS

ARTICLE 1- DEFINITIONS
Wherever used in these General Conditions or in the other CONTRACT DOCUMENTS the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

ADDENDA- Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents or the CONTRACT DOCUMENTS.

AGREEMENT- The written Agreement between OWNER and CONTRACTOR covering the Work to be performed; other CONTRACT DOCUMENTS are attached to the Agreement and made a part thereof as provided therein.

APPLICATION FOR PAYMENT- The form accepted by the ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the CONTRACT DOCUMENTS.

BID- The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BONDS- Bid, performance and payment bonds and other instruments of security.

CHANGE ORDER- A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revisions in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

CONTRACT DOCUMENTS- The Agreement, Addenda (which pertain to the CONTRACT DOCUMENTS), CONTRACTOR'S Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements issued pursuant to paragraphs 3.4 and 3.5 on or after the Effective Date of the Agreement.

CONTRACT PRICE- The moneys payable by OWNER to CONTRACTOR under the CONTRACT DOCUMENTS as stated in the Agreement.

CONTRACT TIME- The number of days (computed as provided in paragraph 17.2) or the date

stated in the Agreement for the completion of the Work.

CONTRACTOR- The person, firm or corporation with whom OWNER has entered into the Agreement.

DEFECTIVE- An adjective which when modifying the word Work refers to work that is unsatisfactory, faulty or deficient, or does not conform to the CONTRACT DOCUMENTS, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the CONTRACT DOCUMENTS, or has been damaged prior to ENGINEER'S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

DRAWING- The drawings which show the character and Scope of Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the CONTRACT DOCUMENTS.

EFFECTIVE DATE OF THE AGREEMENT- The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

ENGINEER- The person, firm or corporation named as such in the Agreement.

FIELD ORDER- A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Time.

GENERAL REQUIREMENTS- Those described in Pages TS-1 through TS-7 of the Specifications.

LAW AND REGULATIONS; LAW OR REGULATIONS- Laws, rules, regulations, ordinances, codes and/or orders.

NOTICE OF AWARD- The written notice by OWNER or ENGINEER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

NOTICE TO PROCEED- A written notice given by OWNER or ENGINEER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which the CONTRACTOR shall start to perform CONTRACTOR'S obligations under the CONTRACT DOCUMENTS.

OWNER- The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.
PARTIAL UTILIZATION- Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

PROJECT- The total construction of which the Work to be provided under the CONTRACT DOCUMENTS may be the whole, or a part as indicated elsewhere in the CONTRACT DOCUMENTS.

RESIDENT PROJECT REPRESENTATIVE- The authorized representative of ENGINEER, who is assigned to the site or any part thereof.

SHOP DRAWINGS- All drawings, diagrams, illustrations, schedules and other date which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

SPECIFICATIONS- The portions of the CONTRACT DOCUMENTS consisting of written technical description of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

SUB-CONTRACTOR- An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Sub-Contractor for the performance of a part of the Work at the site.

SUBSTANTIAL COMPLETION- The Work (or a specified part thereof) which has progressed to the point where, in the opinion of ENGINEER as evidence by ENGINEER'S definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the CONTRACT DOCUMENTS, so that the Work, (or specified part) can be utilized for the purpose for which it is intended; or if there by no such certificate issued, when final payment is due in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

SUPPLEMENTAL GENERAL CONDITIONS- The part of the CONTRACT DOCUMENTS which amends or supplements these General Conditions.

SUPPLIER- A manufacturer, fabricator, supplier, distributor, material-man or vendor.

UNDERGROUND FACILITIES- All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing

such facilities which have been installed underground to furnish any of the following service or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

UNIT PRICE WORK- Work to be paid for on the basis of unit prices.

WORK- The entire completed construction or the various separately identifiable parts thereof required to be furnished under the CONTRACT DOCUMENTS. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the CONTRACT DOCUMENTS.

WORK DIRECTIVE CHANGE- A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraphs 4.2 and 4.3 or to emergencies under paragraph 6.22. A Work Directive Change may not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or documented by a Work Directive Change will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time as provided in paragraph 10.2.

WRITTEN AMENDMENT- A written amendment of the CONTRACT DOCUMENTS, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly Work-related aspects of the CONTRACT DOCUMENTS.

ARTICLE 2- PRELIMINARY MATTERS DELIVERY OF BONDS:
2.1. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as Contract may be required to furnish in accordance with paragraph 5.1.

COPIES OF DOCUMENTS:

2.2. OWNER shall furnish to CONTRACTOR up to five copies (unless otherwise specified in the Supplementary Conditions) of the CONTRACT DOCUMENTS as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

COMMENCEMENT OF CONTRACT TIME; NOTICE TO PROCEED:
2.3. The Contract Time will commence to run on the thirtieth day after the Effective Date of the Agreement, or if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Day of the Agreement. In no event will the Contract Time commence to run later than the seventy-fifth day after the day of Bid Opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

STARTING THE PROJECT:

2.4 CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract

Time commences to run.

2.4.1 CONTRACTOR shall work on no more than three (3) intersections concurrently. For each intersection, CONTRACTOR shall complete all Work associated with that intersection within sixty (60) calendar days of commencing Work at that intersection.

BEFORE STARTING CONSTRUCTION:

2.5 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the CONTRACT DOCUMENTS, unless CONTRACTOR has actual knowledge thereof or should reasonably have known thereof.

2.6 Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER FOR review:

2.6.1 An estimated progress schedule indicating the starting and completion dates of the various stages of the Work;

2.6.2 A preliminary schedule of Shop Drawings submissions; and

2.6.3 A preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis of progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

2.7 Before any Work at the site is started, CONTRACTOR shall deliver to OWNER, with a copy to ENGINEER, certificates (and other evidence of insurance requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with paragraphs 5.3 and 5.4.

PRE-CONSTRUCTION CONFERENCE:

2.8 Within twenty days after the Effective Date of the Agreement, but before CONTRACTOR starts the Work at the site, a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to discuss the schedules referred to in paragraph 2.6, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

FINALIZING SCHEDULES:

2.9 At least ten days before submission of the First Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility therefore. The finalized schedule of Shop Drawing submissions will be acceptable to ENGINEER as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to ENGINEER as to form and substance.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE INTENT:
3.1. The CONTRACT DOCUMENTS comprise the entire Agreement between OWNER and CONTRACTOR concerning the WORK. The CONTRACT DOCUMENTS are complementary; what is called for by one is as binding as if called for by all. The CONTRACT DOCUMENTS will be construed in accordance with the law of the place of the Project.

3.2 It is the intent of the CONTRACT DOCUMENTS to describe a functionally complete Project (or part thereof) to be constructed in accordance with the CONTRACT DOCUMENTS. Any Work, materials or equipment that may reasonably be inferred from the CONTRACT DOCUMENTS as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment such works shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specifications, manual or code (whether or not specifically incorporated by reference in the CONTRACT DOCUMENTS) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the CONTRACT DOCUMENTS, nor shall it be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 9.15 or 9.16. Clarifications and interpretations of the CONTRACT DOCUMENTS shall be issued by ENGINEER as provided in paragraph 9.4.

3.3 If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the CONTRACT DOCUMENTS, CONTRACTOR shall so report to ENGINEER in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from ENGINEER; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy on the CONTRACT DOCUMENTS unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS:

3.4 The CONTRACT DOCUMENTS may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

3.4.1. A formal Written Amendment,

3.4.2. A Change Order (Pursuant to paragraph 10.4), or

3.4.3. A Work Directive Change (Pursuant to paragraph 10.1).

As indicated in paragraphs 11.2 and 12.1, Contract Price and Contract Time may only be changed by a Change Order or Written Amendment.

3.5. In addition, the requirements of the CONTRACT DOCUMENTS may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

3.5.1. A Field Order (Pursuant to paragraph 9.5),

3.5.2. ENGINEER'S approval of a Shop Drawing or sample (pursuant to paragraphs 6.26 and 6.27), or

3.5.3. ENGINEER'S written interpretation or clarification (pursuant to paragraph 9.4).

REUSE OF DOCUMENTS:

3.6 Neither CONTRACTOR nor any Sub-Contractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project of any other project without written consent of the OWNER.

ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

AVAILABILITY OF LANDS:

4.1 OWNER shall furnish, as indicated in the CONTRACT DOCUMENTS, the lands upon which the Work is to be performed, Rights-of-Way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER,

unless otherwise provided in the CONTRACT DOCUMENTS. If CONTRACTOR believes that any delay in OWNER'S furnishing these lands, Rights-of-Way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefore as provided in Article 12. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.
PHYSICAL CONDITIONS:

4.2.1. Explorations and Reports: Reference is made to the Supplementary conditions for identification of those reports of explorations and tests of sub-surface conditions at the site that have been utilized by ENGINEER in preparation of the CONTRACT DOCUMENTS. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon non-technical data, interpretations for opinions contained therein or for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to sub-surface conditions at the site.

4.2.2. Existing Structures: Reference is made to the Supplementary Conditions for identification of those drawings of physical conditions in or relating to existing surface and sub- surface structures (except Underground Facilities referred to in paragraph 4.3) which are at or contiguous to the site that have been utilized by ENGINEER in preparation of the CONTRACT DOCUMENTS. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.
4.2.3. Report to Differing Conditions: If CONTRACTOR believes that:

4.2.3.1 Any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is inaccurate, or

4.2.3.2. Any physical condition uncovered or revealed at the site differ materially from that indicated, reflected or referred to in the CONTRACT DOCUMENTS,

CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.22), notify OWNER and ENGINEER in writing about the inaccuracy or difference.

4.2.4. ENGINEER'S Review: ENGINEER will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER'S findings and conclusions.

4.2.5. Possible Document Change: If ENGINEER concludes that there is a material error in the CONTRACT DOCUMENTS or that because of newly discovered conditions a change in the CONTRACT DOCUMENTS is required, a Work directive Change or a Change Order will be

issued as provided in Article 10 to reflect and document the consequences of the inaccuracy or difference.

4.2.6. Possible Price and Time Adjustments: In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extend that they are attributable to any such inaccuracy or difference.

If OWNER and CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made thereof, as provided in Articles 11 and 12.

PHYSICAL CONDITIONS - UNDERGROUND FACILITIES:

4.3.1. Shown or Indicated: The information and data shown or indicated in the CONTRACT DOCUMENTS with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.3.1.1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and,

4.3.1.2. CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the CONTRACT DOCUMENTS, for coordination of the Work with the owners of such Underground Facilities during construction, for safety and protection thereof as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2. Not Shown or Indicated: If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the CONTRACT DOCUMENTS and which CONTRACTOR could not reasonable have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing and Work affected thereby (except in an emergency as permitted by paragraph 6.22), identify the owner of such Underground Facility and give written notice thereof to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility to determine the extent to which the CONTRACT DOCUMENTS should be modified to reflect and document the consequences of the existence of the Underground Facility, and the CONTRACT DOCUMENTS will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the CONTRACT DOCUMENTS and which CONTRACTOR could not reasonably have been expected to be aware of. If the parties are unable to agree as to the amount or length thereof, CONTRACTOR may make a claim thereof as provided in Articles 11 and 12.

REFERENCE POINTS:

4.4. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER'S judgement are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without written approval of OWNER.

CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

ARTICLE 5 - BOND AND INSURANCE PERFORMANCE AND OTHER BONDS:
5.1. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to Contract Price as security for the faithful performance and payment of all CONTRACTOR'S obligations under the CONTRACT DOCUMENTS. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as otherwise provided by Law or Regulations or by the CONTRACT DOCUMENTS. CONTRACTOR shall also furnish such other Bond as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by law or Regulation or by the Contract Documents and be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

5.2 If the surety on any Bond furnished CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within five days thereafter substitute another Bond and Surety, both of which must be acceptable to OWNER.

CONTRACTOR'S LIABILITY INSURANCE:

5.3. CONTRACTOR shall purchase and maintain such comprehensive general liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result form CONTRACTOR'S performance and furnishing of the Work and CONTRACTOR'S other obligations under the CONTRACT DOCUMENTS, whether it is to be performed or furnished by CONTRACTOR, by any Sub-Contractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:
5.3.1. Claims under worker's or workmen's compensation, disability benefits and other similar employee benefit acts;

5.3.2. Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR'S employees;

5.3.3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR'S employees;

5.3.4. Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, (b) by any other person for any other reason;

5.3.5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting there from;
5.3.6. Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and

5.3.7. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of motor vehicle.

The insurance required by this paragraph 5.3 shall include the specific coverages and be written for not less than the limits of liability and coverages provided in the Supplemental General Conditions, or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days' prior to a written notice been given to OWNER and ENGINEER by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective work in accordance with paragraph 13.12. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two years after final payment and furnish OWNER with evidence of continuation of such insurance at final payment and one year thereafter.

CONTRACTUAL LIABILITY INSURANCE:

5.4. The comprehensive general liability insurance required by paragraph 5.3 will include contractual liability insurance applicable to CONTRACTOR'S obligations under paragraphs 6.30 and 6.31.

OWNER'S LIABILITY INSURANCE:

5.5. (Deleted) PROPERTY INSURANCE:
5.6. – 5.10 (Deleted)

WAIVER OF RIGHTS:

5.11.1. CONTRACTOR waives all rights against OWNER for all losses and damages caused by any of the perils covered by the policies of insurance provided under the Supplemental General Conditions and any other property insurance applicable to the Work, and also waives all such rights against the Sub-Contractors, ENGINEER, ENGINEER'S Consultants and all other parties named as insured in such policies for losses and damages so caused. As required by paragraph 6.11, each sub-contract between CONTRACTOR, and a Sub-Contractor will contain similar waiver provisions by the Sub-Contractor in favor of OWNER, CONTRACTOR, ENGINEER, ENGINEER'S Consultants and all other parties named as insured. None of the above waivers shall extend to the rights that any of the insured parties may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

5.11.2. CONTRACTOR intends that any policies provided under the Supplemental General Conditions shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights or recovery against any of the parties named as insured or additional insured and if the insurers require separate waiver forms to be signed by ENGINEER or ENGINEER'S consultant or any Sub- Contractor, CONTRACTOR will obtain the same.

RECEIPT AND APPLICATION OF PROCEEDS:

5.12. (Delete)

5.13. (Delete)

ACCEPTANCE OF INSURANCE:

5.14. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 5.3 and 5.4 on the basis of its not complying with the CONTRACT DOCUMENTS, OWNER shall notify CONTRACTOR in writing thereof within ten days of the date or delivery of such certificates to OWNER in accordance with paragraph 2.7. CONTRACTOR shall each provide to OWNER, such additional information in respect of insurance provided by each as the OWNER may reasonably request. Failure by OWNER to give such notice of objection within the time provided shall constitute acceptance of such insurance purchased by the CONTRACTOR as complying with the CONTRACT DOCUMENTS.

PARTIAL UTILIZATION- PROPERTY INSURANCE:

5.15 If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10. The insurers of CONTRACTORS providing the property insurance shall consent to such use or occupancy by endorsement on the policy or policies, but the property insurance shall not be canceled or lapse on account of any such partial use or occupancy.

ARTICLE 6- CONTRACTOR'S RESPONSIBILITIES SUPERVISION AND SUPERINTENDENCE:

6.1. CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skill and expertise as may be necessary to perform the Work in accordance with the CONTRACT DOCUMENTS. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection or a specific means, method, technique, sequence or procedure or construction which is indicated in and required by the CONTRACT DOCUMENTS. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the CONTRACT DOCUMENTS.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

LABOR, MATERIALS AND EQUIPMENT:

6.3. CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the CONTRACT DOCUMENTS. CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons of the Work or property at the site or adjacent thereto, and except as otherwise indicated in the CONTRACT DOCUMENTS, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER'S written consent after prior written notice to ENGINEER.

6.4. Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing start-up, and completion of Work.

6.5. All materials and equipment shall be of good quality and new, except, as otherwise provided in the CONTRACT DOCUMENTS. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier, except as otherwise provided in the CONTRACT DOCUMENTS; but no provision of any such instructions will be effective to assign to ENGINEER, or any of ENGINEER'S

consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.15 or 6.16.

ADJUSTING PROGRESS SCHEDULE:

6.6 CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.9) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

SUBSTITUTES OR "OR-EQUAL" ITEMS:

6.7.1. Whenever materials or equipment are specified or described in the CONTRACT DOCUMENTS by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by ENGINEER if sufficient information is submitted by CONTRACTOR to allow ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by ENGINEER will include the following as supplemented in the General Requirements. Requests for review of substitute items of material and equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of Substantial Completion on time, whether or not acceptance of the substitutes for use in the Work will require a change in any of the CONTRACT DOCUMENTS (or in the provisions of any other direct contract with OWNER for Work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment or any license fee of royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including cost of redesign and claims or other contractors affected by the resulting change, all of which shall be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

6.7.2. If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the CONTRACT DOCUMENTS, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable

to ENGINEER, if CONTRACTOR submits sufficient information to allow ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the CONTRACT DOCUMENTS. The procedure for review by ENGINEER will be similar to that provided in paragraph 6.7.1, as applied by ENGINEER and as may be supplemented in the General Requirements.

6.7.3. ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. ENGINEER will be sole judge of acceptability, and no substitute will be ordered, installed or utilized without ENGINEER'S prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute. ENGINEER will record time required by ENGINEER and ENGINEER'S consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the CONTRACT DOCUMENTS occasioned thereby. Whether or not ENGINEER accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER'S consultants for evaluating each proposed substitute.

CONCERNING SUB-CONTRACTORS, SUPPLIERS AND OTHER:

6.8.1. CONTRACTOR shall not employ any Sub-Contractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Sub- Contractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

If the Supplementary Conditions require the identity of certain Sub-Contractors, Suppliers or other persons or organizations (including those who are to furnish the principal items or materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER'S or ENGINEER'S acceptance either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in bidding documents or the CONTRACT DOCUMENTS) of any such Sub-Contractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price will be increased by the difference in the cost occasioned by such substitution and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER or ENGINEER of any such Sub-Contractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

6.9. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Sub-Contractor's, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct and indirect contract with CONTRACTOR just as

CONTRACTOR is responsible for CONTRACTOR'S own acts and omissions. Nothing in the CONTRACT DOCUMENT shall create any contractual relationship between OWNER or ENGINEER and any such Sub-Contractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Sub-Contractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.10. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Sub-Contractors or Suppliers or delineating the Work to be performed by any specified trade.

6.11 All Work performed for CONTRACTOR by a Sub-Contractor will be pursuant to an appropriate agreement between CONTRACTOR and Sub-Contractor which specifically binds the Sub-Contractor to the applicable terms and conditions of the CONTRACT DOCUMENTS for the benefit of OWNER and ENGINEER and contains waiver provisions as required by paragraph 5.11.

PATENT FEES AND ROYALTIES:

6.12. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the CONTRACT DOCUMENTS for use in the performance of the Work and if to the actual knowledge of OWNER and ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the CONTRACT DOCUMENTS. CONTRACTOR shall indemnify, hold harmless and defend at its cost, OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees and court and arbitration costs) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the CONTRACT DOCUMENTS, and shall defend all such claims in connection with any alleged infringement of such rights.

6.13. Unless otherwise provided in the Supplemental General Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are not Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

LAWS AND REGULATIONS:

6.14.1. CONTRACTOR shall give all notices and comply with all laws and Regulations applicable to furnishing and performing of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR'S compliance with any Law or Regulations.

6.14.2 If CONTRACTOR observes that the Specification of Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof, any necessary changes will be authorized by one of the methods indicated in paragraph 3.4.

If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR'S primary responsibility to made certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

6.15. CONTRACTOR shall pay all sales, consumer use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

USE OF PREMISES:

6.16. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the CONTRACT DOCUMENTS and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ENGINEER by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by at law. CONTRACTOR shall, to the fullest extend permitted by Law and Regulations, indemnify and hold OWNER and ENGINEER harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of Engineers, Architects, Attorneys and other professional and court and arbitration costs) arising directly, indirectly or consequently out of any action, legal or equitable, brought by any such other party against OWNER or ENGINEER to the extent based on a claim arising out of work done by CONTRACTOR under the CONTRACT DOCUMENTS. It is the expressed intention of the parties hereto, both OWNER and CONTRACTOR, that the indemnity provided for in this paragraph is indemnity by CONTRACTOR to indemnify and protect OWNER from the consequences of OWNER'S own negligence, whether that negligence is the sole or a concurring cause of the injury, death or damage.

6.17. During the progress of the Work, CONTRACTOR shall keep the premises free from such accumulations of waste materials, rubbish and other debris resulting from the Work. At the

completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the CONTRACT DOCUMENTS.

6.18. CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

DOCUMENTS:

6.19. CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Directive Changes, Field Orders and Written Interpretations and Clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these Record Documents, Samples and Shop Drawings will be delivered to ENGINEER for OWNER.

SAFETY AND PROTECTION:

6.20. CONTRACTOR shall be responsible for initiation, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1. All employees on the Work and other persons and organizations who may be affected thereby;

6.20.2 All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site.

6.20.3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damages, injury or loss to any property referred to in paragraphs 6.20.2 or 6.20.3 caused, directly or indirectly, in whole

or in part, by CONTRACTOR, and Sub-Contractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omission of OWNER or ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR). CONTRACTOR'S duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion.

6.21. CONTRACTOR shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR'S superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

EMERGENCIES:

6.22. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER or OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the CONTRACT DOCUMENTS have been caused thereby. If ENGINEER determines that a change in the CONTRACT DOCUMENTS is required because of the action taken in response to any emergency, a Work Directive Change or Change Order will be issued to document the consequences of the changes or variations.

SHOP DRAWINGS AND SAMPLES:

6.23. After checking and verifying all field measurements and complying with applicable procedures specified in the General Requirements, CONTRACTOR shall submit to ENGINEER for review an approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.9), or for other appropriate action if so indicated in the Supplementary Conditions, five copies (unless otherwise specified in General Requirements) of all Shop Drawings, which bear a stamp written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the CONTRACT DOCUMENTS with respect to the review of the submission. All submissions will be identified as ENGINEER may require. The data shown on the Shop Drawings will be completed with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to enable ENGINEER to review the information as required.

6.24. CONTRACTOR shall also submit to ENGINEER for review and approval with such promptness as to cause no delay in Work, all samples required by the CONTRACT DOCUMENTS. All samples will have been checked by and accompanied by a specific written

indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the CONTRACT DOCUMENTS with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

6.25.1. Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the CONTRACT DOCUMENTS.

6.25.2. At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the CONTRACT DOCUMENTS, and in addition, shall cause a specific notation to be made on each Shop Drawing submitted to ENGINEER for review and approval of each such variation.

ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, ENGINEER'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the CONTRACT DOCUMENTS and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the CONTRACT DOCUMENTS) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called by ENGINEER or previous submittals.

6.27. ENGINEER'S review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the CONTRACT DOCUMENTS unless CONTRACTOR has in writing called ENGINEER'S attention to each such variation at the time of submission as required by paragraph 6.25.2 and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.25.1.

6.28. Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to ENGINEER'S review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

CONTINUING THE WORK:

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

INDEMNIFICATION:

6.30. To the fullest extent permitted by Laws and Regulations CONTRACTOR shall indemnify and hold harmless OWNER and ENGINEER and their consultants, agents and employees from and against all claims, damages, losses and expense, direct, indirect or consequential (including but not limited to fees and charges of Engineers, Architects, Attorneys and other professional and court and arbitration costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting there from and (b) is caused in whole or in part by any negligent act or omission of OWNER, CONTRACTOR, and Sub-Contractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a partly indemnified hereunder or arises by or is imposed by Law and Regulations regardless of the negligence of any such party. It is the expressed intention of the parties hereto, both OWNER and CONTRACTOR, that the indemnity provided for in this paragraph is indemnity by CONTRACTOR to indemnify and protect OWNER from the consequences of OWNER'S own negligence, whether that negligence is the sole or concurring cause of the injury, death or damage.

6.31. In any and all claims against OWNER or ENGINEER or any of their consultants, agents or employees by any employee or Contractor, any Sub-Contractor, and person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.30 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any Sub-Contractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.32. The obligations of CONTRACTOR under paragraph 6.30 shall not exceed to the liability of ENGINEER, ENGINEER'S consultants, agents or employees arising out of the preparation or approval or maps, drawings, opinions, reports, surveys, Change Orders, designs or Specifications.

ARTICLE 7-OTHER WORK RELATED WORK AT SITE:

7.1. OWNER may perform other work related to the Project at the site by OWNER'S own forces, have other work performed by utility owners or let other direct contracts therefore which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the CONTRACT DOCUMENTS, written notice thereof will be

given to CONTRACTOR prior to starting any such other work; and if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the extent thereof, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

7.2. CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.3. If any part of CONTRACTOR'S Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR'S failure to report will constitute and acceptance of the other work as fit and proper for integration with CONTRACTOR'S work except for latent or non-apparent defects in the other work.

COORDINATION:

7.4. If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Supplementary Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Supplementary Conditions. Unless otherwise provided in the Supplementary Conditions, neither OWNER nor ENGINEER shall have any authority or responsibility in respect of such coordination.

ARTICLE 8-OWNER'S RESPONSIBILITIES

8.1. OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2. In case of termination of the employment or ENGINEER, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under the CONTRACT DOCUMENTS shall be that of the former ENGINEER. Any dispute in connection

with such appointment shall be subject to arbitration.

OWNER shall furnish the data required of OWNER under the CONTRACT DOCUMENTS promptly and shall make payments to CONTRACTOR promptly after they are due as provided in paragraphs 14.4 and 14.14.

8.4. OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of sub-surface conditions at the site and existing structures which have been utilized by ENGINEER in preparing the Drawings and Specifications.

8.5. (Delete)

8.6 OWNER is obliged to execute Change Orders as indicated in paragraph 10.4.

8.7. OWNER'S responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8. In connection with OWNER'S right to stop Work or suspend Work, see paragraph 13.10 and 15.1. Paragraph 15.2 deals with OWNER'S right to terminate services on CONTRACTOR under certain circumstances

ARTICLE 9-ENGINEER'S STATUS DURING CONSTRUCTION OWNER'S REPRESENTATIVE:

9.1. ENGINEER will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER'S representative during construction are set forth in the CONTRACT DOCUMENTS and shall not be extended without written consent of OWNER and ENGINEER.

VISITS TO SITE:

9.2. ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the CONTRACT DOCUMENTS. ENGINEER will not be required to made exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the complete Work will conform to the CONTRACT DOCUMENTS. On the basis of such visits and on-site observations as an experienced and qualified design professional, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

PROJECT REPRESENTATION:

9.3. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in observing the performance of the Work. The duties, responsibilities and limitations of authority of any such Resident Project Representative and assistants will be as provided in the Supplemental Conditions. If OWNER designates another agent to represent OWNER at the site who is not the ENGINEER'S agent or employee, the duties, responsibilities and limitations of authority of such other person will be provided in Supplemental Conditions.

CLARIFICATIONS AND INTERPRETATIONS:

9.4. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the CONTRACT DOCUMENTS (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the CONTRACT DOCUMENTS. If CONTRACTOR believes that a written clarification or interpretation justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Article 11 or Article 12.

AUTHORIZED VARIATIONS IN WORK:

9.5. ENGINEER may authorize minor variations in the Work from the requirements of the CONTRACT DOCUMENTS which do not involve an adjustment in the Contract Price of the Contract Time and are consistent with the overall intent of the CONTRACT DOCUMENTS. These may be accomplished by a Field Order and will be binding on OWNER, and also on CONTRACTOR who shall perform the Work involved promptly. If CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree as to the amount thereof, CONTRACTOR may make a claim therefor as provided in Article 11 or 12.

REJECTING DEFECTIVE WORK:

9.6. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or complete.

SHOP DRAWINGS, CHANGE ORDERS AND PAYMENTS:

9.7. In connection with ENGINEER'S responsibility for Shop Drawings and samples, see paragraphs 6.23 through 6.29 inclusive.

9.8. In connection with ENGINEER'S responsibility as to Change Orders, see Articles 10,11, and 12.

9.9. In connection with ENGINEER'S responsibility in respect of Applications for Payment, etc, see Article 14.

DETERMINATIONS FOR UNIT PRICES:

9.10. (Delete)

DECISIONS ON DISPUTES:

9.11. ENGINEER will be the initial interpreter of the requirements of the CONTRACT DOCUMENTS and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the CONTRACT DOCUMENTS pertaining to the performance and furnishing of the Work and claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered by the claimant to ENGINEER and the other party to the Agreement promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within sixty days after such occurrence unless ENGINEER allows and additional period of time to ascertain more accurate data in support of the claim.

9.12. When functioning as interpreter and judge under paragraphs 9.10 and 9.11, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. Then rendering of a decision by ENGINEER pursuant to paragraphs 9.10 and 9.11 with respect to any such claim, dispute or other matter (except and which have been waived by the making or acceptance of final payments as provided in paragraph 14.16) will be a condition precedent to any exercise by OWNER or CONTRACTOR or such rights or remedies as either may otherwise have under the CONTRACT DOCUMENTS or by Laws or Regulations in respect of any such claim, dispute or other matter.

LIMITATIONS ON ENGINEER'S RESPONSIBILITIES:

9.13 Neither ENGINEER'S authority to act under this Article 9 or elsewhere in the CONTRACT DOCUMENTS nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Sub-Contractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

9.14. Whenever in the CONTRACT DOCUMENTS the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives of the effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the

Work, it is intended that such requirement, direction review or judgment will be solely to evaluate the Work for compliance with the CONTRACT DOCUMENTS (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 9.15 and 6.16.

9.15. ENGINEER will not be responsible for CONTRACTOR'S means, methods, technique, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR'S failure to perform or furnish the Work in accordance with the CONTRACT DOCUMENTS.

9.16. ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR or of any Sub-Contractor, any Supplier or any other person or organization performing or furnishing any of the Work.

ARTICLE 10-CHANGES IN THE WORK

Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized, be a written amendment, a Change Order or a Work Directive Change. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the CONTRACT DOCUMENTS (except as otherwise specifically indicated).

10.2. If OWNER and CONTRACTOR are unable to agree as to the extent if any of an increase or decrease in the Contract Price or an extension of shortening of the Contract Time that should be allowed as a result of a work directive change, a claim may be made therefore as provided in Article 11 or Article 12.

10.3. CONTRACTOR shall not be entitled to any increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the CONTRACT DOCUMENTS as amended modified and supplemented as provided in paragraphs 3.4 and 3.5, except in the case of any emergency as provided in paragraph 6.22 and except in the case of uncovering Work as provided in paragraph 13.9.

10.4. OWNER and CONTRACTOR shall execute appropriate Change Orders (or Written Amendments) covering:

10.4.1. Changes in the Work that are ordered by OWNER pursuant to paragraph 10.1, are required because of acceptance of defective Work under paragraph 13.13 or correcting defective Work under paragraph 13.14, or are agreed to by the parties;

10.4.2. Changes in the Contract Price or Contract Time which are agreed to by the parties; and

10.4.3. Changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11, provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the CONTRACT DOCUMENTS and applicable laws and regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5. If notice of any change affecting the general scope of the Work of the provisions of the CONTRACT DOCUMENTS (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 11-CHANGE OR CONTRACT PRICE

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3. The value of any Work covered by a Change Order of any claim for an increase or decrease in the Contract Price shall be determined in of the following ways:

11.3.1. (Delete)

11.3.2. By mutual acceptance of a lump sum, which at the discretion of OWNER may be based in whole or in part on the same unit costs outlined in the Bid included in the CONTRACT DOCUMENTS which may include an allowance for overhead and profit.

ARTICLE 12-CHANGE OF CONTRACT TIME

12.1. The Contract Time may only be changed by a Change Order or a Written Amendment. Any Claim for an extension or shortening of the Contract Time shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event.

All claims for adjustment in the Contract Time shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2. The Contract Time will be extended in an amount to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefore as provided in paragraph 1.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 7, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

12.3. All time limits stated in the CONTRACT DOCUMENTS are of the essence of the Agreement. The provisions of this Article 12 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) for delay by either party.

ARTICLE 13 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTIONS, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

WARRANTY AND GUARANTEE:

13.1. CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all Work will be in accordance with the CONTRACT DOCUMENTS and will not be defective. Prompt notice of all defects shall be given to CONTRACTOR. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 13.

ACCESS TO WORK:

13.2. ENGINEER and ENGINEER'S representatives, other representatives of OWNER, testing agencies an governmental agencies with jurisdictional interests will have access to the work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

TESTS AND INSPECTION:

13.3. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

13.4. If laws and Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefore, pay all costs in connection therewith and furnish ENGINEER the required certificates of inspection, testing or approval.

CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with OWNER'S or ENGINEER'S acceptance of a supplier or materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to CONTRACTOR'S purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals other than those which are required by the CONTRACT DOCUMENTS shall be paid by OWNER (unless otherwise specified).

13.5. All inspections, tests or approvals other than those required by Laws or regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR (or by ENGINEER if so specified).

13.6. If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR'S expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR'S intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.7. Neither observations by ENGINEER nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR'S obligations to perform the Work in accordance with the CONTRACT DOCUMENTS.

UNCOVERING WORK:

13.8. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER'S observation and replaced at CONTRACTOR'S EXPENSE.

13.9. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, a ENGINEER'S request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals), and OWNER shall be entitled to an

appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim thereof, may make a claim therefore as provided in Article 11. If, however, such work is not found to be defective, CONTRACTOR shall be allowed to increase in the Contract Price or an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

OWNER MAY STOP THE WORK:

13.10. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the CONTRACT DOCUMENTS, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this rights for the benefit of CONTRACTOR or any other party.

CORRECTION OR REMOVAL OF DEFECTIVE WORK:

13.11. If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct al defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by Engineer, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

ONE-YEAR CORRECTION PERIOD:

13.12. If within one year after the date of issue of the Certificate of Acceptance or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the CONTRACT DOCUMENTS or by any specific provision of the CONTRACT DOCUMENTS, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected pr the rejected work removed and replaced, and all direct, indirect and consequential costs and replacement (including but not limited to fees and charges of engineers, architect, attorneys, and other professionals) will be paid by CONTRACTOR.

ACCEPTANCE OF DEFECTIVE WORK:

13.13. If, instead of requiring correction of removal and replacement of defective Work, OWNER (and, prior to ENGINEER'S recommendation of final payment, also ENGINEER)

prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER's evaluation of and determination to accept such defective Work (such cost to be approved by ENGINEER as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals).

If any such acceptance occurs prior to ENGINEER'S recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the CONTRACT DOCUMENTS with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

OWNER MAY CORRECT DEFECTIVE WORK:

13.14. If COCNTRACTOR fails within a reasonable time after written notice of ENGINEER to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11, or if CONTRACTOR fails to perform the Work in accordance with the CONTRACT DOCUMENTS, or if CONTRACTOR fails to comply with any other provision of the CONTRACT DOCUMENTS, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR'S services related thereto, take possession of CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER'S representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in Exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and a Change Order will be issued incorporating the necessary revisions in the CONTRACT DOCUMENTS with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. Such direct, indirect and OWNER consequential costs will include but not be limited to fees and charges of engineers, architects, and other professionals, all court and arbitration costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR'S defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies hereunder.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION SCHEDULE OF VALUES:

14.1 The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and will be incorporated into a form of Application of Payment acceptable to

ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

APPLICATION FOR PROGRESS PAYMENT:

14.2 At least twenty days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the CONTRACT DOCUMENTS. If Payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be 10% (ten percent). The retainage shall be held by the owner until all the work has been satisfactorily completed and accepted in writing. At that time the retainage may be released and included in the Final Payment.

CONTRACTOR'S WARRANTY OF TITLE:

14.3. CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT:

14.4 ENGINEER will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing ENGINEER'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and re-submit the Application twenty (20) days after the presentation of the Application for Payment with ENGINEER'S recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by OWNER to CONTRACTOR.

14.5 ENGINEER'S recommendation of any payment requested in an application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional and on ENGINEER'S review of the Application for Payment and the accompanying data and schedules that the work has progressed to the point indicated that to the best of the ENGINEER'S knowledge, information and belief, the quality of the Work is in accordance with the CONTRACT DOCUMENTS (subject to an evaluation of the Work as a functioning whole prior

to or upon Substantial Completion, to the results of any subsequent test called for in the CONTRACT DOCUMENTS, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10, and to any other qualifications stated the recommendation); and that CONTRACTOR is entitled to payment of the amount recommended.

However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that exhaustive or continuous on-site inspection have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to ENGINEER in the CONTRACT DOCUMENTS or that there may be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or OWNER to withhold payment to CONTRACTOR.

14.6 ENGINEER'S recommendation of final payment will constitute an additional representation by ENGINEER to OWNER that the conditions precedent to CONTRACTOR'S being entitled to final payment as set forth in paragraph 14.13 have been fulfilled.

14.7. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER'S opinion, it would be incorrect to make such representation to OWNER. ENGINEER may also refuse to recommend any such payment, or because of tests, nullify any such payments previously recommended, to such extent as may be necessary in ENGINEER'S opinion to protect OWNER from loss because:

14.7.1 The Work is defective, or completed Work has been damaged requiring correction or replacement;

14.7.2. The Contract Price has been reduced by Written Amendment or Change Order,

14.7.3. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.14.

14.7.4. ENGINEER'S actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.9 inclusive.

OWNER may refuse to make payment of the full amount recommended by ENGINEER because claims have been made against OWNER on account of CONTRACTOR'S performance of furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling OWNER to a set-off against the amount recommended, but OWNER must give CONTRACTOR immediate written Notice (with a copy to ENGINEER) stating the reasons for such action.

SUBSTANTIAL COMPLETION:

14.8 When CONTRACTOR considers the entire Work ready for its intended use

CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER considers The Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion.

There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If, after consideration of OWNER'S objections, ENGINEER considers the Work substantially complete, ENGINEER will within said fourteen days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties. Unless OWNER and CONTRACTOR agree otherwise in writing and to inform ENGINEER prior to ENGINEER'S issuing the definitive certificate of Substantial completion, ENGINEER'S aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

PARTIAL UTILIZATION:

14.10. Use by OWNER of any finished part of the Work, which has specifically been identified in the CONTRACT DOCUMENTS, or which OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER without significant interference with CONTRACTOR'S performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and

substantially complete. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER and ENGINEER that said part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.10.2 OWNER at any time may request CONTRACTOR in writing to permit OWNER to take over operation of any such part of the Work although it is not substantially complete. A copy of such request will be sent to ENGINEER and within a reasonable time thereafter OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If CONTRACTOR does not object in writing to OWNER and ENGINEER that such part of the Work is not ready for separate operation by OWNER, ENGINEER will finalize the list of items to be completed or corrected and will deliver such list to OWNER and CONTRACTOR together with written recommendation as to the division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the Work which will become binding upon OWNER and CONTRACTOR at the time when OWNER takes over such operation (unless they shall have otherwise agreed in writing and so informed ENGINEER). During such operation and prior to Substantial Completion of such part of the Work, OWNER shall allow CONTRACTOR reasonable access to complete or correct items on said list and to complete other related Work.

14.10.3 No occupancy or separate operation of part of the Work will be accomplished prior to
compliance with the requirements of paragraph 5.15 in respect of property insurance. FINAL INSPECTION:

14.11 Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

FINAL APPLICATION FOR PAYMENT:

14.12 After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents-all as required by the CONTRACT DOCUMENTS, and after ENGINEER

has indicated that the Work is acceptable (subject to the provisions of paragraph 14.16), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the CONTRACT DOCUMENTS, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Sub-Contractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

FINAL PAYMENT AND ACCEPTANCE:

If, on the basis of ENGINEER'S observation of the Work during construction and final inspection, and ENGINEER'S review of the final Application for Payment and accompanying documentation, all required by the CONTRACT DOCUMENTS, ENGINEER is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the CONTRACT DOCUMENTS have been fulfilled, ENGINEER will, within ten days after receipt of final Application for Payment, indicate in writing ENGINEER'S recommendation of payment and present the Application to OWNER for payment.

Thereupon ENGINEER will give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.16. otherwise, the ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and re-submit the Application. Thirty days after presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance, and with ENGINEER'S recommendation and notice of acceptability the amount recommended by ENGINEER will become due and will be paid by OWNER to CONTRACTOR.

14.14 If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR'S final Application for payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

CONTRACTOR'S CONTINUING OBLIGATION:

14.15. CONTRACTOR'S obligation to perform and complete the Work in accordance with the CONTRACT DOCUMENTS shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a certificate of Substantial Completion, nor any payment by OWNER to CONTRACTOR under the CONTRACT DOCUMENTS, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the CONTRACT DOCUMENTS or release of CONTRACTOR'S obligation to perform the Work in accordance with the CONTRACT DOCUMENTS.

WAIVER OF CLAIMS:

14.16. The making and acceptance of final payment will constitute:

14.16.1 A waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.11 or from failure to comply with the CONTRACT DOCUMENTS or the terms of any special guarantees specified therein; however it will constitute a waiver by OWNER of any rights in respect of CONTRACTOR'S continuing obligations under the CONTRACT DOCUMENTS; and

14.16.2 A waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15- SUSPENSION OF WORK AND TERMINATION OWNER MAY SUSPEND WORK:

15.1 OWNER may at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefore as provided in Articles 11 and 12.

OWNER MAY TERMINATE:

15.2 Upon the occurrence of any one or more of the following events:

15.2.1. If CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filling, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other Federal or State law in effect at the time relating to bankruptcy or insolvency;

15.2.2. If a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other Federal or State law in effect at the time relating to bankruptcy or insolvency;

15.2.3. If CONTRACTOR makes a general assignment for the benefit of creditors;

15.2.4. If a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose or enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR'S creditors;

15.2.5. If CONTRACTOR admits in writing as inability to pay its debts generally as they become due;

15.2.6. If CONTRACTOR persistently fails to perform the work in accordance with the CONTRACT DOCUMENTS (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment of failure to supply sufficient skilled workers or suitable materials or equipment of failure to adhere to the progress schedule established under paragraph 2.9 as revised from time to time);

15.2.7. If CONTRACTOR disregards Law or Regulations of any public body having jurisdiction;

15.2.8. If CONTRACTOR disregards the authority of ENGINEER; or

15.2.9. If CONTRACTOR otherwise violates in any substantial way any provisions of the CONTRACT DOCUMENTS; OWNER (and the surety, if there be one) seven days written the extent notice and to permitted by Laws and Regulations, terminate the CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion) incorporated in the Work all materials and equipment stored elsewhere and finish the Work as Owner may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs), such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights to remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3 Where CONTRACTOR'S services have been so terminated by OWNER, the termination

will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter occur. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven days' written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expense, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs.

CONTRACTOR MAY STOP WORK OR TERMINATE:

15.5. If, through no act or fault of CONTRACTOR, the Work is suspended for a period or more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty days after it is submitted, or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to OWNER and ENGINEER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 6.29 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

ARTICLE 16 - ARBITRATION
Deleted

ARTICLE 17 - MISCELLANEOUS GIVING NOTICE:
17.1 Whenever any provision of the CONTRACT DOCUMENTS requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address know to the giver of the notice.

17.2.1. When any period of time is referred to in the CONTRACT DOCUMENTS by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.2.2. A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

GENERAL:

17.3. Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provision of this paragraph 17.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

17.4. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligation imposed upon CONTRACTOR by paragraphs 6.30, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws and Regulations, by special warranty or guarantee or by other provisions of the CONTRACT DOCUMENTS, and the provisions of this paragraph will be as effective as if repeated specifically in the CONTRACT DOCUMENTS in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the CONTRACT DOCUMENTS will survive final payment and termination or completion of the Agreement.

17.5 STANDARD WORK HOURS: The standard work hours for the OWNER is 8:00 am to 5:00 pm, Monday through Friday. Should the Contractor elect to work on Saturday, Sundays or holidays, he shall be responsible for paying overtime charges for the OWNERS personnel involved. These charges will be at cost and will be calculated either at time and a half or double time, as applicable to the particular day being worked. Pre-approval shall be obtained from the Engineer or Engineer's representative by completing and signing a OWNER'S Form entitled "CONSTRUCTION INSPECTORS OVERTIME COMPENSATION AUTHORIZATION", prior to commencing any overtime work.

Any work done outside the standard workday, without prior authorization, shall be considered under unauthorized work. The Contractor is required to pay the overtime wages of the OWNER Inspectors that work overtime Mondays through Fridays at time in a half. The Contractor is responsible for the overtime wages of the ONWER inspectors that work Holidays at double time. Minimum hours will be billed to contractor for callouts or for insufficient notice of two (2) hours.

17.6 INDEMNIFICATION

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER, ENGINEER, ENGINEER'S SUBCONSULTANTS AND THE OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AND OTHER CONSULTANTS OF EACH AND ANY OF THEM FROM AND AGAINST ALL CLAIMS, COSTS, LOSSES, AND DAMAGES (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OR ENGINEERS, ARCHITECTS, ATTORNEYS,

AND OTHER PROFESSIONALS AND ALL COURT OR ARBITRATION OR OTHER DISPUTE RESOLUTION COSTS) CAUSED BY, ARISING OUT OF, OR RESULTING FROM, THE PERFORMANCE OF THE WORK, PROVIDED THAT ANY SUCH CLAIM, COST, LOSS OR DAMAGE: (i) IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE, OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY (OTHER THAN THE WORK ITSELF), INCLUDING THE LOSS OF USE RESULTING THEREFROM, AND
(ii) IS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION OF CONTRACTOR, ANY SUBCONTRACTOR, ANY SUPPLIER, ANY PERSON, OR ORGANIZATION DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM TO PERFORM OR FURNISH ANY OF THE WORK, OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT CAUSED IN PART BY ANY NEGLIGENCE OR OMISSION OF A PERSON OR ENTITY INDEMNIFIED HEREUNDER OR WHETHER LIABILITY IS IMPOSED UPON SUCH INDEMNIFIED PARTY BY LAWS AND REGULATIONS REGARDLESS OF THE NEGLIGENCE OF ANY SUCH PERSON OR ENTITY. CLAIMS, COSTS, LOSSES, DAMAGES, SUITS AND CAUSES OF ACTION, AND ANY AND ALL LIABILITY, COSTS, EXPENSES, SETTLEMENTS, DAMAGES, AND JUDGEMENTS INCURRED IN CONNECTION THEREWITH (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OF ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS, AND ALL COURT OR ARBITRATION OR OTHER DISPUTES RESOLUTION COSTS) WHETHER ARISING IN EQUITY, AT COMMON LAW, OR BY STATUTE, INCLUDING THE TEXAS DECEPTIVE TRADE PRACTICES ACTOR SIMILAR STATUTE OF OTHER JURISDICTIONS, OR UNDER THE LAW OF CONTRACTS, TORTS (INCLUDING WITHOUT LIMITATION, NEGLIGENCE AND STRICT LIABILITY WITHOUT REGARD TO FAULT) OR PROPERTY, OF EVERY KIND OR CHARACTER… (iii) IS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION, OTHER FAULT, BREACH OF CONTRACT OR WARRANTY, VIOLATION OF THE TEXAS DECEPTIVE TRADE PRACTICES ACT, OR STRICT LIABILITY WITHOUT REGARD TO FAULT OF CONTRACTOR…. REGARDLESS OF WHETHER OR NOT CAUSED IN PART BY ANY NEGLIGENCE OR OMISSION, OTHER FAULT, BREACH OF CONTRACT OR WARRANTY, VIOLATION OF THE TEXAS DECEPTIVE TRADE PRACTICES ACT, OR STRICT LIABILITY WITHOUT REGARD TO FAULT OF A PERSON OR ENTITY INDEMNIFIED HEREUNDER…. CONTRACTOR'S OBLIGATIONS OF INDEMNIFICATION UNDER THIS PARAGRAPH 6.20.1 SHALL NOT BE LIMITED BY THE AMOUNT OF ANY INSURANCE.
VIDEOTAPING: The Contractor shall videotape the entire job site, including access to the job site, prior to commencing work. A copy of the videotape shall be provided to the City at the Pre-Construction Conference. The videotape will be held for historical purposes and for resolving complaints/claims from affected property owners. Failure to provide such a tape shall render the contractor liable for claims. Acceptable format is standard VHS tape. Beta format is not acceptable.
Monthly videotaping by the contractor during construction is recommended to protect the contractor's interest against claims and as a basis for extras.

Exhibit K

SPECIAL CONDITIONS

1. COMPLETION TIME AND LIQUIDATED DAMAGES

The project as indicated in the Plans and Specifications shall be completed within the number of consecutive calendar days stated in the Contract beginning the date of the notice to commence work. Contractors shall submit a monthly request for time extensions, and such requests shall include justification in conformance with the Contract. The time set forth in the Proposal for the completion of the work is an essential element of the contract. The Contractor and Owner understand and agree that a breach of this Contract as to completion on time will cause damage to the Owner. The parties agree that for each and every calendar day the work or an portion thereof shall remain uncompleted after the expiration of the time limits, the amount per day given in the following schedule will be deducted from the money due or to become due the Contractor, not as penalty, but as liquidated damages and added expense of engineering and overhead.

The Contractor shall within the (10) days from the beginning of any delay notify the Engineer, in writing, of the causes of delay. The Engineer shall ascertain the facts, and the extent of delay and his findings of the facts thereon shall be final and conclusive.

2. CONTRACT DRAWINGS

The Contractor will be furnished three (3) complete sets of drawings by the Engineer for use during construction of the project. Only Plans and Specifications marked "Approved for Construction" and bearing signature of the Engineer on said mark shall be used as construction drawings. Any additional set of construction plans can be provided to contractor upon payment of $100.00.

3. DISPOSAL OF RUBBISH

It shall be the responsibility of the Contractor to dispose of all rubbish, brush, fencing, trees or other objectionable materials by burning, removal form the site or whatever means necessary to effect such disposal.

4. UTILITY SERVICES FOR CONSTRUCTION

Contractor will be responsible for furnishing water or any other utility services required for

construction of project.

5. TESTING, INSPECTION AND CONTROL

Testing and inspection of materials required by these specifications shall be by a commercial testing laboratory. The laboratory shall be selected by the Owner and laboratory services and field testing required by the Technical Specifications for control of work, such as testing of concrete cylinders made on the job shall be paid for by the Contractor. Additional laboratory services as dictated below shall be paid for y the Contractor:

A. The cost of laboratory services required to establish mix design for Portland Cement Concrete and Asphaltic concrete mixture, testing of aggregates, fixing gradations, the preparations and testing of design cylinders or specimens and other such services required to establish mix design, or to redesign the mix when required due to change in source of materials.

B. The Contractor shall furnish all materials and test specifications for testing as selected by the Testing Agency.

C. Mills test will be required for reinforcing steel, and cement, and mill certificates will be acceptable when it is definite that the test sheets apply to the material being supplied.

D. Any tests or inspections performed exclusively for the Contractor's convenience and for retests caused by initial nonconformance of the materials with the Contract Documents.

The testing mentioned in this section will be performed at a frequency required by the specification or at a frequency determined by the Engineer or the Engineer's representative. The Engineer shall require sufficient testing to ensure that the requirements of the specifications are met by the Contractor.

6. LICENSE, FEES AND PERMITS

It shall be the Contractor's responsibility to make necessary applications and obtain all permits required by all agencies, including, but not limited to, the City, County, State, and Federal government for this project.

7. TRAFFIC

It shall be the responsibility of the Contractor to provide for the safety and convenience of traffic so as to comply with all existing traffic regulations and ordinances as may apply.

8. UNDERGROUND OBSTACLES

Pipelines and other existing underground installations and structures in the vicinity of the work are shown on the drawings according o the best information available to the Owner. The Owner does not guarantee the accuracy of such information. The Contractor shall make every effort to locate all underground pipelines, conduits and structures by contacting owners of underground utilities an by prospecting in advance of trench excavation. The repair of existing utilities cut by the Contractor shall be made at the expense of the Contractor, and shall be scheduled so as to cause the least possible inconvenience to the public. Any delay or extra cost to the Contractor caused by pipelines or other underground structures or obstructions not shown by the Plans, or found in location of different from those indicated, shall not constitute a claim for extra work, additional payment or damages.

9. RECORD DRAWINGS

Upon completion of the project and before final payment is made to the Contractor, the Contractor shall deliver one (1) complete set of record drawings and said drawings shall be neat, accurate and orderly and produced to the satisfaction of the Engineer.

10. OTHER CONTRACTS

Other contracts may be underway concurrently in this area. Contractor shall afford other contractors and utility companies reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.

11. MATERIALS AND WORKSHIP

When materials are specified by a trade or brand name, it is not the intention of the Owner to discriminate against an equal product of another manufacturer, but to set a definite standard of quality or performance and to establish an equal basis for the evaluation of bids.

12. REPAIR TO ROADS

The Contractor shall be responsible for repairing any damage to City or County Roads and road owned by the Owner which are used by the Contractor in connection with operations under this Contract. Said repair work shall be at the Contractor's expense. Any debris, mud and related sources caused by contractor will need to be hauled off and cleaned.

13. PUBLIC UTILITIES

A. All poles, wires, cables, conduits, pipelines, or other structures within the work area, belonging to municipalities or public utility corporations, shall be protected by the Contractor.
B. The Contractor will conduct the work along any section of this project which is crossed by, or adjacent to, a public utility such as high lines, sewer lines, etc., in a manner so that no damages result to these utilities. The Contractor will be held solely responsible for damages to

such utilities as a result of careless or negligent operations.

14. PRE-CONSTRUCTION CONFERENCE

Upon award of a Contract to the successful bidder, the Contractor shall meet with the Engineer at a designated location and at a time set by the Engineer. A schedule of procedure for a sequence of construction shall be agreed upon at this conference.

15. LINES AND GRADES

Special attention is directed to Part 2, Paragraph 2.6, Page GC-5, of the General Conditions of Agreement. Special care should be taken by the Contractor to avoid disturbance of Engineer's horizontal and vertical control points. The protection of construction stakes (horizontal and vertical control points), is the Contractor's responsibility and re-staking or re-establishment of these points or stakes will be done by the Engineer at the Contractor's expense. Survey Party time for re-staking will be charged at hourly rates in accordance with the Engineer's schedule of hourly rates which is in effect at the time of the re-staking. (Refer to SG5 Notification)

16. STAKING FOR CONSTRUCTION General

The staking services that the Engineer will furnish and the responsibility of the Contractor respecting the uses of and maintenance of all stakes is outlined under this section. (Refer to Notification section on this document)

No stakes will be furnished until the right-of-way or easements are acceptable condition other than clearing stakes.

Notification

The Contractor shall notify the Engineer, in writing, at least three (3) full working days in advance of the date when specific staking services are desired, giving the specific location and/or limiting stations. The Contractor shall notify the Engineer five (5) days prior to start-up so as to allow the Engineer to set his control. The Engineer shall be notified of any change of sequence which is established at pre-construction conferences. Construction stakeout is the Contractor's responsibility. (non-pay item).

Control Stakes

Stakes which constitute reference points for all construction work will be conspicuously marked with flagging tape in accordance with the code in these Specifications. It will be the responsibility of the Contractor to inform his employees and his subcontractors of their importance, and the necessity for their preservation. The cost of replacing such controls, should it become necessary for any reason whatsoever, shall be at the Contractor's expense. If the

removal of a control stake is required by the construction operations of the Contractor or his subcontractors, advance notice in writing, of at least three (3) full working days shall be given to the Engineer, who will reference and remove said stake or stakes at no cost to the Contractor.

The Contractor shall employ competent grade setters to control the grading operations from the information provided on the reference stakes.

No additional stakes will be furnished, except as requested in writing by the Contractor and paid for by him. This applies to all re-staking for whatever reason, as well as for additional staking which the Contractor may request. Charges for the additional staking will be deducted from next progress payment that is issued to the Owner by the Engineer.

17. INSURANCE REQUIREMENTS

The Contractor, at his expense, shall take out and keep in force throughout the term of this Contract, the following insurance coverage in the amounts specified below to cover all of his operations in connection with the work to be performed under the Technical Specifications. The insurance certificates shall be submitted to the Owner for acceptance prior to move-in and beginning work

MINIMUM INSURANCE REQUIRMENTS

INSURANCE TYPE
Workman's Compensation General Liability
Comprehensive Form
Premises-Operations Products/Completed Operations Hazard Contractual Insurance Independent Contractors Personal Injury

Automobile Liability Comprehensive Owned
Hired
Non-owned

Excess Liability
Umbrella Form

LIMITS OF LIABILITY

As provided by Texas Workman's Compensation Act.

Bodily Injury
$300,000/Person
$500,000/Occurance Property Damage
$100,000/Occurance
$300,00/Aggregate Personal Injury
$500,000

Bodily Injury
$300,000/Person
$500,000/Occurance Property Damage
$300,000/Occurance

$100,000

The remaining term of all policies shall extend at least to the least to the completion date of this Contract; if the expiration date shall occur prior to final completion of all operations hereunder, Contractor shall, not less than fifteen (15) days prior to expiration date, furnish evidence of renewal of or extension of such insurance. All such evidence of insurance shall provide for ten (10) days prior notice to be given to Owner in the event of cancellations.

The Contractor agrees to indemnify and to hold the Owner and the Engineer harmless from and against any and all damages, claims, demands, suits, judgments and costs including attorney's fees and expenses for or on account of damage to property of any person, firm corporation, or Government agency, or death of or injury to any person or persons (including property and employees of the Owner, the Contractor, and employees of the Contractor) directly or indirectly arising out of, or caused by or in connection with the performance of or failure to perform any work provided for hereunder by the Contractor, his subcontractors, or their or the Contractor's agents, servants, or employees.
The Contractor will be held accountable for all insurance coverage's including those of sub-contractors, and provide that all the above mentioned policies will be with insurance carriers.

18. UNBALINCING OF BIDS AND USAGE OF SPECIAL ITEMS

The Contractor's attention is directed to the fact that unbalancing of unit bid prices for any reason shall be considered justification for rejection of the bid. The Contractor may not decrease these bid prices, however, he may increase the bid prices as he may see fit. In instances where subsurface seepage of water above trench bottom requires the drying up of trench bottom, the use of washed gravelor shell in trench bottom will be permitted.

19. ARBITRATION

Arbitration under this agreement shall be subject to the provisions of the Texas General Arbitration Act, Articles 224 to 238-6, V.A.C.S. To any extend that the provisions of Section 16 of the General Conditions are in conflict with or inconsistent with any provision of such Act, the provisions of such Act shall control. Both the Owner and Contractor shall concur on Arbitration as a method of settling any particular dispute.

20. PARTIAL PAYMENTS

Article 14.2 APPLICATION FOR PROGRESS PAYMENT (Standard General Conditions of the Construction Contract) is hereby supplemented with the following:

On or before the last Monday of each month, the CONTRACTOR shall prepare and submit to the Engineer for approval or modification a statement showing as completely as practicable the total value of the work done by the Contractor up to and including the last day of the preceding month; said statement shall also include the value of all sound materials delivered on the site of the work that are to be fabricated into the work.

The OWNER shall then pay the CONTRACTOR on or before the 2nd Monday of the following month the total amount of the approved statement, less 10 percent of the amount thereof, which 10 percent shall be retained until final payment, and further less all previous payments and all further sums that may be retained by the OWNER under the terms of this Agreement. It is understood, however, that in case the whole work be near the completion and some unexpected and unusual delay occurs due to not fault or neglect on the part of the CONTRACTOR, the OWNER may-upon written recommendation of the ENGINEER- pay a reasonable and equitable portion of the retained percentage to the CONTRACTOR, or the CONTRACTOR at the OWNER'S option, may be relieved of the obligation to fully complete the work and, thereupon, the CONTRACTOR shall receive payment of the balance due him under the contract subject only to the conditions stated under "Final Payment".

Exhibit L

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

3/1/2027

DATE (MM/DD/YYYY) 5/26/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies, LLC DBA Lockton Insurance Brokers, LLC in CA CA license #0F15767 444 W. 47th St., Ste. 900 Kansas City MO 64112-1906 (816) 960-9000 kcasu@lockton.com	CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS:
INSURED 1576114 AUSTIN TRAFFIC SIGNAL CONSTRUCTION COMPANY, LLC PO BOX 130 ROUND ROCK, TX 78680	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Zurich American Insurance Company — 16535 INSURER B : Indian Harbor Insurance Company — 36940 INSURER C : Convex Insurance UK Limited INSURER D : Navigators Specialty Insurance Company — 36056 INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 23558857 **REVISION NUMBER:** XXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:	N	N	GLO 4839723-13	3/1/2026	3/1/2027	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 100,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY X HIRED AUTOS ONLY SCHEDULED AUTOS X NON-OWNED AUTOS ONLY	N	N	BAP 4839724-13	3/1/2026	3/1/2027	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 2,000,000 $ XXXXXXX $ XXXXXXX $ XXXXXXX
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $	N	N	SXS0071593	3/1/2026	3/1/2027	EACH OCCURRENCE AGGREGATE	$ 2,000,000 $ 2,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N / N/A If yes, describe under DESCRIPTION OF OPERATIONS below		N	WC 4839722-14	3/1/2026	3/1/2027	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
C	EXCESS LIABILITY	N	N	XSC000160-0326	3/1/2026	3/1/2027	$3M PER OCC $3M PER AGG	
D	EXCESS LIABILITY			CH26EXCZ0KN39IC	3/1/2026	3/1/2027	$5M PER OCC $5M PER AGG	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
CERTIFICATE FOR ALL JOBS.

CERTIFICATE HOLDER

23558857
CITY OF BROWNSVILLE
600 E JACKSON ST.
BROWNSVILLE, TX 78520

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent must disclose any conflicts of interest related to the goods and/or services associated with this solicitation. A conflict-of-interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s). The City reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

If a conflict of interest exists, the Respondent must:

- Complete Form CIQ
- File the form with the City Secretary
- Include a copy of the completed Form CIQ with the proposal

If no conflict of interest exists, Form CIQ is not required. Regardless of whether a conflict exists, this Form 2 must be completed and signed.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict-of-interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1034 E Levee Street, City Plaza, 1st Floor, Brownsville, TX 78520
Email: City.Secretary@brownsvilletx.gov
Phone: (956) 548-6042

Certification

By signing below, the Respondent certifies that they have reviewed and understand the requirements of Chapter 176, Texas Local Government Code and have determined whether a conflict of interest exists. The Respondent further certifies that, if a conflict of interest exists, a completed Conflict of Interest Questionnaire (Form CIQ) has been or will be filed with the City Secretary in accordance with state law and that a copy of the completed Form CIQ is included with this submission, if applicable. The Respondent affirms that all information provided is true and correct and that they are authorized to bind the entity.

Signature: _____

Printed Name: Stephen Rutledge

Title: Area Manager V.P.

Date: 5/20/2026

Company Name: Austin Traffic Signal Construction Co. LLC.

Phone: 512-255-9951

Email: stever@atscc.com

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

N/A

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.) N/A

3 **Name of local government officer about whom the information is being disclosed.**

N/A

Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No N/A

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

N/A

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

N/A

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1). N/A

7

Signature of vendor doing business with the governmental entity

5/20/2026

Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print, sign, and notarize the TEC Form 1295 and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC's website in accordance with state law.

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed and notarized in accordance with TEC requirements.

Signature: _____

Printed Name: Stephen Rutledge

Title: Area Manager V.P.

Date: 5/20/2026

Company Name: Austin Traffic Signal Construction Co.LLC.

Phone: 512-255-9951

Email: stever@atscc.com



CERTIFICATE OF INTERESTED PARTIES — FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is no Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____ and my date of birth is _____

My address is _____ (street) _____ (city) _____ (state) _____ (zip code) _____ (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____ (month) 20____ (year)

_____ Signature of authorized agent of contracting business entity (Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

FORM 14: SYSTEM FOR AWARD MANAGEMENT (SAM.GOV) RECORD SEARCH

This project is funded by federal funds, which require all contractors and vendors to be in good standing according to SAM.gov and any applicable state requirements.

Verification of SAM.gov Status

1. Respondent must not be suspended or debarred at the time of the proposal submittal. The proposal response package must include a completed Non-Debarment Certification Form located **on the next page** herein.
2. All Respondents must be pre-vetted for eligibility to perform the outlined federally funded scope of work. A printed screenshot from the SAM.gov website verifies whether the Vendor is excluded from contract participation at the federal level

Contract Award

The federal funding recipient must verify the SAM.gov status of the Respondent(s) selected for contract award prior to execution of the contract as stated in the Non-Debarment Certification Form. The final verification of the Respondent's SAM.gov status is completed prior to contract award, in addition to the initial verification documentation provided with the proposal response submittal.

FORM 14: SYSTEM FOR AWARD MANAGEMENT (SAM.GOV) RECORD SEARCH (CONTINUED)

NON-DEBARMENT CERTIFICATION FORM			
COMPANY/ENTITY LEGAL NAME:	[redacted]		
STREET ADDRESS:	[redacted]		
CITY: [redacted]		**STATE:** [redacted]	**ZIP:** [redacted]
CONTACT NAME:	[redacted]		
CONTACT EMAIL: [redacted]		**CONTACT PHONE:** [redacted]	
***UEI #**		****TIN #**	

*Subrecipients are required to have a Unique Entity Identifier (UEI) Number prior to an award. All entities must be pre-vetted for eligibility/ability to perform the outlined ARPA funded scope of work and a record (PDF of SAM.gov screenshot) of SAM debarment clearance must be obtained prior to entering into any final contracts. **Beneficiary Entities are required to have UEI and/or TIN.

APPLICABLE REGULATIONS: As stated in federal funding requirements: *"OMB Guidelines to Agencies on Government wide Debarment and Suspension (Nonprocurement), 2 CFR Part 180, including the requirement to include a term or condition in all lower-tier covered transactions (contracts and subcontracts described in 2 CFR Part 180, subpart B) that the award is subject to 2 CFR Part 180 and any applicable agency-specific implementing regulations."*

Also, Federal Executive Order (E.O.) 12549: "Debarment" requires that contractors, beneficiaries or subrecipient organizations and their principals – who are receiving awards, using federal funds, are not debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any federal department or agency from doing business with the federal government. By signing this document, you certify that your organization and its principals are not debarred. Failure to comply or attempts to edit this language may disqualify you from receiving or retaining funds. Information on debarment is available at the following website: www.sam.gov

Be advised that we may pursue available remedies per 2 CFR 180.360 as an federally funded recipient entity: *"If a federal agency later determines that you failed to tell the [awarding agency] that you were excluded or disqualified at the time you entered into the covered transaction with that person/awarding agency, the agency may pursue any available remedies, including suspension and debarment."*

[INITIAL]	CERTIFICATION & SIGNATURE
[redacted]	**We hereby certify that we are not excluded, disqualified, or debarred from receiving federally funded awards.**
	We hereby confirm that if that status should change within the course of this agreement, we will provide notification immediately. Failure to do so may result in this agreement's termination and/or the repayment of funds.

Your signature certifies that the information provided on this form is correct and that neither you nor your principal(s) is/are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.

SIGNATURE STEPHEN RUTLEDGE

PRINTED NAME & TITLE [redacted] **DATE** [redacted]

FOR DEPARTMENT USE ONLY		
SAM Debarment/Certification Record of Clearance	Yes [ ] No [ ]	Note:
State of Texas Debarred Vendor List Cleared	Yes [ ] No [ ]	Note:
Verified By:	Yes [ ] No [ ]	Date:

SAM.GOV®

AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO., INC.

Unique Entity ID	CAGE / NCAGE	Purpose of Registration
KTVBJ9HUL5C8	**908N2**	**All Awards**
Registration Status	Expiration Date	
Submitted Registration	**Dec 31, 2025**	
Physical Address	Mailing Address	
4615 Priem LN **Pflugerville, Texas 78660-7503** **United States**	**PO Box 130** **Round Rock, Texas 78680** **United States**	

Business Information

Doing Business as	Division Name	Division Number
(blank)	**(blank)**	**(blank)**
Congressional District	State / Country of Incorporation	URL
Texas 17	**Texas / United States**	**(blank)**

Registration Dates

Activation Date	Submission Date	Initial Registration Date
(blank)	**Dec 31, 2024**	**Apr 7, 2021**

Entity Dates

Entity Start Date	Fiscal Year End Close Date
Apr 5, 2011	**Dec 31**

Immediate Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Highest Level Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Executive Compensation

In your business or organization's preceding completed fiscal year, did your business or organization (the legal entity to which this specific SAM record, represented by a Unique Entity ID, belongs) receive both of the following: 1. 80 percent or more of your annual gross revenues in U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements and 2. $25,000,000 or more in annual gross revenues from U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements?

No

Does the public have access to information about the compensation of the senior executives in your business or organization (the legal entity to which this specific SAM record, represented by a Unique Entity ID, belongs) through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986?

Not Selected

Proceedings Questions

Is your business or organization, as represented by the Unique Entity ID on this entity registration, responding to a Federal procurement opportunity that contains the provision at FAR 52.209-7, subject to the clause in FAR 52.209-9 in a current Federal contract, or applying for a Federal grant opportunity which contains the award term and condition described in 2 C.F.R. 200 Appendix XII?

No

Does your business or organization, as represented by the Unique Entity ID on this specific SAM record, have current active Federal contracts and/or grants with total value (including any exercised/unexercised options) greater than $10,000,000?

Not Selected

Within the last five years, had the business or organization (represented by the Unique Entity ID on this specific SAM record) and/or any of its principals, in connection with the award to or performance by the business or organization of a Federal contract or grant, been the subject of a Federal or State (1) criminal proceeding resulting in a conviction or other acknowledgment of fault; (2) civil proceeding resulting in a finding of fault with a monetary fine, penalty, reimbursement, restitution, and/or damages greater than $5,000, or other acknowledgment of fault; and/or (3) administrative proceeding resulting in a finding of fault with either a monetary fine or penalty greater than $5,000 or reimbursement, restitution, or damages greater than $100,000, or other acknowledgment of fault?

Not Selected

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure
Corporate Entity (Not Tax Exempt)

Entity Type
Business or Organization

Organization Factors
(blank)

Profit Structure
For Profit Organization

Socio-Economic Types

Self Certified Small Disadvantaged Business

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments
Yes

Debt Subject To Offset
No

EFT Indicator
0000

CAGE Code
908N2

Electronic Funds Transfer

Account Type
Checking

Routing Number
*******55**

Lock Box Number
(blank)

Financial Institution
PROSPERITY BANK

Account Number
*******19**

Automated Clearing House

Phone (U.S.)
5128559951

Email
(blank)

Phone (non-U.S.)
(blank)

Fax
(blank)

Remittance Address

Austin Traffic Signal Const Co INC
4615 Priem Lane
Pflugerville, Texas 78660
United States

Taxpayer Information

EIN
*****4960**

Type of Tax
Applicable Federal Tax

Taxpayer Name
Austin Traffic Signal Const Co Inc

Tax Year (Most Recent Tax Year)
2023

Name/Title of Individual Executing Consent
President

TIN Consent Date
Dec 31, 2024

Address
4615 Priem LN
Pflugerville, Texas 78660

Signature
Fred Shin

Points of Contact

Accounts Receivable POC

Ed Schroeder, VP
eschroeder@atscc.com
5122559951

Electronic Business

Ed Schroeder, VP
eschroeder@atscc.com
5122559951

3310 Agnes Street
Corpus Christi, Texas 78405
United States

Government Business

Mason Myska
mmyska@atscc.com
5122559951

4615 Priem LN
Pflugerville, Texas 78660
United States

Service Classifications

NAICS Codes

Primary	NAICS Codes	NAICS Title
Yes	**237310**	**Highway, Street, And Bridge Construction**
	236220	**Commercial And Institutional Building Construction**
	237990	**Other Heavy And Civil Engineering Construction**
	238990	**All Other Specialty Trade Contractors**

Product and Service Codes

PSC	PSC Name
Z2LB	**Repair Or Alteration Of Highways, Roads, Streets, Bridges, And Railways**

Size Metrics

IGT Size Metrics

Annual Revenue (from all IGTs)
(blank)

Worldwide

Annual Receipts (in accordance with 13 CFR 121)
$30,000,000.00

Number of Employees (in accordance with 13 CFR 121)
100

Location

Annual Receipts (in accordance with 13 CFR 121)
(blank)

Number of Employees (in accordance with 13 CFR 121)
(blank)

Industry-Specific

Barrels Capacity
(blank)

Megawatt Hours
(blank)

Total Assets
(blank)

Electronic Data Interchange (EDI) Information

This entity did not enter the EDI information

Disaster Response

Yes, this entity appears in the disaster response registry.

Bonding Levels	Dollars
(blank)	**(blank)**

States
Any

Counties
(blank)

Metropolitan Statistical Areas
(blank)

Exhibit P

State of Texas Child Support Business Ownership Form

County: Cameron Co

Project Name: International Blvd Traffic Sig

TxDOT CSJ: 0039-11-002

LG Project Number: 146-26-EPW-IFB

Business Entity Submitting Bid: Austin Traffic Signal Const. Co. LLC

Section 231.006, Family Code, requires a bid for a contract paid from state funds to include the names and social security number of individuals owning 25% or more of the business entity submitting the bid.

1. In the spaces below please provide the names and social security number of individuals owning 25% or more of the business.

Name	Social Security Number
N/A	N/A

2. Please check the box below if no individual owns 25% or more of the business.

(O) No individual own 25% or more of the business.

Except as provided by Section 231.302(d), Family Code, a social security number is confidential and may be disclosed only for the purpose of responding to a request for information from an agency operating under the provisions of Part A and D to Title IV of the Federal Social Security Act (42 USC Section 601-617 and 651-699).

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

The information collected on this form will be maintained by Enter Local Government Name. With few exceptions, you are entitled on request to be informed about the information collected about you. Under Sections 552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under Section 559.004 of the Government Code, you are also entitled to have information about you corrected that you believe is incorrect.

Signature

5/22/2026

Date

Stephen Rutledge

Printed Name

IF THIS PROJECT IS A JOINT VENTURE,

ALL PARTIES TO THE JOINT VENTURE MUST PROVIDE A COMPLETED FORM.

Texas Department of Transportation
125 E 11th St | Austin, Texas 78701
512.463.8588
txdot.gov

March 28, 2026

AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO., LLC
PO BOX 130
ROUND ROCK TX, 78680

RE: TxDOT Vendor Number 32280

Dear Contractor:

Your Confidential Questionnaire is satisfactory and qualifies you to bid on projects let by the Texas Department of Transportation (TxDOT) from the date of this letter through December 31, 2026.

Your bidding capacity has been set at $366,476,040.00. You may request and receive bidding proposals for projects on which the engineer's estimate does not exceed your bidding capacity, less any uncompleted work currently under contract with TxDOT.

If we may be of further assistance, please contact our Pre-qualification Branch at 512/416-2584.

Sincerely,

Greg Williams

Greg Williams
Director, Letting Management Section
Construction Division

City of Brownsville Federal Clauses Certification Form

FEDERAL CERTIFICATIONS
AGREEMENT FUNDED BY U.S. FEDERAL GRANT

TO WHOM IT MAY CONCERN:

Federal Funds will be used therefore this form should be completed and returned.

Instructions for Completing this Form
Suppliers and contractors must review each federal clause and indicate whether it applies to the specific contract. For every section below, please initial **"YES"** to confirm agreement and compliance, or **"N/A"** (Not applicable) if the clause does not apply to the scope of work or funding source.
Yes – contractor/supplier agrees to comply with the clause as written and, where applicable, will provide all required documentation or certifications.
N/A – Clause is not applicable to the contract (e.g., Davis Bacon Act for non-construction work, Buy America for non-transportation projects, etc.) Contractor/supplier must initial next to "N/A" to confirm inapplicability.
Incomplete forms or unmarked sections may disqualify contractor/supplier and/or delay contract approval.

Vendor Responsibility for Regulatory Compliance
It is the responsibility of the contractor/supplier to review, verify, and comply with the most current versions of all applicable federal provisions, clauses, and regulations referenced in this document. The contractor/supplier shall refer to official U.S. Government websites, including the Code of Federal Regulations (www.ecfr.gov), Federal Acquisition Regulation (www.acquisition.gov), and agency-specific resources (e.g., HUD, DOT, Treasury, or OMB), to ensure full and current compliance at the time of bid submission and throughout the contract term.

DEFINITIONS

Contract: A legal agreement by which a non-Federal entity purchases property or services to carry out a federally funded project.

Contractor: An entity that receives a contract as defined in Contract.

Cooperative agreement: A form of federal financial assistance used when substantial involvement is expected between the federal agency or pass-through entity and the recipient.

Federal awarding agency: The U.S. federal agency providing the funding.

Federal award: The financial assistance or cost-reimbursement contract provided directly by a federal agency or indirectly through a pass-through entity to carry out a public purpose.

Non–Federal entity (NFE): A state, local government, tribe, institution of higher education, or non profit organization that receives and administers federal funds.

Pass-Through Entity (PTE): A Non-Federal entity that provides part of its federal award to another organization (a subrecipient) to carry out a portion of the program.

Subrecipient/Subaward: A Non-Federal entity that receives federal funds from a pass-through entity to carry out part of federal program. The legal instrument documenting this relationship is the subaward.

Recipient: A Non–Federal entity receiving funds directly from a federal agency.

Simplified acquisition threshold: The current small-purchase limit established under the FAR (presently $250,000, adjusted periodically for inflation).

Obligations: Orders placed on contracts or subawards made that require payment by the Non-Federal entity.

Termination: The ending of a federal award, in whole or in part, prior to the planned end of the period of performance. These definitions are provided for reference only. For full regulatory text, see 2 C.F.R. Part 200, Subpart A (§§ 200.0-200.1).

Certification Regarding Certain Telecommunications and Video Surveillance Services or Equipment (FAR 52.204-24 & 52.204-25)

The contractor/supplier certifies compliance with the prohibitions under Section 889 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) and the Federal Acquisition Regulation (FAR) 52.204-24 and 52.204-25.

The contractor/supplier shall not provide or use any equipment, system, or service that includes covered telecommunications equipment or services from Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, or any subsidiary or affiliate of such entities.

If the contractor/supplier identifies any covered telecommunications equipment or services during performance, it shall immediately notify the contracting agency or the City of Brownsville in writing and provide all information required under FAR 52.204-25(d).

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

APPENDIX II TO 2 CFR PART 200 – Contract Provision for Non-Federal Entity Contracts Under Federal Awards

(A) Contracts for more than the simplified acquisition threshold currently set at $250,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Pursuant to Federal Rule (A) above, when a Participating Agency expends federal funds, the Participating Agency reserves all rights and privileges under the applicable laws and regulations with respect to this procurement in the event of breach of contract by either party.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(B) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000)

Pursuant to Federal Rule (B) above, when a Participating Agency expends federal funds, the Participating Agency reserves the right to immediately terminate any agreement in excess of $10,000 resulting from this procurement process in the event of a breach or default of the agreement by Contractor/Supplier as detailed in the terms of the contract.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(C) **Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity**

clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 CFR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

Pursuant to Federal Rule (C) above, when a Participating Agency expends federal funds on any federally assisted construction contract, the equal opportunity clause is incorporated by reference herein.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of $2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non- Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.
Pursuant to Federal Rule (D) above, when a Participating Agency expends federal funds during the term of an award for all contracts and subgrants for construction or repair, contractor/supplier will be in compliance with all applicable Davis-Bacon Act provisions.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Pursuant to Federal Rule (E) above, when a Participating Agency expends federal funds, contractor/supplier certifies that contractor/supplier will be in compliance with all applicable provisions of the Contract Work Hours and Safety Standards Act during the term of an award for all contracts by Participating Agency resulting from this procurement process.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Pursuant to Federal Rule (F) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (F) above.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non- Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251- 1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA)

In the event Federal Transit Administration (FTA) or Department of Transportation (DOT) funding is used by Participating Public Agency, contractor/Supplier also agrees to include Clean Air and Clean Water requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

Pursuant to Federal Rule (G) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency member resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (G) above.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(H) Prohibition on Fraud, Waste, and Abuse - The contractor/supplier certifies that it will take all reasonable steps to prevent, detect, and disclose any suspected fraud, waste, or abuse of federal funds associated with this contract, consistent with applicable laws and agency guidance. Any such activity will be promptly reported to the awarding agency, pass-through entity, or the Office of Inspector General, as appropriate.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(I) Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220 cross-reference to Treasury/OMB Guidance Subpart C) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the Executive Office of the President Office of Management and Budget (OMB) guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Pursuant to Federal Rule (H) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the

contractor/supplier certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency. If at any time during the term of an award the contractor/supplier or its principals becomes debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency, the contractor/supplier will notify the Participating Agency.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(J) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

Pursuant to Federal Rule (I) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term and after the awarded term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier certifies that it is in compliance with all applicable provisions of the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). The undersigned further certifies that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

(3) The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Procurement of Recovered Materials 2 C.F.R. § 200.323 / 40 C.F.R Part 247

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable,

consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with 2 C.F.R. § 200.323

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

RECORD RETENTION REQUIREMENTS FOR CONTRACTS INVOLVING FEDERAL FUNDS

When federal funds are expended by Participating Agency for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the record retention requirements detailed in 2 CFR §§ 200.334-200.337. The contractor/supplier further certifies that contractor/supplier will retain all records as required by 2 CFR § 200.334 for a period of three years after grantees or subgrantees submit final expenditure reports or quarterly or annual financial reports, as applicable, and all other pending matters are closed.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH THE ENERGY POLICY AND CONSERVATION ACT

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6321 et seq.; 49 C.F.R. Part 18). Cross-link 2 CFR § 200.323(b)

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH BUY AMERICA PROVISIONS

To the extent purchases are made with Federal Highway Administration, Federal Railroad Administration, or Federal Transit Administration funds, contractor/supplier certifies that its products comply with all applicable provisions of the Buy America Act and agrees to provide such certification or applicable waiver with respect to specific products to any Participating Agency upon request. Purchases made in accordance with the Buy America Act must still follow the applicable procurement rules calling for free and open competition. Additionally:

(1) The Contractor agrees to comply with 49 USC 5323(j) and 49 CFR Part 661, which provide that federal funds may not be obligated unless steel, iron and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7.A general public interest waiver from the Buy America requirements applies to microprocessors, computers, microcomputers, software or other such devices, which are used solely for the purpose of processing or storing data. This general waiver does not extend to a product or device that merely contains a microprocessor or microcomputer and is not used solely for the purpose of processing or storing data. Separate requirements for rolling stock are set out at 5323(j)(2)(C) and 49 CFR 661.11.

(2) A bidder or contractor/supplier must submit to the FTA recipient the appropriate Buy America certification with all bids on FTA- funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower-tier subcontractors.

The following certificates titled FTA and DOT Buy America Certification should be completed and returned with the response as part of FTA and DOT requirements.

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT) - BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF ROLLING STOCK

CERTIFICATE OF COMPLIANCE
(select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j), and the applicable regulations of 49 CFR 661.11.
Check for YES: ☒

OR

Certificate of Non-Compliance with 49 USC §5323(j)

The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C), and the applicable regulations in 49 CFR 661.7.
Check for YES: ☒

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT)
-
BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL OR MANUFACTURED PRODUCTS

CERTIFICATE OF COMPLIANCE (select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.
Check for YES: ☐

OR

Certificate of Non-Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.
Check for YES: ☐

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Contractor/Supplier's Name: _____
Address, City, State, and Zip Code: _____
Phone Number: _____
Fax Number: _____

Printed Name and Title of Authorized Representative: _____
Email Address: _____
Signature of Authorized Representative: _____
Date: _____

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

If any portion of this project is funded with U.S Department of Transportation (DOT) funds, the contractor/supplier shall also complete a Disadvantage Business Enterprise (DBE) Certification Form in accordance with 49 C.F.R. Part 26. This requirement applies only to DOT-funded projects and is not applicable to HUD, ARPA, or Treasury-funded programs.

CERTIFICATION OF COMPLIANCE WITH BUILD AMERICA, BUY AMERICA ACT (BABA) 2 C.F.R. 184

The contractor/supplier acknowledges that certain federally funded infrastructure projects are subject to the Build America, Buy America Act (Pub. L. 117-58 §§ 70901-70927) and implementing regulations at 2 C.F.R. Part 184. When applicable, the contractor/supplier certifies that all iron, steel, manufactured products, and construction materials used in the project are produced in the United States, as required by the Act.

The contractor/supplier further agrees to provide appropriate documentation, origin certifications, or approved waivers upon request by the awarding agency or pass-through entity. Where a waiver is sought, the contractor/supplier shall support the request in writing and shall not proceed with procurement or installation of foreign materials until such waiver is granted in accordance with federal guidance.

The Build America, Buy America Act applies to all federally funded infrastructure projects, except where otherwise waived or exempted by the awarding agency.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Domestic Preference for Procurements– 2 C.F.R. § 200.322

The contractor/supplier agrees to comply with the requirements of 2 C.F.R. § 200.322, which establishes a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. To the greatest extent practicable, the contractor/supplier shall provide domestic end products, materials, and construction products that are manufactured in the United States. This preference applies to all procurements under federal awards, consistent with applicable statutes, regulations, and the Build America, Buy America Act requirements.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF ACCESS TO RECORDS – 2 C.F.R. § 200.337

Contractor/Supplier agrees that the Inspector General of the Agency or any of their duly authorized representatives shall have access to any documents, papers, or other records of contractor/supplier that are pertinent to contractor's/supplier's discharge of its obligations under the Contract for the purpose of making audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to contractor/supplier's personnel for the purpose of interview and discussion relating to such documents.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF APPLICABILITY TO SUBCONTRACTORS

Contractor/Supplier agrees that all contracts it awards pursuant to the Contract shall be bound by the foregoing terms and conditions.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Conflict of Interest - 2 C.F.R. § 200.318(c)(1)

The Contractor/supplier affirms compliance with 2 C.F.R. § 200.318(c)(1), which requires the maintenance of written standards of conduct covering conflict of interest in the selection, award, and administration of contracts. No employee, officer, agent, or subcontractor shall participate in any procurement or contract decision where a real or apparent conflict of interest exists. The contractor/supplier further agrees to disclose in writing any potential conflicts of interest to the City of Brownsville prior to award or during contract performance.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Executive Order 14173 (2025) – Anti-DEI Certification

The Contractor/supplier certifies compliance with Executive Order 14173 (2025), affirming that it operates in accordance with all applicable federal anti-discrimination laws and that no diversity, equity, or inclusion (DEI) program or policy maintained by the contractor violates such laws. The contractor/supplier acknowledges that compliance with these requirements is a material condition of this contract and that any false certification or noncompliance may subject the contractor/supplier to remedies available under the False Claims Act (31 U.S.C. §§ 3729-3733) and other applicable laws.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Civil Rights Compliance Assurance

The Contractor/supplier agrees to comply with all applicable federal civil rights laws and regulations, including Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq.), Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794), the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq.), the Age Discrimination Act of 1975 (42 U.S.C. § 6101 et seq.), and any other nondiscrimination provisions applicable to this contract. The contractor/supplier shall ensure that no person is excluded from participation in, denied the benefits of, or subjected to discrimination under this contract on the basis of race, color, national origin, sex, age, or disability.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Whistleblower Protection (41 U.S.C 4712)

The contractor/supplier shall comply with the whistleblower protections established under 41 U.S.C. 4712. Employees of contractors, subcontractors, and subrecipients are protected from reprisal for disclosing evidence of gross mismanagement, waste of federal funds, abuse of authority, or violations of law related to a federal contract or grant. The contractor/supplier must inform its employees in writing of their rights and remedies under this statute. Compliance with these protections is a material condition of this contract.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Remedies for Non-Compliance - 2 C.F.R. § 200.339

The contractor/supplier acknowledges that failure to comply with the terms and conditions of this agreement or any applicable federal requirements may result in enforcement actions as provided under 2 C.F.R. § 200.339. Remedies may include, but are not limited to, temporarily withholding payments, disallowing costs, wholly or partly suspending or terminating the contract, initiating suspension or debarment proceedings, or pursuing other legally available remedies.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Termination – 2 C.F.R. § 200.340

The contractor/supplier acknowledges that this contract may be terminated in whole or in part for cause, for convenience, or by mutual agreement, in accordance with 2 C.F.R. § 200.340. The basis for termination, applicable notice, and settlement provisions shall be clearly documented in writing.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Subrecipient Monitoring – 2 C.F.R. § 200.332

The contractor/supplier acknowledges that, when acting as a pass-through entity or subrecipient of federal funds, it must comply with the requirements of 2 C.F.R. § 200.332. The contractor/supplier shall monitor the activities of any subrecipients as necessary to ensure that federal funds are used in accordance with applicable statues, regulations, and the terms and conditions of the award. This includes performing risk assessments, issuing written subaward agreements with required flow-down clauses, reviewing financial and performance reports, and taking enforcement action when necessary to address noncompliance.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

COMMUNITY DEVELOPMENT BLOCK GRANTS

Purchases made under this contract may be partially or fully funded with federal grant funds. Funding for this work may include Federal Funding sources, including Community Development Block Grant (CDBG) funds from the U.S. Department of Housing and Urban Development. When such funding is provided, Contractor/Supplier shall comply with all terms, conditions and requirements enumerated by the grant funding source, as well as requirements of the State statutes for which the contract is utilized, whichever is the more restrictive requirement. When using Federal Funding, Contractor/Supplier shall comply with all wage and latest reporting provisions of the Federal Davis-Bacon Act. HUD-4010 Labor Provisions also applies to this contract.

In addition, the Contractor/supplier shall comply with the requirements of Section 3 of the Housing and Urban Development Act of 1968 (24 C.F.R. Part 75), ensuring, to the greatest extent feasible, that employment and contracting opportunities are directed to low- and moderate-income residents and Section 3 businesses.

If the project involves acquisition, demolition, or displacement activities, the contractor/supplier shall also comply with the Uniform Relocation Assistance and Real Property Acquisition Act (49 C.F.R. Part 24), ensuring fair compensation and relocation assistance for affected persons and property owners.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

The City of Brownsville reserves the right to request a signed or notarized certification, affidavit, or other supporting documentation for any of the provisions or clauses contained in this document at any time during the procurement process or contract term.

By signing below, the contractor/supplier certifies that all information provided in this document is true and accurate to the best of their knowledge and understand that any false statement may be subject to penalties under the False Claims Act (31 U.S.C. §§ 3729-3733).

The contractor/supplier further agrees to comply with all applicable federal, state, and local laws, rules, regulations, and ordinances. It is acknowledged that the contractor/supplier certifies compliance with all provisions, laws, acts, and regulations specifically noted above.

Contractor's/Supplier's Name: AUSTIN TRAFFIC SIGNAL CONSTRUCVTION CO LLC

Address, City, State, and Zip Code: P.O.BOX 130 ROUND ROCK, TX 78680

Phone Number: 512-255-9951 Fax Number 512-255-0146

Printed Name and Title of Authorized Representative: STEPHEN RUTLERDGE AREA MANAGER V.P.

Email Address: STEVER@ATSCC.COM

Signature of Authorized Representative: STEPHEN RUTLEDGE Date: 9-23-2026

"General Decision Number: TX20260051 05/18/2026

State: Texas

Construction Types: Highway

Counties: Texas Counties of
Cameron, Hidalgo and Webb

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

SATX2025-002 11/15/2023

	Rates	Fringes
WORK ZONE BARRICADE SERVICER	$ 15.81	0.00
WELDER	$ 21.35	0.00
TRUCK DRIVER, TRANSIT-MIX	$ 18.00	0.00
TRUCK DRIVER, TANDEM AXLE TRACTOR WITH SEMI TRAILER	$ 19.81	0.00
TRUCK DRIVER, SINGLE OR TANDEM AXLE DUMP TRUCK	$ 18.50	0.00
TRUCK DRIVER, SINGLE AXLE	$ 17.93	0.00
TRUCK DRIVER LOWBOY FLOAT	$ 27.10	0.00
SERVICER	$ 20.03	0.00
SCRAPER OPERATOR	$ 14.88	0.00
ROLLER OPERATOR, OTHER	$ 14.88	0.00
ROLLER OPERATOR, ASPHALT	$ 14.88	0.00
REINFORCING STEEL WORKER	$ 19.62	0.00
PIPELAYER	$ 15.48	0.00
MOTOR GRADER OPERATOR, ROUGH	$ 18.78	0.00
MOTOR GRADER OPERATOR, FINE GRADE	$ 21.55	0.00
MILLING MACHINE OPERATOR	$ 18.47	0.00
MECHANIC	$ 23.80	0.00
LOADER/BACKHOE OPERATOR	$ 16.37	0.00
LABORER, UTILITY	$ 16.79	0.00
LABORER, COMMON	$ 14.88	0.00
FRONT END LOADER OPERATOR, OVER 3 CY	$ 16.41	0.00
FRONT END LOADER OPERATOR, 3 CY OR LESS	$ 15.59	0.00
FORM SETTER, PAVING & CURB	$ 17.31	0.00

FORM BUILDER/SETTER, STRUCTURES.....$ 18.59 0.00
FLAGGER.....$ 14.56 0.00
EXCAVATOR OPERATOR, OVER 50,000 POUNDS.....$ 19.29 0.00
EXCAVATOR OPERATOR, 50,000 POUNDS OR LESS.....$ 18.99 0.00
CRAWLER TRACTOR OPERATOR.....$ 20.27 0.00
CRANE OPERATOR, LATTICE BOOM 80 TONS OR LESS.....$ 29.80 0.00
CONCRETE FINISHER, PAVING AND STRUCTURES.....$ 19.13 0.00
BROOM OR SWEEPER OPERATOR.....$ 15.22 0.00
ASPHALT RAKER.....$ 15.02 0.00
ASPHALT PAVING MACHINE OPERATOR.....$ 15.99 0.00
ASPHALT DISTRIBUTOR OPERATOR.....$ 19.62 0.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.
==========
Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any
solicitation was issued) on or after January 1, 2017. If this
contract is covered by the EO, the contractor must provide
employees with 1 hour of paid sick leave for every 30 hours
they work, up to 56 hours of paid sick leave each year.
Employees must be permitted to use paid sick leave for their
own illness, injury or other health-related needs, including
preventive care; to assist a family member (or person who is
like family to the employee) who is ill, injured, or has other
health-related needs, including preventive care; or for reasons
resulting from, or to assist a family member (or person who is
like family to the employee) who is a victim of, domestic
violence, sexual assault, or stalking. Additional information
on contractor requirements and worker protections under the EO
is available at
https://www.dol.gov/agencies/whd/government-contracts.

Note: Executive Order 13658 generally applies to contracts subject
to the Davis-Bacon Act that were awarded on or between January 1,
2015 and January 29, 2022, and that have not been renewed or
extended on or after January 30, 2022. Executive Order 13658 does
not apply to contracts subject only to the Davis-Bacon Related Acts
regardless of when they were awarded. If a contract is subject to
Executive Order 13658, the contractor must pay all covered workers
at least $13.65 per hour (or the applicable wage rate listed on this
wage determination, if it is higher) for all hours spent performing on
the contract from May 11, 2026, through December 31, 2026. The
applicable Executive Order minimum wage rate will be adjusted annually.
Additional information on contractor requirements and worker
protections under Executive Order 13658 is available at

www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications
and wage rates that have been found to be prevailing for the
type(s) of construction and geographic area covered by the wage
determination. The classifications are listed in alphabetical
order under rate identifiers indicating whether the particular
rate is a union rate (current union negotiated rate), a survey
rate, a weighted union average rate, a state adopted rate, or a
supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than
�SU�, �UAVG�, �SA�, or �SC� denotes that a union rate was
prevailing for that classification in the survey. Example:
PLUM0198-005 07/01/2024. PLUM is an identifier of the union
whose collectively bargained rate prevailed in the survey for
this classification, which in this example would be Plumbers.
0198 indicates the local union number or district council
number where applicable, i.e., Plumbers Local 0198. The next
number, 005 in the example, is an internal number used in
processing the wage determination. The date, 07/01/2024 in the
example, is the effective date of the most current negotiated
rate.

Union prevailing wage rates are updated to reflect all changes
over time that are reported to WHD in the rates
in the collective bargaining agreement (CBA) governing the
classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for
those classifications, but that 100% of the data reported for
the classifications reflected union rates. EXAMPLE:
UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a
weighted union average rate. OH indicates the State of Ohio.
The next number, 0010 in the example, is an internal number
used in producing the wage determination. The date, 01/01/2024
in the example, indicates the date the wage determination was
updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to

reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ◆SU◆ identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

◆SU◆ wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ◆SA◆ identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ◆SA◆ identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

"

Docusign Envelope ID: F12C2DFD-5E0C-8BCE-81A9-64E10A50B59F

Exhibit W

600 W. Interstate 2 | Pharr, Texas 78577
956.702.6100
txdot.gov

August 20, 2026

The Honorable Mayor John Cowen, Jr.
City of Brownsville
1001 E. Elizabeth Street
Brownsville, TX, 78522-0911

RE: Concurrence to Award
International Blvd. Traffic Signal Improvement
CSJ: 0039-11-002

Dear Mayor Cowen,

We have completed our review of the bid package and analysis that was included with the City of Brownsville letter dated July 23, 2026, and do concur with awarding the contract to Austin Traffic Signal Construction CO. with their low bid amount of $4,404,513.30. The City of Brownsville may now award the contract and move forward with construction operations.

Mr. Isaac Lucio out of the San Benito Area Office will serve as the construction project manager and will be your point of contact from this point forward. Please work directly with him to ensure all requirements are met for you to receive the federal/state funding participation outlined in the Advance Funding Agreement. In addition, and as a reminder, the local government construction procedures that the City of Brownsville will need to follow can be found at https://www.txdot.gov/business/resources/lgp/toolkit.html

Docusign Envelope ID: F12C2DFD-5E0C-8BCE-81A9-64E10A50B59F

If you have any questions, feel free to call me or our Traffic Section Engineering Supervisor Ms. Nayely Parra, P.E. at (956) 702-6152.

Sincerely,

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...

Pedro R. Alvarez, P.E.
Pharr District Engineer

Cc: Alan Guard, ICMA-CM, CGFO, City Manager, City of Brownsville
Doroteo Garcia Jr., P.E., Assistant City Manager, City of Brownsville
Carlos Lastra, P.E., City Engineer, City of Brownsville
Lucio S. Gutierrez, P.E., Traffic Manager, City of Brownsville, RPIC City of Brownsville
Rex A. Costley, P.E., Pharr Deputy District Engineer
Norma Y. Garza, P.E., Pharr District Director of Transportation Planning & Development
Gabriel I. Garcia, P.E., Pharr District Director of Transportation Operations
Andres Espinoza, P.E., San Benito Area Engineer
Beethoven Garcia, P.E., Pharr District Advanced Project Delivery Supervisor
Nayely Parra, P.E., Pharr District Traffic Section Supervisor
Gabriel Villarreal, P.E., San Benito Assistant Area Engineer
Eligio Alvarez, P.E., TxDOT Project Manager, Pharr District Traffic Section
Isaac Lucio, TxDOT Project Manager, San Benito Area Office

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Carlos Lastra, City Engineer
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to Authorize a Contract with The Levy Company in the amount of $7,134,576.30 for the Contract No #144-26-EPW-IFB on Traffic Signals Communication Development, for a term of 260 days commencing upon approval. (Engineering and Public Works Department).

Summary:
This project will establish a citywide communications network for the City's traffic signal system, providing remote connectivity to signalized intersections and allowing staff to monitor system operations, identify equipment or communication failures, and respond to operational issues more efficiently. Each connected intersection will utilize an independent wireless communication link, providing an additional layer of communications redundancy to the City's planned fiber-optic network and improving the resiliency and reliability of traffic signal operations.

The project will also deploy roadside communication technology to support communication between signalized intersections and properly equipped emergency vehicles. This capability will support emergency vehicle priority and preemption strategies, helping Fire and EMS vehicles travel through signalized intersections more safely and efficiently during emergency response.The contract term shall be 260 calendar days, commencing upon issuance of the Notice to Proceed, or as otherwise established in the executed contract documents.

Project Scope and Analysis:
The Traffic Signal Communication Development Project will deploy communications, monitoring, and connected-vehicle infrastructure throughout the City's traffic signal network to improve system reliability, operational awareness, emergency response, and future transportation technology capabilities.

The project includes the installation and integration of the following major system components:

1. Field Monitoring Units (FMUs) at 186 locations to provide traffic signal equipment monitoring and operational status information.

2. Roadside Units (RSUs) at 198 locations to provide connected-vehicle communications capabilities, including support for properly equipped emergency vehicles.

3. Ethernet switches, private 5G communication gateways, and antennas at 186 locations to establish wireless connectivity and support secure transmission of traffic signal system data and video communications.

The project will provide an independent communications path for individual intersections while complementing the City's planned fiber-optic infrastructure. This architecture will provide communications redundancy and improve the resiliency, monitoring capability, and long-term scalability of the City's traffic signal network.

Funding Source: 812-8112-848-581 – Special Projects: Traffic Signal Communication Development

Contract Amount: $7,134,576.30

Grant Award / Participating Project Amount: $4,579,000.00

TxDOT Funding (80%): $3,663,200.00

Required City Local Match (20%): $915,800.00

City-Funded Project Overrun: $2,555,576.30

Total City Contribution: $3,471,376.30

The total contract amount of $7,134,576.30 exceeds the grant award of $4,579,000.00 by $2,555,576.30. Under the grant funding structure, TxDOT will provide $3,663,200.00, representing 80% of the participating project amount, and the City's required 20% local match is $915,800.00.

The $2,555,576.30 project overrun is not covered by the grant and will be funded by the City. Therefore, the City's total contribution to the contract is $3,471,376.30, consisting of the required $915,800.00 local match plus the $2,555,576.30 project overrun.

Funding:

Source: 812-8112-848-581 Special Projects Traffic Signal Communication Dev

Amount: $7,134,576.30

Local Contribution if Applicable: $3,471,376.30

Recommendation:

The Engineering and Public Works Department recommends approval and authorization to execute Contract No. 144-26-EPW-IFB with The Levy Company, LLC, in the amount of $7,134,576.30, for the Traffic Signal Communication Development Project.

Commission Pillar:
Infrastructure

Attachments:
1. Coob Fendley - Bid Recommendation Letter - 0921 - 06 - 399
2. TxDOT Concurrence to Award Letter - CSJ0921-06-399
3. Procurement Analysis 144-26-EPW-IFB 1
4. 144-26-EPW-IFB- Brownsville Traffic Signals- Levy Company (Legal)

CobbFendley

July 22, 2026

Eduardo Torres, MBA, CTCD
Buyer-City of Brownsville
City of Brownsville | Procurement Division
1001 E. Elizabeth St
Brownsville, Texas 78520

Re: Brownsville Traffic Signals Communication Development (CSJ 0921-06-399)
Solicitation No. 144-26-EPW-IFB
BID RECOMMENDATION LETTER

Dear Mr. Torres:

CobbFendley is in receipt of the bid tabulation in accordance with Article 2.14 "Tabulation for Bids" of TxDOT's Standard Specifications for the above-mentioned project and offers the following Bid Analysis. A total of three(3) bids were received on May 28, 2026.

CobbFendley developed the Bid Analysis spreadsheet for the project and populated it with each item description, unit, estimated quantity, unit price and total cost. The total cost for each item was obtained by multiplying the estimated quantity by the unit price. The total cost for the project was obtained by adding up each total cost for all the items.

The official bid amounts, which are summarized below ranged from 69.3% to 91.6% above the engineer's estimate from March 2026. The complete evaluation of the bids is on the attached Bid Tabulation.

Engineer's Estimate - Brownsville Traffic Signals Communication Development

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	The Levy Company, LLC	$ 7,134,576.30	69.3%
Bidder #2	ATS Construction Co. LLC	$ 7,553,560.00	79.2%
Bidder #3	Econolite Systems, Inc.	$ 8,076,959.26	91.6%

Bidder #1 - The Levy Company, LLC
Based on the bids analysis spreadsheet, Bidder #1 was the lowest responsive and responsible bidder. CobbFendley confirmed The Levy Company, LLC's total summation is $7,134,576.30.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
3	TMA (MOBILE OPERATION)	HR	198	$ 6.85	$ 100.00	-93.2%
4	FURNISH & INSTALL FIELD MONITORING UNIT	EA	186	$ 22,300.00	$ 3,000.00	643.3%

The reason for Item 4 being more than 50% higher than the Engineer's Estimate is due to an inflated unit cost.

Bidder #2 - ATS Construction Co. LLC

Based on the bids analysis spreadsheet, Bidder #2 was a higher bidder. CobbFendley confirmed ATS Construction Co. LLC's total summation is $7,553,560.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 3 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
1	MOBILIZATION	LS	1	$ 85,000.00	$ 383,158.80	-77.8%
3	TMA (MOBILE OPERATION)	HR	198	$ 245.00	$ 100.00	145.0%
4	FURNISH & INSTALL FIELD MONITORING UNIT	EA	186	$ 24,000.00	$ 3,000.00	700.0%

The reason for Item 3 and Item 4 being more than 50% higher than the Engineer's Estimate is due to inflated unit costs.

Bidder #3 - Econolite Systems, Inc.

Based on the bids analysis spreadsheet, Bidder #3 was a higher bidder. CobbFendley confirmed Econolite Systems, Inc's total summation is $8,076,959.26.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
4	FURNISH & INSTALL FIELD MONITORING UNIT	EA	186	$ 18,927.43	$ 3,000.00	530.9%
6	FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY	EA	186	$ 13,140.28	$ 7,900.00	66.3%

The reason for Item 4 and Item 6 being more than 50% higher than the Engineer's Estimate is due to inflated unit costs.

Since this project has portions within State ROW and federal funds are being utilized, it must follow the TxDOT requirements for TxDOT Prequalification. This project requires a TxDOT Confidential Questionnaire Prequalification since the project cost is above $300,000 and as outlined on TxDOT's website:

https://www.txdot.gov/business/road-bridge-maintenance/contract-letting/contractor-prequalification.html

Bidder #1 was determined to be TxDOT Prequalified under the Confidential Questionnaire. Based on the submitted bids and our corresponding analysis, we recommend that Bidder #1 Levy Company, LLC be awarded a contract not to exceed $7,134,576.30.

This is the first bid opening. The bids were acceptable and there is no reason to rebid due to the low turnout of contractors.

Thank you for the opportunity to assist you with this project and should you have any questions or concerns, please feel free to contact me via email at bcastille@cobbfendley.com or via phone at 713-485-8234.

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC



Brian Castille, P.E., PTOE
Traffic Department Manager | Principal

Attachment: Bid Tabulation

Bid No:	144-26-EPW-IFB
Project:	0921-06-399

						ATS Construction Co. LLC		Econolite Systems, Inc.		The Levy Company, LLC		CobbFendley EOPCC	
						Total Price	$7,553,560.00	Total Price	$8,076,959.26	Total Price	$7,134,576.30	Total Price	$4,214,746.80
Line #	Description	Mfgr	Mfgno	QTY	UOM	Estimated	Unit	Extended	Unit	Extended	Unit	Extended	Unit Price	Total
1	MOBILIZATION			1	LS		$85,000.00	$85,000.00	$229,780.06	$229,780.06	$240,000.00	$240,000.00	$383,158.80	$383,158.80
2	BARRICADES, SIGNS AND TRAFFIC HANDLING			6	MO		$4,590.00	$27,540.00	$1,273.68	$7,642.08	$4,600.00	$27,600.00	$3,500.00	$21,000.00
3	TMA (MOBILE OPERATION)			198	HR		$245.00	$48,510.00	$70.93	$14,044.14	$6.85	$1,356.30	$100.00	$19,800.00
4	FURNISH & INSTALL FIELD MONITORING UNIT			186	EA		$24,000.00	$4,464,000.00	$18,927.43	$3,520,501.98	$22,300.00	$4,147,800.00	$3,000.00	$558,000.00
5	FURNISH & INSTALL ROAD SIDE UNIT			198	EA		$4,800.00	$950,400.00	$5,243.23	$1,038,159.54	$5,300.00	$1,049,400.00	$5,000.00	$990,000.00
6	FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY			186	EA		$6,000.00	$1,116,000.00	$13,140.28	$2,444,092.08	$5,400.00	$1,004,400.00	$7,900.00	$1,469,400.00
7	FURNISH & INSTALL P5G GATEWAY			186	EA		$3,685.00	$685,410.00	$3,128.79	$581,954.94	$3,000.00	$558,000.00	$2,500.00	$465,000.00
8	ANTENNA(OMNI-DIRECTIONAL)			186	EA		$950.00	$176,700.00	$1,294.54	$240,784.44	$570.00	$106,020.00	$1,658.00	$308,388.00
					MOBILIZATION %		1.1%		2.8%		3.4%		9%	

TOTALS		$ 7,553,560.00	$ 8,076,959.26	$ 7,134,576.30	$4,214,746.80
	Δ	$ 3,338,813.20	$ 3,862,212.46	$ 2,919,829.50	
%DIFFERENCE		79.2%	91.6%	69.3%	

% Difference for Each Line Item		
-77.8%	-40.0%	-37.4%
31.1%	-63.6%	31.4%
145.0%	-29.1%	-93.2%
700.0%	530.9%	643.3%
-4.0%	4.9%	6.0%
-24.1%	66.3%	-31.6%
47.4%	25.2%	20.0%
-42.7%	-21.9%	-65.6%

% Difference for Each Total Bid		
79.2%	91.6%	69.3%

Docusign Envelope ID: 18875CA0-70B3-86F7-80CD-72FBC022323C

600 W Interstate 2 | Pharr, Texas 78577
956.702.6100
txdot.gov

August 21, 2026

The Honorable Mayor John Cowen, Jr.
City of Brownsville
1001 E. Elizabeth Street
Brownsville, TX, 78522

RE: Concurrence to Award
Brownsville Traffic Signals Communication Development
CSJ: 0921-06-399

Dear Mayor Cowen,

We have completed our review of the bid package and analysis that was included with the City of Brownsville letter dated July 23, 2026, and do concur with awarding the contract to The Levy Company, INC. with their low bid amount of $7,134,576.30. The City of Brownsville may now award the contract and move forward with construction operations.

Mr. Victor Santos out of the San Benito Area Office will serve as the construction project manager and will be your point of contact from this point forward. Please work directly with him to ensure all requirements are met for you to receive the federal/state funding participation outlined in the Advance Funding Agreement. In addition, and as a reminder, the local government construction procedures that the City of Brownsville will need to follow can be found at
https://www.txdot.gov/business/resources/lgp/toolkit.html

Docusign Envelope ID: 18875CA0-70B3-86F7-80CD-72FBC022323C

If you have any questions, feel free to call me or our Traffic Section Engineering Supervisor Ms. Nayely Parra, P.E. at (956) 702-6152.

Sincerely,

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...

Pedro R. Alvarez, P.E.
Pharr District Engineer

Cc: Alan Guard, ICMA-CM, CGFO, City Manager, City of Brownsville
Doroteo Garcia Jr., P.E., Assistant City Manager, City of Brownsville
Carlos Lastra, P.E., City Engineer, City of Brownsville
Lucio S. Gutierrez, P.E., Traffic Manager, City of Brownsville, RPIC City of Brownsville
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Norma Y. Garza, P.E., Pharr District Director of Transportation Planning & Development
Gabriel I. Garcia, P.E., Pharr District Director of Transportation Operations
Andres Espinoza, P.E., San Benito Area Engineer
Beethoven Garcia, P.E., Pharr District Advanced Project Delivery Supervisor
Nayely Parra, P.E., Pharr District Traffic Section Supervisor
Gabriel Villarreal, P.E., San Benito Assistant Area Engineer
Jose L. Mena, P.E., TxDOT Project Manager, Pharr District Traffic Section
Victor Santos, TxDOT Project Manager, San Benito Area Office

PROCUREMENT ANALYSIS

Date: Monday, September 28, 2026
To: Mr. John Cowen Jr., City Mayor
From: Mr. Alan Guard, City Manager
CC: Mr. Damian Espinoza, Procurement Director
Mrs. Maribel Guerrero, Engineering & Public Works Director

Agenda Title:
Agenda Item for the City Commission meeting of Tuesday, October 6, 2026.
"Consideration and Action to Authorize a Contract with The Levy Company, LLC in the amount of $7,134,576.30 for Contract No. 144-26-EPW-IFB, for a term of 220 Consecutive Calendar Days for Traffic Signal Communication Improvements (Engineering and Public Works Department)."

Executive Summary:

- Department: Engineering and Public Works Department
- Procurement Method: IFB
- Submittals Received: Three (3)
- Contract Number: 144-26-EPW-IFB
- Vendor: The Levy Company LLC.
- Contract Amount: $7,134,576.30
- Term: 220 Consecutive Calendar Days

Background:
The Engineering and Public Works Department is seeking to improve the City's traffic signal communication infrastructure through the installation and integration of communications and monitoring equipment.

Procurement Process:
The Procurement Department issued an IFB in compliance with the Texas Local Government Code. The solicitation was advertised in the local newspaper and posted on the City's electronic bidding platform. Three (3) bids were received.

This procurement is governed by the following statute:

- **IFB (Competitive Sealed Bidding): Texas Local Government Code Chapter 252, Subchapter C – Competitive Sealed Bidding (§252.041).**

Results:
A total of three bids were received. After review, The Levy Company, LLC submitted the lowest responsive and responsible bid at $7,134,576.30. The bid tabulation is provided as Exhibit A.

Vendor Information:
The Levy Company, LLC
16294 IH 35 North, Selma, TX 78154
Point of Contact: Russell Perry, President
Phone/Email: (210) 497-4500 | bids@levycompany.com

Exhibits & Supporting Documents:
- IFB: Exhibit A – Bid Tab (lowest responsive/responsible bidder).
- All Methods: 1295, other relevant documentation.

Recommendation:
The Procurement Department recommends that the City Commission authorize a contract with The Levy Company LLC under formal solicitation IFB, in a total amount not to exceed $$7,134,576.30, for a base term of 220 Consecutive Calendar Days.

Approval of this agenda item will authorize the full contract value.

CobbFendley

July 22, 2026

Eduardo Torres, MBA, CTCD
Buyer-City of Brownsville
City of Brownsville | Procurement Division
1001 E. Elizabeth St
Brownsville, Texas 78520

Re: Brownsville Traffic Signals Communication Development (CSJ 0921-06-399)
Solicitation No. 144-26-EPW-IFB
BID RECOMMENDATION LETTER

Dear Mr. Torres:

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Bidder #1 was determined to be TxDOT Prequalified under the Confidential Questionnaire. Based on the submitted bids and our corresponding analysis, we recommend that Bidder #1 Levy Company, LLC be awarded a contract not to exceed $7,134,576.30.

This is the first bid opening. The bids were acceptable and there is no reason to rebid due to the low turnout of contractors.

Thank you for the opportunity to assist you with this project and should you have any questions or concerns, please feel free to contact me via email at bcastille@cobbfendley.com or via phone at 713-485-8234.

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC



Brian Castille, P.E., PTOE
Traffic Department Manager | Principal

Attachment: Bid Tabulation

Bid No:	144-26-EPW-IFB
Project:	0921-06-399

Line #	Description	Mfgr	Mfgno	QTY	UOM	Estimated	ATS Construction Co. LLC Total Price Unit	ATS Construction Co. LLC $7,553,560.00 Extended	Econolite Systems, Inc. Total Price Unit	Econolite Systems, Inc. $8,076,959.26 Extended	The Levy Company, LLC Total Price Unit	The Levy Company, LLC $7,134,576.30 Extended	CobbFendley EOPCC Total Price Unit Price	CobbFendley EOPCC $4,214,746.80 Total
1	MOBILIZATION			1	LS		$85,000.00	$85,000.00	$229,780.06	$229,780.06	$240,000.00	$240,000.00	$383,158.80	$383,158.80
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% Difference for Each Line Item		
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% Difference for Each Total Bid		
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CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1520164

Date Filed:
09/23/2026

Date Acknowledged:
09/28/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

The Levy Company, LLC
Selma, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

The City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

144-26-EPW-IFB
Traffic Signal Communication Development

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

Docusign Envelope ID: 18875CA0-70B3-86F7-80CD-72FBC022323C

600 W Interstate 2 | Pharr, Texas 78577
956.702.6100
txdot.gov

August 21, 2026

The Honorable Mayor John Cowen, Jr.
City of Brownsville
1001 E. Elizabeth Street
Brownsville, TX, 78522

RE: Concurrence to Award
Brownsville Traffic Signals Communication Development
CSJ: 0921-06-399

Dear Mayor Cowen,

We have completed our review of the bid package and analysis that was included with the City of Brownsville letter dated July 23, 2026, and do concur with awarding the contract to The Levy Company, INC. with their low bid amount of $7,134,576.30. The City of Brownsville may now award the contract and move forward with construction operations.

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Docusign Envelope ID: 18875CA0-70B3-86F7-80CD-72FBC022323C

If you have any questions, feel free to call me or our Traffic Section Engineering Supervisor Ms. Nayely Parra, P.E. at (956) 702-6152.

Sincerely,

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...

Pedro R. Alvarez, P.E.
Pharr District Engineer

Cc: Alan Guard, ICMA-CM, CGFO, City Manager, City of Brownsville
Doroteo Garcia Jr., P.E., Assistant City Manager, City of Brownsville
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Lucio S. Gutierrez, P.E., Traffic Manager, City of Brownsville, RPIC City of Brownsville
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Nayely Parra, P.E., Pharr District Traffic Section Supervisor
Gabriel Villarreal, P.E., San Benito Assistant Area Engineer
Jose L. Mena, P.E., TxDOT Project Manager, Pharr District Traffic Section
Victor Santos, TxDOT Project Manager, San Benito Area Office

Contract Summary Form
Contract Number 144-26-EPW-IFB

Procurement Info	
Procurement Method:	**IFB, RFP, RFQ**
New Contract:	**Yes ☒ No ☐**
Advertisement Dates, if any:	**May 2, 2026 and May 9, 2026**
Award Date:	
Contractor	
Vendor Name:	The Levy Company, LLC
Address:	16294 IH 35 North, Selma, TX 78154
Point of Contact / Project Manager*:	Russell Perry
Email Address:	bids@levycompany.com
City Contact Information	
Department:	**Engineering and Public Works**
Point of Contact / Project Manager:	Lucio Gutierrez
Email Address:	Lucio.Gutierrez@brownsvilletx.gov
Contract Term	
Contract Amount:	$7,134,576.30
Contract Base/Primary Term:	220 Consecutive Calendar Days
Renewal Periods (if any):	NA
Total Term of Contract:	220 Consecutive Calendar Days
City Internal Use	
Signature Sections	**Page: 13**
State or Federal Funds:	**Yes ☒ No ☐**
GL Account:	

CONTRACT FOR:
BROWNSVILLE TRAFFIC SIGNALS COMMUNICATION DEVELOPMENT

A. AGREEMENT

This Agreement is made by and between:

the Owner ("Owner" or "City"): The City of Brownsville
1001 E. Elizabeth St., P.O. Box 911
Brownsville, Texas 78520

and the Contractor ("Contractor"): The Levy Company, LLC
16294 IH 35 North
Selma, Texas 78154

for the following Project ("Project"): IFB #: 144-26-EPW-IFB
Brownsville (Multiple Locations)

Each individually referred to as a "Party" and collectively referred to as the "Parties". Owner and Contractor, in consideration of the covenants contained herein, and for the mutual benefits to be obtained hereby, the parties hereto agree as follows:

B. CONTRACT DOCUMENTS

The Contractor shall complete the Work described in the Contract Documents for the project. The Contract Documents consist of the following Exhibits:

A. This Agreement;
B. Notice of Award;
C. Invitation For Bids (IFB) #;144-26-EPW-IFB
D. Addenda, as indicated in the IFB;
E. Original Proposal submittal;
F. Bid Tabulation;
G. Plans;
H. Specifications and Special Provisions;
I. General Conditions;
J. Supplementary Conditions;
K. Special Conditions;
L. Certificates of Insurance;
M. Form 2 – Statement of Conflict of Interest
N. Form 3 – Texas Ethics Commission Certificate of Interested Parties
O. Form 14 – SAM Record
P. Form 12 – State of Texas Child Support Business Ownership Form
Q. Confirmation Vendor is Pre-Qualified TxDOT Vendor
R. Payment Bond; (Added after City Commission Approval)
S. Performance Bond; (Added after City Commission Approval)

T. Written Change Orders issued after execution of this Agreement,
U. Federal Clauses
V. Davis-Bacon Prevailing Wage Determination
W. TXDOT Letter of Concurrence

which are attached hereto and incorporated herein, and made a part of this Agreement for all purposes. The Contract Documents represent the entire and integrated agreement between the Owner and the Contractor and supersede all prior negotiations, representations, or agreements, either oral or written. This Agreement may be amended only by written instrument signed by both the Owner and the Contractor. In the event of an inconsistency or conflict in any of the provisions of the Contract Documents, then the inconsistency or conflict shall be resolved by giving precedence first to this Agreement then to the Contract Documents in the order in which they are listed above.

C. WORK

Contractor shall complete all Work as specified or indicated in the Contract Documents for the Project identified herein.

D. PROJECT

The Project is the total construction for which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors, and is generally defined as IFB #: 144-26-EPW-IFB

E. CONTRACT PRICE; PAYMENT TERMS

Owner agrees to pay Contractor for performance of the Work in accordance with the Contract Documents the guaranteed maximum price of **PROJECT COST ($7,134,576.30)** (hereinafter "Guaranteed Maximum Price" or "GMP"). Guaranteed Maximum Price includes all costs incurred by Contractor, including but not limited to Costs of Work (including among others, labor, equipment, materials, fees, inspections, and permits), construction contingency amount, and Contractor's overhead, all bond financing, profit, price escalation and market price variations. Nothing contained in this Agreement shall require the Owner to pay Contractor an aggregate amount that exceeds the Guaranteed Maximum Price or to make any payment if, in the Owner's belief, the cost to complete the Work would exceed the Guaranteed Maximum Price. Change orders may be approved in writing by Owner for increased costs needed for refinement, development and completion of the Project. However, the maximum allowable amount of change orders payable to the Project shall not exceed twenty-five percent (25%) of the Guaranteed Maximum Price for the Project.

The Owner shall pay within ***thirty (30) days*** for completed work in monthly draws, less 10% retainage, upon receipt of an acceptable invoice. Invoices shall be in standard form, Application and Certificate for Payment, and shall be accompanied by signed Conditional Release of Liens

forms from each applicable subcontractor and supplier.

Retainage shall be paid within in thirty (30) days of receipt of an acceptable Final Invoice. The final Application for Payment shall be accompanied by signed Final Release and Waiver of Liens forms from all subcontractors and suppliers.

F. CONTRACT TIME

The Contract Time will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 14 days after the Effective Date of the Agreement, and shall substantially complete the Work within 220 consecutive calendar days as identified in the Bid package.

G. LIQUIDATED DAMAGES

Contractor recognizes that time is of the essence for completion of the Work, and to achieve Final Acceptance of the Work, and City will suffer financial loss if the Work is not completed within the time(s) specified herein. The Contractor also recognizes the delays, expense and difficulties involved in proving in a legal proceeding, the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, Contractor agrees that as liquidated damages for delay (but not as a penalty), Contractor shall pay City **One Thousand Dollars ($1000.00)** for each day that expires after the time specified in Paragraph F above, for Final Acceptance until the City issues the Final Letter of Acceptance.

H. INSPECTION AND FINAL ACCEPTANCE

The City's inspection and acceptance of contractual compliance will be accomplished by an engineering Inspector of the engineering Department. The City reserves the right to reject unsatisfactory work within a 24-hour period. Contractors have 48 hours to correct unacceptable work. (To be corrected during regular working days, holidays or weekends.)

Prior to beginning work, the Contractor shall provide to the City a Schedule of Values related to the Work, which shall be used for purposes of periodic payments.

The Contract Sum shall include all materials, supplies, tools, equipment, permits, perimeter fencing, portable restrooms, construction debris container(s), supervision and labor necessary for the proper prosecution and completion of the Work.

The Contractor warrants that the completed Project shall be adequate for the purposes intended.

I. INDEMNIFICATION

(a) CONTRACTOR COVENANTS AND AGREES TO FULLY INDEMNIFY, DEFEND AND HOLD HARMLESS, THE CITY AND THE ELECTED OFFICIALS, EMPLOYEES, OFFICERS, DIRECTORS, VOLUNTEERS AND REPRESENTATIVES OF THE CITY, INDIVIDUALLY AND COLLECTIVELY, FROM AND AGAINST ANY AND ALL

COSTS, CLAIMS, LIENS, DAMAGES, LOSSES, EXPENSES, FEES, FINES, PENALTIES, PROCEEDINGS, ACTIONS, DEMANDS, CAUSES OF ACTION, LIABILITY AND SUITS OF ANY KIND AND NATURE, INCLUDING BUT NOT LIMITED TO, PERSONAL OR BODILY INJURY, DEATH AND PROPERTY DAMAGE, MADE UPON THE CITY DIRECTLY OR INDIRECTLY ARISING OUT OF, RESULTING FROM OR RELATED TO CONTRACTOR'S ACTIVITIES UNDER THIS AGREEMENT, INCLUDING ANY ACTS OR OMISSIONS OF CONTRACTOR, ANY AGENT, OFFICER, DIRECTOR, REPRESENTATIVE, EMPLOYEE, CONSULTANT OR SUBCONTRACTOR OF CONTRACTOR, AND THEIR RESPECTIVE OFFICERS, AGENTS EMPLOYEES, DIRECTORS AND REPRESENTATIVES WHILE IN THE EXERCISE OF THE RIGHTS OR PERFORMANCE OF THE DUTIES UNDER THIS AGREEMENT. THIS INDEMNIFICATION PROVISION IS SPECIFICALLY INTENDED TO OPERATE AND BE EFFECTIVE EVEN IF IT IS ALLEGED OR PROVEN THAT ALL OR SOME OF THE DAMAGES BEING SOUGHT WERE CAUSED, IN WHOLE OR IN PART, BY ANY ACT, OMISSION OR NEGLIGENCE OF THE CITY. THIS INDEMNITY PROVISION IS INTENDED TO INCLUDE, WITHOUT LIMITATION, INDEMNITY FOR COSTS, EXPENSES AND LEGAL FEES INCURRED BY THE CITY IN DEFENDING AGAINST SUCH CLAIMS AND CAUSES OF ACTIONS. IN THE EVENT CONTRACTOR AND CITY ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY SHALL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS FOR THE STATE OF TEXAS, WITHOUT, HOWEVER, WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE CITY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.

(b) THE PROVISIONS OF THIS INDEMNITY ARE SOLELY FOR THE BENEFIT OF THE PARTIES HERETO AND NOT INTENDED TO CREATE OR GRANT ANY RIGHTS, CONTRACTUAL OR OTHERWISE, TO ANY OTHER PERSON OR ENTITY. CONTRACTOR SHALL ADVISE THE CITY IN WRITING WITHIN 24 HOURS OF ANY CLAIM OR DEMAND AGAINST THE CITY OR CONTRACTOR KNOWN TO CONTRACTOR RELATED TO OR ARISING OUT OF CONTRACTOR'S ACTIVITIES UNDER THIS AGREEMENT, AND SHALL SEE TO THE INVESTIGATION AND DEFENSE OF SUCH CLAIM OR DEMAND AT CONTRACTOR'S COST. THE CITY SHALL HAVE THE RIGHT, AT ITS OPTION AND AT ITS OWN EXPENSE, TO PARTICIPATE IN SUCH DEFENSE WITHOUT RELIEVING CONTRACTOR OF ANY OF ITS OBLIGATIONS UNDER THIS PARAGRAPH.

(c) This Indemnification provision shall survive termination or expiration of the Agreement.

J. **INDEPENDENT CONTRACTOR; PERSONNEL**

(a) Contractor enters into this Agreement as, and shall continue to be, an independent contractor. All Services shall be performed only by Contractor and Contractor's employees. Specifically, Contractor must perform within its own organization, work equivalent to at least thirty-five (35) percent of the Contract Price, unless otherwise approved by the City. Subject to and in accordance with the conditions and provisions of this Agreement, Contractor shall have the exclusive right to

control the details of its operations and activities and be solely responsible for the acts and omissions of its officers, agents, servants, employees, consultants and subcontractors. Under no circumstances shall Contractor, or any of Contractor's employees, look to City as his/her employer, or as a partner, agent or principal. Neither Contractor, nor any of Contractor's employees, shall be entitled to any benefits accorded to City's employees, including without limitation worker's compensation, disability insurance, vacation or sick pay. Contractor shall be responsible for providing, at Contractor's expense, and in Contractor's name, unemployment, disability, worker's compensation and other insurance, as well as any and all licenses and permits usual or necessary for conducting the Services. Contractor shall be responsible for paying all applicable local, state and federal taxes.

(b) Contractor represents and warrants to City that its employees performing Work hereunder will have sufficient expertise, training, licensure (if applicable) and experience to accomplish the Work for the Project.

(c) Contractor shall not subcontract any portion of the work required by this Agreement, except as provided in the Contract Documents. City may terminate this Agreement, effective immediately, if there is any assignment, or attempted assignment, transfer, or encumbrance, by Contractor of this Agreement or any right or interest herein without City's written consent. In the event Contractor engages any subcontractor in the performance of this Agreement, Contractor shall ensure that all of Contractor's subcontractors perform in accordance with the terms and conditions of this Agreement. Contractor shall be fully responsible for all of Contractor's subcontractors' performance, and liable for any of Contractor's subcontractors' non-performance and all of Contractor's subcontractors' acts and omissions.

K. INSURANCE

(a) The Contractor shall furnish proof of insurance requirements as indicated below. The coverage is to remain in force at all times during the contract period. The following minimum insurance coverage is required. The commercial general liability insurance policy shall name the City of Brownsville, Texas, as an "additional insured." This MUST be written in the description section of the insurance certificate, even if there is a check-off box on the insurance certificate. Any costs for adding the City as "additional insured" shall be at the Contractor's expense.

(b) The City of Brownsville shall be given notice ten (10) days prior to cancellation or modification of any required insurance. The insurance provided shall be endorsed or amended to comply with this notice requirement. In the event that the insurer is unable to accommodate, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested and addressed to the Purchasing & Contract Services Department located at City Hall, 1001 E. Elizabeth St. 1st Floor Suite 101.

(c) The Contractor's insurance must be provided by an A.M. Best's "A-"rated or better insurance company authorized to issue insurance policies in the State of Texas, subject to approval by the City of Brownsville Department of Safety and Risk Management. Any exclusions or provisions in the insurance maintained by the Contractor that excludes coverage for work contemplated in this solicitation shall be deemed unacceptable, and shall be considered breach of contract.

i. Workers' Compensation and Employers' Liability Insurance

Contractor shall purchase and maintain such insurance coverage with limits consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Texas Labor Code, Ch. 406, as amended), and minimum limits for Employers' Liability as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of I Contractor' s employees. Any firm performing work for or on behalf of the City of Brownsville must provide Workers' Compensation insurance.

ii. General Liability Insurance

Covering premises-operations, products-completed operations, independent contractors and contractual liability.

Limits: Combined single limit bodily injury/property damage $1,000,000.

This coverage must include, but not limited to:

1. Coverage for the liability assumed by the Contractor under the indemnity provision of the contract.
2. Coverage for Premises/Operations
3. Products/Completed Operations
4. Broad Form Contractual Liability
5. Independent Contractors

iii. Commercial Automobile Liability Insurance

Covering all owned, hired and non-owned automobile equipment.

Limits:	Bodily injury	$250,000 each person, $500,000 each occurrence
	Property damage	$100,000 each occurrence

This insurance shall be kept in force until the work under this Agreement has been completed and accepted by the City. The City shall be listed as Additional Insured under the policy.

L. **TERMINATION**

(a) *Termination for Cause.* The aggrieved party may terminate this Agreement for cause if the party in breach has not corrected the breach within ten (10) days after written notice from the aggrieved party identifying the breach. The City Manager may also terminate this Agreement upon such notice as the City Manager deems appropriate under the circumstances in the event the City Manager determines that termination is necessary to protect the public health or safety. The parties agree that if the City erroneously, improperly or unjustifiably terminates for cause, such

termination shall be deemed a termination for convenience, which shall be effective thirty (30) days after such notice of termination for cause is provided.

This Agreement may be terminated for cause for reasons including, but not limited to, Contractor's repeated (whether negligent or intentional) submission for payment of false or incorrect bills or invoices, failure to perform the Work to the City's satisfaction; or failure to continuously perform the work in a manner calculated to meet or accomplish the objectives as set forth in this Agreement.

(b) *Termination for Convenience.* The City reserves the right, in its best interest as determined by the City, to cancel this Agreement for convenience by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. In the event this Agreement is terminated for convenience, Contractor shall be paid for any services performed to the City's satisfaction pursuant to the Agreement through the termination date specified in the written notice of termination. Contractor acknowledges and agrees that he/she/it has received good, valuable and sufficient consideration from City, the receipt and adequacy of which are hereby acknowledged by Contractor, for City's right to terminate this Agreement for convenience.

(c) *Cancellation for Non-appropriated Funds.* The City reserves the right, in its best interest as determined by the City, to cancel this Agreement for non-appropriated funds or unavailability of funds by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise provided by law.

(d) *Force Majeure.* The City and Contractor will be excused from the performance of their respective obligations under this Agreement when and to the extent that their performance is delayed or prevented by any circumstances beyond their control including, fire, flood, explosion, strikes or other labor disputes, act of God or public emergency, war, riot, civil commotion, malicious damage, act or omission of any governmental authority, delay or failure or shortage of any type of transportation, equipment, or service from a public utility needed for their performance, provided that:

i. The non performing party gives the other party prompt written notice describing the particulars of the Force Majeure including, but not limited to, the nature of the occurrence and its expected duration, and continues to furnish timely reports with respect thereto during the period of the Force Majeure;

ii. The excuse of performance is of no greater scope and of no longer duration than is reasonably necessary when considered in light of the Force Majeure;

iii. No obligations of either party that arose before the Force Majeure causing the excuse of performance are excused as a result of the Force Majeure; and

iv. The non-performing party uses its best efforts to remedy its inability to perform.

v. Notwithstanding the above, performance shall not be excused under this Section for a period in excess of sixty (60) days, provided that in extenuating circumstances, the City may excuse performance for a longer term. Economic hardship of the Contractor will not constitute Force Majeure. The term of the agreement shall be extended by a period equal to that during which either party's performance is suspended under this Section.

M. **WARRANTIES**

The Contractor warrants to the Owner that materials and equipment furnished under the Agreement will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

N. **MISCELLANEOUS PROVISIONS**

(a) *Successors and Assigns.* All of the provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto, and their partners, assigns, successors, subcontractors, executors, heirs, officers, agents, employees, representatives, and administrators.

(b) *Choice of Law*. The laws of the state of Texas shall govern the validity of this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties hereto.

(c) *No Waiver of Governmental Immunity.* NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED TO WAIVE CITY'S GOVERNMENTAL IMMUNITY FROM LAWSUIT, WHICH IMMUNITY IS EXPRESSLY RETAINED TO THE EXTENT IT IS NOT CLEARLY AND UNAMBIGUOUSLY WAIVED BY STATE LAW.

(d) *Assignment.* Contractor shall not assign any of Contractor's rights under this Agreement, or delegate the performance of any of Contractor's duties hereunder, without the prior written consent of the City.

(e) *Modification or Amendment.* No amendment, change or modification of this Agreement shall be valid unless in writing signed by the parties hereto.

(f) *Venue.* This Agreement and any and all matters arising directly or indirectly herefrom shall be governed by and construed and enforced in accordance with the Laws of the State of Texas, with the Federal and State Courts of **Cameron County**, Texas having jurisdiction. If at any time there is a dispute between or among the Parties with respect to any matter arising directly or indirectly from this Agreement (an "Agreement Matter"), the Parties agree that, prior to seeking judicial remedy, they will engage in face-to-face negotiations in an attempt to resolve such dispute and shall, upon failing to negotiate a mutually-satisfactory resolution, choose a mutually agreeable neutral third party to mediate such dispute. Mediation shall be non-binding and shall be confidential.

(g) *Execution and Consideration*. This Agreement is executed by the parties hereto without coercion or duress for any substantial consideration, the sufficiency of which is forever confessed

(h) *Notices.* Any and all notices, demands, or other communications required or desired to be given hereunder by any party shall be in writing and shall be validly given or made to another party if personally served, or if deposited in the United States mail, certified or registered, postage prepaid, return receipt requested. If such notice or demand is served personally, notice shall be deemed

constructively made at the time of such personal service. If such notice, demand or other communication is given by mail, such notice shall be conclusively deemed given five days after deposit thereof in the United States mail addressed to the party to whom such notice, demand or other communication is to be given as follows:

If to Contractor:	The Levy Company LLC Attn: Russell Perry 16294 IH 35 North Selma, TX 78154
If to City:	City of Brownsville Attn: City Manager 1001 E Elizabeth St. Brownsville, TX 78520
With Copy to:	City of Brownsville Attn: City Attorney 1001 E Elizabeth St. Brownsville, TX 78520

Any party hereto may change its address for purposes of this paragraph by written notice given in the manner provided above.

(i) *Cumulative Remedies*. All rights and remedies of the Parties under this Agreement shall be cumulative, and none shall exclude any other right or remedy provided by law, or by any other provisions of the Agreement. All such rights and remedies may be exercised and enforced concurrently and whenever, and as often, as occasion for their exercise arises.

(j) *Waiver of Breach*. A waiver by either Party of a breach of the Agreement by the other Party does not constitute a continuing waiver or a waiver of any subsequent breach of the Agreement.

(k) *No Third Party Beneficiaries*. Nothing in this Agreement shall be construed to create any right in any third party not a signatory to this Agreement, and the Parties do not intend to create any third party beneficiaries by entering into this Agreement.

(l) *Entire Understanding*. This document and any exhibit attached hereto, constitute the entire understanding and agreement of the parties, and any and all prior agreements, understandings, and representations are hereby terminated and canceled in their entirety and are of no further force and effect.

(m) *Counterparts*. This Agreement may be executed in a number of identical counterparts, each of which shall be deemed an original for all purposes. A facsimile signature will also be deemed to constitute an original if properly executed.

(n) *Miscellaneous Drafting Provisions*. This Agreement shall be deemed drafted equally by the Parties

hereto. The language of all parts of this Agreement shall be construed as a whole according to its fair meaning, and any presumption or principle that the language herein is to be construed against any Party shall not apply. Headings in this Agreement are for the convenience of the Parties and are not intended to be used in construing this document.

(o) *Authority to Execute*. The individuals executing this Agreement on behalf of the respective Parties below represent to each other and to others that all appropriate and necessary action has been taken to authorize the individual who is executing this Agreement to do so for and on behalf of the Party for which his or her signature appears, that there are no other parties or entities required to execute this Agreement in order for the same to be an authorized and binding agreement on the Party for whom the individual is signing this Agreement and that each individual affixing his or her signature hereto is authorized to do so, and such authorization is valid and effective on the date hereof.

(p) *Savings/Severability*. In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision hereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

(q) *Prohibition On Contracts With Companies Boycotting Israel*. Contractor acknowledges that in accordance with Chapter 2270 of the Texas Government Code, the City is prohibited from entering into a contract with a company for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract.

The terms " boycott Israel" and" company" shall have the meanings ascribed to those terms in Section 808.001 of the Texas Government Code. ***By signing this* Agreement, *Contractor certifies that Contractor' s signature provides written verification to the City that Contractor: (1) does not boycott Israel, and (2) will not boycott Israel during the term of the Agreement.***

(r) Immigration Nationality Act. As required by law, Contractor shall verify the identify and employment eligibility of its employees who perform work under this Agreement, including completing the Employment Eligibility Verification Form (I-9). Upon request by the City, Contractor shall provide City with copies of all I-9 forms and supporting eligibility documentation for each employee who performs work under this Agreement. Contractor shall adhere to all Federal and State laws as well as establish appropriate procedures and controls so that no services will be performed by any Contractor employee who is not legally eligible to perform such services. **CONTRACTOR SHALL INDEMNIFY CITY AND HOLD CITY HARMLESS FROM ANY PENALTIES, LIABILITIES, OR LOSSES DUE TO VIOLATIONS OF THIS PARAGRAPH BY CONTRACTOR, CONTRACTOR'S EMPLOYEES, SUBCONTRACTORS, AGENTS, OR LICENSEES**. City, upon written notice to Contractor, shall have the right to immediately terminate this Agreement for violation of this provision by Contractor.

(s) *Representations*. Each signatory represents this Agreement has been read by the Party for which this Agreement is executed and that such Party has had an opportunity to confer with its legal counsel.

IN WITNESS WHEREOF the undersigned have executed this Agreement as of the day and year first written above.

NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESSED OR IMPLIED, TO AMEND THIS AGREEMENT, EXCEPT SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE CITY COMMISION OF THE CITY OF BROWNSVILLE.

EXECUTED THIS _____ DAY OF _____, 2026.

OWNER:

_____
(Signature)

_____
Print Name:
City of Brownsville

CONTRACTOR:

Russell Perry
(Signature)

Russell Perry
Print Name:

Approved as to Form:

Alyssa J. Castillon
Assisant City Attorney
City Attorney

Exhibit B

NOTIFICATION OF INTENT TO AWARD

To:	The Levy Company, LLC 16294 IH 35 North Selma, TX 78154
Date:	09/11/2026
Attn:	Russell Perry
Project Title	Brownsville Traffic Signal Communication Development
Project Location	Brownsville
Project Number	144-26-EPW-IFB

Dear Mr. Perry,

On behalf of the City of Brownsville, I am pleased to announce that your company, The Levy Company LLC, will be submitted for approval to the City Commission for the above-mentioned project on October 6, 2026.

This Notice of Intent to Award is subject to execution of a written contract and, as a result, this Notice does NOT constitute the formation of a contract between the City of Brownsville and The Levy Company LLC. The Levy Company LLC shall not acquire any legal or equitable rights relative to the contract services until a contract containing terms and conditions acceptable to the City of Brownsville is executed.

The City of Brownsville further reserves the right to cancel this Notice of Intent to Award at any time, with or without cause, prior to the execution of a written contract.

Congratulations and we look forward to working with your company on this project.

Thank you,

Alexandra Guajardo

Alexandra Guajardo
Contract Administrator
Procurement Department
City of Brownsville, Texas

Exhibit C

The Brownsville Herald

PUBLISHER'S AFFIDAVIT
STATE OF TEXAS
COUNTY OF CAMERON

I, Sally Rodriguez, being duly sworn on her oath states that she is the Legal Representative of the BROWNSVILLE HERALD a semi-weekly newspaper in Cameron County and that the attached notice did print in the following issues:

Date: May 02, 2026
Acct: City Of Bro. Purchasing L Acct #30004791
IO: #30280129 (Inv to Bid/Propose/Qualif)

Subscribed and sworn to before me on this the 2nd day of June 2026.

Notary Public for the State of Texas

Cristal Amada Trevino
My Commission Expires
4/1/2029
Notary ID 135508080

The Brownsville Herald

PUBLISHER'S AFFIDAVIT
STATE OF TEXAS
COUNTY OF CAMERON

I, Sally Rodriguez, being duly sworn on her oath states that she is the Legal Representative of the BROWNSVILLE HERALD a semi-weekly newspaper in Cameron County and that the attached notice did print in the following issues:

Date: May 09, 2026
Acct: City Of Bro. Purchasing L Acct #30004791
IO: #30280423 (Bid/Proposal/Qualificatio)

Subscribed and sworn to before me on this the 2nd day of June 2026.

Notary Public for the State of Texas

Cristal Amada Trevino
My Commission Expires
4/1/2029
Notary ID 135508080

BROWNSVILLE

City of Brownsville Procurement Department

INVITATION

** B/P/Q (Bid/Proposal/Qualifications)*

Description	Number	Pre-Bid/Proposal Meeting	Opening Meeting
Invitation for Bids: Brownsville Traffic Signals Communication Development	*B 144-26-EPW-IFB	Monday, May 11, 2026 @ 10:00 AM CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 4:00 PM CT IN-PERSON & TEAMS VIRTUAL MEETING
Invitation for Bids: 12th St Traffic Signal Improvements	*B 145-26-EPW-IFB	Monday, May 11, 2026 @ 11:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, May 26, 2026 @ 3:00 PM CT IN-PERSON & TEAMS VIRTUAL MEETING
Invitation for Bids: International Blvd Traffic Signal Improvements	*B 146-26-EPW-IFB	Tuesday, May 12, 2026 @10:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, May 26, 2026 @ 4:00 PM CT IN-PERSON & TEAMS VIRTUAL MEETING
Bore and Trenching On-Call Services	*B 218-26-EPW-IFB	Tuesday, May 19, 2026 @ 10:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, June 16, 2026 @ 3:00 PM TEAMS VIRTUAL MEETING

Interested Bidders/Proposer are invited to attend the Bid/Proposal opening via Video conference on the dates specified. Presence is not mandatory. Specifications may also be viewed and downloaded at: http://www.brownsvilletx.gov or https://brownsvilletx.bonfirehub.com/ (956) 548-6087 office, e-mail: purchasing@brownsvilletx.gov.

05/09/2026

PUBLIC NOTICE

REQUEST FOR PROPOSALS (RFP) BEACH CLEANING SERVICES

The City of Starbase, Texas is requesting competitive sealed proposals for professional beach cleaning services at the Boca Chica Boulevard (State Highway 4) beach access point for a 12-month contract period commencing June 1, 2026.

The selected contractor will perform a minimum of 12 and up to a maximum of 24 full beach cleaning operations per year using a Barber SURF RAKE, supplemented by hand-picking of litter and removal of heavy debris. All work must strictly comply with Texas General Land Office (GLO) guidelines.

Proposal Deadline: May 26, 2026, at 2:00 PM CDT

For the complete RFP package and submission instructions, contact: **Gretchen Norton, City Clerk** gretchen.norton@starbase.texas.gov



Extra Space Storage, on behalf of itself or its affiliates, Life Storage or Storage Express, will hold a public auction to satisfy Extra Space's lien, by selling personal property described below belonging to those individuals listed below at the location indicated. All spaces contain household furniture unless otherwise noted. Clean up deposit required.

Property #4235
1795 Coffee Rd, Brownsville, TX 78521
• Jaime Flores • Belinda Ortiz
• Eileen House • Sam Brito

Auction Date : May 27th, 2026, Time: 10:00 AM

The auction will be listed and advertised on www.storagetreasures.com. Purchases must be made with cash only and paid at the above referenced facility to complete the transactions. Extra space storage may refuse any bid and may rescind any purchases up until the winning bidder takes possession of the personal property.

NOTICE OF A RESCHEDULED REGULAR MEETING OF THE CITY OF BROWNSVILLE CITY COMMISSION

NOTICE IS HEREBY GIVEN TO ALL INTERESTED PERSONS, THAT THE CITY OF BROWNSVILLE, TEXAS, HAS BEEN REQUESTED (AND/OR PROPOSES) TO ADOPT THE FOLLOWING ORDINANCE(S):

Ordinance Number 235-2026-008: To rezone from Residential Single-Family (R-1) to Residential Transition (R-3) to allow a multifamily development for a 0.501-acre tract of land comprised of Tracts I and II, each being a 0.167 acre of land out of a 6.50-acre tract out of a 15.00-acre tract; and Tract III, being a 0.167 acre of land out of a 1.00-acre tract, all out of Block 4, El Jardin Subdivision, Cameron County, Texas, located at 4464 Waco Road, Brownsville, Texas 78521.

Ordinance Number 2026-235.127: To amend the City of Brownsville Unified Development Code, Article 3 – Subdivision Regulations, Section 3.4 – Subdivision Design Standards; Article 4 – Zoning Regulations, Section 4.2 – Zoning Procedures, Section 4.3 – Zoning Districts, Section 4.4 – Land Uses, Section 4.5 – Building Types; Article 6 – Definitions, to establish state regulations adopted at the 89th Legislative Session for the purpose of creating housing diversity; and dealing with related matters.

Ordinance Number 2026-235.128: To amend the City of Brownsville Unified Development Code, Article 4 – Zoning Regulations, Section 4.2 – Zoning Procedures, to establish state regulations adopted at the 89th Legislative Session for the purpose of updating protest petition thresholds; and dealing with related matters.

Ordinance Number 2026-235.129: To amend the City of Brownsville Unified Development Code (UDC, Article 4 – Zoning Regulations, Subsection. 4.3.4 – Special Overlay Districts, Subsection 4.4.3 – Permitted Use Chart, Subsection 4.4.4 – Additional Use Standards, Subsection 4.6.3. - Landscaping and Article 6 Definitions) to create the Jefferson Medical Overlay District; and dealing with related matters.

Ordinance Number 2026-235.130: To amend the City of Brownsville Unified Development Code (UDC, Article 4 – Zoning Regulations, Section 4.6 – Zoning Development Standards, Subsection 4.6.3 – Landscaping; Article 5 – Supplemental Regulations, Section 5.1 – Tree Preservation, Subsection 5.1.2 – Applicability and Exemptions, Subsection 5.1.3 – Categories of Preserved Trees, Subsection 5.1.4 – Tree Mitigation, Subsection 5.1.8 – Removal of a Protected Tree

* * * * * * * * * * * * * * * * *

The City Commission meeting scheduled to be held on Tuesday, May 19, 2026, at 5:00 P.M., will be rescheduled to Tuesday, June 2, 2026, at the same time and location for 1st Reading on approved ordinances from the aforementioned list (the link and location to this meeting will be provided by the Office of the City Secretary)

* * * * * * * * * * * * * * * * *

Members of the public who submit "Public Comment Forms" will be permitted to offer public comments as provided by the agenda and as permitted by the presiding officer during the meeting at the aforementioned time and location by and before said City. For further information, please call (956) 548-6150 (Para más información, favor de llamar al (956) 548-6150). Of all said matters and things, all persons interested in the things and matters herein mentioned will take notice.

BROWNSVILLE
PUBLIC UTILITIES BOARD

INVITATION TO BID/PROPOSE

NO.	PRE-BID/ PROPOSAL CONFERENCE VIA CONFERENCE CALL	SUBMISSION	OPENING	NAME
B 029-26	N/A	05/19/26 2:00 PM	05/19/26 2:15 PM	Phase I – Service Center Additional Yard Fencing
B 040-26	N/A	05/20/26 5:00 PM	05/21/26 10:30 AM	Annual Supply of General Stock
P 041-26	N/A	06/03/26 5:00 PM	06/04/26 10:00 AM	Microsoft Fabric Readiness, Licensing & Implementation Advisory Services

*B/P/Q (BID/PROPOSAL/QUALIFICATIONS)

Sealed bids/proposals/qualifications will be received by the Brownsville Public Utilities Board, at the office of **DIANE SOLTAIRE, PURCHASING, 1155 FM 511, OLMITO, TEXAS 78575, (956) 983-6364.** The bids/proposals/qualifications will be received until the date specified above. **INTERESTED BIDDERS/ PROPOSERS MAY OBTAIN SPECIFICATIONS AND/OR INFORMATION AT THE BPUB PURCHASING DEPARTMENT.** Bidders/Proposers are invited to attend the bid/proposal/qualification opening at the Office of the Purchasing Department on the dates specified. Presence at the bid opening is not mandatory. Specifications may also be obtained at https://www.brownsville-pub.com/rfp_status/open/ or at https://www.bidnetdirect.com/texas/brownsville-pub

05/09/26



City of PRIMERA

Request for Qualifications (RFQ)

Engineering Services for the

City of Primera's Water Treatment Plant and Water System Improvements

The City of Primera (the City) is seeking qualified firms to provide engineering services for the City.

The City proposes to contract with a qualified Engineering Firm to provide engineering services for the design of a Water Reverse Osmosis (RO) Water Treatment Plant, groundwater pump(s), and other water system improvements.

The requested engineering services shall include, but are not limited to, preparing all preliminary and final design plans and specifications, support permit and regulatory approvals, and overseeing project implementation.

Particular consideration will be given to firms demonstrating prior experience with similar water supply and RO treatment projects, as well as the ability to prepare a detailed project schedule and implementation plan to bring the project to "shovel-ready" status as soon as possible.

Interested firms can request a copy of the full RFQ by going to www.cityofprimera.us or by e-mailing a request to the City's Water Plant Project Manager at aurrea@cflenterprise.com.

The RFQ release date is April 25, 2026. Questions regarding this RFQ must be submitted no later than May 19, 2026, at 5:00 p.m. Statements of Qualifications for the proposed services must be received no later than May 26, 2026, at 5:00 p.m., at the following address:

City of Primera, TX
ATTN: Celina Gonzales, City Manager
17635 Primera Rd.
Primera, Texas 78552

If you have any questions, please feel free to reach out to the City's Water Plant Project Manager at aurrea@cflenterprise.com or (956) 433-2276

BROWNSVILLE
On the Border. Up for the Sun.

City of Brownsville Procurement Department

INVITATION

** B/P/Q (Bid/Proposal/Qualifications)*

Description	Number	Pre-Bid/Proposal Meeting	Opening Meeting
Invitation For Bids For: Information Technology Department Capital Improvement Project: Proposed 5g & Fiber Design	*B 159-26-IT-IFB	Tuesday, May 5, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 2:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: Carbon Reduction Program Off-System	*B 174-26-EPW-IFB	Monday, May 4, 2026 @ 10:00 AM CT IN-PERSON & TEAMS VIRTUAL MEETING 1001 E. Elizabeth St. Brownsville, TX, 78520	Thursday, May 21, 2026 @ 3:30 PM CT IN-PERSON & TEAMS VIRTUAL MEETING 1001 E. Elizabeth St. Brownsville, TX, 78520
Invitation for Bids: Brownsville Traffic Monitoring & Management of Signalized Roads	*B 143-26-EPW-IFB	Tuesday, May 5, 2026, @ 10:00 AM CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 3:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: Brownsville Traffic Signals Communication Development	*B 144-26-EPW-IFB	Monday, May 11, 2026 @ 10:00 AM CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 4:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: 12th St Traffic Signal Improvements	*B 145-26-EPW-IFB	Monday, May 11, 2026 @ 11:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, May 26, 2026 @ 3:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: International Blvd Traffic Signal Improvements	*B 146-26-EPW-IFB	Tuesday, May 12, 2026 @ 10:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, May 26, 2026 @ 4:00 PM CT TEAMS VIRTUAL MEETING

Interested Bidders/Proposer are invited to attend the Bid/Proposal opening via Video conference on the dates specified. Presence is not mandatory. Specifications may also be viewed and downloaded at: http://www.brownsvilletx.gov or https://brownsvilletx.bonfirehub.com/ (956) 548-6087 office, e-mail: purchasing@brownsvilletx.gov.

05/02/2026

Extra Space Storage, on behalf of itself or its affiliates, Life Storage or Storage Express, will hold a public auction to satisfy Extra Space's lien, by selling personal property described below belonging to those individuals listed below at the location indicated. All spaces contain household furniture, unless otherwise noted. Clean up deposit required.

Property #7952
296 Lorenaly Dr, Brownsville, TX 78526
- Elsa Chio
- Brandy Coffee

Auction Date : May 13th, 2026,
Time: 10:00 AM

The auction will be listed and advertised on www.storageextraxpress.com. Purchases must be made with cash only and paid at the above referenced facility to complete the transactions. Extra space storage may refuse any bid and may rescind any purchases up until the winning bidder takes possession of the personal property.

Application is being made with the Texas Alcoholic Beverage Commission for a Wine and Malt Beverage Retail Dealer's Off-Premise Permit by Dolgencorp of Texas, Inc. d/b/a Dollar General Store #31204 located at 3860 Laredo Rd, Brownsville, Cameron County, TX 78520. Officers of said Corporation are Zak Brining, CEO, Donny Hong Bong Lau, CFO, William Arthur Steiger, VP Tax, and Emily C. Taylor, EVP/Secretary.

04/29/2026, 05/02/2026

PUBLIC NOTICE — TOWN OF BAYVIEW SUBSTANDARD STRUCTURES ORDINANCE

On March 27, 2026, the Town of Bayview, Texas adopted an ordinance for the administration and governance of substandard structures and declaring them to be public nuisances subject to repair, vacating, securing, or demolition upon order of the Building and Standards Commission after notice and public hearing. Failure to comply with an order of the Building and Standards Commission may result in the Town taking corrective action and assessing related costs as a lien against the property containing the substandard structure(s) or otherwise assessing civil penalties in an amount not to exceed $1000 per violation.

CITATION BY PUBLICATION- TRC 109 & 114

THE STATE OF TEXAS

2025-DCL-02681

U.S. Bank National Association, Not in Its Individual Capacity but Solely as Trustee of NRZ Pass-Through Trust XII	§ IN THE 444TH DISTRICT COURT
vs	§ OF
Alejandro N. Mata	§ CAMERON COUNTY, TEXAS

TO: **The Unknown Heirs-at-Law of Maria G. Mata, Deceased**
No Known Address

NOTICE TO DEFENDANT: "You have been sued. You may employ an attorney. If you or your attorney do not file a written answer with the clerk who issued this citation by 10:00 am on the Monday next following the expiration of 42 days after the date this citation was issued, a default judgment may be taken against you. In addition to filing a written answer with the clerk, you may be required to make initial disclosures to the other parties of this suit. These disclosures generally must be made no later than 30 days after you file your answer with the clerk. Find out more at TexasLawHelp.org."

You are hereby commanded to appear by filing a written answer to the Plaintiffs Original Petition at or before 10:00 o'clock A.M. on the Monday next after the expiration of 42 days after the date of issuance of this citation before the Honorable 444th District Court of Cameron County, at the Courthouse in said County in Brownsville, Texas. Said Plaintiffs Original Petition was filed in said court on the 12th day of May, 2025 in the above entitled cause.

A brief statement of the nature of this suit is as follows, to-wit:

Plaintiff U.S. Bank National Association, not in its individual capacity but solely as trustee of NRZ Pass-Through Trust XII., its successors and assigns, by and through its attorney of record, Myra Homayoun of McCarthy & Holthus, LLP, 1255 West 15th Street, Suite 1060, Plano, Texas 75075, brought suit in rem only, against Alejandro N. Mata a/k/a Alejandro, Mata-Nanez, Sela Noema Gomez, Alejandro Mata, Omar Mata, the Unknown Heirs-at-Law of Maria G. Mata, Deceased, and any other person(s) claiming any right, title, or interest through Maria G. Mata, as heir(s)-at-law to 4356 Palmo Caribe Dr., Brownsville, Texas 78521 and legally described to wit: LOT 6, BLOCK 2, ISLA DE PALMAS SUBDIVSION, SECTION IV, CITY OF BROWNSVILLE, CAMERON COUNTY, TEXAS, ACCORDING TO MAP THEREOF RECORDED IN CABINET 1, PAGE 852-A OF THE MAP RECORDS, CAMERON COUNTY, TEXAS.

as is more fully shown by Plaintiffs Original Petition on file in this suit.

Issued and given under my hand and seal of said Court at Brownsville, Texas, on this the 6th day of March, 2026.

ATTORNEY
Myra Homayoun
SBN 15135100
214-291-3800
1255 West 15th Street, Suite 1060
Plano, TX 75075

DISTRICT COURT CAMERON COUNTY, TEXAS

Laura Perez-Reyes
District Clerk of Cameron County
974 E Harrison Street
Brownsville, Texas 78520

By: _____ Deputy

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Exhibit D

City of Brownsville - Procurement Department
ADDENDUM #1

INVITATION FOR BIDS FOR:
Brownsville Traffic Signals Communication Development

IFB #: 144-26-EPW-IFB

ACKNOWLEDGEMENT OF RECEIPT

Please email this page upon receipt

Please fill in the requested information below as acknowledgment that *you have received the* Addendum noted above. If your firm is interested in participating, this sheet must be completed and returned or emailed to:

Eduardo Torres
City of Brownsville - P.O. Box 911
City Hall 1001 E. Elizabeth St. 1ST FLOOR Suite No. 101 Brownsville,
Texas 78520
Phone: (956) 548-6087 Fax: (956) 546-2711
Email: purchasing@brownsvilletx.gov

Name of Firm: The Levy Company, LLC

Address: 16294 IH 35 North

City, State, Zip: Selma, Texas 78154

Telephone Number: 210-497-4500 Email: bids@levycompany.com

(X) **YES,** Our Company does have an interest in responding.

(__) **NO,** Our Company does not have an interest in responding.

Name: (Print) Russell Perry

Title: President

Signature: Russell Perry

ADDENDA: The undersigned hereby acknowledges receipt of the following addenda to the Specifications, all of the provisions and requirements of which Addenda have been taken into consideration in the preparation of the foregoing proposal.

Clarifications/Additional Information/Changes to the Original Solicitation Package:

This Addendum No. 1 is issued to address questions received prior to the deadline listed below.

Additionally, the City hereby clarifies that the reference to Cat 5 cable on IFB Page 9 was a typographical error. The required cable for communication between the RSU and Traffic Signal Control Cabinet shall be Cat 6, as indicated in the plans (Sheet 34).

Vendor Discussions

Question

May 15, 2026 10:57 AM CDT

A number of requirements are applicable to "construction contracts." Will the Bidder and the City enter into a construction contract for the work described in the IFB?

Yes. The City and successful Bidder will enter into a construction contract for the work described in the IFB.

Question

May 15, 2026 10:57 AM CDT

What is the term of the resulting contract?

Refer to Section 5.18.3 – Liquidated Damages (Construction Only), Page 25 of the IFB regarding the project completion timeframe.

Question

May 15, 2026 10:57 AM CDT

Is there a time for completion for the work?
Refer to Section 5.18.3 – Liquidated Damages (Construction Only), Page 25 of the IFB regarding the project completion timeframe.

Question

May 15, 2026 10:57 AM CDT

Do the liquidated damages in the TxDOT Standard Specifications apply to this work?
Refer to Section 5.18.3 – Liquidated Damages (Construction Only), Page 25 of the IFB regarding liquidated damages requirements.

Question

May 15, 2026 10:58 AM CDT

Are there any DBE/SBE requirements applicable to this work?

There are no DBE/SBE requirements applicable to this project.

Questions 144-26-EPW-IFB - Brownsville Traffic Signals Communication Development

May 15, 2026 9:28 AM CDT

Company would like to pose the following questions; 15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) pages 12-16 Can the City of Brownsville provide an excel version of the site table from the plan set?

The City will not provide an Excel version of the site table. The information is available within the plan set.

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 The installation detail diagram shows the camera and RSU mounted on the pole rather than on the mast arm (horizontal arm supporting the traffic signals). Does this apply to all the poles in the scope of work?

The scope of work does not include cameras; the RSU must be mounted on the pole.

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 What is the mounting height of the NEMA enclosure at each pole? Will they differ? 15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 What is the desired height to mount the RSU? Does it differ from pole to pole?

Please follow the manufacturer's instructions. Refer to Sheet 34, Detail 2, Item 680-0002. Mounting heights shall comply with the manufacturer's recommendations.

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 What is the height of each pole in the site table? **Pole heights vary between 30 ft and 50 ft.**

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page33 The design references 2 switching devices (a 5-port and a 10-port switch) but only one is in the suggested bill of materials. Can you please clarify which component needs to be provided by the respondent and which will be provided by the City of Brownsville, and clarify the function and installation location of each.

Both switches are shown in the Bid Proposal (680-0004 & 680-0005)

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page33 The 5 Port Managed Switch in the NEMA enclosure is not part of this scope of work. Will the City of Brownsville procure and install it separately?
Any item not included in the scope of work will be installed by City personnel.

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 Is space confirmed in the existing ground ITS cabinets for the 10 port switches and the FMU? **Yes**

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 Does the existing conduit have sufficient capacity and no blockages to accommodate the RJ45 cable and the cable connecting the RSU to the FMU? **Yes**

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 Can the City of Brownsville confirm the distance from the NEMA enclosure on each pole to the ITS ground cabinet via the underground conduit is <100m? **Yes**

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 Does the underground conduit have space for the (2) new cable RJ45 cable run? (1) From the RSU to the ITS ground cabinet, and (2) from the 5-port managed switch to the 10-port managed switch to the ITS ground cabinet. **Yes**

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 Can the Cisco 10 Port Managed switches be placed on the pole instead of the ground cabinet?

Refer to Sheet 33 – Install Detail and Section 2, Network Switch and Power Supply Installation, of the IFB regarding installation requirements for the network switch within the traffic signal control cabinet.

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 Can the City of Brownsville provide the pole NEMA enclosure dimensions and model? Please confirm furnishing and installing this enclosure is not in the scope of this solicitation. **Furnishing and installing are not part of the scope of work of this project.**

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 Will the NEMA enclosures on the poles have punch out holes at the bottom for the P5G gateway cabling to run to the antenna outside the NEMA enclosure?

Yes, please set up as Industry standard. Vendors are required to ensure weather-proofing and proper setup.

10-Form 10 - Bid Price Form page 1 Please clarify the requirement for TMA (MOBILE OPERATION) quantity of 198 hours? Is this just a placeholder for TMA time?

The quantity shown is an estimated number of hours for TMA services that may be required throughout the project.

10-Form 10 - Bid Price Form page 1 Please clarify if we need to account for Spares as part of the commercial offering. **No, spares are not part of the scope of this project**

14-144-26-EPW-IFB Brownsville Traffic Signals Communication & 15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399) IFB Doc -9 & Plans -page 34 Please clarify if we need to furnish and install Cat 5 cable or Cat 6 cable for communication between RSU to Traffic Signal Control Cabinet. IFB page 9 states Cat 5 cable and Plans page 34 states Cat 6 cable. **Refer to Addendum No. 1, Page 2, Clarifications/Additional Information/Changes to the Original Solicitation Package, regarding the correction from Cat 5 to Cat 6 cable requirements between the RSU and Traffic Signal Control Cabinet.**

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 Do the Private 5G gateways require Wi-Fi and GPS? This will determine how many leads are required for the antenna as well as the gateway type and model.

Yes, please set up as Industry standard. Vendors are required to ensure weather-proofing and proper setup.

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 The Cradlepoint R1900 does not have eSIM support. If the bidder proposes an alternate gateway, what are the minimum quantity of ethernet ports required? Is there a modem specification?

Refer to Section 2 – Scope of Work / Technical Specifications, P5G Gateway requirements, Pages 8–9 of the IFB regarding gateway specifications and eSIM compatibility requirements.

14-144-26-EPW-IFB Brownsville Traffic Signals Communication page 5 Can the City of Brownsville consider extending the bid closing date by two weeks following the release of Q&A responses? **No, extending the bid closing is not possible.**

10-Form 10 - Bid Price Form page 1 For the portion of work involving installation of the FMU and power supply within ground cabinets and mounting of RSUs on traffic poles, can you clarify why a Truck Mounted Attenuator (TMA) is required at all locations? Based on site reviews, the majority of poles appear to be accessible from adjacent parking or land areas without impacting traffic flow, where standard safety measures (cones and tape) would be utilized in accordance with OSHA and traffic control guidelines. **The TMA is not used only for hard lane closures or heavy disruptions. It is primarily a worker and motorist protection device, intended to absorb the impact of an errant vehicle before it reaches workers, equipment, or a work zone.**

15-Plans - 144-26-EPW-IFB (CSJ 0921-06-399), (Install Detail) page 33 Is the bidder responsible for preparing final as-built drawings for each pole following installation of the gateway, antenna, FMU, and RSU? If so, will existing pole drawings be provided to support this effort? **No, the PS&E plans shown in the documents are the final version; no additional design work is required.**

Sign in Sheet

May 12, 2026 1:13 PM CDT

Would you please post the pre-bid meeting attendees list?

Robert Kelly – Paradigm Traffic Systems

Lucio Gutierrez – City of Brownsville

John Kirk – City of Brownsville

Francisco Chapa – TxDOT

Clemente Mena – TxDOT

Bill Skillas – Econolite

Nitin George – NTT DATA

Roy Gonzalez Paradigm Traffic Systems

Pat Murray with Paradigm Traffic Systems

Rodolfo Valdez with TXDOT – APD Section

Vivek Yalamanchili – NTT DATA

Jose Mena TxDOT PHR Traffic Engineering

Nayely Parra TxDOT PHR Traffic Engineering

Brian Castille – CobbFendley

Rahul Bangera - NTT DATA

Rajat Singh - NTT Data

Bob Schafer

Eduardo Torres – City of Brownsville

Carlos Montanez

Gabriel Garcia – TxDOT

Morgan Smith

Veronica

Magnus

Jerry

Cost Range?

May 12, 2026 1:13 PM CDT

Is there an estimated cost range?

The City will not be disclosing the estimated cost range at this time.

The Levy Company, LLC

Name of Bidder/Proposer

Signature

Russell Perry

Print Name

5/26/26

Date

Exhibit E

Bid Price Form

Brownsville Traffic Signals Communication Development - CSJ 0921-06-399					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM COST
500-7001	MOBILIZATION	LS	1	$240,000.00	$240,000.00
502-7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	6	$4,600.00	$27,600.00
505-7002	TMA (MOBILE OPERATION)	HR	198	$6.85	$1,356.30
680-0001	FURNISH & INSTALL FIELD MONITORING UNIT	EA	186	$22,300.00	$4,147,800.00
680-0002	FURNISH & INSTALL ROAD SIDE UNIT	EA	198	$5,300.00	$1,049,400.00
680-0004	FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY	EA	186	$5,400.00	$1,004,400.00
680-0005	FURNISH & INSTALL P5G GATEWAY	EA	186	$3,000.00	$558,000.00
6043-0001	ANTENNA(OMNI-DIRECTIONAL)	EA	186	$570.00	$106,020.00
				TOTAL	$7,134,576.30

CobbFendley

July 22, 2026

Eduardo Torres, MBA, CTCD
Buyer-City of Brownsville
City of Brownsville | Procurement Division
1001 E. Elizabeth St
Brownsville, Texas 78520

Re: Brownsville Traffic Signals Communication Development (CSJ 0921-06-399)
Solicitation No. 144-26-EPW-IFB
BID RECOMMENDATION LETTER

Dear Mr. Torres:

CobbFendley is in receipt of the bid tabulation in accordance with Article 2.14 "Tabulation for Bids" of TxDOT's Standard Specifications for the above-mentioned project and offers the following Bid Analysis. A total of three(3) bids were received on May 28, 2026.

CobbFendley developed the Bid Analysis spreadsheet for the project and populated it with each item description, unit, estimated quantity, unit price and total cost. The total cost for each item was obtained by multiplying the estimated quantity by the unit price. The total cost for the project was obtained by adding up each total cost for all the items.

The official bid amounts, which are summarized below ranged from 69.3% to 91.6% above the engineer's estimate from March 2026.

Engineer's Estimate - Brownsville Traffic Signals Communication Development

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	The Levy Company, LLC	$ 7,134,576.30	69.3%
Bidder #2	ATS Construction Co. LLC	$ 7,553,560.00	79.2%
Bidder #3	Econolite Systems, Inc.	$ 8,076,959.26	91.6%

Bidder #1 - The Levy Company, LLC
Based on the bids analysis spreadsheet, Bidder #1 was the lowest bidder. CobbFendley confirmed The Levy Company, LLC's total summation is $7,134,576.30.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
3	TMA (MOBILE OPERATION)	HR	198	$ 6.85	$ 100.00	-93.2%
4	FURNISH & INSTALL FIELD MONITORING UNIT	EA	186	$ 22,300.00	$ 3,000.00	643.3%

Bidder #2 - ATS Construction Co. LLC

Based on the bids analysis spreadsheet, Bidder #2 was a higher bidder. CobbFendley confirmed ATS Construction Co. LLC's total summation is $7,553,560.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 3 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
1	MOBILIZATION	LS	1	$ 85,000.00	$ 383,158.80	-77.8%
3	TMA (MOBILE OPERATION)	HR	198	$ 245.00	$ 100.00	145.0%
4	FURNISH & INSTALL FIELD MONITORING UNIT	EA	186	$ 24,000.00	$ 3,000.00	700.0%

Bidder #3 - Econolite Systems, Inc.

Based on the bids analysis spreadsheet, Bidder #3 was a higher bidder. CobbFendley confirmed Econolite Systems, Inc's total summation is $8,076,959.26.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
4	FURNISH & INSTALL FIELD MONITORING UNIT	EA	186	$ 18,927.43	$ 3,000.00	530.9%
6	FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY	EA	186	$ 13,140.28	$ 7,900.00	66.3%

Since this project has portions within State ROW and federal funds are being utilized, it must follow the TxDOT requirements for TxDOT Prequalification. This project requires a TxDOT Confidential Questionnaire Prequalification since the project cost is above $300,000 and as outlined on TxDOT's website:

https://www.txdot.gov/business/road-bridge-maintenance/contract-letting/contractor-prequalification.html

Bidder #1 was determined to be TxDOT Prequalified under the Confidential Questionnaire. Based on the submitted bids and our corresponding analysis, we recommend that Bidder #1 Levy Company, LLC be awarded a contract not to exceed $7,134,576.30.

This is the first bid opening. The bids were acceptable and there is no reason to rebid due to the low turnout of contractors.

Thank you for the opportunity to assist you with this project and should you have any questions or concerns, please feel free to contact me via email at bcastille@cobbfendley.com or via phone at 713-485-8234.

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC



Brian Castille, P.E., PTOE
Traffic Department Manager | Principal

Attachment: Bid Tabulation

Bid No:	144-26-EPW-IFB
Project:	0921-06-399

						ATS Construction Co. LLC		Econolite Systems, Inc.		The Levy Company, LLC		CobbFendley EOPCC	
						Total Price	$7,553,560.00	Total Price	$8,076,959.26	Total Price	$7,134,576.30	Total Price	$4,214,746.80
Line #	Description	Mfgr	Mfgno	QTY	UOM	Estimated	Unit	Extended	Unit	Extended	Unit	Extended	Unit Price	Total
1	MOBILIZATION			1	LS		$85,000.00	$85,000.00	$229,780.06	$229,780.06	$240,000.00	$240,000.00	$383,158.80	$383,158.80
2	BARRICADES, SIGNS AND TRAFFIC HANDLING			6	MO		$4,590.00	$27,540.00	$1,273.68	$7,642.08	$4,600.00	$27,600.00	$3,500.00	$21,000.00
3	TMA (MOBILE OPERATION)			198	HR		$245.00	$48,510.00	$70.93	$14,044.14	$6.85	$1,356.30	$100.00	$19,800.00
4	FURNISH & INSTALL FIELD MONITORING UNIT			186	EA		$24,000.00	$4,464,000.00	$18,927.43	$3,520,501.98	$22,300.00	$4,147,800.00	$3,000.00	$558,000.00
5	FURNISH & INSTALL ROAD SIDE UNIT			198	EA		$4,800.00	$950,400.00	$5,243.23	$1,038,159.54	$5,300.00	$1,049,400.00	$5,000.00	$990,000.00
6	FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY			186	EA		$6,000.00	$1,116,000.00	$13,140.28	$2,444,092.08	$5,400.00	$1,004,400.00	$7,900.00	$1,469,400.00
7	FURNISH & INSTALL P5G GATEWAY			186	EA		$3,685.00	$685,410.00	$3,128.79	$581,954.94	$3,000.00	$558,000.00	$2,500.00	$465,000.00
8	ANTENNA(OMNI-DIRECTIONAL)			186	EA		$950.00	$176,700.00	$1,294.54	$240,784.44	$570.00	$106,020.00	$1,658.00	$308,388.00
					MOBILIZATION %		1.1%		2.8%		3.4%		9%	

TOTALS		$ 7,553,560.00	$ 8,076,959.26	$ 7,134,576.30	$4,214,746.80
	Δ	$ 3,338,813.20	$ 3,862,212.46	$ 2,919,829.50	
%DIFFERENCE		79.2%	91.6%	69.3%	

% Difference for Each Line Item		
-77.8%	-40.0%	-37.4%
31.1%	-63.6%	31.4%
145.0%	-29.1%	-93.2%
700.0%	530.9%	643.3%
-4.0%	4.9%	6.0%
-24.1%	66.3%	-31.6%
47.4%	25.2%	20.0%
-42.7%	-21.9%	-65.6%

% Difference for Each Total Bid		
79.2%	91.6%	69.3%

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CONT	SECT	JOB	HIGHWAY
0921	06	399	VAR
DIST	COUNTY		SHEET NO.
PHR	CAMERON		1

Exhibit G

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT NUMBER
STP 2026 (826)MM
CSJ 0921-06-399
BROWNSVILLE TRAFFIC SIGNALS COMMUNICATION DEVELOPMENT
NET LENGTH OF PROJECT = VARIOUS LOCATIONS

CAMERON COUNTY

LIMITS: FROM: VARIOUS
TO: VARIOUS

FOR THE INSTALLATION OF TRAFFIC COMMUNICATION EQUIPMENT



LOCATION MAP NOT TO SCALE

OVERALL NUMBER OF LOCATIONS: 192
DESIGN SPEED: VARIES
EXCEPTIONS: NONE
EQUATIONS: NONE
RAILROAD CROSSINGS: NONE

INDEX OF SHEETS
SEE SHEET No. 2

FINAL PLANS

DATE OF LETTING: _____
DATE WORK BEGAN: _____
DATE WORK COMPLETED: _____
DATE WORK ACCEPTED: _____
FINAL CONTRACT COST: $ _____
CONTRACTOR: _____

LIST OF APPROVED FIELD CHANGES, CHANGE ORDERS & SUPPLEMENTAL AGREEMENTS:

THIS IS TO CERTIFY THAT ALL CONSTRUCTION SUBSTANTIAL WORK WAS PERFORMED IN ACCORDANCE WITH THE PLANS SPECIFICATIONS AND CONTRACT.ALL PROPOSED CONSTRUCTION WAS COMPLETED UNLESS OTHERWISE NOTED.

CARLOS LASTRA, P.E. *DATE*
CITY ENGINEER

TDLR INSPECTION NOT REQUIRED

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION ON SEPTEMBER 1, 2024 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, OCTOBER 23, 2023).

Texas Department of Transportation

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STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
04/28/2026

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

City of BROWNSVILLE Texas
On the Border, By the Sea, and Beyond

SUBMITTED FOR LETTING: *DATE:* 4/28/2026

LOCAL PUBLIC AGENCY

RECOMMENDED FOR LETTING: *DATE:* 4/30/2026

Signed by:
Gabriel Isaac Garcia
E75CB72436B0468...
SECTION ENGINEER

APPROVED FOR LETTING: *DATE:* 4/30/2026

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...
DISTRICT ENGINEER

SHEET NO	DESCRIPTION
	GENERAL SHEETS
1	TITLE SHEET
2 - 3	INDEX OF SHEETS
4 - 5	GENERAL NOTES
6 - 11	LOCATION MAP
12 - 16	SUMMARY OF QUANTITIES
	TRAFFIC CONTROL PLAN STANDARDS
# 17 - 28	[S] BC(1)-21 THRU BC(12)-21
# 29 - 30	[S] TCP (1-1)-18 THRU TCP(1-2)-18
# 31 - 32	[S] WZ(BTS-1)-13 THRU WZ(BTS-2)-13
	TRAFFIC SIGNAL SHEETS
33	INSTALL DETAIL
34 - 35	TRAFFIC NOTES
36	E ALTON GLOOR BLVD AT MORRISON RD
37	E ALTON GLOOR BLVD AT WEST RAIL TRAIL
38	ANACUA ST AT IH-69E / US 77
39	BILLY MITCHELL BLVD AT CENTRAL AVE
40	BILLY MITCHELL BLVD AT JOSE COLUNGA JR ST - IOWA AVE
41	BOCA CHICA BLVD AT BARNARD RD
42	BOCA CHICA BLVD AT BILLY MITCHELL BLVD
43	BOCA CHICA BLVD AT BROWNSVILLE PLZ/STRAWBERRY SQ
44	BOCA CHICA BLVD AT CALLE CENIZO
45	BOCA CHICA BLVD AT CENTRAL AVE
46	BOCA CHICA BLVD AT CENTRAL BLVD
47	BOCA CHICA BLVD AT CORIA ST
48	BOCA CHICA BLVD AT FM 511
49	BOCA CHICA BLVD AT HONEYDALE RD - W MONROE ST
50	BOCA CHICA BLVD AT INTERNATIONAL BLVD
51	BOCA CHICA BLVD AT IOWA AVE
52	BOCA CHICA BLVD AT N MINNESOTA AVE
53	BOCA CHICA BLVD AT OLD ALICE RD
54	BOCA CHICA BLVD AT OLD MILITARY HWY - W MADISON ST - W ELIZABETH ST
55	BOCA CHICA BLVD AT OLD PORT ISABEL RD - MCDAVITT BLVD
56	BOCA CHICA BLVD AT OWENS RD
57	BOCA CHICA BLVD AT PALM BLVD
58	BOCA CHICA BLVD AT PAREDES LINE ROAD (FM 1847)
59	BOCA CHICA BLVD AT SECURITY DR
60	BOCA CHICA BLVD AT IH-69E / US 77
61	BOCA CHICA BLVD AT VERMILLION RD
62	N CENTRAL AVE AT MACKENZIE RD
63	CENTRAL BLVD AT W ELIZABETH ST - W 8TH ST
64	CENTRAL BLVD AT W JEFFERSON ST - LAKESIDE BLVD
65	CENTRAL BLVD AT E LOS EBANOS BLVD
66	CENTRAL BLVD AT MEDIA LUNA - OLD US HWY 77
67	CENTRAL BLVD AT WILD ROSE LN
68	COFFEE PORT RD AT N MINNESOTA AVE
69	COFFEE PORT RD/JAMIE J ZAPATA AVE AT OLD PORT ISABEL RD
70	COFFEE PORT RD AT PAREDES LN RD (FM 1847)
71	E ADAMS ST AT E 10TH ST
72	E ADAMS ST AT E 11TH ST
73	E ADAMS ST AT E 13TH ST
74	E ADAMS ST AT E 14TH ST
75	E ADAMS ST AT E 6TH ST
76	E ADAMS ST AT E 7TH ST
77	EAST AVE AT IMPALA DR - ELENA ST
78	EAST AVE AT TULIPAN ST
79	E ELIZABETH ST AT E 10TH ST
80	E ELIZABETH ST AT E 11TH ST
81	E ELIZABETH ST AT E 13TH ST
82	E ELIZABETH ST AT E 6TH ST
83	E ELIZABETH ST AT E 7TH ST
84	E ELIZABETH ST AT E 8TH ST
85	E ELIZABETH ST AT E 9TH ST
86	FM 511 AT CHARMAINE LN
87	FM 511 AT DEVON DR
88	FM 511 AT DR HUGH EMERSON RD (EAST)
89	FM 511 AT DR HUGH EMERSON RD (WEST)
90	FM 511 AT RUBEN M TORRES BLVD (FM 802)
91	FM 511 AT OLD ALICE RD (SOUTH)
92	FM 511 AT OLD ALICE RD (NORTH)
93	FM 511 AT PADRE ISLAND HWY
94	FM 511 AT PAREDES LINE RD (FM 1847) (SOUTH)
95	FM 511 AT PAREDES LINE RD (FM 1847) (NORTH)
96	RUBEN M TORRES BLVD (FM 802) AT CENTRAL AVE
97	RUBEN M TORRES BLVD (FM 802) AT CENTRAL BLVD
98	RUBEN M TORRES BLVD (FM 802) AT COFFEE PORT RD
99	RUBEN M TORRES BLVD (FM 802) AT DANA AVE
100	RUBEN M TORRES BLVD (FM 802) AT HABANA ST
101	RUBEN M TORRES BLVD (FM 802) AT HUDSON BLVD
102	RUBEN M TORRES BLVD (FM 802) AT LAREDO RD
103	RUBEN M TORRES BLVD (FM 802) AT MCALLEN RD - COUNTRY CLUB RD
104	RUBEN M TORRES BLVD (FM 802) AT N MINNESOTA AVE
105	RUBEN M TORRES BLVD (FM 802) AT OLD ALICE RD - JOSE MARTI BLVD
106	RUBEN M TORRES BLVD (FM 802) AT OLD PORT ISABEL RD
107	RUBEN M TORRES BLVD (FM 802) AT PADRE ISLAND HWY
108	RUBEN M TORRES BLVD (FM 802) AT PAREDES LINE RD (FM 1847)
109	RUBEN M TORRES BLVD (FM 802) AT ROBINDALE RD
110	RUBEN M TORRES BLVD (FM 802) AT S SAN MARCELO BLVD - COFFEE RD
111	RUBEN M TORRES BLVD (FM 802) AT SEVILLE BLVD
112	RUBEN M TORRES BLVD (FM 802) AT SUNRISE MALL
113	RUBEN M TORRES BLVD (FM 802) AT IH-69E / US 77
114	RUBEN M TORRES BLVD (FM 802) AT N VERMILLION AVE/N ILLINOIS RD
115	RUBEN M TORRES BLVD (FM 802) AT VILLAGE CENTER DR
116	RUBEN M TORRES BLVD (FM 802) AT WESTRAIL TRL
117	E HARRISON ST AT E 13TH ST
118	E HARRISON ST AT E 7TH ST
119	HORTENCIA BLVD AT E 28TH ST
120	INTERNATIONAL BLVD AT CLEVELAND ST
121	INTERNATIONAL BLVD AT MAGNETEK DR
122	INTERNATIONAL BLVD AT ROOSEVELT ST
123	INTERNATIONAL BLVD AT SECURITY DR - E 14TH ST
124	INTERNATIONAL BLVD AT SOUTHMOST RD
125	INTERNATIONAL BLVD AT IH-69E / US 77 NB FRONTAGE
126	INTERNATIONAL BLVD AT IH-69E / US 77 SB FRONTAGE
127	JAIME J ZAPATA AVE AT ROBINDALE RD
128	E JEFFERSON ST AT E 13TH ST
129	E JEFFERSON ST AT E 14TH ST
130	E JEFFERSON ST AT E 6TH ST
131	E LEVEE ST AT E 10TH ST
132	E LEVEE ST AT E 11TH ST
133	E LEVEE ST AT E 13TH ST
134	E LEVEE ST AT E 6TH ST
135	E LEVEE ST AT E 7TH ST
136	E LEVEE ST AT E 8TH ST
137	E LEVEE ST AT E 9TH ST
138	LOS EBANOS BLVD AT CORIA ST
139	LOS EBANOS BLVD AT OLD ALICE RD
140	E MADISON ST AT E 11TH ST
141	E MADISON ST AT E 13TH ST
142	E MADISON ST AT E 14TH ST
143	E MADISON ST AT E 6TH ST
144	E MADISON ST AT E 7TH ST
145	IH-69E/US 77 NB FRONTAGE AT MCDAVITT BLVD - E 6TH ST
146	IH-69E/US 77 SB FRONTAGE AT MCDAVITT BLVD - E 6TH ST & E 7TH ST
147	MILITARY HWY AT E ALTON GLOOR BLVD
148	MILITARY HWY AT CAPT BASLER AVE - CALLE PLUTON
149	MILITARY HWY AT CARMEN AVENUE
150	MILITARY HWY AT RUBEN M TORRES BLVD (FM 802)
151	MILITARY HWY AT KENNEDY AVE - JO ANN LN
152	N MINNESOTA AVE AT AUSTIN RD
153	N MINNESOTA AVE AT HOUSTON RD
154	N MINNESOTA AVE AT TRAVIS RD
155	E MONROE ST AT E 13TH ST
156	E MONROE ST AT E 14TH ST
157	MORNIGNSIDE RD AT APOLLO AVE - JOSE COLUNGA JR ST
158	MORNINGSIDE RD AT CENTRAL AVE
159	MORRISON RD AT HISTORIC BATTEFIELD TRL
160	MORRISON RD AT LAREDO RD
161	MORRISON RD AT MCALLEN RD
162	MORRISON RD AT PABLO KISEL BLVD
163	MORRISON RD AT SAN MARCELO BLVD
164	MORRISON RD AT IH-69E / US 77
165	MORRISON RD AT WESTRAIL TRL
166	OLD PORT ISABEL RD AT HACKBERRY LN
167	OLD PORT ISABEL RD AT ROBINHOOD DR
168	PADRE ISLAND HWY AT AUSTIN RD
169	PADRE ISLAND HWY AT CENTRAL AVE
170	PADRE ISLAND HWY AT COFFEE PORT RD
171	PADRE ISLAND HWY AT HOME DEPOT DRIVEWAY
172	PADRE ISLAND HWY AT MCKENZIE RD
173	PADRE ISLAND HWY AT N MINNESOTA AVE
174	PADRE ISLAND HWY AT ROBINDALE RD - FRUITDALE DR
175	PADRE ISLAND HWY AT WALMART DRIVEWAY
176	PADRE ISLAND HWY AT ZENA DR
177	PALM BLVD AT CALLE RETAMA
178	PALM BLVD AT ELIZABETH ST
179	PALM BLVD AT FRONTON ST
180	PALM BLVD AT JEFFERSON ST
181	PALM BLVD AT LEVEE ST
182	PALM BLVD AT RINGGOLD ST
183	PALM BLVD AT ST CHARLES ST
184	PALM BLVD AT ST FRANCIS ST
185	PAREDES LINE RD (FM 1847) AT AVENIDA CARLOS
186	PAREDES LINE RD (FM 1847) AT EVENT CENTER BLVD - EMERALD VALLEY BLVD
187	PAREDES LINE RD (FM 1847) AT GALVESTON RD
188	PAREDES LINE RD (FM 1847) AT CSR DR - HERITAGE TRL
189	PAREDES LINE RD (FM 1847) AT LOS EBANOS BLVD
190	PAREDES LINE RD (FM 1847) AT MAIN ST
191	PAREDES LINE RD (FM 1847) AT E MORRISON RD
192	E POLK ST AT E 24TH ST
193	W PRICE RD AT CENTRAL BLVD
194	E PRICE RD AT EAGLE DR (EAST)
195	E PRICE RD AT EAGLE DR (WEST)
196	E PRICE RD AT PADRE ISLAND HWY
197	E PRICE RD AT IH-69E/US 77 NB FRONTAGE
198	E PRICE RD AT IH-69E/US 77 SB FRONTAGE - OLD ALICE RD
199	E RINGGOLD ST AT E 13TH ST
200	E RINGGOLD ST AT E 6TH ST
201	E RINGGOLD ST AT E 7TH ST
202	E ROOSEVELT ST AT E 13TH ST
203	E ROOSEVELT ST AT E 14TH ST
204	E ROOSEVELT ST AT MCDAVITT BLVD - OAK ST
205	E ST CHARLES ST AT E 6TH ST
206	SOUTHMOST RD AT E 14TH ST
207	SOUTHMOST RD AT E 23RD ST
208	SOUTHMOST RD AT E 26TH ST
209	SOUTHMOST RD AT E 30TH ST
210	SOUTHMOST RD AT DOCKBERRY RD
211	SOUTHMOST RD AT ESPERANZA RD - MORNINGSIDE RD
212	SOUTHMOST RD AT MORNINGSIDE RD
213	SOUTHMOST RD AT TULIPAN ST
214	W UNIVERSITY BLVD AT PARKING LOT DRIVEWAY
215	W UNIVERSITY BLVD AT RINGGOLD RD
216	W UNIVERSITY BLVD AT E TYLER ST
217	UNIVERSITY BLVD AT IH-69E/US 77
218	IH-69E/US 77 AT E 13TH ST
219	IH-69E/US 77 AT E 14TH ST
220	E WASHINGTON ST AT E 10TH ST
221	E WASHINGTON ST AT E 11TH ST
222	E WASHINGTON ST AT E 13TH ST
223	E WASHINGTON ST AT E 14TH ST
224	E WASHINGTON ST AT E 6TH ST
225	E WASHINGTON ST AT E 7TH ST
226	E WASHINGTON ST AT E 8TH ST
227	E WASHINGTON ST AT E 9TH ST
	TRAFFIC SIGNAL STANDARDS
# 228 - 235	[S] ED(1)-25 THRU ED(8)-25
# 236 - 237	[S] SMA-100(1)-12 THRU SMA-100(2)-12

THE STANDARD SHEETS SPECIFICALLY IDENTIFIED WITH A "#" HAVE BEEN ISSUED BY ME AND ARE APPLICABLE TO THIS PROJECT.

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED PROFESSIONAL ENGINEER
04/21/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INDEX OF SHEETS

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	2

4/21/2026 3:59:29 PM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-01-TO3 Traffic Signals Communication\400_CAD\409_Traffic\02_Sheets\01-General\02_SHEET_INDEX (1 OF 2).dgn

SHEET NO	DESCRIPTION
# 238 - 239	[S] SP-100(1)-12 THRU SP-100(2)-12
# 240 - 242	[S] DMA-100(1)-12 THRU DMA-100(3)-12
# 243 - 247	[S] LMA(1)-12 THRU LMA(5)-12
# 248	[S] TS-CF-21

ENVIRONMENTAL ISSUES

249 - 250	ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS (EPIC)
251 - 253	EPIC SHEET SUPPLEMENTALS TPWD BMPs
254 - 255	STORMWATER POLLUTION PREVENTION PLAN (SWP3) (LESS THAN 1 ACRE)

ENVIRONMENTAL ISSUES STANDARDS

# 256	[S] 'EC(1)-16

[S]= STATEWIDE STANDARD

THE STANDARD SHEETS SPECIFICALLY IDENTIFIED WITH A "#" HAVE BEEN ISSUED BY ME AND ARE APPLICABLE TO THIS PROJECT.

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
04/21/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INDEX OF SHEETS

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	3

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Project Number: **Sheet A**

County: Cameron **Control:** 0921-06-399

Highway: Varies

2024 SPECS GENERAL NOTES:

****

General Requirements and Covenants:

ITEM 2: Instructions to Bidders

TxDOT related contractor questions on this project are to be addressed to the following individual(s):

Carlos Lastra, P.E., City Engineer; Carlos.Lastra@brownsvilletx.gov

Lucio S. Gutierrez, MPA, Traffic Manager; lucio.gutierrez@brownsvilletx.gov

ITEM 7: Legal Relations and Responsibilities

No significant traffic generator events identified.

In accordance with Article 7.2.4. of the standard specifications, roadway, or lane closures during the following key dates and/or special events are prohibited:

- National Holidays
- The day before a National Holiday
- During emergency events such as natural disasters or as directed by the Engineer

ITEM 8: Prosecution and Progress

Working days will be computed and charged in accordance with Article 8.3.1.4.

Prepare progress schedules as a Bar Chart.

Project Number: **Sheet B**

County: Cameron **Control:** 0921-06-399

Highway: Varies

ITEM 502: Barricades, Signs, and Traffic Handling

From the beginning to the end of the project, all traffic control devices need to be in acceptable condition as per the Texas Quality Guidelines for Work Zone Traffic Control Devices.

Remove and dispose of all litter, debris, objectionable material, excess materials that accumulate at the base of all traffic control devices as directed by the Engineer.

ITEM 505: Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA)
In addition to the shadow vehicles with truck mounted attenuator (TMA) that are specified as being required on the traffic control plan for the project, provide 2 additional shadow vehicle(s) with TMA as per TCP (1-1) -18 as detailed on General Note 5 of this standard sheet;
or as per TCP(1-2) -18 as detailed on General Note 6 of this standard sheet;
or as per TCP(1-3) -18 as detailed on General Note 7 of this standard sheet;
or as per TCP(1-4) -18 as detailed on General Note 5 of this standard sheet;

ITEM 680 / 690: Highway Traffic Signals

The installation of highway traffic signals shall consist of the following principal Items:

1. Furnishing and installing 16-phase full traffic actuated controllers, base mounted cabinets, conflict monitors, load switches and loop amplifiers.
3. Removal and disposal of existing signal material specified in the plans.
4. All other Items not listed above which are needed to provide for complete traffic signal installations and for proper signal operation as called for in the plans and specifications shall be furnished and installed.

Any deviation of location for proposed signal work shall be as approved.

Signal controller

The signal installations shall be wired in accordance with the phase diagrams in the plans. The proposed base mounted cabinet shall contain 16-phase conflict monitor which display the "R-Y-G" and "Walk" phases. In addition to detecting phasing conflicts, the conflict monitor shall also be able to detect multiple signal head indications within every phase. The conflict monitor shall continue to operate in the event of a power supply failure in the timer and shall be able to retain in memory the time and date of the failure detection. Time changes shall be programmable in the field without replacing components or use of external devices. The full-actuated controller shall meet N.E.M.A. Specifications.

A controller manufacturer's technician shall be required to load initial timing programs into the controllers as called for in the plans. Once the traffic signals are turned on, the same technician shall monitor the signal operation and traffic movement and shall adjust settings for best signal operation. The technician shall provide the State with a certification that the timing plan and

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
4/20/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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Texas Department of Transportation

GENERAL NOTES

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	4

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03_GENERAL NOTES (1 OF 2).dgn

Existing utilities

The exact location of existing underground utilities shall be verified with the utility companies prior to construction to avoid conflict with or damage to these utilities.

Coordination with the utility companies will be required to make any adjustments, due to utility conflicts, as defined in the specifications or deemed necessary.

Uniformity in Equipment

1. All traffic signal equipment furnished shall be by the same manufacturer for each item.

Handling of Traffic

Roads and streets shall always be kept open to traffic. The installation of equipment shall also be arranged so as to permit the continuous movement of traffic in both directions at all times.

All construction operations shall be conducted to provide the least possible interference to traffic as shown on the plans, as provided for in the specifications and/or as directed. All signing, barricading, and handling of traffic shall conform to the current edition of the "Texas Manual on Uniform Traffic Control Devices".

Sequence of work

1. The existing traffic signal installations shall always remain in operation during construction of the proposed traffic signal modifications.
2. The complete removal of the specified existing specified Items will be required when the proposed traffic signal installations are in place and operational.
3. All labor, tools, and materials used to remove the specified existing traffic signal material shall not be paid for directly but be considered subsidiary to the various items of work.
4. Final inspection shall be conducted in conjunction with the district signal shop.

STATE OF TEXAS
BRIAN G. CASTILLE
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3/20/26

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Land Surveying Firm No. 10046700

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GENERAL NOTES

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	5

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03_GENERAL NOTES (2 OF 2).dgn



NUMBER	STREET
209	IH-69E/ US77 @Rancho Viejo (North Frontage)
	IH-69E/ US77 @Rancho Viejo (South Frontage)
68	IH-69E/ US77 @FM 511 (North Frontage)
	IH-69E/ US77 @FM 511 (South Frontage)
67	FM 511 @Paredes Line Road (East Frontage)
	FM 511 @Paredes Line Road (West Frontage)
65	FM 511 @Old Alice Rd East Frontage
	FM 511 @Old Alice Rd West Frontage
9	Anaqua St @IH-69E/ US77 North Frontage
	Anaqua St @IH-69E/ US77 South Frontage

SCALE: NTS

STATE OF TEXAS
CARRIE A. JAEGER
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LOCATION MAP

SHEET 1 OF 6

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	6

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04_LOCATION MAP (1 OF 5).dgn



NUMBER	STREET
1	Alton Gloor @Lakeway Drive
2	Alton Gloor @Morrison Rd.
3	Alton Gloor @Pablo Kisel Blvd., Sugar Mill
4	Alton Gloor @Paredes Line Road (FM 1847)
5	Alton Gloor @Ridgeline Drive
6	Alton Gloor @Stage Coach Trail
7	Alton Gloor @IH-69E/ US77 North Frontage
	Alton Gloor @IH-69E/ US77 South Frontage
8	Alton Gloor @West Rail Trail
38	Central Blvd @Media Luna, Old US HWY 77
42	Coffee Port @Paredes Ln Rd.
70	FM 802 @Central Blvd
73	FM 802 @Habana St.
74	FM 802 @Hudson Blvd.
76	FM 802 @McAllen, Country Club
78	FM 802 @Old Alice Rd., Jose Marti Blvd.
81	FM 802 @Paredes Line Road
83	FM 802 @San Marcelo, Coffee Rd.
85	FM 802 @Sunrise Mall East Entrance
86	FM 802 @IH-69E/ US77 North Frontage
	FM 802 @IH-69E/ US77 South Frontage
88	FM 802 @Village Center Dr.
89	FM 802 @West Rail Trail
130	Military Hwy. @Alton Gloor Blvd
142	Morrison Rd. @Hitorical Battefield Trail
143	Morrison Rd. @Laredo Rd.
144	Morrison Rd. @McAllen Rd.
145	Morrison Rd. @Pablo Kisel Blvd.
146	Morrison Rd. @San Marcelo Blvd, Las Palomas
147	Morrison Rd. @IH-69E/ US77 North Frontage
	Morrison Rd. @IH-69E/ US77 South Frontage
148	Morrison Rd. @West Rail Trail.
168	Paredes Line Road @Avenida Carlos
169	Paredes Line Road @Event Center, Emerald Valley
171	Paredes Line Road @Heritage Trail
173	Paredes Line Road @Main St.
174	Paredes Line Road @Morrison Rd.

SCALE: NTS



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LOCATION MAP

SHEET 2 OF 6

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	7

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04_LOCATION MAP (2 OF 5).dgn



NUMBER	STREET
12	Boca Chica @Barnard Rd.
15	Boca Chica @Calle Cenizo
17	Boca Chica @Central Blvd.
18	Boca Chica @Coria St.
20	Boca Chica @Honeydale Rd., West Monroe St.
25	Boca Chica @Old Alice Rd.
26	Boca Chica @Old Military and Madison St.
27	Boca Chica @Old Port Isabel Rd. / Mcdavitt Blvd.
29	Boca Chica @Palm Blvd.
30	Boca Chica @Paredes Line Road
32	Boca Chica @IH-69E/ US77 North Frontage Boca Chica @IH-69E/ US77 South Frontage
35	Central Blvd @Elizabeth St. and W. 8th St.
36	Central Blvd @Jefferson Blvd., Lakeside Blvd.
37	Central Blvd @Los Ebanos Rd.
39	Central Blvd @Wild Rose Ln
75	FM 802 @Laredo Rd.
121	Los Ebanos Blvd. @Coria St.
122	Los Ebanos Blvd. @Old Alice Rd.
129	IH-69E/ US77 @McDavitt, 6th & 7th (North Frontage) IH-69E/ US77@McDavitt, 6th & 7th (South Frontage)
131	Military Hwy. @Capt Basler Ave. / Calle Pluton
133	Military Hwy. @FM 802
134	Military Hwy. @Kennedy Ln, Jo Anne Ln.
160	Palm Blvd @Calle Retama
163	Palm Blvd @Jefferson St.
165	Palm Blvd @Ringgold St.
170	Paredes Line Road @Galveston Road
172	Paredes Line Road @Los Ebanos Blvd.
176	Price Road @Barnard Rd.
177	Price Road @BISD Driveway
178	Price Road @Central Blvd
179	Price Road @ Eagle Drive (East)
180	Price Road @ Eagle Drive (West)
183	Price Road @Paredes Line Road
184	Price Road @Sloss Drive
185	Price Road @IH-69E/ US77 North Frontage Price Road @IH-69E/ US77 South Frontage and Old Alice
188	Ringgold St. at 6th
189	Ringgold St. at 7th
190	Roosevelt St. @13th
191	Roosevelt St. @14th
192	Roosevelt St. @McDavitt Blvd., Oak St.
195	Southmost Rd. @14th St.

SCALE: NTS

STATE OF TEXAS
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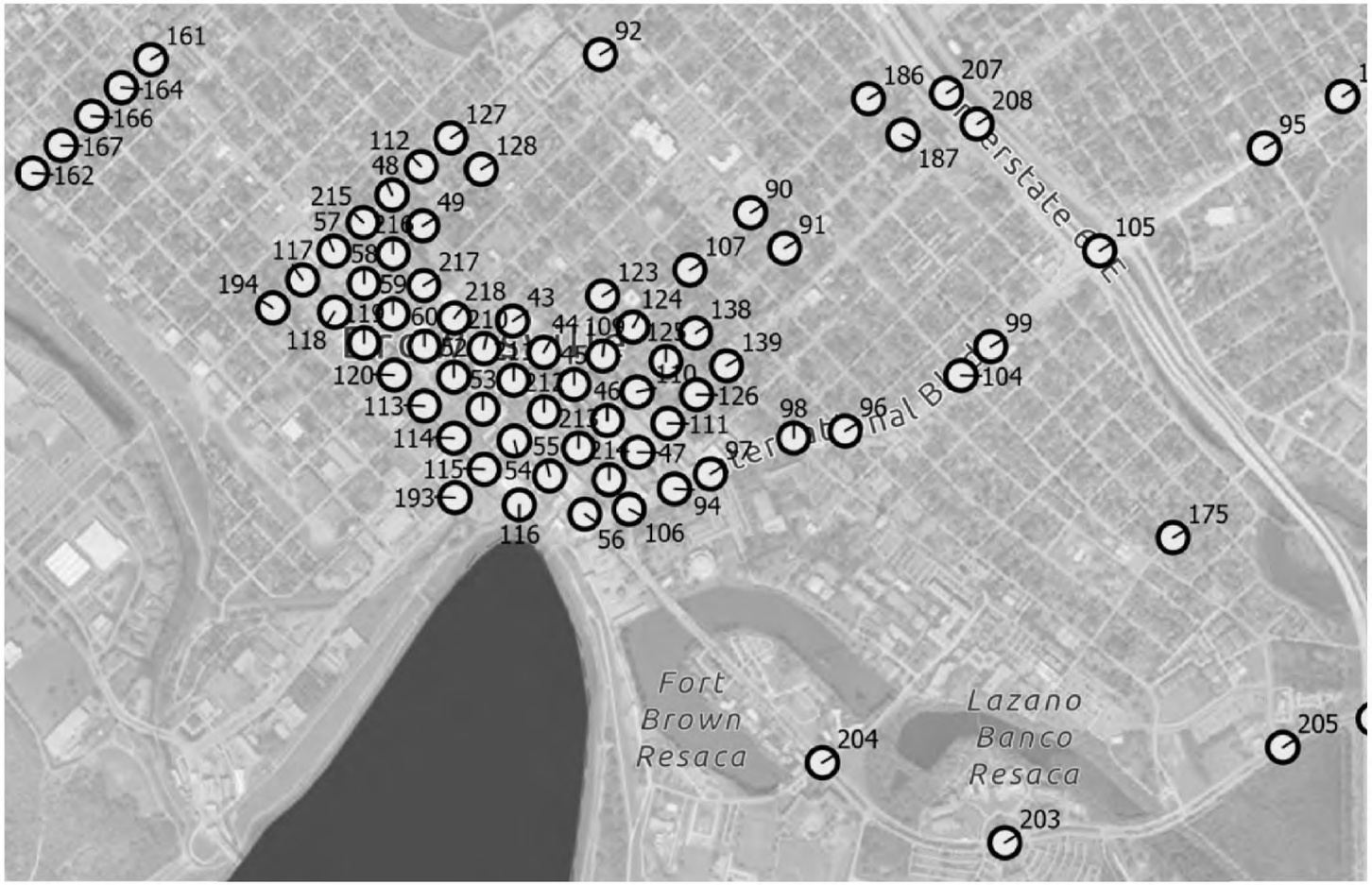
LOCATION MAP

SHEET 3 OF 6

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	8

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04_LOCATION MAP (3 OF 5).dgn



NUMBER	STREET
43	E. Adams St. @10th St.
44	E. Adams St. @11th St.
45	E. Adams St. @12th St.
46	E. Adams St. @13th St.
47	E. Adams St. @14th St.
48	E. Adams St. @6th St.
49	E. Adams St. @7th St.
52	E. Elizabeth @10th
53	E. Elizabeth @11th
54	E. Elizabeth @12th
55	E. Elizabeth @13th
56	E. Elizabeth @International Blvd.
57	E. Elizabeth @6th
58	E. Elizabeth @7th
59	E. Elizabeth @8th
60	E. Elizabeth @9th
90	Harrison St. @12th St.
91	Harrison St. @13th St.
92	Harrison St. @7th St.
94	International Blvd @ E. Adams St.
95	International Blvd @ E. Cleveland St.
96	International Blvd @ E. Jackson St.
97	International Blvd @ E. Jefferson, May
98	International Blvd @E. Monroe, Ridgley
99	International Blvd @E. Polk St.
104	International Blvd @Tyler St.
105	IH-69E/ US77 @International St (North Frontage) IH-69E/ US77 @International St (South Frontage)
106	International Blvd @Washington St.
107	Jackson St. @12th St.
109	E. Jefferson @12th St.
110	E. Jefferson @13th St.
111	E. Jefferson @14th St.
112	E. Jefferson @6th St.
113	E. Levee @10th St.
114	E. Levee @11th St.
115	E. Levee @12th St.
116	E. Levee @13th St.
117	E. Levee @6th St.
118	E. Levee @7th St.
119	E. Levee @8th St.
120	E. Levee @9th St.
123	Madison @11th St.
124	Madison @12th St.
125	Madison @13th St.
126	Madison @14th
127	Madison @6th St.
128	Madison @7th St.
138	Monroe @13th
139	Monroe @14th
161	Palm Blvd @E. Elizabeth St.
162	Palm Blvd @Fronton St.
164	Palm Blvd @Levee St.
166	Palm Blvd @Saint Charles St.
167	Palm Blvd @Saint Francis St.
175	Polk @24th
186	Ringgold St. at 12th
187	Ringgold St. at 13th
193	Saint Charles @12th, Sam Pearl Blvd
194	Saint Charles @6th
203	University Blvd @Parking Lot
204	University Blvd @Ringgold Road
205	University Blvd @Tyler St. and Polk St.
207	IH-69E/ US77 @13th Street (North Frontage) IH-69E/ US77 @13th Street (South Frontage)
208	IH-69E/ US77 @14th Street (North Frontage) IH-69E/ US77 @14th Street (South Frontage)
210	E. Washington @E. 10th
211	E. Washington @E. 11th
212	E. Washington @E. 12th
213	E. Washington @E. 13th
214	E. Washington @E. 14th
215	E. Washington @E. 6th
216	E. Washington @E. 7th
217	E. Washington @E. 8th
218	E. Washington @E. 9th

SCALE: NTS

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
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03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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LOCATION MAP

SHEET 4 OF 6

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	9

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04_LOCATION MAP (4 OF 6).dgn



NUMBER	STREET
40	Coffee Port @Minnesota Ave.
41	Coffee Port @Old Port Isabel Rd.
61	FM 511 @Charmaine Ln.
62	FM 511 @Devon Dr.
62	FM 511 @Devon Dr.
63	FM 511 @Dr. Hugh Emerson Rd. (East Frontage)
	FM 511 @Dr. Hugh Emerson Rd. (West Frontage)
64	FM 511 @FM 802
66	FM 511 @Padre Island Hwy East Frontage
	FM 511 @Padre Island Hwy West Frontage
69	FM 802 @Central Avenue
71	FM 802 @Coffee Port Rd
72	FM 802 @Dana Avenue
77	FM 802 @Minnesota Ave
79	FM 802 @Old Port Isabel Rd.
80	FM 802 @Padre Island Hwy
82	FM 802 @Robindale Rd.
84	FM 802 @Seville Blvd.
87	FM 802 @Vermillion Rd - Illinois Ave.
108	Coffee Port / Jaime Zapata Ave. @Robindale Rd.
149	Old Port Isabel Rd. @Hackberry Ln.
153	Padre Island Hwy @Coffee Port Rd.
156	Padre Island Hwy. @Minnesota Ave.
158	Padre Island Hwy. @Walmart Entrance
159	Padre Island Hwy / Zena Dr.

SCALE: NTS

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LOCATION MAP

SHEET 5 OF 6

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	10

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NUMBER	STREET
10	Billy Mitchell Blvd @Central Avenue
11	Billy Mitchell Blvd @Jose Colunga Jr.
13	Boca Chica @Billy Mitchell Blvd
14	Boca Chica @Brownsville Plaza
16	Boca Chica @Central Ave.
19	Boca Chica @FM 511
21	Boca Chica @International Blvd, Padre Island Hwy.
22	Boca Chica @Iowa Ave.
23	Boca Chica @Kings Hwy.
24	Boca Chica @Minnesota Ave.
28	Boca Chica @Owens Rd.
31	Boca Chica @Security Dr.
33	Boca Chica @Vermillion Rd.
34	Central Avenue @Mackenzie Rd.
50	East Avenue @Impala Dr. and Elena
51	East Avenue @Tulipan St.
93	Hortencia St. @28th St.
100	International Blvd @Magnetek Drive
102	International Blvd @Security Dr. and 14th Street
103	International Blvd @Southmost Rd.
135	Minnesota Ave. @Austin Rd.
136	Minnesota Ave. @Houston Rd.
137	Minnesota Ave. @Travis Rd.
140	Morningside Rd. / Apollo - Jose Colunga Jr.
141	Morningside Rd. / Central Ave.
150	Old Port Isabel Rd. @Robinhood Dr.
151	Padre Island Hwy @Austin Rd.
152	Padre Island Hwy. @Central Ave.
154	Padre Island Hwy. @Home Depot Entrance
155	Padre Island Hwy. @Mckenzie Rd.
157	Padre Island Hwy. @Robindale / Fruitdale
181	Price Road @Old Port Isabel Rd.
182	Price Road @Padre Island Hwy
196	Southmost Rd. @23rd St.
197	Southmost Rd. @26th St.
198	Southmost Rd. @30th St.
199	Southmost Rd. @Dockberry Rd.
200	Southmost Rd. @Esperanza, Morningside
201	Southmost Rd. @Morningside
202	Southmost Rd. @Tulipan St.
206	University Blvd, East Avenue @IH-69E/ US77

SCALE: NTS

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LOCATION MAP

SHEET 6 OF 6

DISTRICT DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	11

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04_LOCATION MAP (6 OF 6).dgn

SUMMARY OF SIGNAL ITEMS

INTERSECTION NUMBER	LOCATION	SOO 7001 MOBILIZATION	502 7001 BARRICADES, SIGNS AND TRAFFIC HANDLING	505 7002 TMA(MOBILE OPERATION)	680-0001 FURNISH& INSTALL FIELD MONITORING UNIT	680-0002 FURNISH& INSTALL ROAD SIDE UNIT	* RSUCABLE	680-0004 FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY	680-0005 FURNISH& INSTALL P5G GATEWAY	6043-0001 ANTENNA(OMNI-DIRECTIONAL)
		LS	MO	HR	EA	EA	LF	EA	EA	EA
1	ALTON GLOOR@ LAKEWAY DRIVE	0	0	0	0	0	0	0	0	0
2	ALTON GLOOR@ MORRISON RD.	0.01	0.02	1	1	1	60	1	1	1
3	ALTON GLOOR@ PABLO KISH BLVD., SUGAR MILL	0	0	0	0	0	0	0	0	0
4	ALTON GLOOR@ PAREDES LINE ROAD (FM 1847)	0	0	0	0	0	0	0	0	0
5	ALTON GLOOR@ RIDGELiNE DRIVE	0	0	0	0	0	0	0	0	0
6	ALTON GLOOR @STAGE COACH TRAIL	0	0	0	0	0	0	0	0	0
7	ALTON GLOOR@ IH-69E / US 77 NORTH FRONTAGE	0	0	0	0	0	0	0	0	0
	ALTON GLOOR@ IH-69E / US 77 SOUTH FRONTAGE					0				
8	ALTON GLOOR @WEST RAIL TRAIL	0.01	0.02	1	1	1	60	1	1	1
9	ANAQUA ST@ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	300	1	1	1
	ANAQUA ST@ IH-69E / US 77 SOUTH FRONTAGE					1				
10	BILLY MITCHELL BLVD@CENTRAL AVENUE	0.01	0.02	1	1	1	60	1	1	1
11	BILLY MITCHELL BLVD@JOSE COLUNGA JR.	0.01	0.02	1	1	1	60	1	1	1
12	BOCA CHICA@ BARNARD RD.	0.01	0.02	1	1	1	60	1	1	1
13	BOCA CHICA@ BILLY MITCHELL BLVD	0.01	0.02	1	1	1	60	1	1	1
14	BOCA CHICA@ BROWNSVILLE PLAZA	0.01	0.02	1	1	1	60	1	1	1
15	BOCA CHICA @CALLE CENIZO	0.01	0.02	1	1	1	60	1	1	1
16	BOCA CHICA @CENTRAL AVE.	0.01	0.02	1	1	1	60	1	1	1
17	BOCA CHICA @CENTRAL BLVD.	0.01	0.02	1	1	1	60	1	1	1
18	BOCA CHICA @CORIA ST.	0.01	0.02	1	1	1	60	1	1	1
19	BOCA CHICA@ FM 511	0.01	0.02	1	1	1	60	1	1	1
20	BOCA CHICA@ HONEYDALE RD., WEST MONROE ST.	0.01	0.02	1	1	1	60	1	1	1
21	BOCA CHICA@ INTERNATIONAL BLVD, PADRE ISLAND HWY.	0.01	0.02	1	1	1	60	1	1	1
22	BOCA CHICA@IOWAAVE.	0.01	0.02	1	1	1	60	1	1	1
23	BOCA CHICA@ KINGS HWY.	0	0	0	0	0	0	0	0	0
24	BOCA CHICA@ MINNESOTA AVE.	0.01	0.02	1	1	1	60	1	1	1
25	BOCA CHICA@ OLD ALICE RD.	0.01	0.02	1	1	1	60	1	1	1
26	BOCA CHICA@ OLD MILITARY AND MADISON ST.	0.01	0.02	1	1	1	60	1	1	1
27	BOCA CHICA@OLD PORT ISABEL RD./ MCDAVITT BLVD.	0.01	0.02	1	1	1	60	1	1	1
28	BOCA CHICA@ OWENS RD.	0.01	0.02	1	1	1	60	1	1	1
29	BOCA CHICA@ PALM BLVD.	0.01	0.02	1	1	1	60	1	1	1
30	BOCA CHICA@ PAREDES LINE ROAD	0.01	0.02	1	1	1	60	1	1	1
31	BOCA CHICA @SECURITY DR.	0.01	0.02	1	1	1	60	1	1	1
32	BOCA CHICA@ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	300	1	1	1
	BOCA CHICA@ IH-69E / US 77 SOUTH FRONTAGE					1				
33	BOCA CHICA @VERMILLION RD.	0.01	0.02	1	1	1	60	1	1	1
34	CENTRALAVENUE@MACKENZIE RD.	0.01	0.02	1	1	1	60	1	1	1
35	CENTRAL BLVD@ELIZABETH ST. AND W. 8THST.	0.01	0.02	1	1	1	60	1	1	1
36	CENTRAL BLVD @JEFFERSON BLVD., LAKESIDE BLVD.	0.01	0.02	1	1	1	60	1	1	1
37	CENTRAL BLVD@LOS EBANOS RD.	0.01	0.02	1	1	1	60	1	1	1
38	CENTRAL BLVD@MEDIA LUNA, OLD US HWY 77	0.01	0.02	1	1	1	60	1	1	1
39	CENTRAL BLVD@WILD ROSE LN	0.01	0.02	1	1	1	60	1	1	1
40	COFFEE PORT@ MINNESOTA AVE.	0.01	0.02	1	1	1	60	1	1	1
41	COFFEE PORT @OLD PORT ISABEL RD.	0.01	0.02	1	1	1	60	1	1	1
42	COFFEE PORT @PAREDES LN RD.	0.01	0.02	1	1	1	60	1	1	1

NOTE:* ITEM SUBSIDIARY TO 680-0002

BROWNSVILLE

Land Surveying Firm No. 10046700

A2026 Texas Department of Transportation

SUMMARY OF QUANTITIES

SHEET 1 OF 5

DISTRICT	HIGHWAY	STATE
6	VAR	TEXAS
COUNTY	CONTROL	SECTION	JOB	SHEET NO.
CAMERON	0921	06	399	12

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SUMMARY OF SIGNAL ITEMS										
		SO0 7001	502 7001	505 7002	680-0001	680-0002	*	680-0004	680-0005	6043-0001
INTERSECTION NUMBER	LOCATION	MOBILIZATION	BARRICADES, SIGNS AND TRAFFIC HANDLING	TMA(MOBILE OPERATION)	FURNISH& INSTALL FIELD MONITORING UNIT	FURNISH& INSTALL ROAD SIDE UNIT	RSUCABLE	FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY	FURNISH& INSTALL P5G GATEWAY	ANTENNA(OMNI-DIRECTIONAL)
		LS	MO	HR	EA	EA	LF	EA	EA	EA
43	E ADAMS ST.@ 10TH ST	0.01	0.02	1	1	1	60	1	1	1
44	E ADAMS ST.@ 11TH ST	0.01	0.02	1	1	1	60	1	1	1
46	E ADAMS ST.@ 13TH ST	0.01	0.02	1	1	1	60	1	1	1
47	E ADAMS ST.@ 14TH ST	0.01	0.02	1	1	1	60	1	1	1
48	E ADAMS ST.@ 6TH ST	0.01	0.02	1	1	1	60	1	1	1
49	E ADAMS ST.@ 7TH ST	0.01	0.02	1	1	1	60	1	1	1
50	EAST AVENUE@IMPALA DR.AND ELENA	0.01	0.02	1	1	1	60	1	1	1
51	EAST AVENUE @TULi PAN ST.	0.01	0.02	1	1	1	60	1	1	1
52	E. ELIZABETH @ 10TH	0.01	0.02	1	1	1	60	1	1	1
53	E. ELIZABETH @ 11TH	0.01	0.02	1	1	1	60	1	1	1
55	E. ELIZABETH @ 13TH	0.01	0.02	1	1	1	60	1	1	1
57	E. ELIZABETH @6TH	0.01	0.02	1	1	1	60	1	1	1
58	E. ELIZABETH @7TH	0.01	0.02	1	1	1	60	1	1	1
59	E. ELIZABETH @8TH	0.01	0.02	1	1	1	60	1	1	1
60	E. ELIZABETH @9TH	0.01	0.02	1	1	1	60	1	1	1
61	FM 511 @CHARMAINE LN.	0.01	0.02	1	1	1	60	1	1	1
62	FM 511 @ DEVON DR.	0.01	0.02	1	1	1	60	1	1	1
63A	FM 511@ DR. HUGH EMERSON RD. (EAST FRONTAGE)	0.01	0.02	2	1	1	300	1	1	1
63B	FM 511@ DR. HUGH EMERSON RD. (WEST FRONTAGE)					1				
64	FM 511 @ FM 802	0.01	0.02	1	1	1	60	1	1	1
65A	FM 511@ OLD ALICE RD EAST FRONTAGE	0.01	0.02	2	1	1	300	1	1	1
65B	FM 511@ OLD ALICE RD WEST FRONTAGE					1				
66	FM 511@ PADRE ISLAND HWY EAST FRONTAGE	0.01	0.02	2	1	1	300	1	1	1
	FM 511 @PADRE ISLAND HWY WEST FRONTAGE					1				
67A	FM 511@ PAREDES LINE ROAD (EAST FRONTAGE)	0.01	0.02	2	1	1	300	1	1	1
67B	FM 511@ PAREDES LINE ROAD (WEST FRONTAGE)					1				
68A	IH-69E / US 77@ FM 511 (NORTH FRONTAGE)	0	0	0	0	0	0	0	0	0
68B	IH-69E / US 77@ FM 511 (SOUTH FRONTAGE)					0				
69	FM 802@CENTRALAVENUE	0.01	0.02	1	1	1	60	1	1	1
70	FM 802@ CENTRAL BLVD	0.01	0.02	1	1	1	60	1	1	1
71	FM 802 @COFFEE PORT RD	0.01	0.02	1	1	1	60	1	1	1
72	FM 802@ DANA AVENUE	0.01	0.02	1	1	1	60	1	1	1
73	FM 802 @ HABANA ST.	0.01	0.02	1	1	1	60	1	1	1
74	FM 802@ HUDSON BLVD.	0.01	0.02	1	1	1	60	1	1	1
75	FM 802 @ LAREDO RD.	0.01	0.02	1	1	1	60	1	1	1
76	FM 802@ MCALLEN, COUNTRY CLUB	0.01	0.02	1	1	1	60	1	1	1
77	FM 802@ MINNESOTA AVE	0.01	0.02	1	1	1	60	1	1	1
78	FM 802@ OLD ALICE RD., JOSE MARTI BLVD.	0.01	0.02	1	1	1	60	1	1	1
79	FM 802 @OLD PORT ISABEL RD.	0.01	0.02	1	1	1	60	1	1	1
80	FM 802@ PADRE ISLAND HWY	0.01	0.02	1	1	1	60	1	1	1
81	FM 802@ PAREDES LINE ROAD	0.01	0.02	1	1	1	60	1	1	1
82	FM 802@ ROBIN DALE RD.	0.01	0.02	1	1	1	60	1	1	1
83	FM 802 @SAN MARCELO, COFFEE RD.	0.01	0.02	1	1	1	60	1	1	1
84	FM 802@ SEVILLE BLVD.	0.01	0.02	1	1	1	60	1	1	1
85	FM 802 @SUNRISE MALL EAST ENTRANCE	0.01	0.02	1	1	1	60	1	1	1

NOTE:* ITEM SUBSIDIARY TO 680-0002

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A2026 Texas Department or Transportation

SUMMARY OF QUANTITIES

SHEET 2 OF 5

DIST.	HIGHWAY	STATE
6	VAR	TEXAS

STATE DISTRICT	COUNTY	CONTROL	SECTION	JOB	SHEET NO.
PHR	CAMERON	0921	06	399	B

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05_SUMMARY OF QUANTITIES (2 OF 5).dgn

SUMMARY OF SIGNAL ITEMS

INTERSECTION NUMBER	LOCATION	S00 7001	502 7001	505 7002	680-0001	680-0002	*	680-0004	680-0005	6043-0001
		MOBILIZATION	BARRICADES, SIGNS AND TRAFFIC HANDLING	TMA(MOBILE OPERATION)	FURNISH& INSTALL FIELD MONITORING UNIT	FURNISH& INSTALL ROAD SIDE UNIT	RSUCABLE	FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY	FURNISH& INSTALL P5G GATEWAY	ANTENNA(OMNI-DIRECTIONAL)
		LS	MO	HR	EA	EA	LF	EA	EA	EA
86	FM 802@ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	300	1	1	1
	FM 802@ IH-69E / US 77 SOUTH FRONTAGE					1				
87	FM 802 @VERMILLION RD- ILLINOIS AVE.	0.01	0.02	1	1	1	60	1	1	1
88	FM 802 @VILLAGE CENTER DR.	0.01	0.02	1	1	1	60	1	1	1
89	FM 802@WEST RAIL TRAIL	0.01	0.02	1	1	1	60	1	1	1
91	HARRISON ST. @ 13TH ST.	0.01	0.02	1	1	1	60	1	1	1
92	HARRISON ST.@ 7TH ST.	0.01	0.02	1	1	1	60	1	1	1
93	HORTENCIA ST.@ 28TH ST.	0.01	0.02	1	1	1	60	1	1	1
95	INTERNATIONAL BLVD@ CLEVELAND ST.	0.01	0.02	1	1	1	60	1	1	1
100	INTERNATIONAL BLVD@ MAGNETEK DRIVE	0.01	0.02	1	1	1	60	1	1	1
101	INTERNATIONAL BLVD@ ROOSEVELT ST.	0.01	0.02	1	1	1	60	1	1	1
102	INTERNATIONAL BLVD@SECURITY DR. AND 14TH STREET	0.01	0.02	1	1	1	60	1	1	1
103	INTERNATIONAL BLVD@SOUTHMOST RD.	0.01	0.02	1	1	1	60	1	1	1
105	INTERNATIONAL BLVD@IH-69E/ US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	300	1	1	1
	INTERNATIONAL BLVD@ IH-69E / US 77 SOUTH FRONTAGE					1				
108	COFFEE PORT/ JAIME ZAPATA AVE.@ ROBIN DALE RD.	0.01	0.02	1	1	1	60	1	1	1
110	E.JEFFERSON@13TH ST.	0.01	0.02	1	1	1	60	1	1	1
111	E.JEFFERSON@14TH ST.	0.01	0.02	1	1	1	60	1	1	1
112	E.JEFFERSON@6TH ST.	0.01	0.02	1	1	1	60	1	1	1
113	E LEVEE@ 10TH ST.	0.01	0.02	1	1	1	60	1	1	1
114	E LEVEE@ 11TH ST.	0.01	0.02	1	1	1	60	1	1	1
116	E LEVEE@ 13TH ST.	0.01	0.02	1	1	1	60	1	1	1
117	E LEVEE@ 6TH ST.	0.01	0.02	1	1	1	60	1	1	1
118	E LEVEE@ 7TH ST.	0.01	0.02	1	1	1	60	1	1	1
119	E LEVEE@ 8TH ST.	0.01	0.02	1	1	1	60	1	1	1
120	E LEVEE@ 9TH ST.	0.01	0.02	1	1	1	60	1	1	1
121	LOS EBANOS BLVD. @CORIA ST.	0.01	0.02	1	1	1	60	1	1	1
122	LOS EBANOS BLVD. @OLD ALICE RD.	0.01	0.02	1	1	1	60	1	1	1
123	MADISON @11TH ST.	0.01	0.02	1	1	1	60	1	1	1
125	MADISON @13TH	0.01	0.02	1	1	1	60	1	1	1
126	MADISON @14TH	0.01	0.02	1	1	1	60	1	1	1
127	MADISON @6TH ST.	0.01	0.02	1	1	1	60	1	1	1
128	MADISON @7TH ST.	0.01	0.02	1	1	1	60	1	1	1
129A	IH-69E/ US 77@MCDAVITT,6TH& 7TH (NORTH FRONTAGE}	0.01	0.02	2	1	1	300	1	1	1
129B	IH-69E/ US 77@MCDAVITT,6TH& 7TH (SOUTH FRONTAGE}					1				
130	MILITARY HWY.@ALTON GLOOR BLVD	0.01	0.02	1	1	1	60	1	1	1
131	MILITARY HWY. @CAPT BASLER AVE./ CALLE PLUTON	0.01	0.02	1	1	1	60	1	1	1
132	MILITARY HWY. @CARMEN AVENUE	0.01	0.02	1	1	1	60	1	1	1
133	MILITARY HWY.@FM 802	0.01	0.02	1	1	1	60	1	1	1
134	MILITARY HWY.@KENNEDY LN,JOANNE LN.	0.01	0.02	1	1	1	60	1	1	1
135	MINNESOTA AVE. @AUSTIN RD.	0.01	0.02	1	1	1	60	1	1	1
136	MINNESOTA AVE.@ HOUSTON RD.	0.01	0.02	1	1	1	60	1	1	1
137	MINNESOTAAVE.@TRAVIS RD.	0.01	0.02	1	1	1	60	1	1	1
138	MONROE@ 13TH	0.01	0.02	1	1	1	60	1	1	1
139	MONROE@ 14TH	0.01	0.02	1	1	1	60	1	1	1

NOTE:* ITEM SUBSIDIARY TO 680-0002

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A2026 Texas Department or Transportation

SUMMARY OF QUANTITIES

SHEET 3 OF 5

DISTRICT	HIGHWAY	STATE
6	VAR	TEXAS
STATE DISTRICT	COUNTY	CONTROL	SECTION	JOB	SHEET NO.
PHR	CAMERON	0921	06	399	14

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05_SUMMARY OF QUANTITIES (3 OF 5).dgn

SUMMARY OF SIGNAL ITEMS										
INTERSECTION NUMBER	LOCATION	S00 7001	502 7001	505 7002	680-0001	680-0002	*	680-0004	680-0005	6043-0001
		MOBILIZATION	BARRICADES, SIGNS AND TRAFFIC HANDLING	TMA(MOBILE OPERATION)	FURNISH& INSTALL FIELD MONITORING UNIT	FURNISH& INSTALL ROAD SIDE UNIT	RSUCABLE	FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY	FURNISH& INSTALL P5G GATEWAY	ANTENNA(OMNI-DIRECTIONAL)
		LS	MO	HR	EA	EA	LF	EA	EA	EA
140	MORNINGSIDE RD./ APOLLO - JOSE COLUNGA JR.	0.01	0.02	1	1	1	60	1	1	1
141	MORNINGSIDE RD./ CENTRAL AVE.	0.01	0.02	1	1	1	60	1	1	1
142	MORRISON RD.@ HITORICAL BATTEFIELD TRAIL	0.01	0.02	1	1	1	60	1	1	1
143	MORRISON RD.@ LAREDO RD.	0.01	0.02	1	1	1	60	1	1	1
144	MORRISON RD.@ MCALLEN RD.	0.01	0.02	1	1	1	60	1	1	1
145	MORRISON RD.@ PABLO KISEL BLVD.	0.01	0.02	1	1	1	60	1	1	1
146	MORRISON RD. @SAN MARCELO BLVD, LAS PALOMAS	0.01	0.02	1	1	1	60	1	1	1
147	MORRISON RD. @IH-69E/ US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	300	1	1	1
	MORRISON RD. @IH-69E/ US 77 SOUTH FRONTAGE					1				
148	MORRISON RD. @WEST RAIL TRAIL.	0.01	0.02	1	1	1	60	1	1	1
149	OLD PORT ISABEL RD.@ HACKBERRY LN.	0.01	0.02	1	1	1	60	1	1	1
150	OLD PORT ISABEL RD.@ ROBIN HOOD DR.	0.01	0.02	1	1	1	60	1	1	1
151	PADRE ISLAND HWY @AUSTIN RD.	0.01	0.02	1	1	1	60	1	1	1
152	PADRE ISLAND HWY.@ CENTRAL AVE.	0.01	0.02	1	1	1	60	1	1	1
153	PADRE ISLAND HWY @COFFEE PORT RD.	0.01	0.02	1	1	1	60	1	1	1
154	PADRE ISLAND HWY.@ HOME DEPOT ENTRANCE	0.01	0.02	1	1	1	60	1	1	1
15S	PADRE ISLAND HWY.@ MCKENZIE RD.	0.01	0.02	1	1	1	60	1	1	1
156	PADRE ISLAND HWY.@ MINNESOTA AVE.	0.01	0.02	1	1	1	60	1	1	1
157	PADRE ISLAND HWY.@ ROBINDALE/ FRUITDALE	0.01	0.02	1	1	1	60	1	1	1
158	PADRE ISLAND HWY. @WALMART ENTRANCE	0.01	0.02	1	1	1	60	1	1	1
159	PADRE ISLAND HWY/ ZENA DR.	0.01	0.02	1	1	1	60	1	1	1
160	PALM BLVD@CALLE RETAMA	0.01	0.02	1	1	1	60	1	1	1
161	PALM BLVD@ E. ELIZABETH ST.	0.01	0.02	1	1	1	60	1	1	1
162	PALM BLVD@ FRONTON ST.	0.01	0.02	1	1	1	60	1	1	1
163	PALM BLVD @JEFFERSON ST.	0.01	0.02	1	1	1	60	1	1	1
164	PALM BLVD@ LEVEE ST.	0.01	0.02	1	1	1	60	1	1	1
165	PALM BLVD@ RINGGOLD ST.	0.01	0.02	1	1	1	60	1	1	1
166	PALM BLVD @SAINT CHARLES ST.	0.01	0.02	1	1	1	60	1	1	1
167	PALM BLVD @SAINT FRANCIS ST.	0.01	0.02	1	1	1	60	1	1	1
168	PAREDES LINE ROAD @AVENI DA CARLOS	0.01	0.02	1	1	1	60	1	1	1
169	PAREDES LINE ROAD@ EVENT CENTER, EMERALD VALLEY	0.01	0.02	1	1	1	60	1	1	1
170	PAREDES LINE ROAD@ GALVESTON ROAD	0.01	0.02	1	1	1	60	1	1	1
171	PAREDES LINE ROAD@ HERITAGE TRAIL	0.01	0.02	1	1	1	60	1	1	1
172	PAREDES LINE ROAD@ LOS EBANOS BLVD.	0.01	0.02	1	1	1	60	1	1	1
173	PAREDES LINE ROAD@ MAIN ST.	0.01	0.02	1	1	1	60	1	1	1
174	PAREDES LINE ROAD@ MORRISON RD.	0.01	0.02	1	1	1	60	1	1	1
17S	POLK@24TH	0.01	0.02	1	1	1	60	1	1	1
176	PRICE ROAD@ BARNARD RD.	0	0	0	0	0	0	0	0	0
177	PRICE ROAD@ BISD DRIVEWAY	0	0	0	0	0	0	0	0	0
178	PRICE ROAD@ CENTRAL BLVD	0.01	0.02	1	1	1	60	1	1	1
179	PRICE ROAD@ EAGLE DRIVE (EAST)	0.01	0.02	1	1	1	60	1	1	1
180	PRICE ROAD@ EAGLE DRIVE (WEST)	0.01	0.02	1	1	1	60	1	1	1
181	PRICE ROAD@ OLD PORT ISABEL RD.	0	0	0	0	0	0	0	0	0
182	PRICE ROAD@ PADRE ISLAND HWY	0.01	0.02	1	1	1	60	1	1	1
183	PRICE ROAD@ PAREDES LINE ROAD	0	0	0	0	0	0	0	0	0

NOTE:* ITEM SUBSIDIARY TO 680-0002

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SUMMARY OF QUANTITIES

SHEET 4 OF 5

DIST.	HIGHWAY	STATE
6	VAR	TEXAS
STATE DISTRICT	COUNTY	CONTROL	SECTION	JOB	SHEET NO.
PHR	CAMERON	0921	06	399	1s

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05_SUMMARY OF QUANTITIES (4 OF 5).dgn

SUMMARY OF SIGNAL ITEMS

INTERSECTION NUMBER	LOCATION	S00 7001 MOBILIZATION	502 7001 BARRICADES, SIGNS AND TRAFFIC HANDLING	505 7002 TMA(MOBILE OPERATION)	680-0001 FURNISH& INSTALL FIELD MONITORING UNIT	680-0002 FURNISH& INSTALL ROAD SIDE UNIT	* RSUCABLE	680-0004 FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY	680-0005 FURNISH& INSTALL P5G GATEWAY	6043-0001 ANTENNA(OMNI-DIRECTIONAL)
		LS	MO	HR	EA	EA	LF	EA	EA	EA
184	PRICE ROAD@ SLOSS DRIVE	0	0	0	0	0	0	0	0	0
18S	PRICE ROAD@ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	1	1	1	300	1	1	1
	PRICE ROAD@ IH-69E/US 77 SOUTH FRONTAGE AND OLD ALICE					1				
187	RINGGOLD ST. AT 13TH	0.01	0.02	1	1	1	60	1	1	1
188	RINGGOLD ST. AT 6TH	0.01	0.02	1	1	1	60	1	1	1
189	RINGGOLD ST. AT 7TH	0.01	0.02	1	1	1	60	1	1	1
190	ROOSEVELT ST.@ 13TH	0.01	0.02	1	1	1	60	1	1	1
191	ROOSEVELT ST.@ 14TH	0.01	0.02	1	1	1	60	1	1	1
192	ROOSEVELT ST.@ MCDAVITT BLVD., OAK ST.	0.01	0.02	1	1	1	60	1	1	1
194	SAi NT CHARLES @6TH	0.01	0.02	1	1	1	60	1	1	1
19S	SOUTH MOST RD.@ 14TH ST.	0.01	0.02	1	1	1	60	1	1	1
196	SOUTH MOST RD.@ 23RD ST.	0.01	0.02	1	1	1	60	1	1	1
197	SOUTH MOST RD.@ 26TH ST.	0.01	0.02	1	1	1	60	1	1	1
198	SOUTH MOST RD.@ 30TH ST.	0.01	0.02	1	1	1	60	1	1	1
199	SOUTH MOST RD.@ DOCKBERRY RD.	0.01	0.02	1	1	1	60	1	1	1
200	SOUTHMOST RD. @ESPERANZA, MORNINGSIDE	0.01	0.02	1	1	1	60	1	1	1
201	SOUTH MOST RD.@ MORNINGSIDE	0.01	0.02	1	1	1	60	1	1	1
202	SOUTH MOST RD. @TU LIPAN ST.	0.01	0.02	1	1	1	60	1	1	1
203	UNIVERSITY BLVD@PARKING LOT	0.01	0.02	1	1	1	60	1	1	1
204	UNIVERSITY BLVD@RINGGOLD ROAD	0.01	0.02	1	1	1	60	1	1	1
20S	UNIVERSITY BLVD@TYLER ST. AND POLK ST.	0.01	0.02	1	1	1	60	1	1	1
206	UNIVERSITY BLVD, EAST AVENUE@IH-69E/ US 77	0.01	0.02	1	1	1	60	1	1	1
207	IH-69E/ US 77@13THSTREET (NORTH FRONTAGE)	0.01	0.02	2	1	1	300	1	1	1
	IH-69E / US 77@ 13TH STREET (SOUTH FRONTAGE)					1				
208	IH-69E/ US 77@14THSTREET (NORTH FRONTAGE)	0.01	0.02	2	1	1	300	1	1	1
	IH-69E / US 77@ 14TH STREET (SOUTH FRONTAGE)					1				
209	IH-69E/ US 77@RANCHOVIEJO (NORTH FRONTAGE)	0	0	0	0	0	0	0	0	0
	IH-69E / US 77@ RANCHO VIEJO (SOUTH FRONTAGE)					0				
210	E WASHINGTON @E. I0TH	0.01	0.02	1	1	1	60	1	1	1
211	E WASHINGTON@ E 11TH	0.01	0.02	1	1	1	60	1	1	1
213	E WASHINGTON @E.13TH	0.01	0.02	1	1	1	60	1	1	1
214	E WASHINGTON@ E 14TH	0.01	0.02	1	1	0	0	1	1	1
21S	E WASHINGTON @E. 6TH	0.01	0.02	1	1	1	60	1	1	1
216	E WASHINGTON @E. 7TH	0.01	0.02	1	1	1	60	1	1	1
217	E WASHINGTON@ E 8TH	0.01	0.02	1	1	1	60	1	1	1
218	E WASHINGTON @E. 9TH	0.01	0.02	1	1	1	60	1	1	1

NOTE:* ITEM SUBSIDIARY TO 680-0002

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A2026 Texas Department or Transportation

SUMMARY OF QUANTITIES

SHEET 5 OF 5

	HIGHWAY	STATE
6	VAR	TEXAS
STATE DISTRICT	COUNTY / CONTROL NO. / SECT. / JOB	
PHR	CAMERON 0921 06 399 16	

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BARRICADE AND CONSTRUCTION <BC> STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets CBC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices'' CTMUTCDI.

2. The development and design of the Traffic Control Plan CTCPl is the responsibi Iity of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a Iicensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for instal Iing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the opp Iicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials CAASHTOl, "A Pol icy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the EngineerCsl may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shal I erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shal I be revised to show appropriate work zone distance.

7. The Engineer may require dupl icote warning signs on the median side of divided highways where median width wi II permit and traffic volumes justify the signing.

8. Al I signs shol I be constructed in accordance with the detoi Is found in the "Standard Highway Sign Designs for Texas," latest edition. Sign detai Is not shown in this manual shal I be shown in the plans or the Engineer shal l provide a detai I to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the iIlustrotions of the BC sheets are examples. As necessary, the Engineer wi II determine the most appropriate traffic control devices to be used.

10. Where highway construction or maintenance work is being undertaken, other than mobile operations as defined by the Texas Manual on Uniform Traffic Control Devices, CSJ Iimit signs are required. CSJ Iimit signs are shown on BCC2l. The OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shal I be erected in advance of the CSJ Iimits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shal I be erected at or near the CSJ Iimits. For mobile operations, CSJ Iimit signs are not required.

11. Traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of al I traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way Iine as possible, or located behind a barrier or guardrai I, or as approved by the Engineer.

WORKER SAFETY NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shal I wear high-visibi Iity safety apparel meeting the requirements of !SEA "American National Standard for High-Visibi Iity Apparel,· or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

2. Except in emergency situations, flogger stations shal I be iIluminated when flagging is used at night.

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

1. Only pre-qua Iified products shal I be used. The "Comp Iiant Work Zone Traffic Control Devices List" CCWZTCDI describes pre-qualified products and their sources.

2. Work zone traffic control devices shal I be comp Iiant with the Manual for Assessing safety Hardware CMASHI.

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST <CWZTCDl
DEPARTMENTAL MATERIAL SPECIFICATIONS <DMSl
MATERIAL PRODUCER LIST CMPLl
ROADWAY DESIGN MANUAL - SEE "MANUALS <ONLINE MANUALS>"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS CSHSDI
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES CTMUTCDI
TRAFFIC ENGINEERING STANDARD SHEETS

SHEET 1 OF 12

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

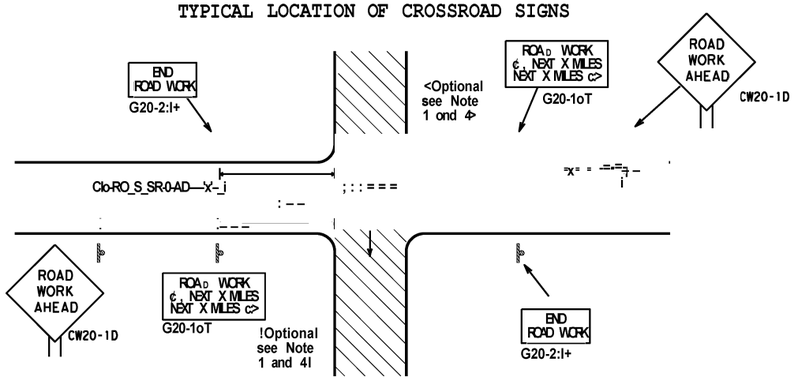
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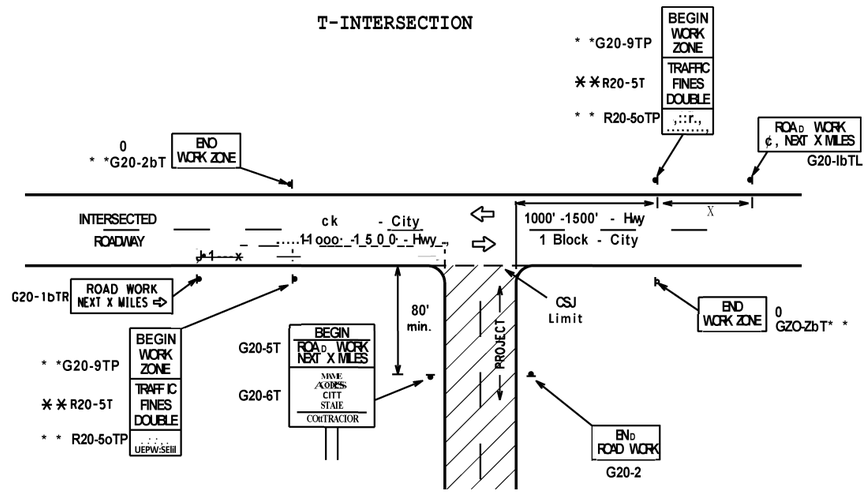
TYPICAL LOCATION OF CROSSROAD SIGNS



‡‡ Moy be mounted on bock of 'ROAD WORK AHEAD" CCW20-1 DI sign with approval of Engineer. !See note 2 below>

1. The typical mininun signing on a crossroad approach should be a "ROAD WORK AHEAD" CCW20-1DIsign and a CG20-2I "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the re<luced size 36" x 36" ROAD WORK AHEAD !CW20-1 DI sign mounted bock to bock with the re<luced size 36" x 18" "END ROAD WORK"!G20-2> sign on low volume crossroads !see Note 4 under "Typical Construction Warning Sign Size and Spacing"), See the "Standard Highway Sign Designs for Texas" manual for sign detoi ls, The Engineer may omit the advance warning signs on low volume crossroads. The Engineer wi 11 determine whether a rood is low volume as per TMUTCD Port 5. This informotion shol l be shown in the plans.
3. Based on existing field con<litions, the Engineer/Inspector moy require additional signs such os FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs ore required, these signs wi 11 be considered port of the mininun requirements. The Engineer/Inspector wi 11 determine the proper location and spacing of any sign not shown on the EC sheets, Traffic Control Pion sheets or the Work Zone Standard Sheets,
4. The "ROAD WORK NEXT X MILES" CG20-1oTIsign shol l be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer wi 11 determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shol l be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer wi ll <letermine the types on<l location of any o<l<litionol traffic control <levices, such as a flogger on<l accompanying signs, or other signs, thot shoul<l be use<l when work is being performe<l at or near on intersection.
2. If construction closes the roo<l ot a T-intersection, the Contractor shol l place the "CONTRACTOR NAME"!G20-6TI sign behin<l the Type 3 Borrico<les for the rood closure !see BC!!OI also>. The "ROAD WORK NEXT X MILES" left orrow!G20-1bTLI on<l "ROAD WORK NEXT X MILES" right arrow !G20·1bTRI" signs shol l be reploce<l by the <letour signing colle<l for in the plans.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

SIZE

Sign Number or Series	Conventional Rood	Expressway/ Freeway
CW20[4] CW21 CW22 CW23 CW25	48" X 48"	48" X 48"
CWT, CW2, CW7, CW8, CW9, CWT 1, CW14	36" X 36"	48" X 48"
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" X 48"	48" X 48"

SPACING

Posted Speed	Sign,6. Spacing "X"
MPH	Feet <Apprx. l
30	120
35	160
40	240
45	320
50	400
55	500[2]
60	600[2]
65	700 2
70	800 2
75	900[2]
80	1000[2]
*	* 3

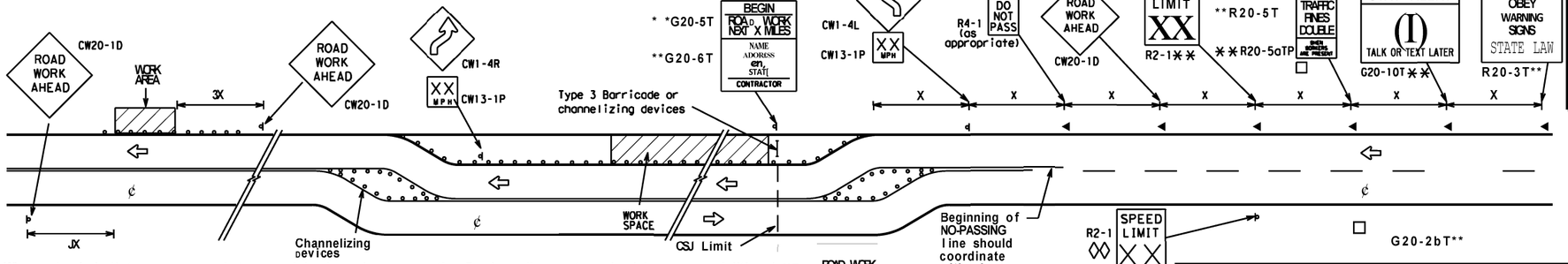
* For typical sign spacings on divided highways, expressways and freeways, see Port 6 of the "Texas Manual on Uniform Traffic Control Devices" CTMUTCDl typical opplicotion diagrams or TCP Standard Sheets.

,6. Mininun distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

GENERAL NOTES

1. Special or larger size signs may be used as necessary.
2. Distance between signs shoul<l be increased as required to hove 1500 feet advance worning.
3. Distance between signs should be increased as required to hove 1/2 mile or more advance worning,
4. 36" x 36" "ROAD WORK AHEAD" !CW20-1 DIsigns may be used on low volume crossroads at the <liscretion of the Engineer as per TMUTCD Port 5. See Note 2 under "Typical Location of Crossroad Signs",
5. Only diamond shaped warning sign sizes ore indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of ovoi lable sign design sizes.

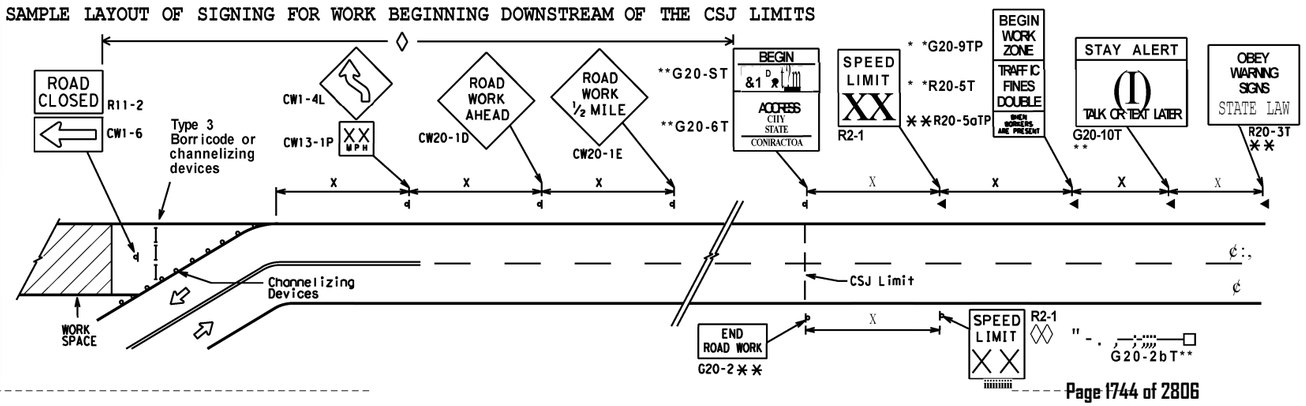
WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



When extended distances occur between minimal work spaces, the Engineer/Inspector shoul<l ensure o<l<litionol ND "ROAD WORK AHEAD" !CW20-1 DIsigns ore place<! in advance of these work areas to remin<l <!rivers they ore sti 11 within the project limits, See the applicable TCP sheets for exact location and spacing of signs on<l channelizing <levices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



NOTES

The Contractor shol l determine the appropriate distance to be placed on the G20-1 series signs on<l "BEGIN ROAD WORK NEXT X MILES" (G20-5TIsign for each specific project, This distance shol l replace the "X" and shol l be roun<le<l to the nearest whole mi le with the approval of the Engineer. No decimals shol l be used.

□ The "BEGIN WORK ZONE" <G20·9TPI and "END WORK ZONE" !G20-2bTI shol l be used as shown on the sample layout when advance signs ore reQuired outside the CSJ Limits. They inform the motorist of entering or leaving o port of the work zone lying outside the CSJ Limits where traffic fines moy double if workers ore present.

** CSJ limit signing is required for highway construction on<l maintenance worK, with the exception of mobile operations,

◊ Area for placement of "ROAD WORK AHEAD" !CW20·1DIsign and other signs or devices as col led for on the Traffic Centrol Plon.

◊◊ Contractor wi 11 instol l o regulatory spee<l limit sign at the en<l of the work zone.

LEGEND	
l-----l	Type 3 Barricade
000	Channelizing Devices
.a..	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing reQuirements.

Texas Department of Transportation — Traffic Safety Division

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC<2> -21

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©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
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9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	PHR	CAMERON		12

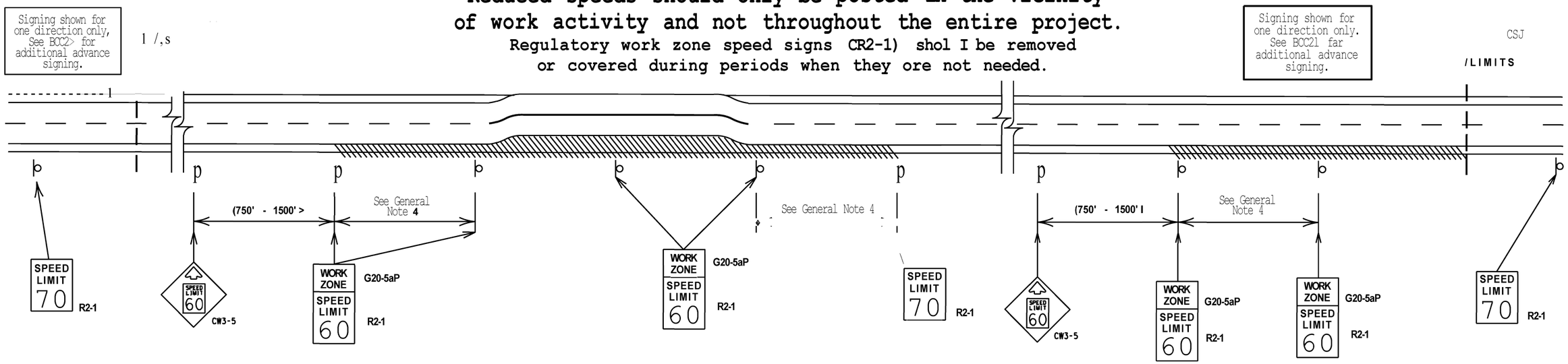
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TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed Iimits Shol I be regulatory, estobl ished in accordance with the "Procedures for Establ iShing Speed Zones," o,d opproved by the Texos Tronsportotion Comnission, or by City Ordino,ce when within Incorporoted City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs CR2-1) shol I be removed or covered during periods when they ore not needed.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed ore present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

- al rough rood or damaged pavement surface
- bl substantial alteration of roadway geometrics !diversions)
- cl construction detours
- dl grade
- el width
- fl other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed Iimit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment ore not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the traveled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shal I be removed or covered.
!See Removing or Covering on BCC4ll.

GENERAL NOTES

1. Regulatory work zone speed Iimits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed Iimit signs shol I be placed on supports at a 7 foot minimum mount ing height.
3. Speed zone signs ore iIlustroted for one direction of travel and ore normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shol I hove block legend and border on a white reflective background !See "Ref Iect ive Sheeting" on BC (4 ll.
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT" CCW3-5lsign, "WORK ZONE"CG20-5oP) plaque and the "SPEED LIMIT"CR2-1lsigns shal I not be paid for directly, but shol I be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down wi II not be al lowed, unless as otherwise noted under "REMOVING OR COVERING" on BCC4l.
8. Techniques that may help reduce traffic speeds include but ore not limited to:
   A. Low enforcement.
   B. Flogger stationed next to sign.
   C. Portable changeable message sign CPCMSl.
   D. Low-power Cdronel radar transmitter.
   E. Speed monitor troi lers or signs.
9. Speeds shown on details above ore for ii lustrotion only. Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting al lowoble regulatory construction speed zone reduction see TxDOT form "1204 in the TxDOT e-form system.

SHEET 3 OF 12

Texas Department of Transportation | Traffic Safety Division Standard

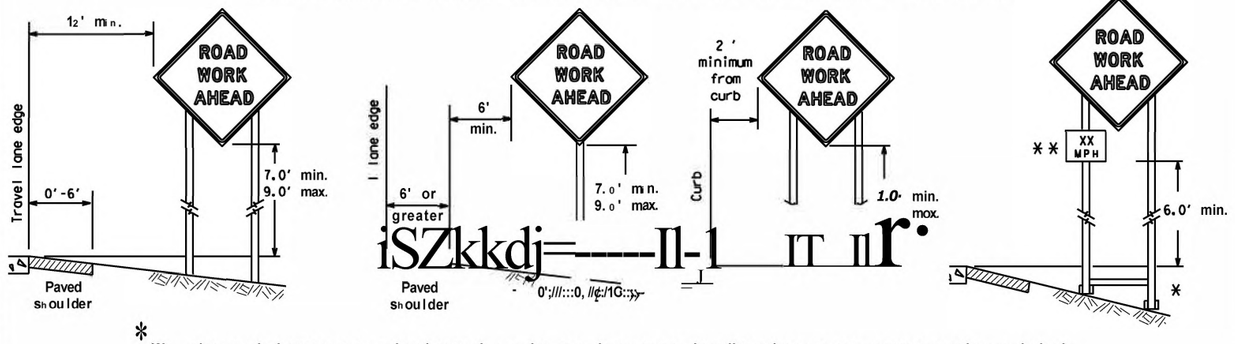
BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC<3> -21

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©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
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	DIST	COUNTY		SHEET NO
	PHR	CAMERON		19

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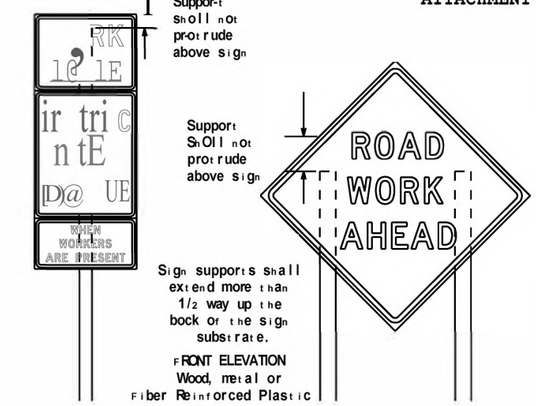
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

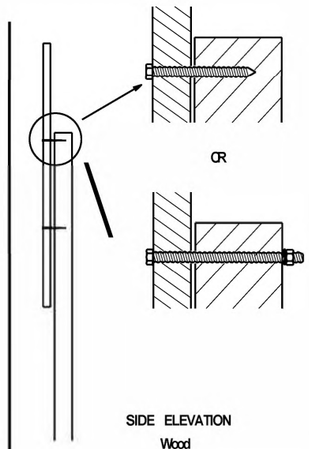


* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

** When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance> should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS





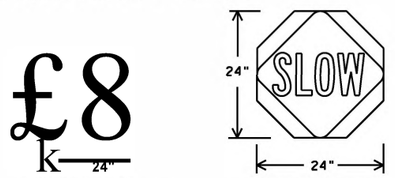
Attachnent to wooden supports will be by bolts and nuts or scr-ews. Use TxDOT's or manufacturer's recoomended procedures for attaching sign substrates to other types of sign supports

Noi IS ShOI I NOT be al lowed. Each sion Sha II be attoched directly to the sion suppart. Multiple sions sh011 not be joined or spliced by any means. Wood supparts shall not be extended or repaired by spl icino or other means.

Splicing entiedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the some gouge material.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
2. STOP/SLOW paddles shall be retroreflectorized when used at night.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



Background - Orange
Legend & Border - Black

Background - Red
Legend & Border - White

SHEETING REQUIREMENTS <WHEN USED AT NIGHT)		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	ORANGE	TYPE Bic OR C,. SHEETING
LEGEND & BORDER	WHITE	TYPE B OR C SHEETING
LEGEND & BORDER	BLACK	ACRYLIC NON-REFLECTIVE FILM

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditians that are potentially hazardous to traffic operatians, show route designations, destinations, directions, distances, services, points of interest, and other geograpt,ical, recreational, specific service (LOCO>, or cultural information. Drivers proceeding through a work zone need the same, if not better mute guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent sicls until the permanent sicl mesa(Je matches the roadway condition. FOR details for covering long-ge guide signs see the TS-CD Standard.
3. Wilen existing permanent sijns are moved and relocated due to construction purposes, they shall be visible to motorists at 011 times.
4. If existinCJ sijns are to be relocated on their original supports, they shall be installed on crushworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the EC Sheets or the SMD Standards. This work should paid for under the appropriate pay item for relocating existing signs.
5. If permanent sijns are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the EC Standard sheets, TLRS Standard Sheets or the CMUTCD list. The signs shall meet the required mounting heights shown on the EC, or the SMD Standard sheets during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Bor-r-icades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD>. The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliance Work Zone Traffic Control Device List" <CMUTCD> for small roadside signs. Supports for temporary large roadside signs shall meet the requirements detailed on the Temporary Large Roadside Signs <TLRS> Standard sheets. The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood Steel posts shall not be spliced.

PURPOSE OF WORK ZONE SIGNS

1. The types of sign supports, sign mounting height, the size of signs, and the type or sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type or work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short-, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently <stopping for up to approximately 15 minutes.>

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above
3. [g g/;J9I ntermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the work-day or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIGNS

1. The Contractor shall furnish the sign sizes shown on EC <J unless otherwise shown in the plans or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CMUTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT on approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods or splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC<1>.
2. White sheeting meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type EFL or Type Cn, shall be used for rigid signs with orange background.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration <FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median or divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT lie used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall lie removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of ights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant ight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber- <such as tire inner- tubes> shall NOT be used.
6. Rubber- boots designed for Channelizing devices should not be used for bottoms on portable sign supports. Sign supports designed and manufactured with rubber- bases may be used when shown on the CMUTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to hold down the sign support.
8. Sandbags Shall NOT be placed under the Skid and Shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used, the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be wider than the sign face.

SHEET 4 OF 12

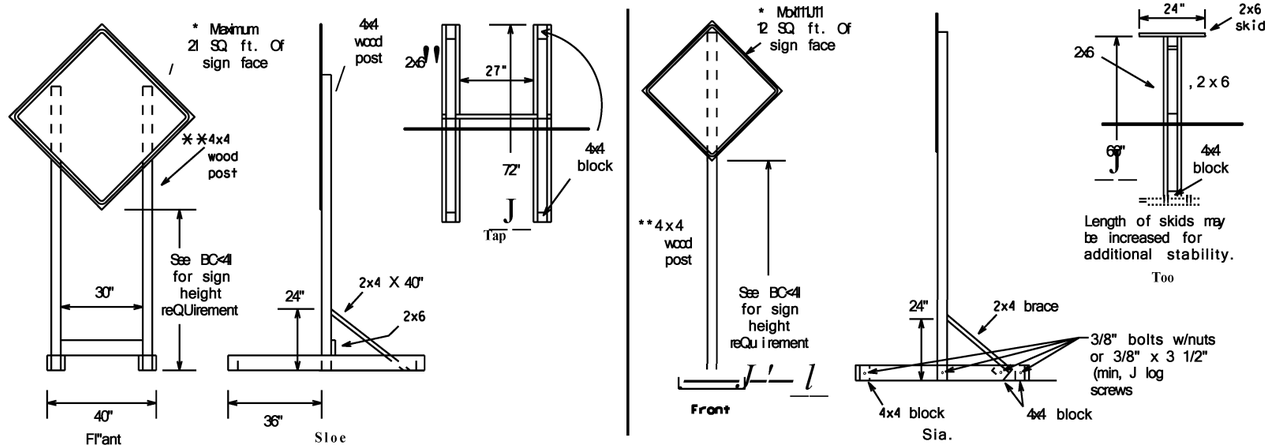
Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEY:,ORARY SIGN NOTES

BC<4> -21

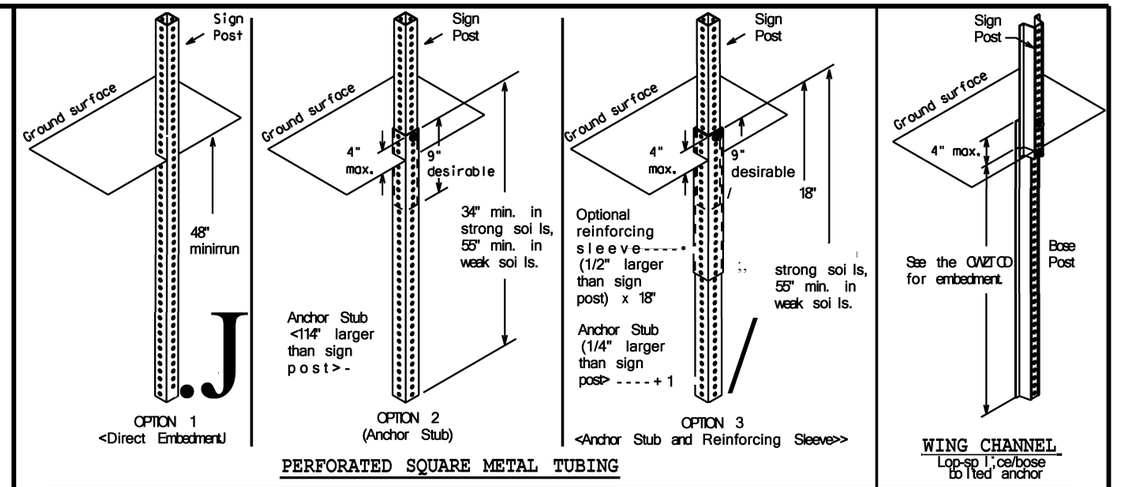
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©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0921	06	399	VAR
9-07 8-14	DIST	COUNTY		SHEET NO
7-13 5-21	PHR	CAMERON		

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SKID MOUNTED WOOD SIGN SUPPORTS

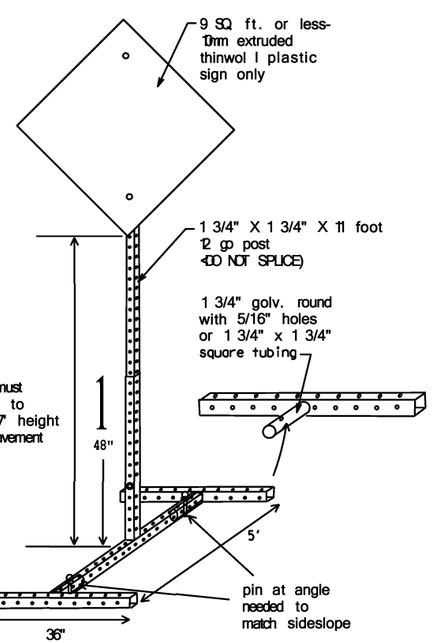
*LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

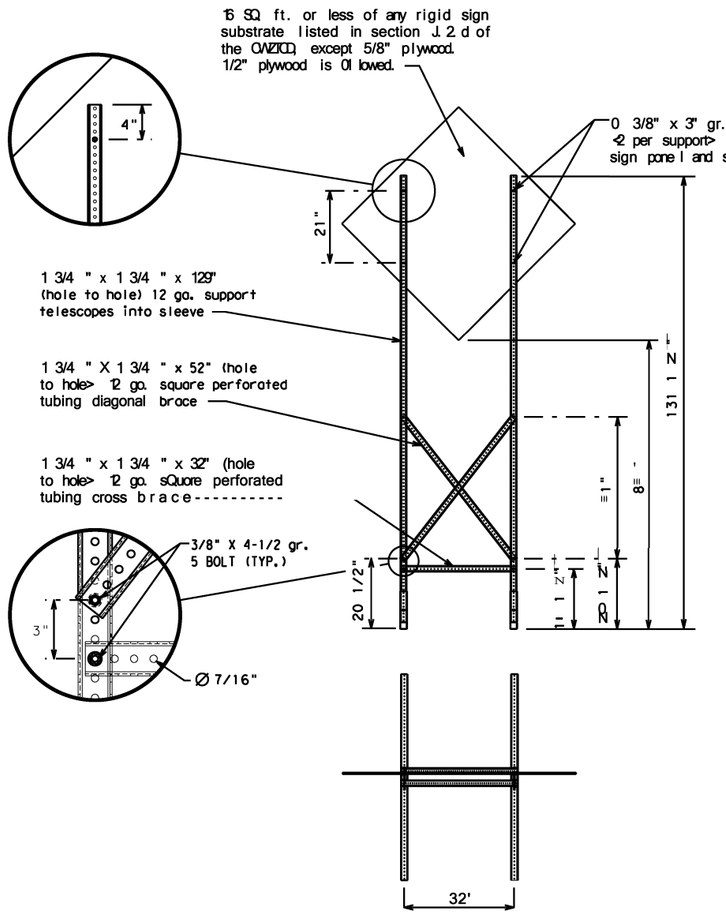


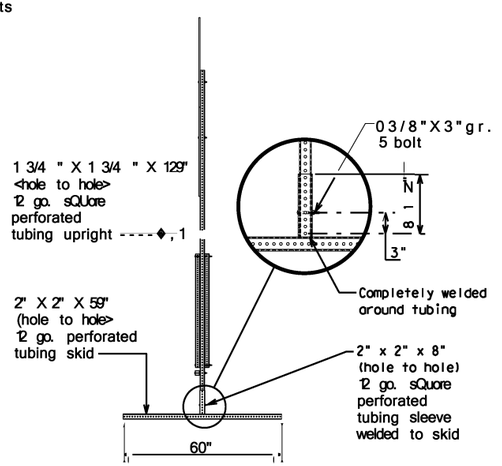
PERFORATED SQUARE METAL TUBING

GROUND MOUNTED SIGN SUPPORTS

Refer to the CMZTCD and the manufacturer's instol lotion procedure for each type sign support. The moXf1Uf1 sign SQuore footage shol l adhere to the manufacturer's reconmendotion. Two post instol lotions con be used for larger signs.







SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

*LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS

WEDGE ANCHORS

Both stee l and plost ic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soi ls if approved by the Engineer. <See web address for "Traffic Engineering Standard Sheets" on BC(1)).

OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CMZTCD LIST. SEE BC(11 FOR WEBSITE LOCATION.

GENERAL NOTES

1. No ils may be used in the assemb ly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" log screws must be used on every joint for final connect ion.
2. No more than 2 sign posts shol l be placed within a 7 ft. circle, except for specific materials noted on the CMZTCD List.
3. When project is completed, 011 sign supports and foundations shol l be removed from the project site. This wi 11 be considered subsidiary to Item 502.

* See BC<4> for definition of "Work Duration."

* * Wood sign posts MUST be one piece. Splicing wi 11 NOT be al lowed. Posts shol l be pointed white.

☐ See the CMZTCD for the type of sign substrate that con be used for each approved sign support.

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Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC<5> -21

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WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE UESSAGE SIGNS

1. The Engineer/Inspector sholl approve oll messages used on portable chongeoble message signs IPCMSI.
2. Messages on PCMS should contain no more than 8 words lobout four to eight characters per word>, not including sinole words such os "TO," "FOR," "AT," etc.
3. Messages shou ld consist of o single phase, or two phases that alternate. Three-phase messages ore not allowed. Each phase of the message shOu ld convey a single thought, and ITLJSt be understood by itself.
4. Use the word "EXIT" to refer to on exit ranp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation <IH, US, SH, fM> along with the number when referring to o roadway.
6. When in use, the bottom of o stationory PCMS message ponel shou ld be o minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Soturdoy morning ond end by Sunday evening ot midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which ore ovoi 1-able for displaying o two-phase message on o PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in o message. The message shou ld be steady burn or continuous while disployed.
10. Do not present redundant informotion on o two-phase message; i.e., keeping two lines of the message the sane and changing the third line.
11. Do not use the word ·Denger· in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on o PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontol ly or verticol ly across the face of the sign.
14. The fol lowing table lists abbreviated words and two-word phrases that ore acceptable for use on o PCMS. Both words in o phrase ITLJSt be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 1.5> mile and the text should be legible from ot least 600 feet ot night ond 800 feet in doyl ight. Truck mounted units ITLJSt hove o chorocter height of 10 inches and must be legible from at least 400 feet.
16. Each line of text shou ld be centered on the message board rother than left or right justified.
17. If disabled, the PCMS should default to on illegible display that will not olorm motorists and wi 11 only be used to alert workers thot the PCMS hos mol functioned. A pattern such as o series of horizontal sol id bors is oppropriote.

WORD CR PHRASE	ABBREVIATION
Access Rood	ACCS RD
Alternate	ALT
Avenue	AVE
Best Route	BEST RTE
Boulevard	BLVD
Bridae	BRDG
Cannot	CANT
Center	CTR
Construction Ahead	CONST AHD
CROSSING	XING
Detour Route	DETOUR RTE
Do Not	DONT
Eost	E
Eastbound	(route) E
Emeraency	EMER
Emeraency Vehicle	EMER VEH
Entrance, Enter	ENT
Exoress Lone	EXP LN
Expresswoy	EXPWY
XXXX Feet	XXXX FT
Foo Ahead	FOG AHD
Freewov	FRWY, FWY
Freewov Blocked	FWY BLKD
Friday	FRI
Hazardous Driving	HAZ DRIVING
Hazardous Materiol	HAZMAT
High-Occuooncy	HOV
Vehicle Highwoy	HWY
Hour Isl	HR, HRS
Informotian	INFO
It Is	ITS
Junction	JCT
Left	LFT
Left Lone	LFT LN
Lone Closed	LN CLOSED
Lower Level	LWR LEVEL
Mointenonce	MAINT

WORD CR PHRASE	ABBREVIATION
Mojor	MAJ
Miles	MI
Miles Per Hour	MPH
Minor	MNR
Monday	MON
Normol	NORM
North	N
Northbound	(route) N
Parking	PKING
Rood	RD
Right Lone	RT LN
Soturdov	SAT
Service Rood	SERV RD
Shoulder	SHLDR
Slippery	SLIP
South	S
Southbound	!route> S
Saeed	SPD
Street	ST
Sundov	SUN
Telephone	PHONE
Temporary	TEMP
Thursday	THURS
To Downtown	TO DWNTN
Traffic	TRAF
Travelers	TRVLRS
Tuesday	TUES
Time Minutes	TIME MIN
Upper Level	UPR LEVEL
Vehicles <>	VEH, VEHS
Worninq	WARN
Wednesdov	WED
Weicht Limit	WT LIMIT
West	W
Westbound	!route> W
Wet Pavement	WET PVMT
Wi 11 Not	WONT

Roodwoy designation u IH-number, US-nurt>er, SH-nurt>er, FM-number

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

!The Engineer may approve other messages not specifically covered here. l

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

FREEWAY CLOSED X MILE	FRONTAGE ROAD CLOSED
ROAD CLOSED AT SH XXX	SHOULDER CLOSED XXX FT
ROAD CLSD AT FM XXXX	RIGHT LN CLOSED XXX FT
RIGHT **X** LANES CLOSED	RIGHT **X** LANES OPEN
CENTER LANE CLOSED	DAYTIME LANE CLOSURES
NIGHT LANE CLOSURES	I-XX SOUTH EXIT CLOSED
VARIOUS LANES CLOSED	EXIT XXX CLOSED X MILE
EXIT CLOSED	RIGHT LN TO BE CLOSED
MALL DRIVEWAY CLOSED	X LANES CLOSED TUE - FRI
XXXXXXXX BLVD CLOSED	*

Other Condition List

ROADWORK XXX FT	ROAD REPAIRS XXXX FT
FLAGGER XXXX FT	LANE NARROWS XXXX FT
RIGHT LN NARROWS XXXX FT	TWO-WAY TRAFF IC XX MILE
MERGING TRAFFIC XXXX FT	CONST TRAFFIC XXX FT
LOOSE GRAVEL XXXX FT	UNEVEN LANES XXXX FT
DETOUR X MILE	ROUGH ROAD XXXX FT
ROADWORK PAST SH XXXX	ROADWORK NEXT FRI-SUN
BUMP XXXX FT	US XXX EXIT X MILES
TRAFFIC SIGNAL XXXX FT	LANES SHIFT *

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List		Location List	Warning List	**Advance Notice List
MERGE RIGHT	FORM X LINES RIGHT	AT FM XXXX	SPEED LIMIT XX MPH	TUE-FRI **XX AM-** X PM
DETOUR NEXT X EXITS	USE **XXXXX** RD EXIT	BEFORE RAILROAD CROSSING	**MAXIMUM** SPEED XX MPH	APR XX- **XX X PM-X AM**
USE EXIT **XXX**	USE EXIT **I-XX** NORTH	NEXT **X** MILES	**MINIMUM** SPEED XX MPH	BEGINS MONDAY
STAY ON US XXX SOUTH	USE **I-XX** E TO **I-XX N**	PAST US XXX EXIT	ADVISORY SPEED XX MPH	BEGINS **MAY XX**
TRUCKS USE US XXX N	WATCH FOR TRUCKS	XXXXXXX TO XXXXXXX	RIGHT LANE EXIT	MAY X-X XX PM - XX AM
WATCH FOR TRUCKS	EXPECT DELAYS	US XXX TO FM XXXX	USE CAUTION	NEXT FRI-SUN
EXPECT DELAYS	PREPARE TO STOP		DRIVE SAFELY	XX **AM** TO XX PM
REDUCE SPEED XXX FT	END SHOULDER USE		DRIVE WITH CARE	NEXT TUE AUG XX
USE OTHER ROUTES	WATCH FOR WORKERS			TONIGHT XX PM- **XX AM**
STAY IN LANE *				

* * See Application Guidelines Note 6.

APPLICATIOtt GUIDELINES

1. Only 1 or 2 phases ore to be used on o PCMS.
2. The 1st phase lor both> shou ld be selected from the "Rood/Lone/Rono Closure List" and the "Other Condition List".
3. A 2nd phase con be selected from the "Action to Toke/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists·.
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS ore used in seCJ,Jence, they ITLJSt be separated by o minimum of 1000 ft. Each PCMS shol l be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current dote is within seven days of the actual work dote, calendar days should be replaced with days of the week. Advance notification should typicol ly be for no more than one week prior to the work.

WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL con be interchanged as appropriate.
2. Roadway designations IH, US, SH, fM ond LP con be interchanged as oppropriote.
3. EAST, WEST, NORTH ond SOUTH lor abbreviations E, W, N and Sl con be interchOnged os oppropriote.
4. Highwoy nanes and numbers replaced as oppropriate.
5. ROAD, HIGHWAY and FREEWAY con be interchanged OS needed.
6. AHEAD moy be used instead of distances if necessary.
7. FT and Ml, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD con be el iminoted from the message if 0 locotion phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFF IC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

FULL UATRIX PCUS SIGNS

1. When Ful l Matrix PCMS signs ore used, the character height ond legibi lity/visibi lity req..,irements shol l be mointained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such os the "Flogger Symbol" ICW20-7I ore represented grophicol ly on the Ful l Matrix PCMS sign and, with the approval of the Engineer, it shol l mointoin the legibi lity/visibi lity requirement listed above.
3. When symbol signs ore represented grophicol ly on the Ful l Matrix PCMS, they shol l only supplement the use of the static sign represented, and shOl l not substitute for, or replace that sign.
4. A ful l matrix PCMS moy be used to sillll.Jlate o flashing arrow board provided it meets the visibi lity, flash rote and dimming requirements on BCI7I, for the sane size arrow.

SHEET 6 OF 12

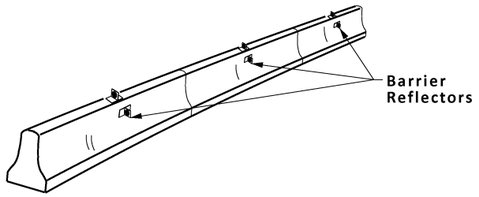
Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN <PCMS>

BC<6>-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECTI	JOB	HIGHWAY
REVISIONS	0921	061	399	VAR
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	PHR	CAMERON		22

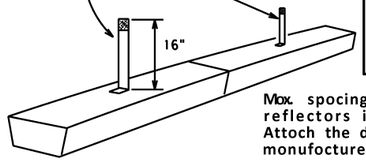
1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional) while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edge line being SUPPlemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs SHOULD NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer,
11. Single slope barriers shall be delineated as shown on the above detail.

Barrier Reflector on 16" tall plastic bracket

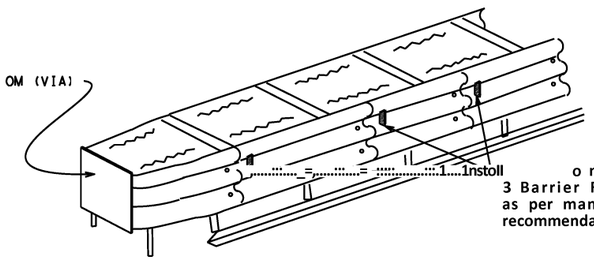


Max. spacing of barrier reflectors is 20 feet. Attach the delineators as per manufacturer's recommendations.

LOW PROFILE CONCRETE BARRIER CLPCB) USED IN WORK ZONES

LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

LOW PROFILE CONCRETE BARRIER (LPCB)

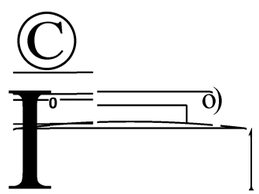


DELINEATION OF END TREATMENTS

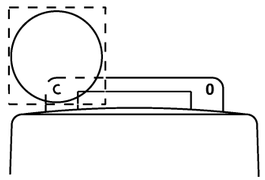
END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet the appropriate crashworthy standards as defined in the Manual for Assessing Safety Hardware (MASH). Refer to the CATSCD List for approved end treatments and manufacturers.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square.Must have a yellow reflective surface area of at least 30 square inches

WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B(n or c)L Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

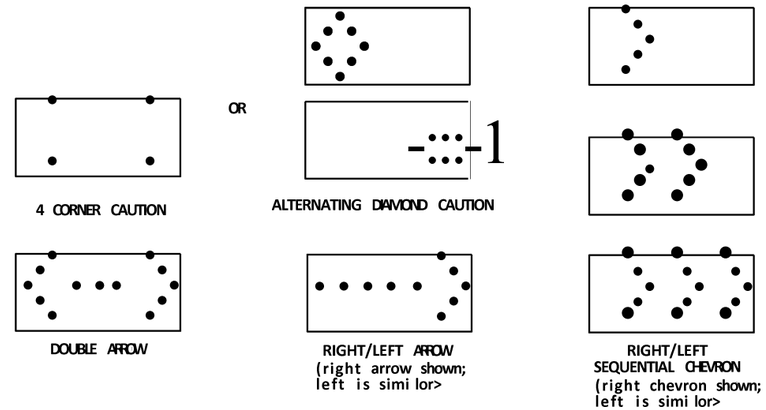
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path, The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CATSCD.
3. The warning reflector shall have a minimum retroreflective surface area (Cone-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:



5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 X 60	13	3/4 mile
C	48 X 96	15	1 mile

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

FLASHING ARROW BOARDS

SHEET 7 OF 12

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CATSCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CATSCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is on extended distance from the TMA.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

BC(7)-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	CW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS	0921	06	399	VAR
9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	PHR	CAMERON		

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GENERAL NOTES

1. For long term stationary work zones on freeways, druns shol I lle used os the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should lle used os the primary channelizing device l>ut may lle replaced in tangent sections l>y vertical panels, or 42" two-piece cones. In tangent sections, one-piece cones may lle used with the approval of the Engineer l>ut only if personnel ore present on the project ot 011 times to maintain the cones in proper position and locot ion.
3. For shOrt term stationary work zones on freeways, drums ore the preferred channelizing device l>ut may lle replaced in tapers, transitions and tangent sections Uy vertical panels, two-piece cones or one-piece cones os approved l>y the Engineer.
4. Drums and 011 related items shol I comply with the reQuirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" <IMUTCD> and the "Compliont Work Zone Troffic Control Devices List· <CWZTCD>.
5. Drums, l>oses, and related materials shal I exhibit goad workmanship and shal I lle free from 01>jectiona1>le marks or defects that would adversely affect their appearance or serviceal>i lity.
6. The Contractor shol I hove o maximum of 24 hours to reploce any plostic drums identified for replacement Uy the Engineer/Inspector. The replacement device must lle on opproved device.

GENERAL DESIGN REQUIREMENTS

Pre-Qua lified plastic drums shal I meet the fol lowing reQuirements:

1, Plastic drums shal I lle a two-piece design; the "body" of the drum shol I lle the top portion and the "UJase" shal I lle the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted l>y a vehicle traveling at a speed of 20 MPH or greater l>ut prevents accidental separation due to normal handling and/or air turl>ulence created l>y passing vehicles.
3. Plastic drums shol I lle constructed of lightweight flexible, and defarmo1>le moteriols, The Contractor shall NOT use metal druns or single piece plastic drums as channelization devices or sign supports.
4. Drums shol I present a profi le that is o minimum of 18 inches in width ot the 36 inch height when viewed from any direction. The height of drum unit <body instol led on base> shol I lle o minimum of 36 inches and o maximum of 42 inches.
5. The top of the drum shol I have o l>uilt-in handle for easy pickup and shol I lle designed to drain water and not collect debris. The handle shol I have a minimum of two widely spaced 9/16 inch diameter holes to al low attachment of o warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shol I hove a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width,
7. Bases shol I hove o maximum width of 36 inches, o maximum height of 4 inches, and a minimum of two footholds of sufficient size to 0110w l>ose to lle held down whi le seporat ing the drum body from the base.
8. Plastic drums shol I lle constructed of ultra-violet stal>i lized, orange, high-density polyethylene <HOPE> or other opproved moteriol.
9. Drum body shall have a maximum unl>o llasted weight of 11 Il>s.

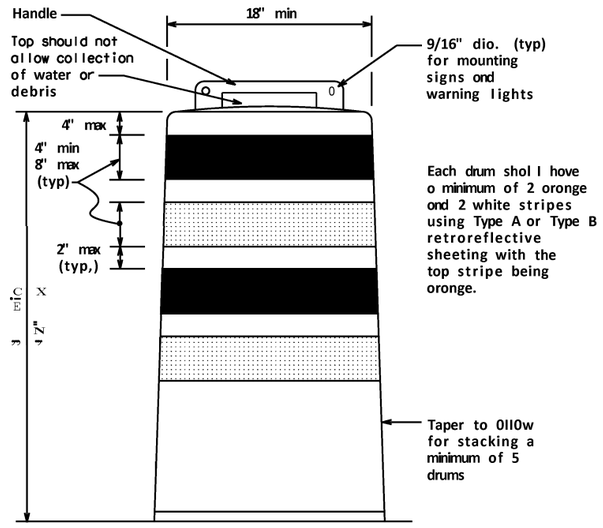
JO.Drum and base shol I lle marked with manufacturer's name and model numtler.

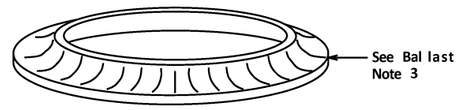
RETROREFLECTIVE SHEETING

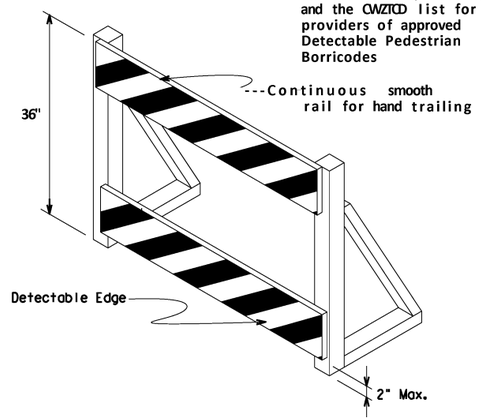
1. The stripes used on drums shell lle constructed of sheeting meeting the color and retroreflectivity reQuirements of Departmental Materials Specificotion DMS-8300, "Sign Foce Moteriols." Type A or Type B reflective sneetino shol I be supplied unless otherwise specified in the plans.
2. The sheeting shol I lle suitable for use on and shol I adhere to the drum surface sucn tnot, upan venicuior i111>oct, tne sneeting snall remain adhered in-place and exni1>it no delominoting, crocking, or loss of retroreflectivity other than that loss due to olJrosion of the sheeting surface.

BALLAST

1. Unl>al lasted l>Oses shal I lle large enough to held up to 50 Ills. of sand. This base, when fi lled with the 1>Ollast moteriol, sheuld weigh between 35 Ills <minimum> and 50 Ills <maximum>. The 1>Ollast may lle sand in one to three sondl>ags separate from the UJose, sand in o sand-filled plastic UJose, or other I>ollosting devices os approved by the Engineer. Stacking of sondl>ogs wi ll lle ol lowed, however height of sandl>ogs ol>ove pavement surface may not exceed 12 inches.
2. Bases with l>uilt-in 1t01 lost shol I weigh between 40 Ills. and 50 Ills. Bui lt-in 1>Ollast con lle constructed of an integral crumtJ ru1>1>er base or a solid ruJJJer base.
3. Recycled truck tire sidewal ls may lle used for l>ol lost on druns approved for this type of l>ol last on the CWZTCD list.
4. The 1t01 lost shal I not lle heavy ol>jects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck l>y a vehicle.
5. When used in regions susceptible to freezing, druns shal I have drainage holes in the bottoms so that water wi 11 not collect ond freeze becoming a hazard when struck l>y a vehicle.
6. Ballast shall not lle ploced on top of druns.
7. Adhesives may lle used to secure l>ose of druns to pavement.

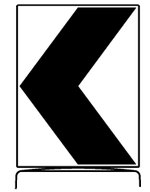




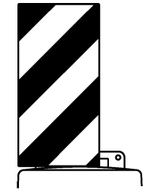


DETECTABLE PEDESTRIAN BARRICADES

1. wnen existing pedestrian facilities ore disrupted, ciosed, or reiocoted in o TTC zone, tne temporary facilities snoll lle detectol>le and include occessil>i lity features consistent with tne features present in tne existing pedestrian foci lity. Refer to WZ<BTS-2> for Pedestrian Control reQuirements for Sidewalk Diversions, Sidewalk Detours and Crosswalk Closures.
2. Where pedestrians with visual disobi lities normally use the ciosed sidewalk, o Detecto1>le Pedestrian Barricade snoll lle placed across the ful l width of the closed sidewalk instead of a Type 3 Barricade.
3. Detecto1>le pedestrian 1>orricodes similar to tne one pictured 01>ove, longitudinol cnonnelizing devices, some concrete barriers, and wood or chain link fencino with o continuous detectable edging con sotisfoctorily delineate o pedestrian path,
4. Tope, rope, or plastic chain struno between devices ore not detectol>le, do not comply with the design standards in the "Americans with Disobi lities Act Accessibi lity Guidelines <ADAAGI" and should not lle used as a control for pedestrian movements.
5. Warning l ignts shol I not lle ottocned to detecta1>le pedestrian borricades.
6. Detectol>le pedestrian UJorricodes should use 8" nominal UJorricode roils as snown on BC<IOI provided that the top roi l provides a smooth continuous roil suitable for hand trailing with no splinters, burrs, or sharp edoes.



18" X 24" Sign
<Maximum Sign Dimension>
Chevron CWI-8, Opposing Traffic Lone Divider, Driveway sign D70o, Keep Right R4 series or other signs as approved l>y Engineer



12" X 24" vertical Panel mount with diagonals sloping dawn towards travel way

Plywood, Aluninun or Metal sign substrates shal I NOT be used on plastic druns

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1, Signs used on plastic druns shal I lle manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange UJockground shol I lle manufactured with Type BrL or Type CrL Orange sheeting meeting the color and retroreflectivity reQuirements of DMS-8300, "Sign Face Material,· unless otherwise specified in the plans,
3. Vertical Panels shol I lle manufactured with orange and white sheeting meeting the reQuirements of DMS-8300 Type A or Type B. Diagonal stripes on Vertical Panels shal I slope dawn toward the intended trove led lone.
4. Other sign messages (text or syml>ol ic) may lle used as approved by the Engineer. Sign dimensions shol I not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shal I lle installed using a 1/2 inch bolt <nominal> and nut, two washers, and one locking washer for each connect ion.
6. Mounting l>olts and nuts shall lle fully engaged and odeQuote ly torQued. Bolts shou ld not extend more than 1/2 inch beyond nuts,
7. Chevrons may lle placed on druns on the outside of curves, on merging tapers or on shifting tapers. When used in these locat ians, they may lle placed on every drum or spaced not more than on every third drum. A minimum of three <3> should lle used at each location cal led for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which ore 24 inches wide may lle mounted on plastic drums, with approval of the Engineer.

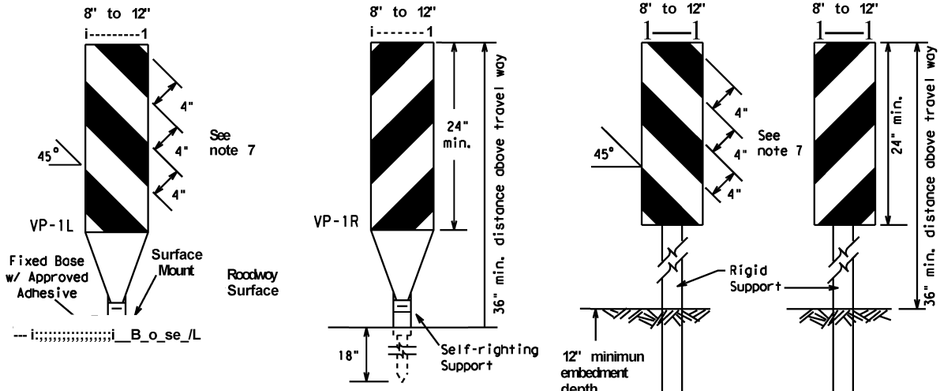
Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC<B> -21

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9-07 5-21	PHR	CAMERON		24
7-13				

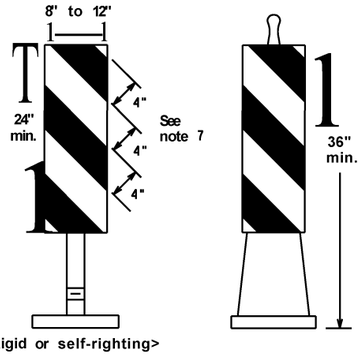
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7-13 5-21



FIXED

CRigid or self-righting>

DRIVEABLE

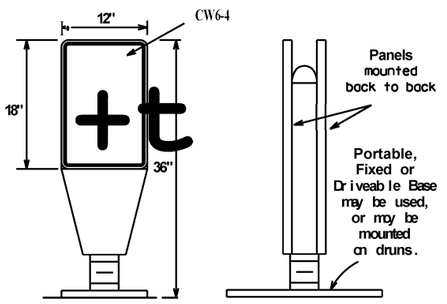


(Rigid or self-righting>

PORTABLE

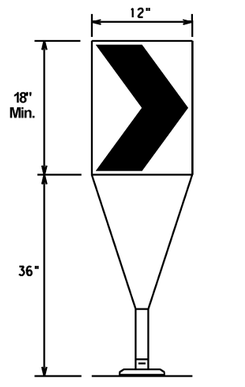
1. vertical Ponels (VP'sl ore normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime end nighttime delineatian is required. The Engineer/Inspector shall refer to the Roadway Design Manual for additional requirements on the use VP's for drop-offs.
3. VP's shoulld be mounted bocK to bocK if used at the edge of cuts adjacent to two-way two lane roadwoys. Stripes ore to be reflective orange and reflective white end shoulld alwoys slope downward toword the trovel lone.
4. VP's used on expressways and freeways or other high speed roodways, may have mare then 270 squore inches of retroreflective area facing traffic,
5. Self-righting supports ore avai lobl e with portable base. See "Compliant WorK Zone Traffic Control Devices List· <CMUTCD>.
6. Sheeting for the VP's shol l be retroreflective Type A or Type B conforming to Departmental Materiel Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

VERTICAL PANELS <VPs>



1, Opposing Traffic Lone Dividers <OTLD> are delineation devices designed to convert a normal one-woy roadwoy section to two-way operotion. OTLD's ore used on temporary centerlines. The upWord and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by o vehicle impact or wind gust,
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shal l not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a blocK non-reflective legend, Sheeting for the OTLD shol l be retroreflective Type Bn or Type OL conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shal l meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD>



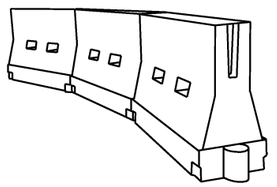
Fixed Base w/ Approved Adhesive <Driveoble Base, or Flexible Support can be used>

1, The chevron shall be a vertical rectangle with a minimun size of 12 by 18 inches.
2. Chevrons ore intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shal l be in line with and ot right ongles to approaching traffic. Spacing should be such that the motorist always has three in view, until the chonge in ol ignment eliminates its need.
4, To be effective, the chevron should be visible for ot least 500 feet.
5. Chevrons shall be orange with a blacK nonreflective legend. Sheeting for the chevron shal l be retroreflective Type Bn or Type On conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shal l meet the re<J,irements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways, self-righting chevrons may be used to supplement plastic druns but not to replace plastic drums.

CHEVRONS

GENERAL NOTES

1, WoK Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roodways. The Engineer/Inspector shal l ensure that spacing and placement is uniform end in accordance with the "Texas Manual on Uniform Traffic Control Devices· <TMUTCD>.
2. Channelizing devices shown on this sheet may nave a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other pion sheets.
3. Channelizing devices on self-righting supports should be used in worK zone areas where cnonnel izing devices are frequently impacted by erront vehicles or vehicle related wind gusts moKing 01 ignment of the channelizing devices difficult to maintain, Locations of these devices shall be detailed elsewhere in the plans. These devices shal l conform to the TMUTCD end the "Compliant WoK Zone Traffic Control Devices List" <CMUTCD>.
4, The Contractor shol l maintain devices in o clean condition end replace damaged, nonreflective, faded, or broKen devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shol l be fabricated from virgin and/or recycled rubber. The portable bases shal l weigh o minimun of 30 lbs.
6. Pavement surfaces shal l be prepared in a monner that ensures proper bonding between the adhesives, the fixed mount bases end the pavement surface. Adhesives shal l be prepared and applied according to the monufocturer's recommendat iens.
7, The instal lotion end removal of channelizing devices shal l not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveoble bases shal l not be permitted on final pavement surfaces. The Engineer/Inspector shol l approve all opplicot ion and remove l procedures of fixed bases.



LONGITUDINAL CHANNELIZING DEVICES <LCD>

1. LCDs are croshworthy, lightweight, deformable devices that are highly visible, hove good target value end con be connected together. They are not designed to contain or redirect o vehicle on impoct,
2. LCDs may be used instead of a line of cones or druns.
3. LCDs shal l be placed in accordance to application and instal lotion requirements specific to the device, and used on ly when shewn on the CMUTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or worKers.
5. LCDs shal l be supplemented with retroreflective delineation os required for temporary barriers on BCC7l when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should hove at least one row of reflective Sheeting meeting the requirements for barricade roils as Shown on BC<lOl. Place reflective Sheeting near the top of the LCD olong the full length of the device.

WATER BALLASTED SYSTEUS USED AS BARRIERS

1, Water ballasted systems used os barriers shal l not be used solely to channelize road users, but olso to protect the worK spoce per the appropriate Manual for Assessing Safety Hardware <MASH crashWOrthiness requirements based on roadway speed and borrier opplication.
2. Water ballasted systems used to channelize vehicular traffic snal l be supplemented with retroreflective del ineotion or channelizing devices to improve daytime/nighttime visibility, They moy also be supplemented with pavement morKings.
3. Water ballasted systems used os barriers shal l be placed in accordance to opplicotion end instol lotion re<J,irements specific to the device, end used only when shown on the CMUTCD list.
4, Water bol lasted systems used os barriers Should not be used for a merging taper except in low speed (less than 45 MPH urban areas. When used on a taper in a low speed urban areo, the toper shal l be delineated and the taper length should be designed to optimize rood user operations considering the avai lobl e geometric conditions.
5. When water ballosted systems used as barriers hove blunt ends exposed to troffic, they shoul ld be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shal l not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

Posted Speed	Forrrulo	Minim.Jm Oesiroble Toper.J.engths			Suggested Moximum Spacing of Channelizing Devices	
		10' Offset	11' Offset	12' Offset	On a Toper	Ono Tangent
30	L= WS²/60	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40		265'	295'	320'	40'	80'
45	L=WS	450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	11 O'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

Toper lengths hove Deen rounded off.
L•Length of Toper (FT.) W•Width of Offset (FT.)
S•Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC<9> -21

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7-13 5-21	PHR	CAMERON		25

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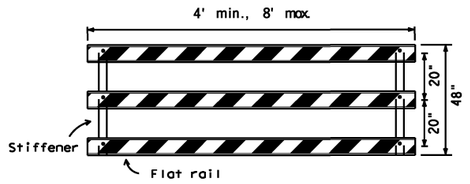
TYPE 3 BARRICADES

1. Refer to the COl1')liont Work Zone Traffic Control Devices List COVZTCDI for detoi ls of the Type 3 Borricodes ond o list of 011 moteriols used in the construction of Type 3 Borricodes.
2. Type 3 Barricades shol l be used at each end of construction projects closed to 011 traffic.
3. Borricodes extending ocross o roadway should hove stripes that slope downward in the direction toword which traffic rrust turn in detouring, When both right ond left turns ore provided, the chevron striping rroy slope downward in both directions from the center of the borricode. Where no turns ore provided at o closed rood, striping should slope downward in both directions toword the center of roadway.
4. Striping of roi ls, for the right side of the roodwoy, should slope downward to the left. For the left side of the roodwoy, striping should slope downward to the right.
5. Identification markings may be shown only on the bock of the borricode roi ls. The maximum height of letters ond/or c011')Ony logos used for identification shol l be 1",
6. Borricodes shol l not be ploced porol lel to traffic unless on adequate cleor zone is provided.
7. Warning lights shol l NOT be instol led on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesion less sand is recommended. The sandbags wi 11 be tied shut to keep the sand from spi 11ing and to rrointo in o constant weight. Sond bogs shol l not be stocked in a manner that covers ony part ion of a borricode roi ls reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sondbogs should weigh o minimum of 35 lbs ond o rraximum of 50 lbs. Sondbogs shol l be rrode of a durob le mater iol thot tears upon vehicular impact. Rubber <such os tire inner tubes> shol l not be used for sondbogs. Sondbogs shol l on ly be ploced along or upon the bose supparts of the device ond sholl not be suspended obove ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades sholl be retroreflective Type A or Type B conforming to Deportmentol Material Specification DMS-8300 unless otherwise noted.

Barricades shol l NOT be used as a sign support.



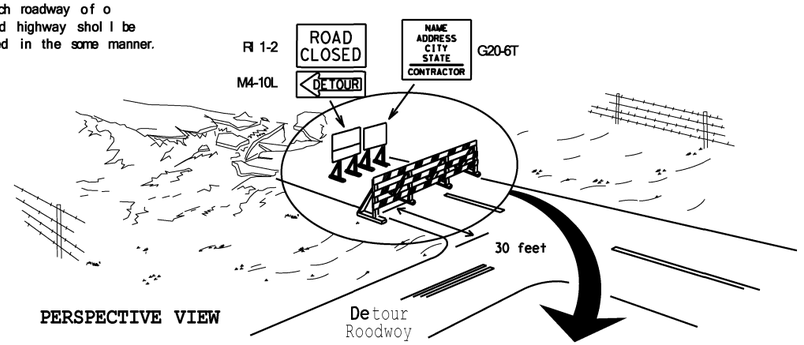
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



Stiffener rroy be inside or outside of support, but no more thon 2 stiffeners snoll be 011owed on one borricode,

TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

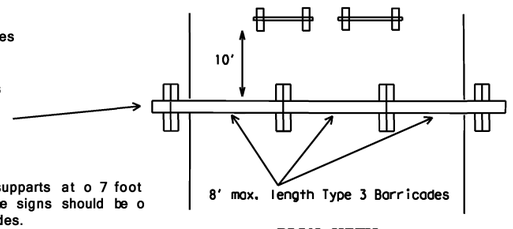
Each roadway of o divided highway shol l be borr icoded in the some manner.



PERSPECTIVE VIEW

The three roils on Type 3 barricades sho ll be reflectorized oronge ond reflective white stripes on one side focing one-way traffic ond both sides for two-woy traffic.

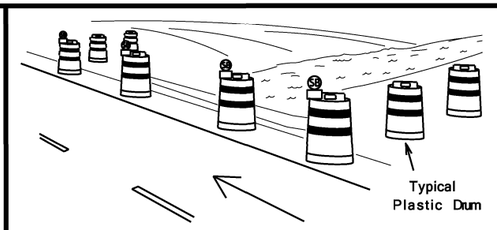
Borricode striping should slant downward in the direct ion of detour.



PLAN VIEW

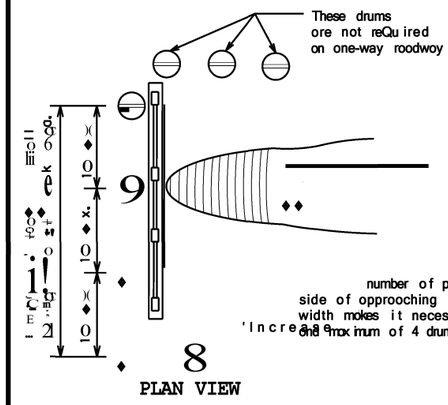
1. Signs Should be mounted on independent supparts at o 7 foot mounting height in center of roodwoy, The signs should be o minimum of 10 feet behind Type 3 Barricades.
2. Advance signing Shol l be os specified elsewhere in the plons.

TYPE 3 BARRICADE <POST AND SKID> TYPICAL APPLICATION



PERSPECTIVE VIEW

1. Where positive redirectionol copob i lity is provided, drums rroy be orritted.
2. Plastic construction fencing rroy be used with drums for safety as required in the plans.
3. vertical Panels on flexible suppart rroy be substituted for drums when the shoulder width is less than 4 feet.
4. When the shau lder width is greater than 12 feet, steady-burn lights rroy be omitted if drums ore used.
5. Drurrs rrust extend the length of the culvert widening.

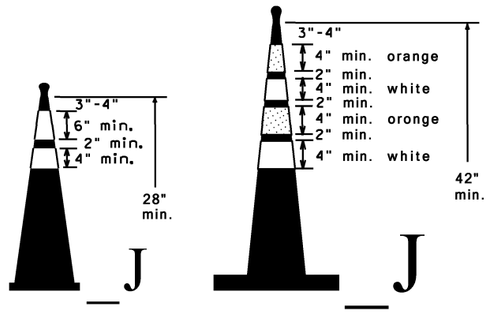


LEGEND	
(III)	Plastic drum
(1)	Plastic drum with steady burn light or yellow warning reflector
♦	Steody burn warning light or yellow warning reflector

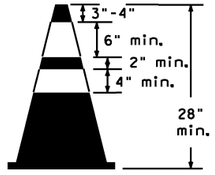
number of plastic drums on the side of opprooching traffic if the crown width rrokes it necessary. (minimum of 2 and rraxirrum of 4 drums>

'Increase

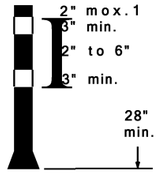
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Two-Piece cones



One-Piece cones

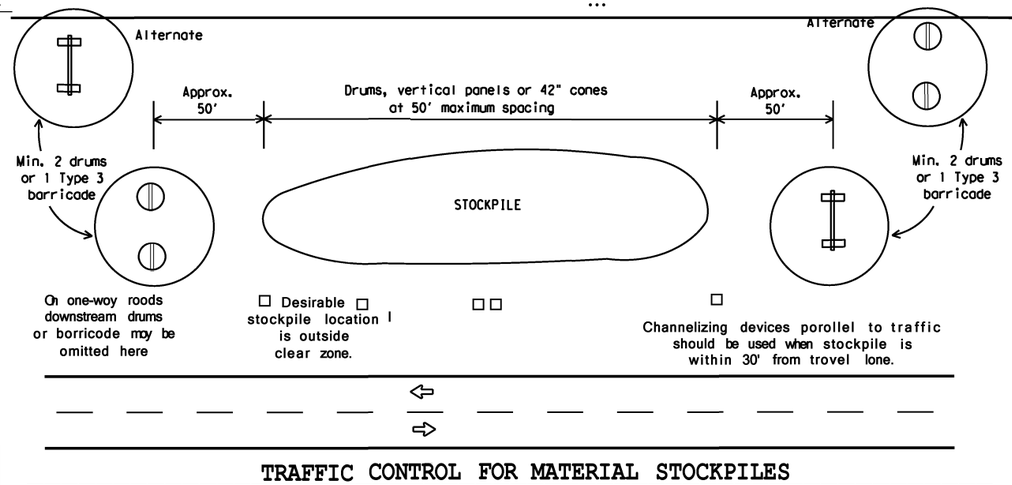


Tubulor Marker

28" Cones shol l hove a mininun weight of 9 1/2 lbs.

42" 2-piece cones shol l hove a minimum weight of 30 lbs. including base.

1. Traffic cones ond tubular markers sholl be predominantly orange, ond meet the height ond weight requirements shown above.
2. One-piece cones hove the body ond base of the cone molded in one consol idoted unit, Two-piece cones hove o cone shaped body and o separate rubber base, or bol lost, thot is odded to keep the device upright and in place,
3. Two-piece cones rroy hove o handle or loop extending up to 8" above the minimum height shown, in order to oid in retrieving the device,
4. Cones or tubular markers snol l nove white or wnite and orange reflective bonds os snown obove. Tne reflective bonds snol l nove o smootn, seoled outer surface ond meet tne requirements of Deportmentol Moteriol Specification DMS-8300 Type A or Type B.
5. 28" cones and tubular markers ore generol ly suitable for short duration ond short-term stationary work os defined on BCC4l. These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums ore suitable for 011 work zone durations.
7. Cones or tubular markers used on eoch project should be of the sorne size ond shape.



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

SHEET 10 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC<10>-21

FILE: bc-21.dgn	DN: TxDOT	CK: TxDOT	CW: TxDOT	CK: TxDOT
©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS 9-07 8-14 7-13 5-10	0921	06	399	VAR
	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		26

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Traffic Signals Communication/400_CAD/409_Traffic/02_Sheets/10-Signals/Standards/bc-21.dgn
Date: 3/6/2026 3:00:14 PM
User: ...
File: ...
Design: ...
Last Modified: ...
Document: ... - 01 Documents 2025 2910 01-103 Traffic Signals

WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shol l be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on 011 roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shol l be in conformance with the "Texas Manual on Uniform Traffic Control Devices" <TMUTCD>.
3. Additional supplemental pavement marking detoi ls may be found in the plans or specifications.
4, Pavement markings shol l be instol led in accordance with the TMUTCD and as shown on the plans.
5. When short term markings ore required on the plans, short term markings shol l conform with the TMUTCD, the plans and detoi ls as shown on the Standard Plon Sheet WZCSTPMI.
6. When standard pavement markings ore not in place and the roadway is opened to troffic, DO NOT PASS signs shol l be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7, Al l work zone pavement markings shol l be instol led in accordance with Item 662, "Work Zone Pavement Markings.·

RAISED PAVEMENT MARKERS

1. Raised pavement markers ore to be placed according to the patterns on BCC12).
2. Al l raised pavement markers used for work zone markings shol l meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shol l meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings lfoi l bock) shol l meet the requirements of DMS-8240.

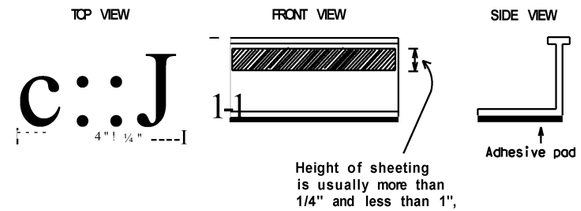
MAINTAINING WORK ZONE PAVEMENT MARKINGS

I, The Contractor wi 11 be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shal l be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspectians as required by Farm 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuninoted by outomobi le low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4, Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Povement markings that ore no longer opplicoble, could create confusion or direct a motorist toward or into the closed portion of the roadway shol l be removed or obliteroted before the roadway is opened to troffic.
2. The above shol l not apply to detours in place for less than three days, where floggers and/or sufficient channelizing devices ore used in lieu of markings to outline the detour route.
3. Pavement markings shol l be removed to the fullest extent possible, so as not to leave a discernoble marking. This shol l be by any method approved by TxDOT Specification Item 677 for "El iminoting Existing Pavement Markings and Markers·.
4. The removal of pavement markings may require resurfacing or seal coating partions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a porticulor type pavement may be used.
6. Blast cleaning may be used but wi 11 not be required unless specificol ly shown in the plans.
7. Over-pointing of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shol l be as directed by the Engineer.
9. Removal of existing pavement markings and markers wi 11 be poid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Block-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary F1extb1e-Reflecttve Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemorks shol l meet the requirements of DMS-8242,
2. Tabs detoi led on this sheet ore to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normo11y required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quo lity before placement on the roadway.
   - A, Select five <5> or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification complionce.
   - B. Select five 15) tabs and perform the fol lowing test. Affix five <5l tabs at 24 inch intervals on on ospholtic pavement in a straight line. Using a mediun size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four <4l times in each direction. No more than one 1T> out of the five <5l reflective surfaces shol l be lost or displaced as a result of this test.
3. Smol l design varionces may be noted between tab manufacturers.
4, See Standard Sheet WZISTPMI for tab placement on new pavements. See Standard Sheet TCPC7-ll for tab placement on seal coot work,

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1, Roised pavement markers used as guidemorks shol l be from the approved product list, and meet the requirements of DMS-4200.
2. Al l temparory construction raised pavement markers provided on a project shol l be of the some manufacturer.
3. Adhesive for guidemorks shol l be bituminous moteriol hot opplied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemorks shol l be desiignoted as:
YELLOW - (two arber reflective surfaces with yellow body).
WHITE - Cone silver reflective surface with white body),

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS IREFLECTORIZEDI	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequel ified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings con be found at the Material Producer List web address shown on BC!ll,

Texas Department of Transportation

Traffic Safety Division Standard

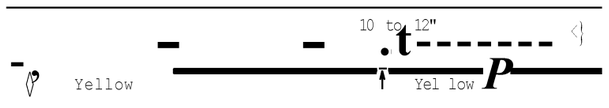
BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

BC <1 1) -21

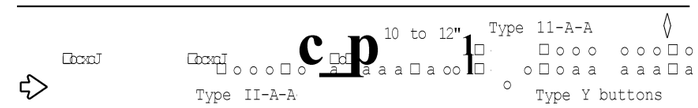
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©TxDOT February I998	CONT	SECT	JOB	HIGHWAY
REVISIONS	0921	06	399	VAR
2-98 9-07 5-21	DIST	COUNTY		SHEET NO
1-02 7-13	BHR	CAMERON		27
11-02 8-14				

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s Communication/400_CAD/409_Traffic/02_Sheets/10-Signals/Standards/bc-21.dgn

PAVEMENT MARKING PATTERNS



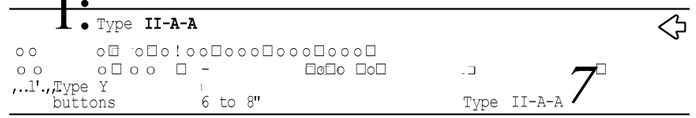
REFLECTORIZED PAVEMEMT MARKIMGS • PATTERM A



RAISED PAVEMEMT MARKERS · PATTERM A



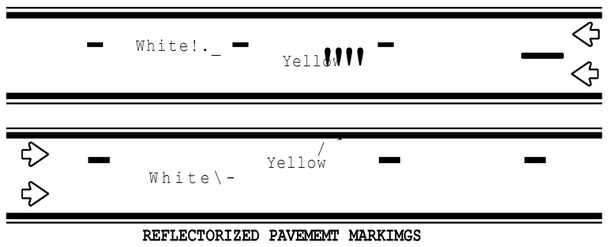
REFLECTORIZED PAVEMEMT MARKIMGS • PATTERM B



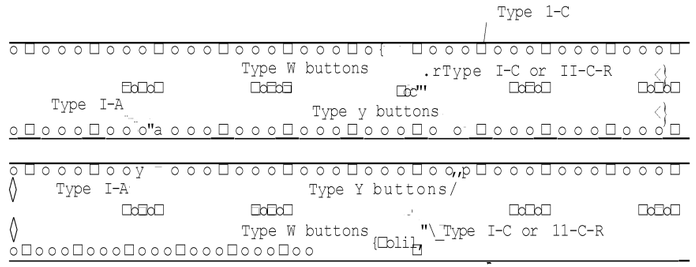
RAISED PAVEMEMT MARKERS · PATTERM B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



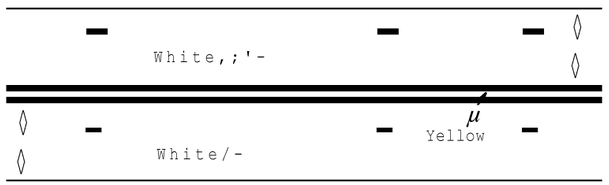
REFLECTORIZED PAVEMEMT MARKIMGS



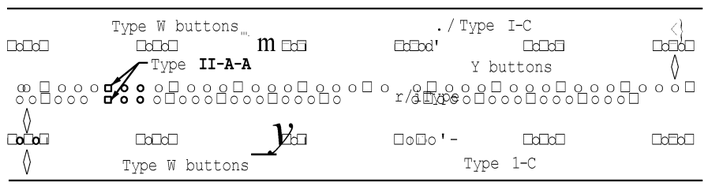
RAISED PAVEMEMT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



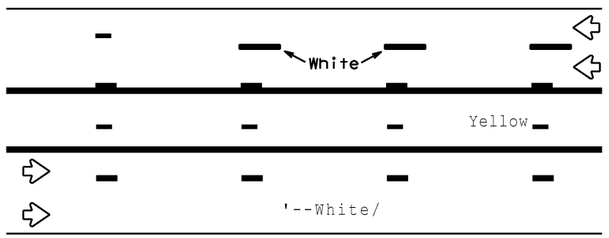
REFLECTORIZED PAVEMEMT MARKIMGS



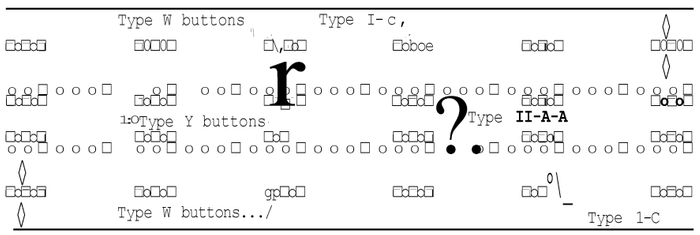
RAISED PAVEMEMT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMEMT MARKIMGS



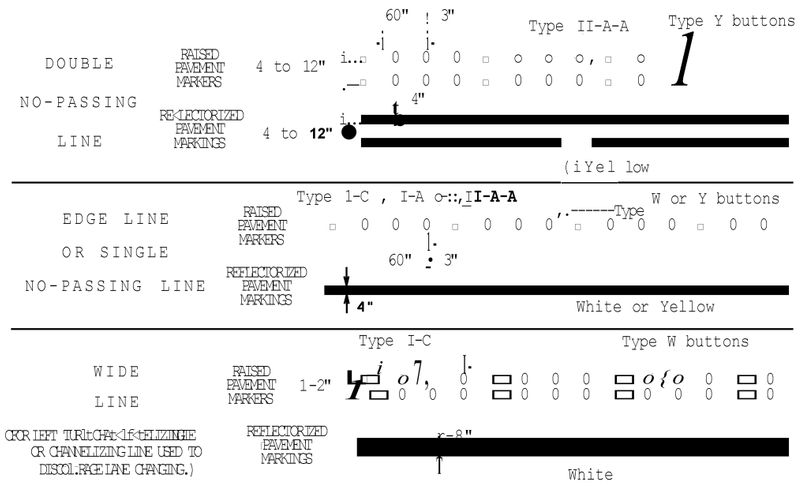
RAISED PAVEMEMT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

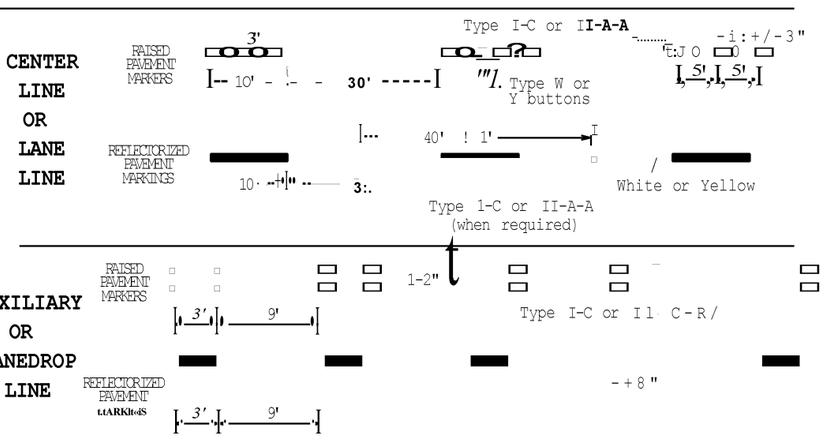
TWO-WAY LEFT TURN LANE

STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

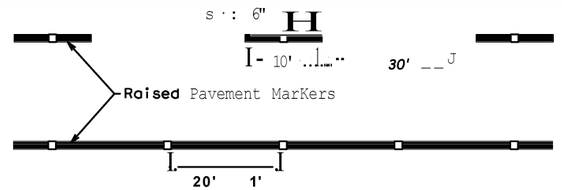


BROKEN LINES



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shol I be applied to the top of the tape at the approximate mid length of tape used for broken lines or ot **20** foot spacing for solid lines. This allows on easier removal of raised pavement markers ond tape,



Center Iine on Iy - not to be used on edge Iines

Raised pavement morKers used as standard pavement morKings shal I be from the approved products Iist and meet the requirements of Item **672** "RAISED PAVEMENT MARKERS."

SHEET 12 OF 12

Texas Department of Transportation

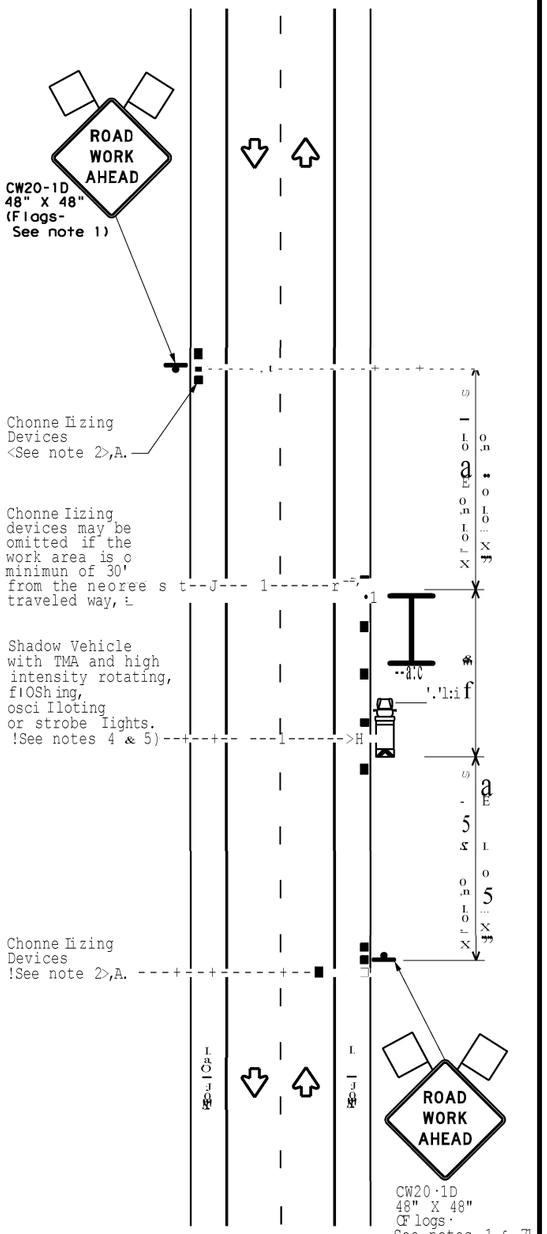
Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

BC<12> -21

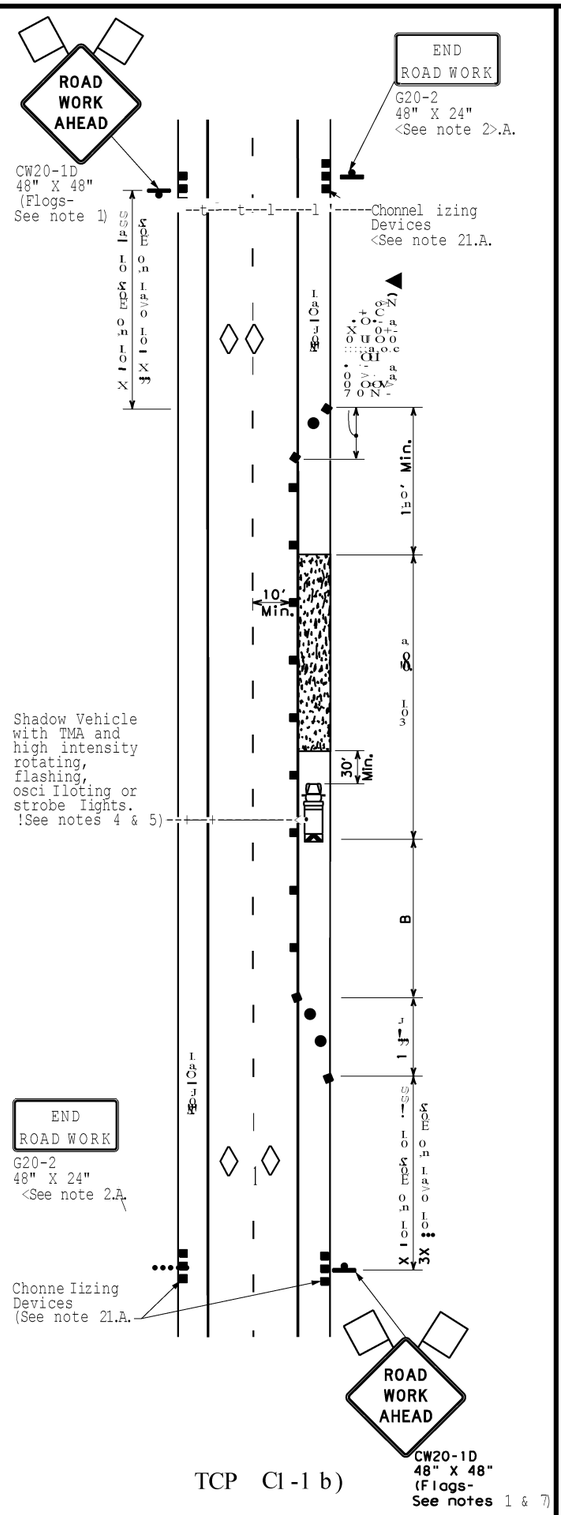
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©TxDOT Februory 1998	CONT	SECTI	JOB	HIGHWAY
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	DIST	COUNTY		SHEET NO.
11-02 R-14	HRL	CAMERON		28

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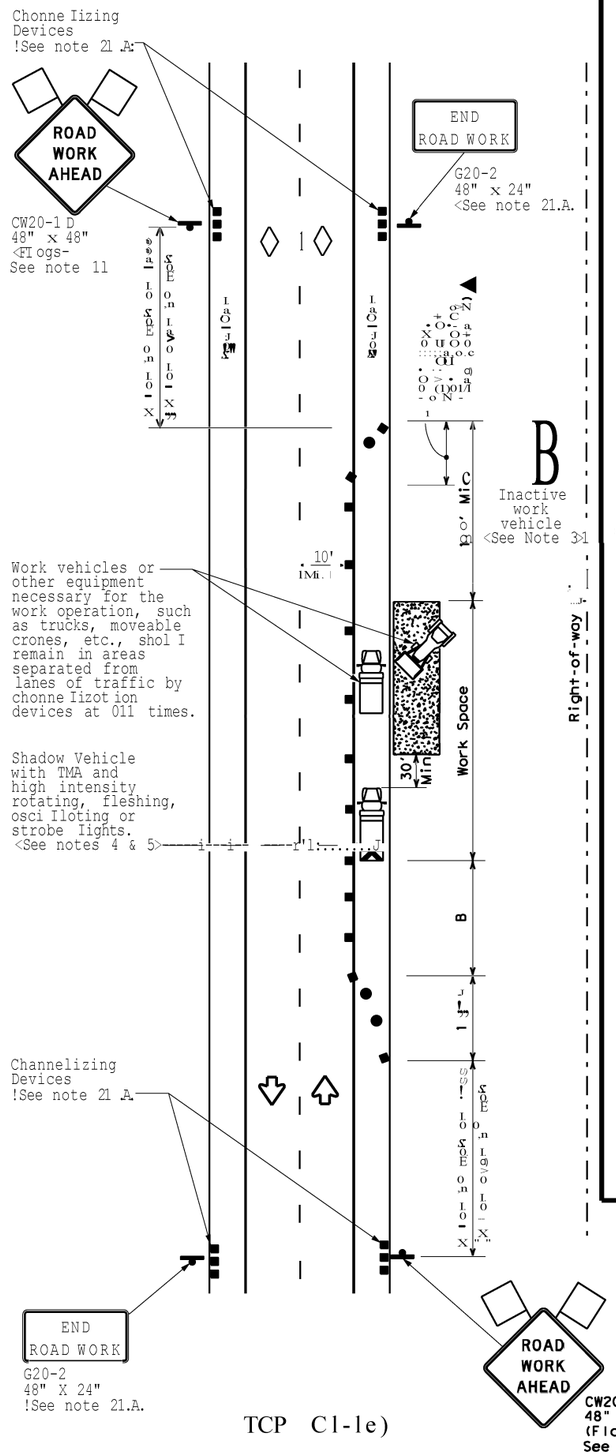
TCP (1-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (1-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (1-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
DP	Heavy Work Vehicle		Truck Mounted Attenuator <TMA>
	Trailer Mounted Flashing Arrow Board		Portable Changeable Message Sign !PCMS>
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On Taper	On Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	L = WS²/60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roods Only
** Taper lengths have been rounded off.
L=Length of Taper<FT> W=Width of Offset<FT> S=Posted Speed<MPH>

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance **work**, when approved by the Engineer.
3. Inactive **work** vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. A Shadow Vehicle with a **TMA** should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP<5-1>for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation

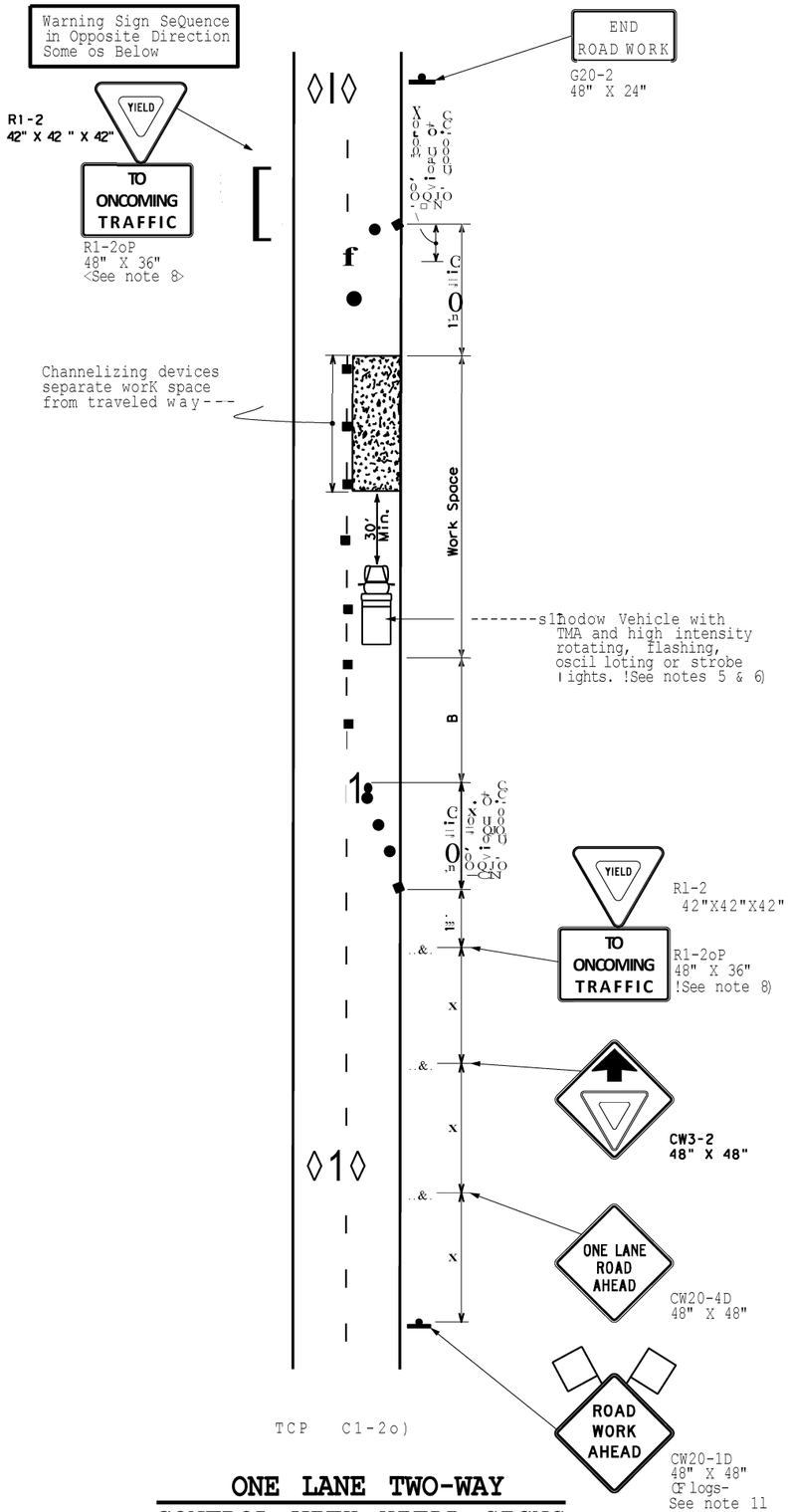
Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

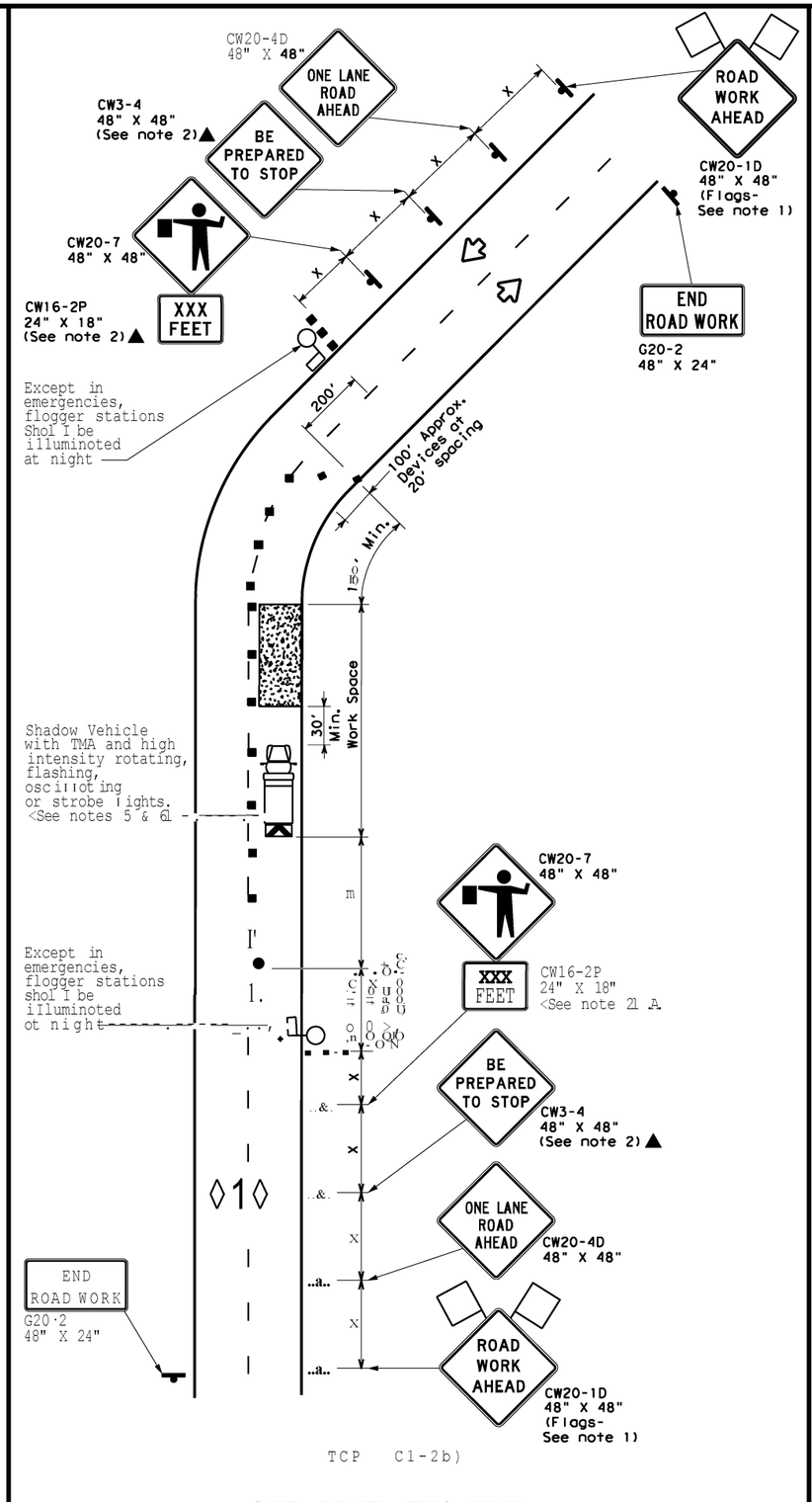
TCP<1-1)-18

FILE: tcp1-1-18.dgn	DN:	CK:	DW:	CK:
©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 2-94 4-98 8-95 2-12 1-97 2-18	0921	06	399	VAR
	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		29

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ONE LANE TWO-WAY
CONTROL WITH YIELD SIGNS
<Less than 2000 ADT - See note 7>



ONE LANE TWO-WAY
CONTROL WITH FLAGGERS

LEGEND			
=	Type 3 Barricade	■■	Channelizing Devices
DP	Heavy WorK Vehicle		TrucK Mounted Attenuator CTMAl
	TroiIer Mounted Fleshing Arrow Boord	@	Portable Changeable Message Sign CPCMSl
	Sign	¢	Traffic Flow
	Flog	G.-O	Flogger

Posted Speed *	For-mulo	Mininun Desirable Toper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of cnonne1 izing Devices On 0 Toper	On a Tangent	Mininun Sign Spocino "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	L = WS²/60	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	41 O'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

*Conventional Roods Only
**Toper lengths have been rounded off.
L=Length of TroperCFTl W=Width of OffsetCFTl S=Posted SpeedCMPHl

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY

GENERAL NOTES

1. Flogs attached to signs where shown ore REQUIRED.
2. Al l traffic control devices ii lustroted are REQUIRED, except those denoted with the triangle symbol moy be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign moy be instol led ofter the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shol l be maintained,
4. Sign spacing moy be increased or on additional CW20-1D "ROAD WORK AHEAD" sign moy be used if advance warning ahead of the flogger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it con be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or Quality of the work, If workers ore no longer present but rood or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices moy be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs moy be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-20>

7. R1-2 "YIELD" sign traffic control moy be used on projects with approaches that hove adequate sight distance. Far projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
8. R1-2 "YIELD" sign with R1·2oP "TO ONCOMING TRAFFIC" plaque shol I be placed on a support at a 7 foot minimum mounting height,

TCP (1-2b>

9. Floggers should use two·woy radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of floggers to communicate.
11. If the work space is located near o horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flogger and o queue of stopped vehicles Csee table above>.
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer,
13. Floggers should use 24" STOP/SLOW paddles to control traffic. Flogs should be limited to emergency situations.

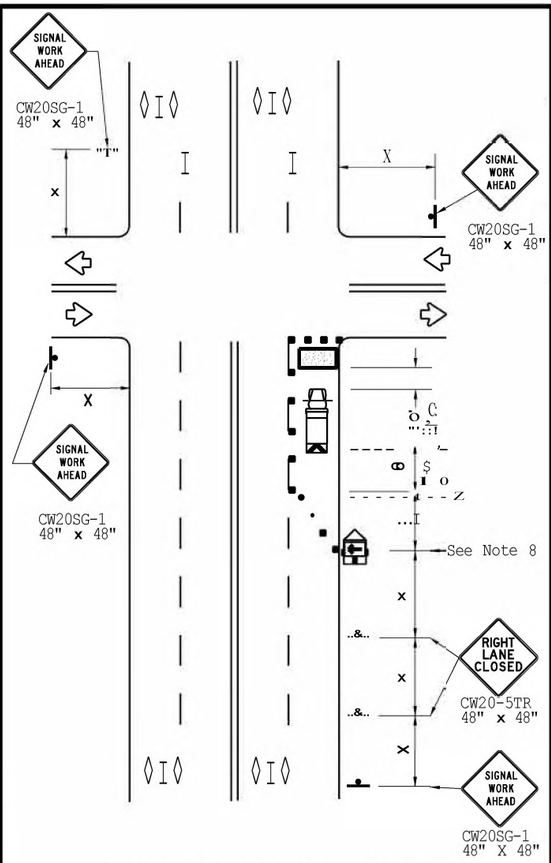
Texas Department of Transportation | Traffic Operations Division Standard

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL

TCP(1-2)-18

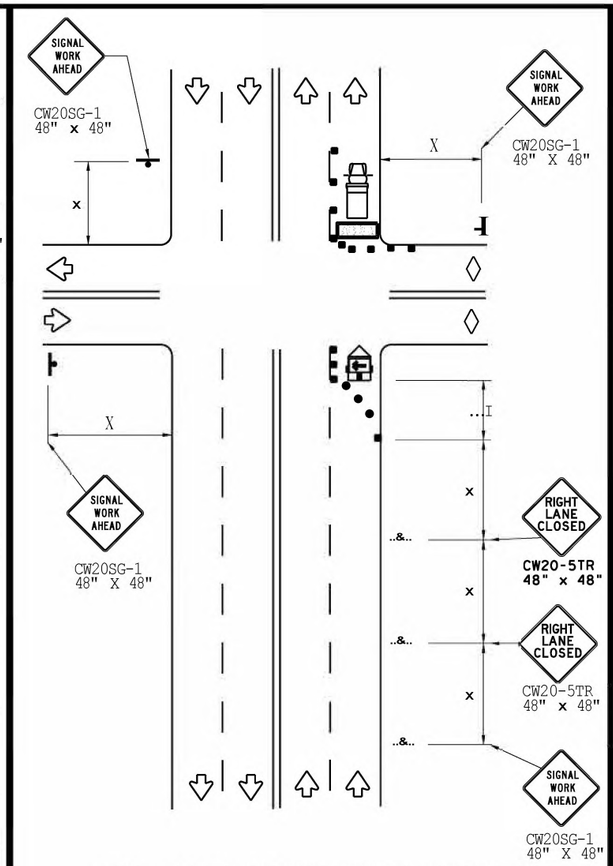
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©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-90 4-98 2-94 2-12 1-97	0921	06	399	VAR
	DIST	COUNTY		SHEET NO.
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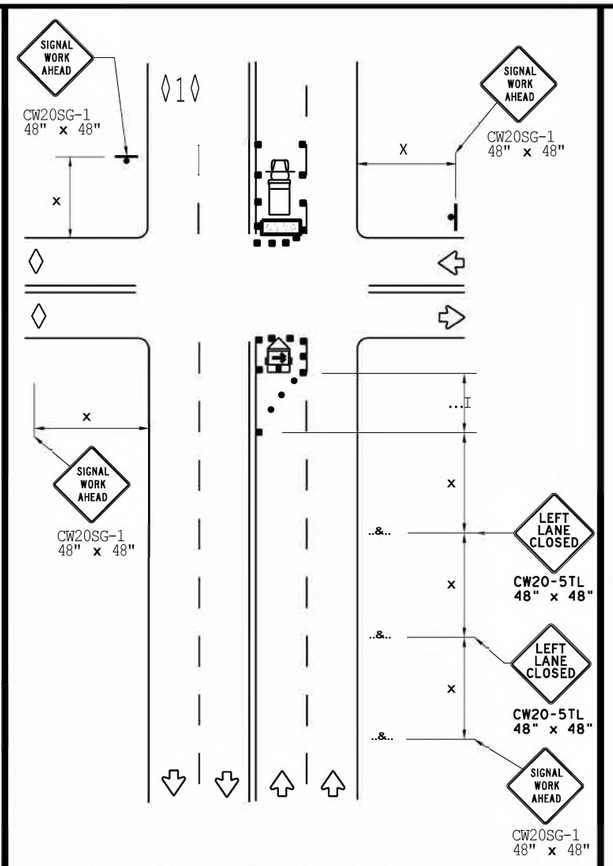
NEAR SIDE LANE CLOSURE

SHORT DURATIOlil OR SHORT TERM STATIOMARY



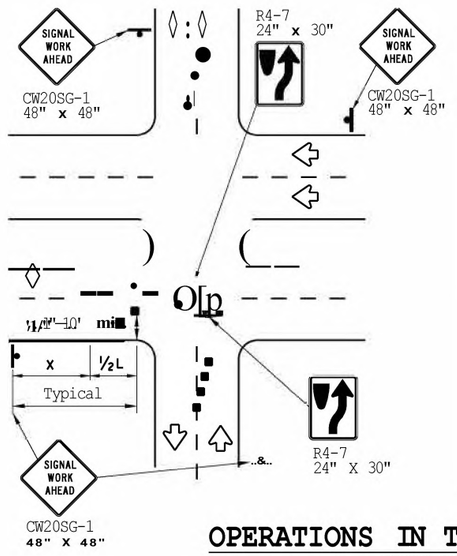
FAR SIDE RIGHT LANE CLOSURE

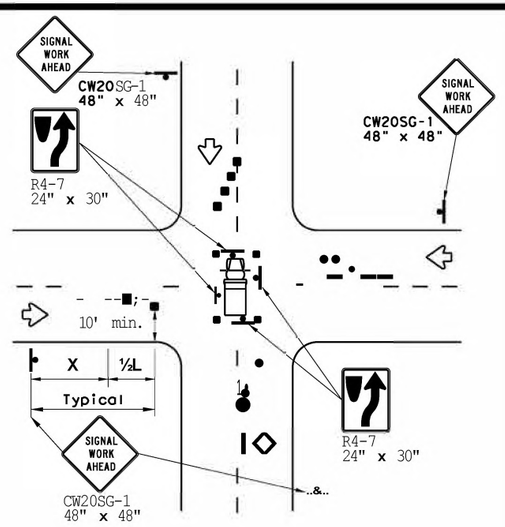
SHORT DURATIOM OR SHORT TERM STATIOMARY



FAR SIDE LEFT LANE CLOSURE

SHORT DURATIOlil OR SHORT TERM STATIOMARY





OPERATIONS IN THE INTERSECTION

SHORT DURATIOlil

GENERAL NOTES

1. The minimum size channelizing device is the 28" cone. 42" Two-piece cones, drums, verticol panels or borricodes wil I be reQuired when the device must be left unottended ot night.
2. Obstructions or hozords ot the work oreo shol I be clearly morked ond del ineoted at al I times.
3. Floggers and Flogger Symbol (CW20-71 signs may be reQuired according to field conditions.
4. Vehicles parked in roadway shol I be eQuipped with at least two high intensity rototing, floshing, osci I loting or strobe type I ights.
5. High level worning devices (flog trees> may be used ot corners of the vehicle.
6. When work operations ore performed on existing signols, the signals may be placed in flashing red mode when opproved by the engineer. If existing signals do not hove power, Al **I-Woy** Stop <Rl-1 and Rl-3PJ signs moy be implemented when approved by the engineer.
7. For Short-Term Stotionary work the buffer spoce "B" from the above table should be used if field conditions permit. For Short Durotion (less thon 1 hour> any buffer spoce provided wi II enhonce the safety of the setup.
8. The orrow boord ot this location moy be omitted for Short Duration work if the work vehicle hos on orrow boord in operation. As on option, the orrow board moy be ploced at the end of the toper in the closed lone if spoce is not ovoiloble ot the beginning of the toper.
9. Signs and devices for the NEAR SIDE LANE CLOSURE moy be altered for o left lone closure by using a LEFT LANE CLOSED <CW20-5TLJ ond adding chonnelizing devices on the centerline to protect the **work** spoce from opposing troffic.

LEGEND			
=	Type 3 Borricode	••	Channelizing Devices
DP	Heovy Work Vehicle		Truck Mounted Attenuotor CIMAl
i	Tro iTer Mounted Flashing Arrow Boord	@	Portoble Chongeoble Messoge Sign <PCMSJ
o!••	Sign	¢	Traffic Flow
	Flog	D.-o	Flogger

Posted Speed *	Formulo	Mininun Desirable Toper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested MoximLm Spacing of Channelizing Devices On a Toper	On a Tangent	Minim_m Sign Spacing "X" Distance	Suggested Longi-tudinol Buffer Space "B"
30	L= WS²/60	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	41 O'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roods Only

** Toper lengths hove been rounded off.
L=Length of Toper(FTJ W=Width of Offset(FTJ S=Posted Speed(MPHJ

WORKERS IN BUCKET TRUCKS SHALL NOT WORK ABOVE OPEN LANES OF TRAFFIC.

SHEET 1 OF 2

Texas Department of Transportation

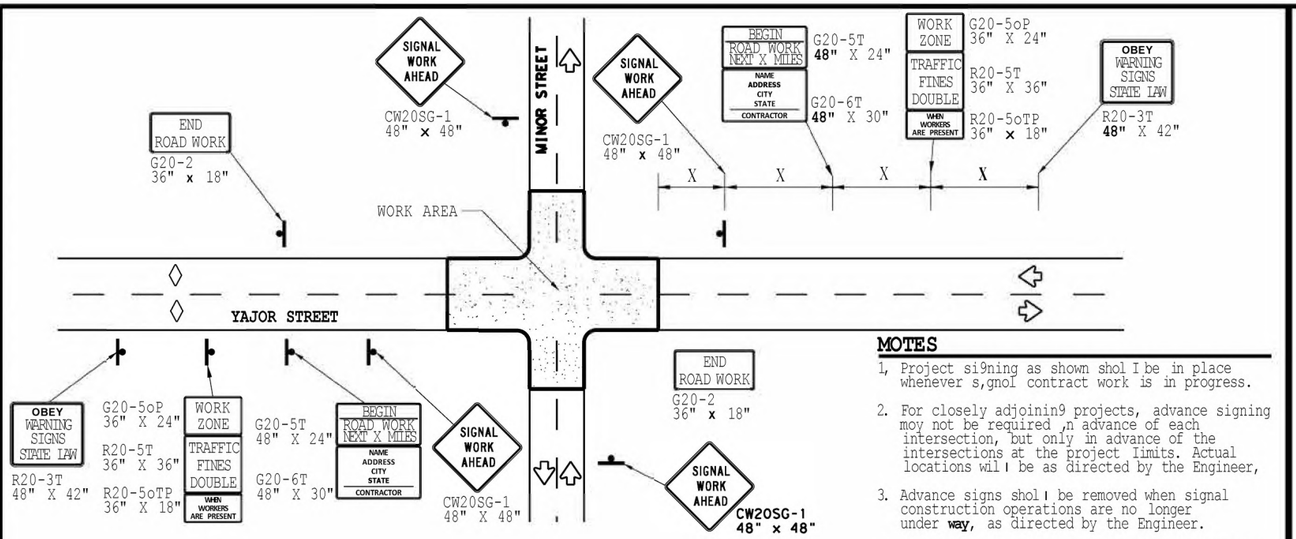
Traffic Operations Division Standard

TRAFFIC SIGNAL WORK TYPICAL DETAILS

WZ<BTS-1) -13

FILE: wzbts-13.dgn	DN TxDOT	CK TxDOT	CW TxDOT	" ' TxDOT
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REVISIONS	0921	06	399	VAR
2-98 10-99 7-13	DIST	COUNTY		SHEET NO.
◄98 3-03	PHR	CAMERON		31

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TYPICAL ADVANCE SIGNAL PROJECT SIGNING

FOR LONG TERM and INTERMEDIATE-TERM STATIONARY WORK OPERATIONS

MOTES

1. Project si9ning as shown shol I be in place whenever s,gnol contract work is in progress.
2. For closely adjoinin9 projects, advance signing moy not be required ,n advance of each intersection, but only in advance of the intersections at the project limits. Actual locations wil I be as directed by the Engineer,
3. Advance signs shol I be removed when signal construction operations are no longer under way, as directed by the Engineer.
4. Warning sign spacing shown is typical far bath direct ions.
5. See the Table on sheet 1 of 2 for Typical warning sign spacing.

GENERAL t<>TES FOR WORK ZOtlE SIGNS

1. Signs shall be installed and mointoined in o straight and plumb condition,
2. Wooden sign posts shal I be painted white,
3. Barricades shal I NOT be used as sign supports,
4. Nails shall NOT be used to attach signs to any support,
5. All signs shol I be instol led in accordance with the plans or os directed by the Engineer,
6. The Contractor shall furnish the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" CSHSD>.
7. The Contractor shall furnish sign supports and substrates listed in the "Comp Iiant Work Zone Traffic Control Device List" <CWZTCD>, installed os per the manufacturer's recommendations,
8. Temporary signs that hove domoged or crocked substrates and/or damaged or marred reflective sheeting shol I be replaced as directed by the Engineer.
9. Identification markings may be shown only on the bock of the sign substrate, The moximum height of letters and/or company logos used for identification shol I be 1",
10. Damaged wood posts shal I be replaced. Splicing wood posts wi ll not be OI lowed.

D A TIDtl OF WORK

1. Work zone durations ore defined in Port 6, Section 6G.02 of the Texas Manual on Uniform Traffic Control Devices <TMUTCD>.

SIGN MOUNTING HEIGHT

1. Sign height of Long-term/Intermediate-term warning signs shal I be as shown on Figure 6F-1 of the TMUTCD.
2. Sign height of Short-term/Short Duration warning signs shall be os shown on Figure 6F-2 of the TMUTCD.
3. Regulatory signs shal I be mounted ot least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

REWVI OR COVERING

1. When sign messages moy be confusing or do not apply, the signs shal I be removed or completely covered, unless Otherwise approved by the Engineer.
2. When signs are covered, the moterial used shal I be opaque, such as heavy mil block plastic, or other materials which wil I cover the ent,re sign face and maintain their opaque properties under automobile headlights at night without damaging the sign sheeting, Burlap, or heavy materials such as plywood or aluminum shall not be used to cover signs.
3. Duct tape or other adhesive material shall NOT be affixed to a sign face.
4. Signs and anchor stubs shol I be removed and holes bock filled upon completion of the work.

REFLECTIVE SHEETING

1. All signs shall be retroref lect ive and constructed of sheeting meet ing the requirements of the DMS and color usage table shown on this sheet,

SIGN SUPPORT IEIGHTS

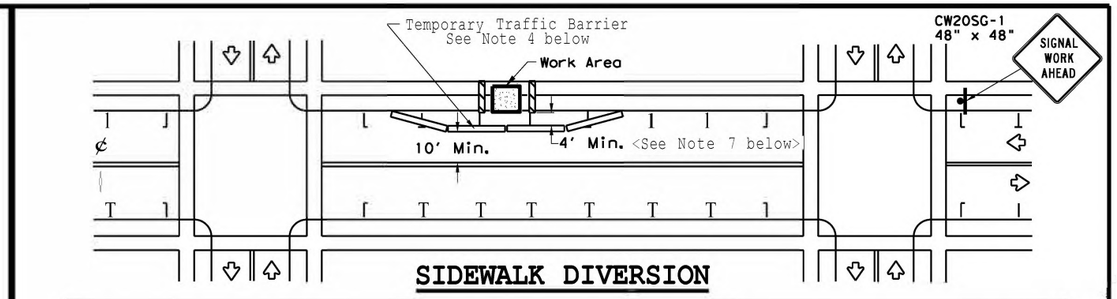
1. Weights used to keep signs from turning over should be sandbags filled with dry, cohesionless materiel,
2. The sandbags wil I be tied shut to keep the sand from spilling ond to maintain o constant weight.
3. Rockt concrete, iron, steel or other solid objects wil I not be perm,tted for use os sign support weights,
4. Sandbags should weigh o minimum of 35 lbs ond o maximum of 50 lbs.
5. Sandbags shol I be mode of a durable materiel that tears upon vehicular impact. Rubber, such os tire inner tubes, shol I not be used.
6. Rubber bol lasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed ond manufactured with rubber bases may be used when shown on the CWZTCD list,
7. Sandbags shol I only be pieced along or laid over the base supports of the traffic control device and shol I not be suspended above ground level or hung with rope, wire, chains or other fostners, Sandbags Shol I be placed along the length of the skids to weigh down the sign support.
8. Sandbags shol I NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

LEGEND	
.&..	Sign
■■	Channe Iizing Devices
—	Type 3 Barricade

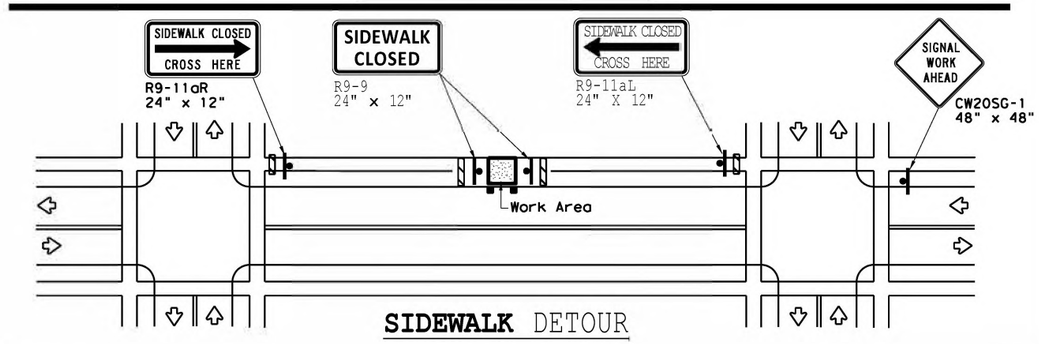
DEPARTMENTAL MATERIAL SPECIFICATIONS	
SIGN FACE MATERIALS	DMS-8300
FLEXIBLE ROLL-UP REFLECTIVE SIGNS	DMS-8310

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE BFL OR TYPE Cn SHEETING
WHITE	BACKGROUND	TYPE A SHEETING
BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

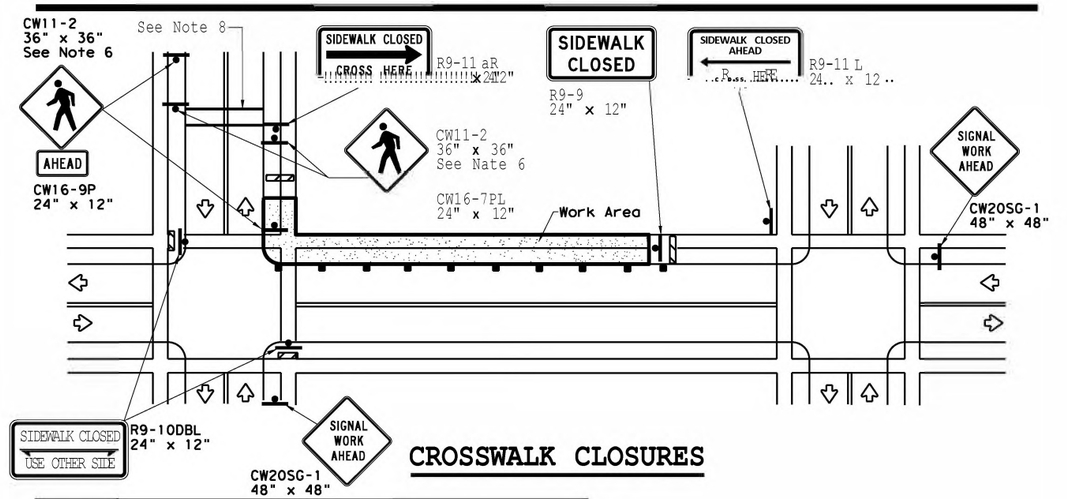
Only pre-Qualified products shol I be used. A copy of the "Comp Iiont Work Zone Traffic Control Devices List" <CWZTCDJ describes pre-Qua Iified products and their sources and may be found at the fol lawing web address:
http://www.txdot.gov/txdot_library/publications/construction.htm



SIDEWALK DIVERSION



SIDEWALK DETOUR



CROSSWALK CLOSURES

PEDESTRIAN COtlTROL

1. Holes, trenches or other hazards shal I be adequately protected by covering, delineating or surrounding the hazard with orange plastic pedestrian fencing or longitudinal channelizing devices, or as directed by the Engineer,
2. "CROSSWALK CLOSURES" as detailed above wi ll require the Engineer's approval prior to instal lotion,
3. R9 series signs shown moy be placed on supports detailed on the BC standards or CWZTCD list, or when fabricated from approved lightweight plastic substrates, they may be mounted on top of a plastic drum at or near the location shown.
4. For speeds less than 45 mph longitudinal channelizing devices moy be used instead of traffic barriers when approved by the Engineer. Attenuation of blunt ends and installation of water filled devices shal I be as per BC<9> and manufacturer's recommendations.
5. Location of devices are for general guidance, Actual device spacing and location must be field adjusted to meet actual conditions.
6. Where pedestrians with visual disabilities normally use the closed sidewalk Detectable Pedestrian Barricades should be used instead of the Type 3 Barricades shown.
7. The width of existing sidewalk should be maintained if practical,
8. Pavement markings far mid-black crosswalks shall be paid for under the appropriate bid items.
9. When crosswalks or other pedestrian foci Ities are closed or relocated, temporary facilities shall be detectable and shall include accessibility consistent with the features present in the existing pedestrian

SHEET 2 OF 2

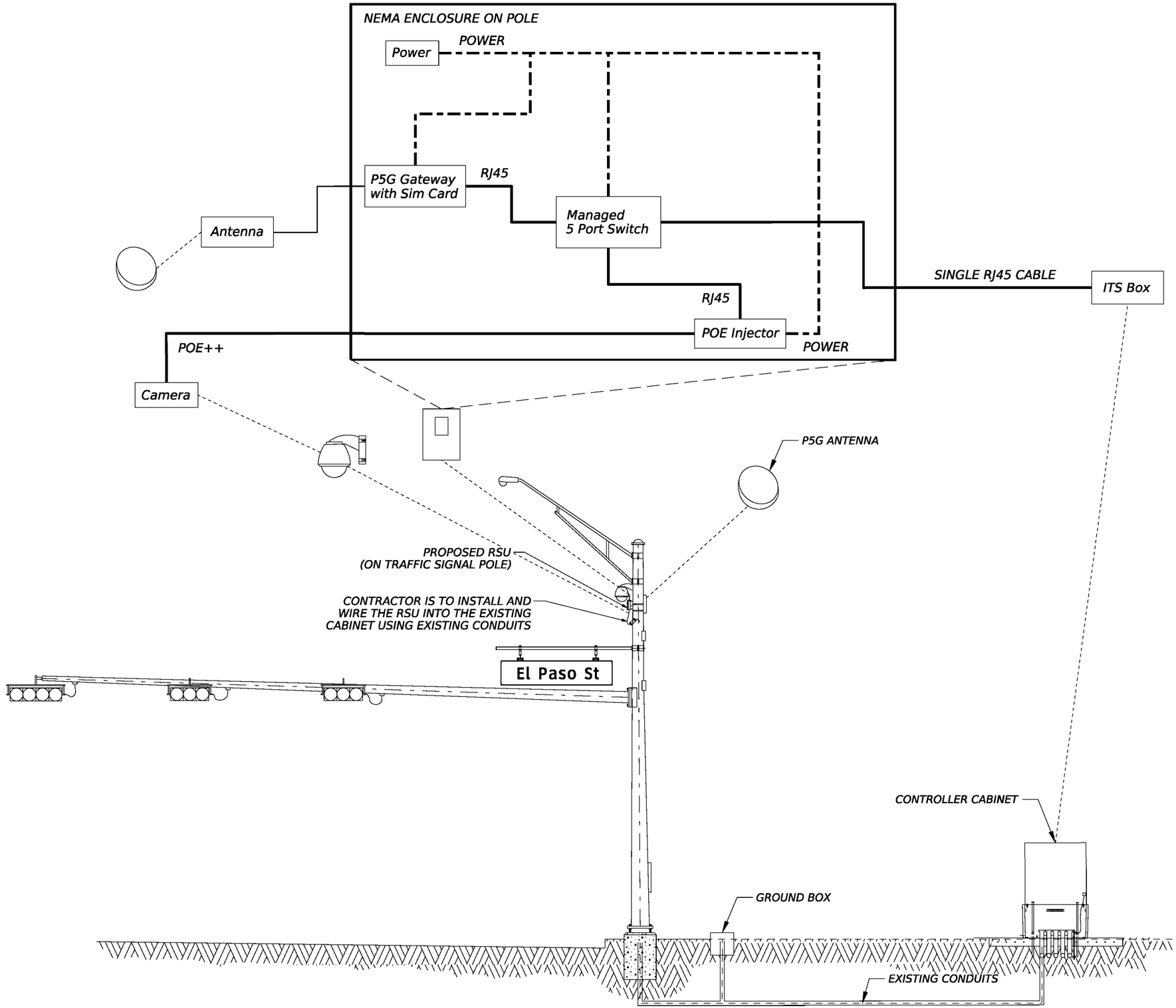
Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC SIGNAL WORK BARRICADES AND SIGNS

WZ<BTS-2>-13

FILE: wzbts-13. dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS	0921	06	399	VAR
2-98 10-99 7-13	DIST	COUNTY		SHEET NO
H B 3-03	PHR	CAMERON		32



N.T.S.

NOTES:
1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INSTALL DETAIL

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	33

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RSU Install Detail-rev.dgn

CONTRACTORS SHOULD ROUTE CONSTRUCTION QUESTIONS TO THE CITY ENGINEER OR DESIGNEE. POINT OF CONTRACT IS:

CARLOS LASTRA P.E.
CARLOS.LASTRA@BROWNSVILLETX.GOV
956-956-547-6571

THIS PROJECT CONSISTS OF FURNISHING, INSTALLING, SETTING UP, TESTING, AND COMMISSIONING COMMUNICATIONS AND MONITORING EQUIPMENT WITHIN THE EXISTING CITY OF BROWNSVILLE TRAFFIC SIGNAL INFRASTRUCTURE. THE WORK DESCRIBED BELOW DEFINES THE REQUIRED INSTALLATION STEPS, FUNCTIONAL SETUP, TESTING, AND VERIFICATION NECESSARY TO PLACE THE EQUIPMENT INTO OPERATIONAL SERVICE.

1. 680-0001 FURNISH & INSTALL FIELD MONITORING UNIT

EQUIPMENT: FIELD MONITORING UNIT

THE CONTRACTOR SHALL FURNISH, INSTALL, CONFIGURE, AND TEST THE FIELD MONITORING UNIT (FMU) WITHIN THE TRAFFIC CONTROL CABINET. WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- INSTALL THE FMU IN THE TRAFFIC SIGNAL CONTROL CABINET AND PROVIDE ALL NECESSARY MOUNTING HARDWARE, POWER CONNECTIONS, COMMUNICATION INTERFACES AND TESTING.
- CONFIGURE AND ENABLE ALL FMU FEATURES, INCLUDING BUT NOT LIMITED TO:
  - DUAL MOBILE/CELLULAR SIM OPERATION, INCLUDING VALIDATION OF CONNECTIVITY AND GENERATION OF A REPORT DEMONSTRATING SIGNAL STRENGTH (DBM) AND IDENTIFICATION OF THE CARRIER WITH THE SUPERIOR CONNECTION.
  - REMOTE ACCESS TO LIVE AND RECORDED CCTV VIDEO FEEDS ASSOCIATED WITH THE INTERSECTION.
  - REMOTE ACCESS TO THE FRONT PANEL AND OPERATIONAL INTERFACE OF THE TRAFFIC SIGNAL CONTROLLER INCLUDING THE ABILITY TO VIEW AND MODIFY CONTROLLER SETTINGS.
  - INTEGRATION AND ACCESS TO MULTIPLE TRAFFIC DETECTION AND DATA SYSTEMS.

0921-06-399 – Brownsville Traffic Signals Communication Development

  - ACCESS TO THE MALFUNCTION MANAGEMENT UNIT (MMU) FOR MONITORING AND DIAGNOSTIC PURPOSES.
- INSTALL AND CONFIGURE LOAD SWITCHES AND/OR FLASHER UNIT INTERACES AS REQUIRED TO ALLOW:
  - REMOTE POWER CYCLING THROUGH AN IP-CONTROLLED POWER STRIP.
  - REMOTE STATUS CHECKS AND FAULT RECOVERY VERIFICATION.
- TEST AND VERIFY FULL FUNCTIONALITY OF ALL FMU FEATURES, INCLUDING COMMUNICATIONS, REMOTE ACCESS, MONITORING, AND SYSTEM INTEGRATION.

2. 680-0002 FURNISH & INSTALL ROAD SIDE UNIT

EQUIPMENT: ROADSIDE UNIT

THE CONTRACOTR SHALL FURNISH AND INSTALL THE ROADSIDE UNIT (RSU) AND ASSOCIATED CABLING. WORK SHALL INCLUDE THE FOLLOWING:

- MOUNT THE RSU AT THE DESIGNATED TRAFFIC SIGNAL POLE OR STRUCTURE THE DESIGNATED TRAFFIC SIGNAL POLE OR STRUCTURE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS AND CITY STANDARDS.
- FURNISH AND INSTALL CATEGORY 6 (CAT 6) COMMUNICATION CABLE FROM THE RSU TO THE TRAFFIC SIGNAL CONTROL CABINET.
- PROVIDE A MINIMUM OF FIVE (5) FEET OF SERVICE SLACK FOR THE CAT 6 CABLE AT ANY GROUND BOX OR PULL POINT, CONSISTENT WITH TXDOT ITEM 624 REQUIREMENTS.
- IDENTIFY, LABEL, TERMINATE, AND TEST ALL COMMUNICATION CABLING TO CONFIRM PROPER CONTINUITY, SIGNAL INTEGRITY, AND DATA TRANSMISSION.
- VERIFY PROPER COMMUNICATION BETWEEN THE RSU AND ASSOCIATED FMU OR NETWORK EQUIPMENT.

3. 680-0004 FURNISH AND INSTALL ETHERNET SWITCH WITH POWER SUPPLY

EQUIPMENT:

- MANAGED SWITCH
- POWER SUPPLY

THE CONTRACTOR SHALL FURNISH AND INSTALL THE NETWORK SWITCH AND POWER SUPPLY WITHIN THE TRAFFIC SIGNAL CONTROL CABINET. WORK SHALL INCLUDE THE FOLLOWING:

- MOUNT THE SWITCH AND POWER SUPPLY USING MANUFACTURER-APPROVED MOUNTING HARDWARE.
- CONNECT THE SWITCH TO THE PROVIDED POWER SUPPLY AND CABINET POWER SOURCE.

STATE OF TEXAS
BRIAN G. CASTILLE
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LICENSED
PROFESSIONAL ENGINEER
3/23/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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TRAFFIC NOTES

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	34

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- PERFORM BASIC POWER-UP AND OPERATIONAL TESTING TO VERIFY THAT:
  - THE POWER SUPPLY IS FUNCTIONING CORRECTLY.
  - THE SWITCH POWERS ON AND IS OPERATIONAL.
- NO NETWORK CONFIGURATION, PROGRAMMING, OR IT SECURITY SETUP IS REQUIRED UNDER THIS SCOPE. THE CITY'S INTERNAL IT DEPARTMENT WILL PERFORM ALL SWITCH CONFIGURATION AND NETWORK INTEGRATION.

4. 680-0005 FURNISH & INSTALL P5G GATEWAY

- CONTRATOR TO INSTALL P5G GATEWAYS WITH DUAL SIM SUPPORT AND ARE E-SIM COMPATIBLE.
- THE CITY WILL PROVIDE SIM CARDS FOR THE GATEWAYS. CONTRACTOR TO CONTACT CITY 1 MONTH PRIOR TO INSTALLATION.
- ALL HARDWARE SHOULD INCLUDE 1 YEAR SOFTWARE LICENSE ALONG WITH WARRANTY TO ENSURE UPTIME AT OR ABOVE 96%.
- CONTRACTOR TO CONFIGURE AND SETUP EQUIPEMENT, INCLUDING BUT NOT LIMITED TO: CONFIGURE THE GATEWAY, CONNECT THE CAMERA AND ITS SYSTEM. IF THE CCTV CAMERA HAS NOT BEEN INSTALLED, CONTRACTOR TO CONTACT CITY OF BROWNSVILLE TO COORDINATE CONNECTION OF THE CCTV CAMERA.
- CONTRACTOR TO BRING THE SETUP LIVE, CONFIGURED CORRECTLY, WEATHERPROOFED, AND CORRECTLY CABLED.

5. 6043-0001 ANTENNA(OMNI-DIRECTIONAL)

- CONTRACTOR TO INSTALL ANTENNAS ON CLOSEST SIGNAL POLE AND TO RUN CABLE TO ANTENNAS AND ROUTER WITH 5 FT OF CABLE SLACK.
- CONTRACTOR TO CONFIGURE AND SETUP EQUIPEMENT, INCLUDING BUT NOT LIMITED TO: CONFIGURE THE GATEWAY, CONNECT THE CAMERA AND ITS SYSTEM.
- CONTRACTOR TO CONFIGURE AND SETUP EQUIPEMENT, INCLUDING BUT NOT LIMITED TO: CONFIGURE THE GATEWAY, CONNECT THE CAMERA AND ITS SYSTEM.
- CONTRACTOR TO BRING THE SETUP LIVE, CONFIGURED CORRECTLY, WEATHERPROOFED, AND CORRECTLY CABLED.

6. TESTING, VERIFICATION, AND ACCEPTANCE

- PERFORM SYSTEM-LEVEL TESTING TO CONFIRM THAT ALL INSTALLED EQUIPMENT IS POWERED, CONNECTED, AND FUNCTIONING AS INTENDED.
- VERIFY COMMUNICATION BETWEEN ALL INSTALLED DEVICES, INCLUDING FMUS, RSUS, CCTV SYSTEMS, AND DETECTION INTERFACES.
- COORDINATE WITH A FOR FINAL INSPECTION AND ACCEPTANCE.

0921-06-399 – Brownsville Traffic Signals Communication Development

- PROVIDE DOCUMENT OF TESTING RESULTS, INCLUDING CONNECTIVITY VERIFICATION AND SIGNAL STRENGTH REPORTS WHERE APPLICABLE.

CITY OF BROWNSVILLE PREEMPTION PLAN

STANDARD INTERSECTION
PRE-EMPT 1 – N/A
PRE-EMPT 2 – N/A
PRE-EMPT 3 – DWELL PHASES WESTBOUND
PRE-EMPT 4 – DWELL PHASES EASTBOUND
PRE-EMPT 5 – DWELL PHASES NORTHBOUND
PRE-EMPT 6 – DWELL PHASES SOUTHBOUND
PRE-EMPT 7,8… - ADDITIONAL APPROACHES
ENTRANCE TIMING FOR ALL PRE-EMPTION SHOULD MATCH WHAT IS IN CURRENT INTERSECTION. THIS IS THE STANDARD FOR ALL INTERSECTIONS BUT INTERSECTIONS WITH DIFFERENT SEQUENCES SHOULD BE HANDLED CASE BY CASE.

DIAMOND INTERSECTION
PRE-EMPT 1 – N/A
PRE-EMPT 2 – N/A
PRE-EMPT 3 – DWELL PHASES WESTBOUND
PRE-EMPT 4 – DWELL PHASES EASTBOUND
PRE-EMPT 5 – DWELL PHASES NORTHBOUND
PRE-EMPT 6 – DWELL PHASES SOUTHBOUND
PRE-EMPT 7,8… - ADDITIONAL APPROACHES
ENTRANCE TIMING FOR ALL PRE-EMPTION SHOULD MATCH WHAT IS IN CURRENT INTERSECTION. THIS IS THE STANDARD FOR ALL INTERSECTIONS BUT INTERSECTIONS WITH DIFFERENT SEQUENCES SHOULD BE HANDLED CASE BY CASE.

STATE OF TEXAS
BRIAN G. CASTILLE
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3/23/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

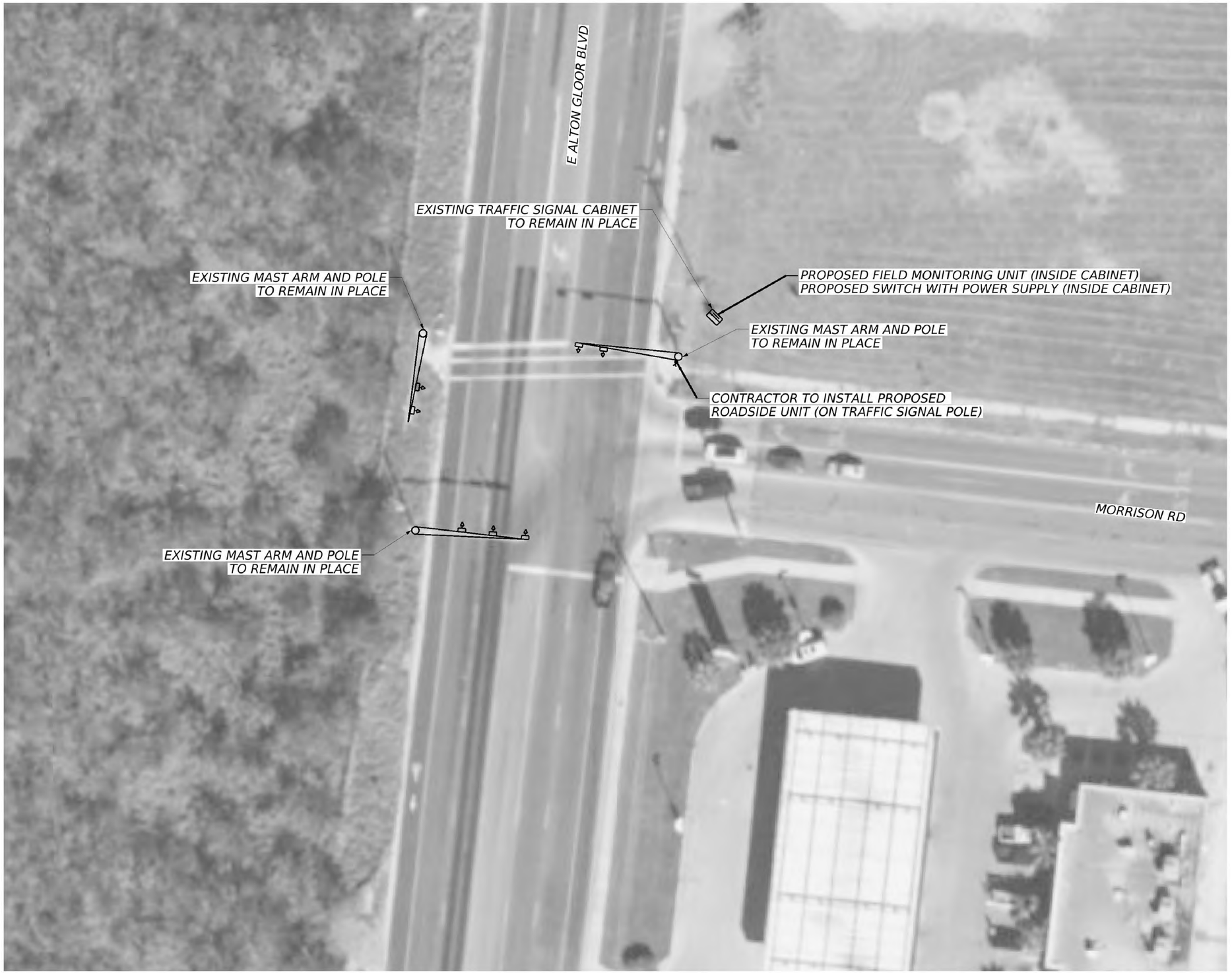
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TRAFFIC NOTES

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	35

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LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

N

STATE OF TEXAS
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E ALTON GLOOR BLVD AT MORRISON RD

INTERSECTION 002

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	36

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PROP SIG 002 ALTON GLOOR AT MORRISON RD CSJ 399.dgn



LEGEND

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0 10 20 40
1" = 40'

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E ALTON GLOOR BLVD AT WESTRAIL TRL

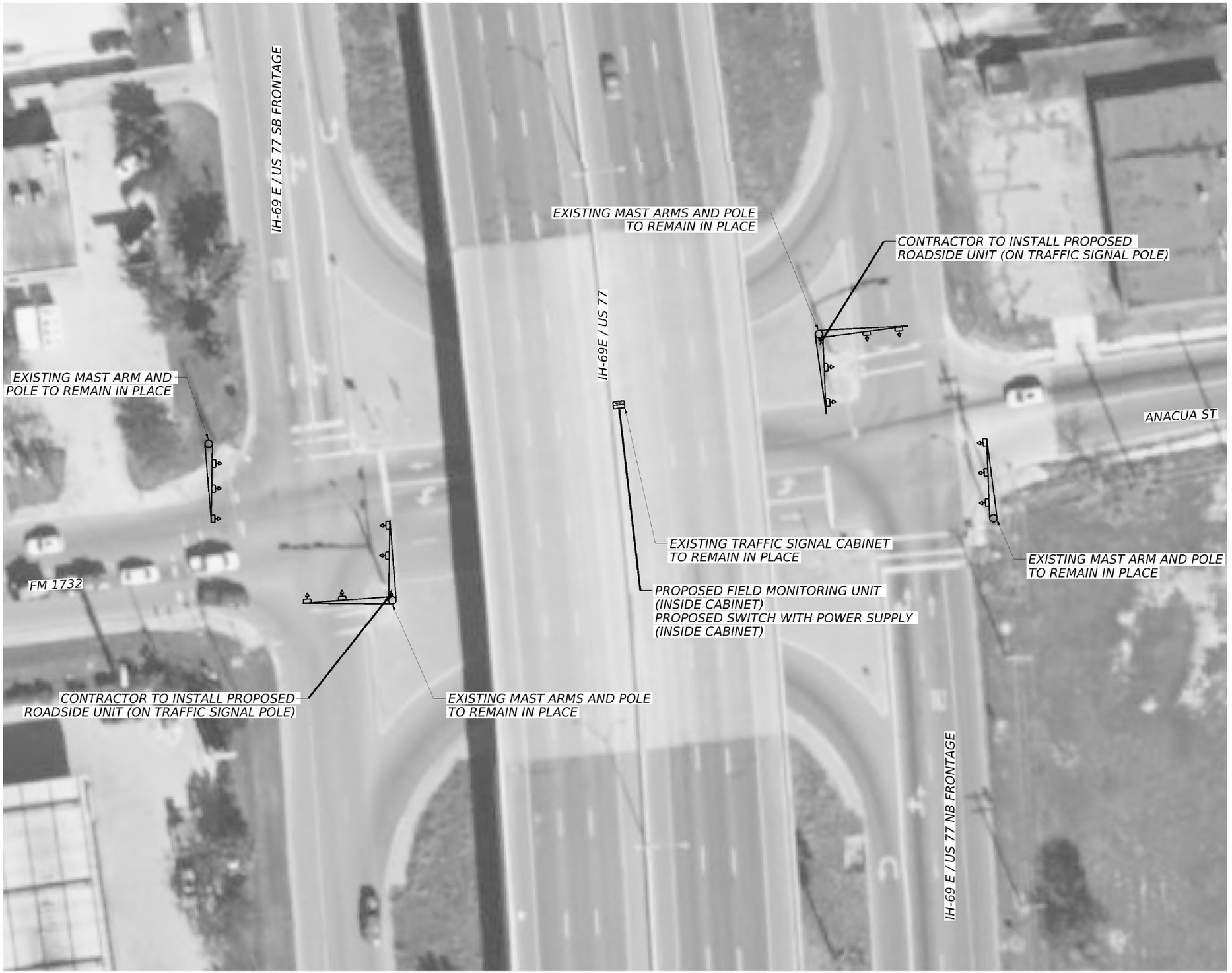
INTERSECTION 008

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	37

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PROP SIG 008 ALTON GLOOR AT WEST RAIL TRAIL CSJ 399.dgn



LEGEND

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1" = 40'

STATE OF TEXAS
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ANACUA ST / FM 1732 AT IH-69E / US 77

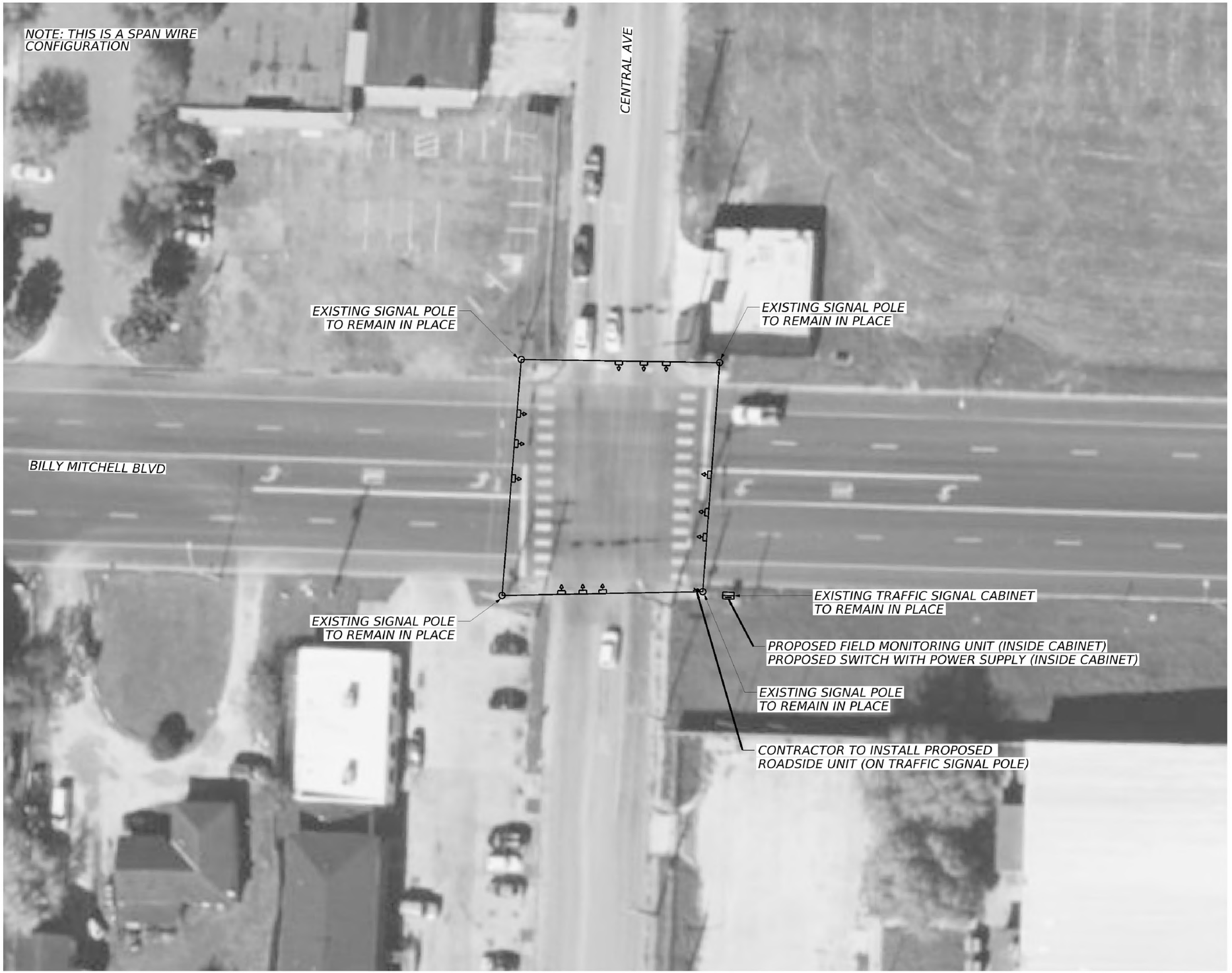
INTERSECTION 009

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	38

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PROP SIG 009 ANACUA ST AT IH-69E - US 77 CSJ 399.dgn



LEGEND

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1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
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03/06/2026

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BILLY MITCHELL BLVD AT CENTRAL AVE

INTERSECTION 010

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	39

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PROP SIG 010 BILLY MITCHELL BLVD AT CENTRAL AVE CSJ 399.dgn



LEGEND

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
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LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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BILLY MITCHELL BLVD AT JOSE COLUNGA JR ST - IOWA AVE

INTERSECTION 011

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	40

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PROP SIG 011 BILLY MITCHELL BLVD AT JOSE COLUNGA JR ST CSJ 399.dgn



LEGEND

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
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03/06/2026

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BOCA CHICA BLVD AT BARNARD RD

INTERSECTION 012

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	41

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PROP SIG 012 BOCA CHICA BLVD AT BARNARD RD CSJ 399.dgn



LEGEND

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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
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BOCA CHICA BLVD AT BILLY MITCHELL BLVD

INTERSECTION 013

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	42

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PROP SIG 013 BOCA CHICA BLVD AT BILLY MITCHELL BLVD CSJ 399.dgn



LEGEND

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0 10 20 40

1" = 40'

STATE OF TEXAS
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03/06/2026

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BOCA CHICA BLVD AT
BROWNSVILLE PLZ/STRAWBERRY SQ

INTERSECTION 014

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	43

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PROP SIG 014 BOCA CHICA BLVD AT BROWNSVILLE PLAZA CSJ 399.dgn



LEGEND

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BOCA CHICA BLVD AT CALLE CENIZO

INTERSECTION 015

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	44

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PROP SIG 015 BOCA CHICA AT CALLE CENIZO CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274
Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT CENTRAL AVE

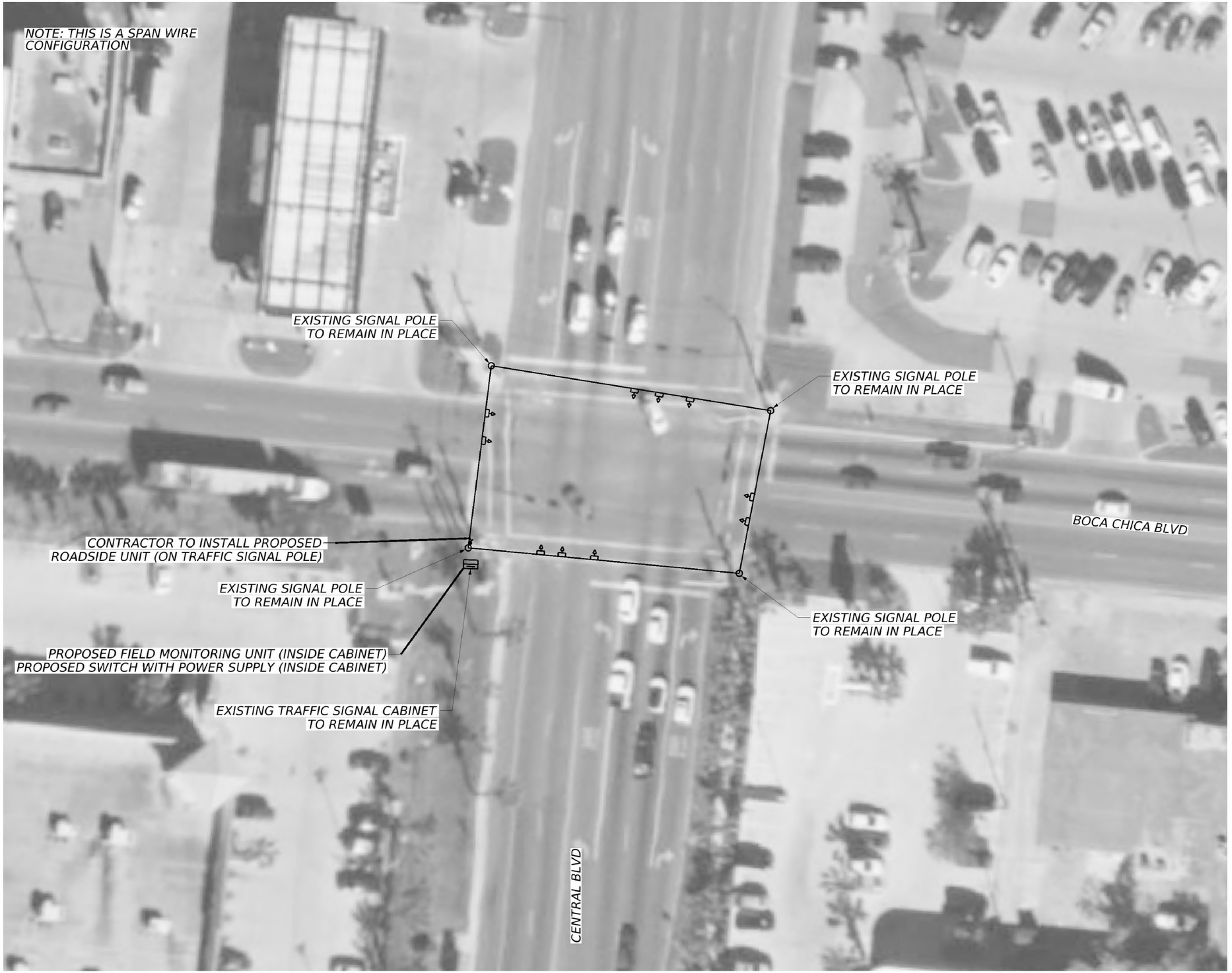
INTERSECTION 016

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	45

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PROP SIG 016 BOCA CHICA AT CENTRAL AVE CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
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PROFESSIONAL ENGINEER
03/06/2026

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BOCA CHICA BLVD AT CENTRAL BLVD

INTERSECTION 017

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	46

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PROP SIG 017 BOCA CHICA AT CENTRAL BLVD CSJ 399.dgn



LEGEND

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0 10 20 40
1" = 40'

N

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274
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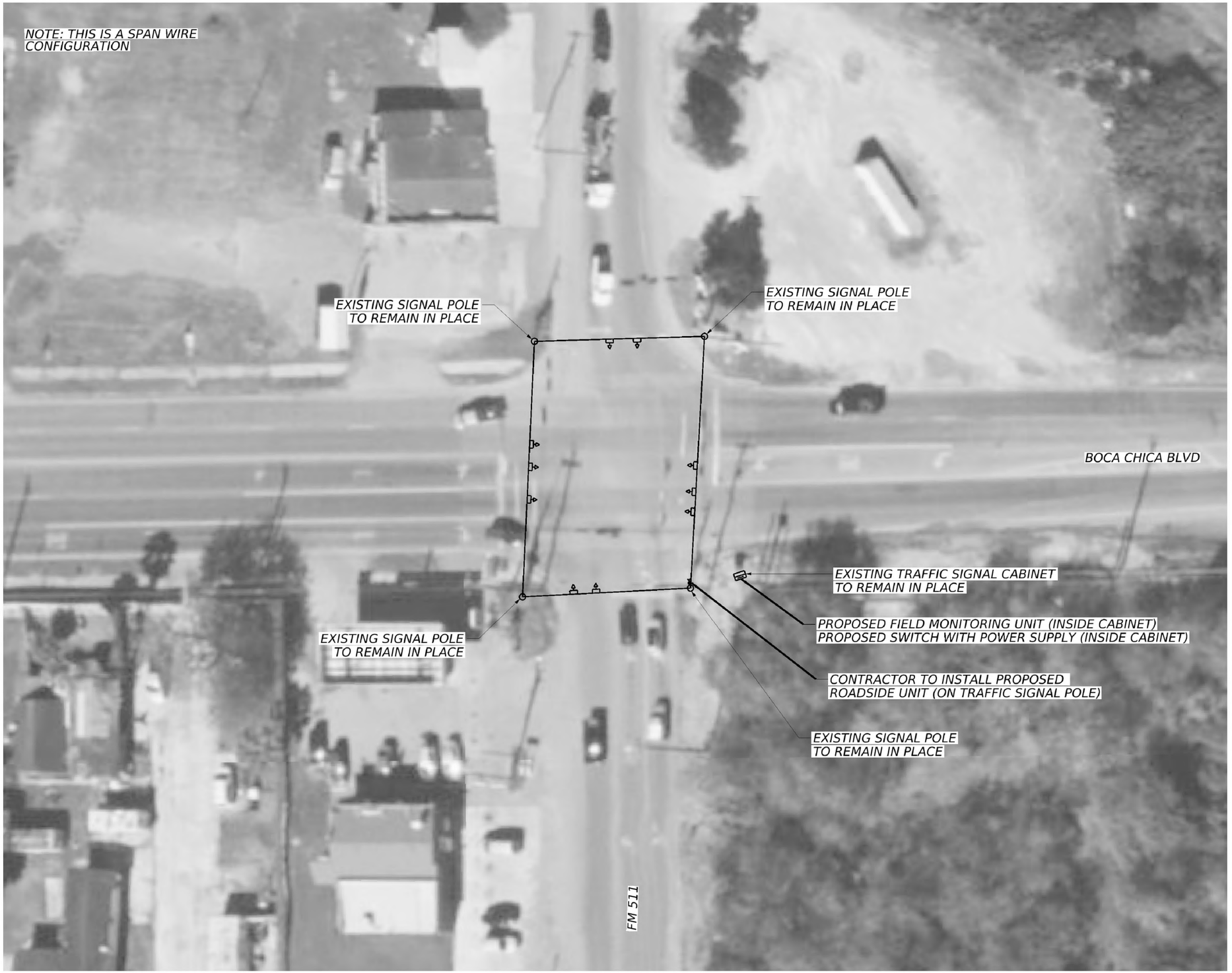
BOCA CHICA BLVD AT CORIA ST

INTERSECTION 018

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
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PHR	CAMERON	0921	06	399	47

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PROP SIG 018 BOCA CHICA AT CORIA ST CSJ 399.dgn



LEGEND

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1" = 40'

STATE OF TEXAS
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132489
LICENSED PROFESSIONAL ENGINEER
03/06/2026

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BOCA CHICA BLVD AT FM 511

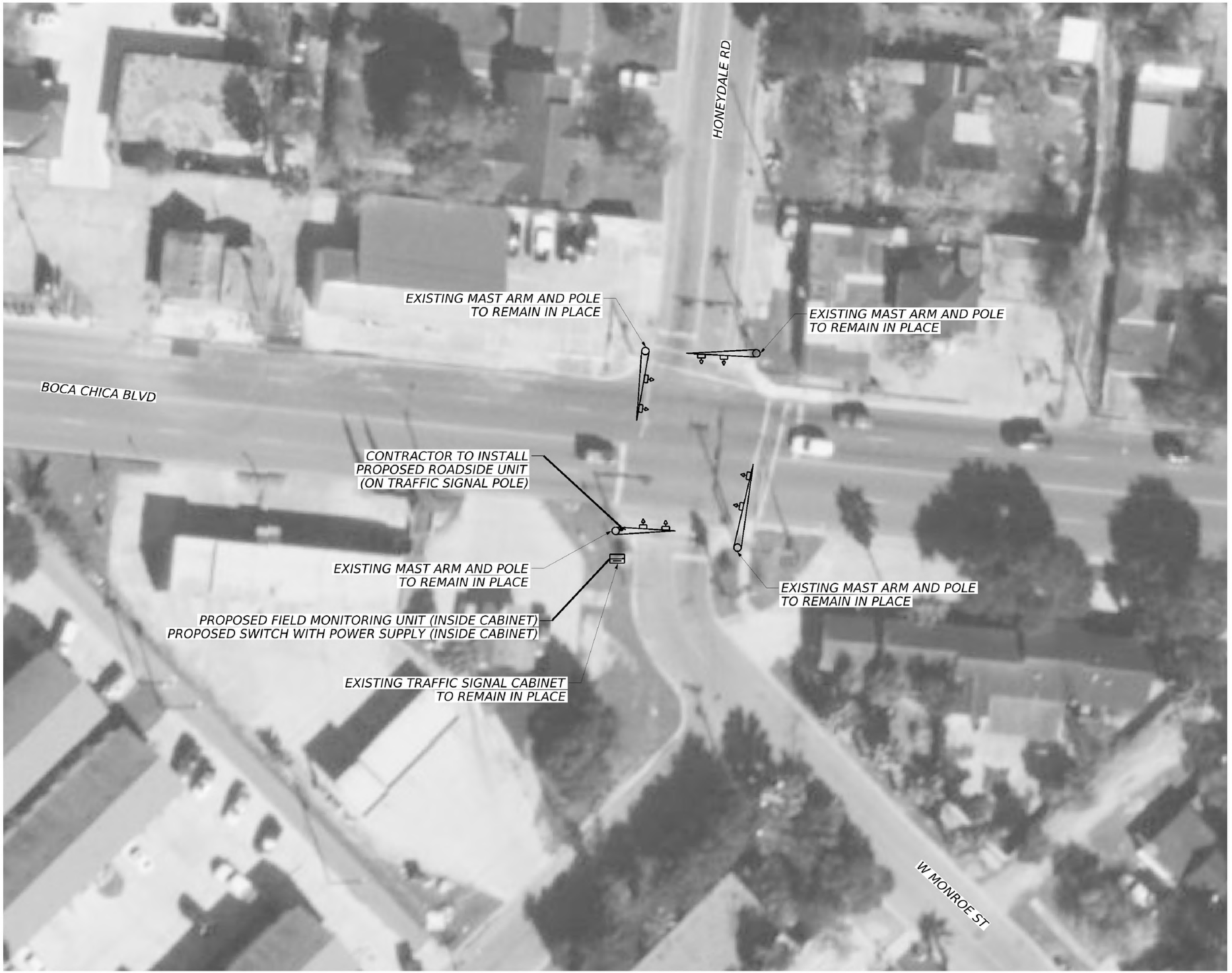
INTERSECTION 019

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	48

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PROP SIG 019 BOCA CHICA AT FM 511 CSJ 399.dgn



LEGEND

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STATE OF TEXAS
CARRIE A. JAEGER
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LICENSED
PROFESSIONAL ENGINEER
03/06/2026

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Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT HONEYDALE RD - W MONROE ST

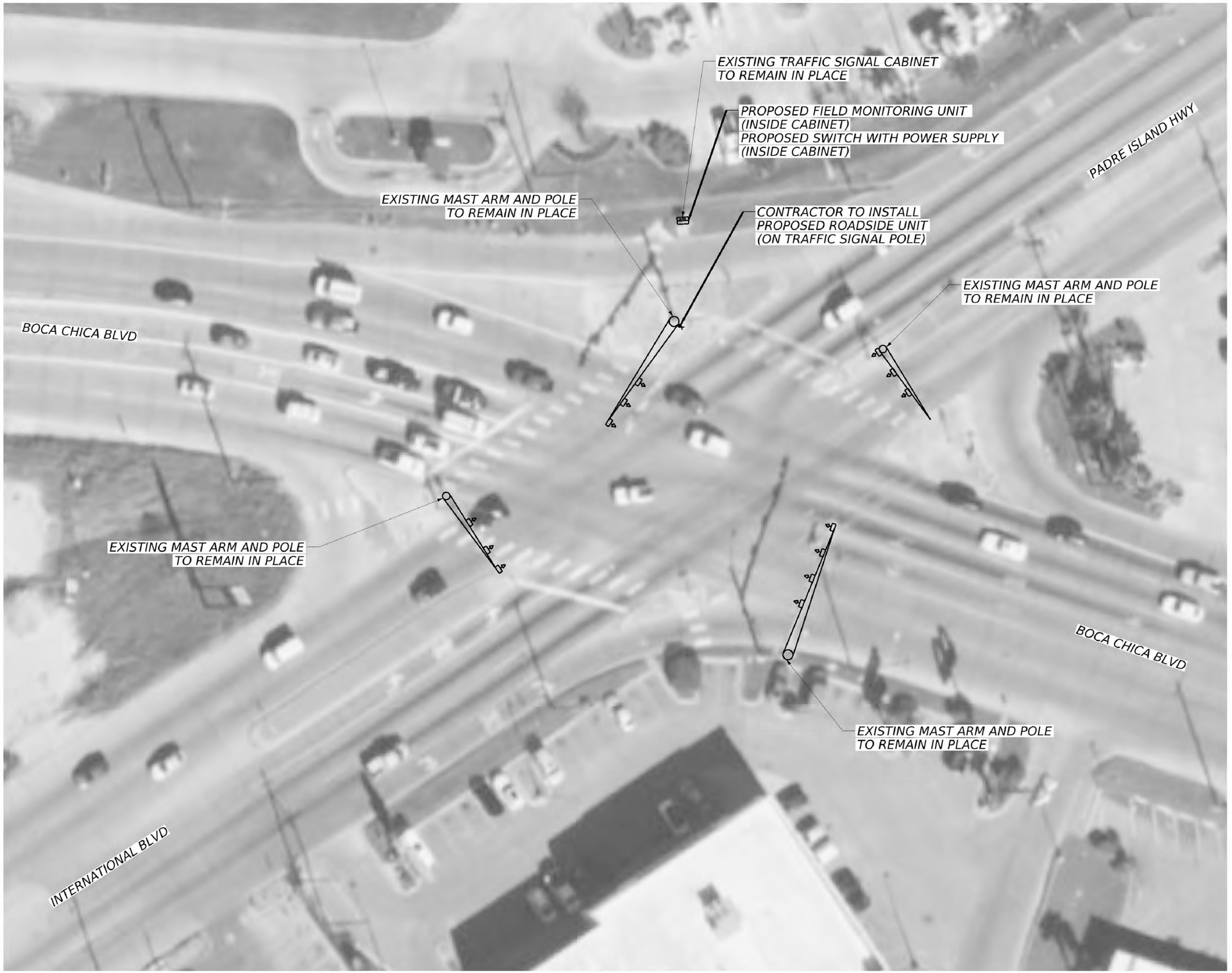
INTERSECTION 020

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	49

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PROP SIG 020 BOCA CHICA AT HONEYDALE RD - WEST MONROE ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
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PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

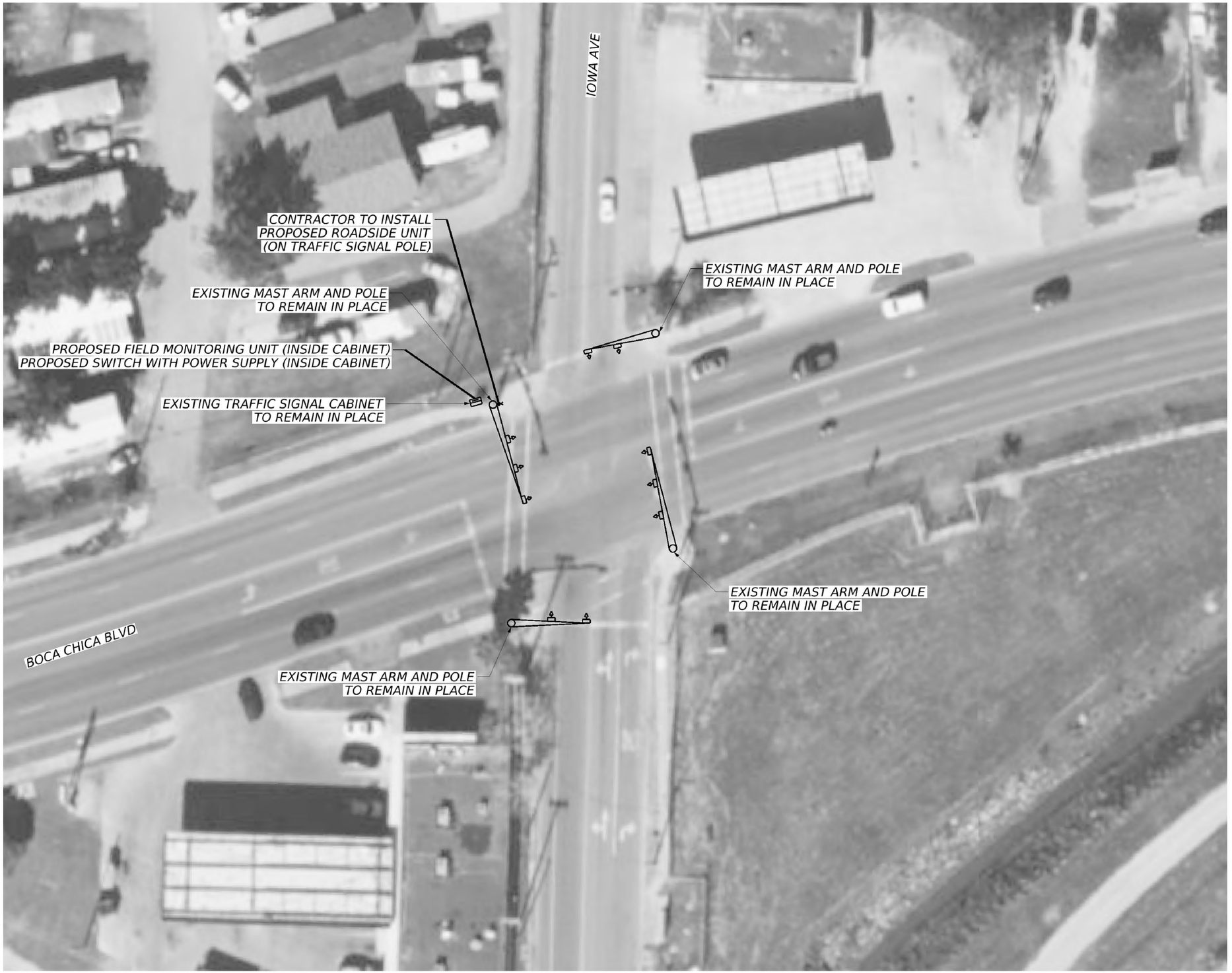
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BOCA CHICA BLVD AT
INTERNATIONAL BLVD - PADRE ISLAND HWY
INTERSECTION 021
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	50

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PROP SIG 021 BOCA CHICA AT INTERNATIONAL BLVD - PADRE ISLAND HWY CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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BOCA CHICA BLVD AT IOWA AVE

INTERSECTION 022

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	51

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PROP SIG 022 BOCA CHICA AT IOWA AVE CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
PROFESSIONAL LICENSED ENGINEER
03/06/2026

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BOCA CHICA BLVD AT N MINNESOTA AVE

INTERSECTION 024

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	52

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PROP SIG 024 BOCA CHICA AT MINNESOTA AVE CSJ 399.dgn



LEGEND

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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT OLD ALICE RD

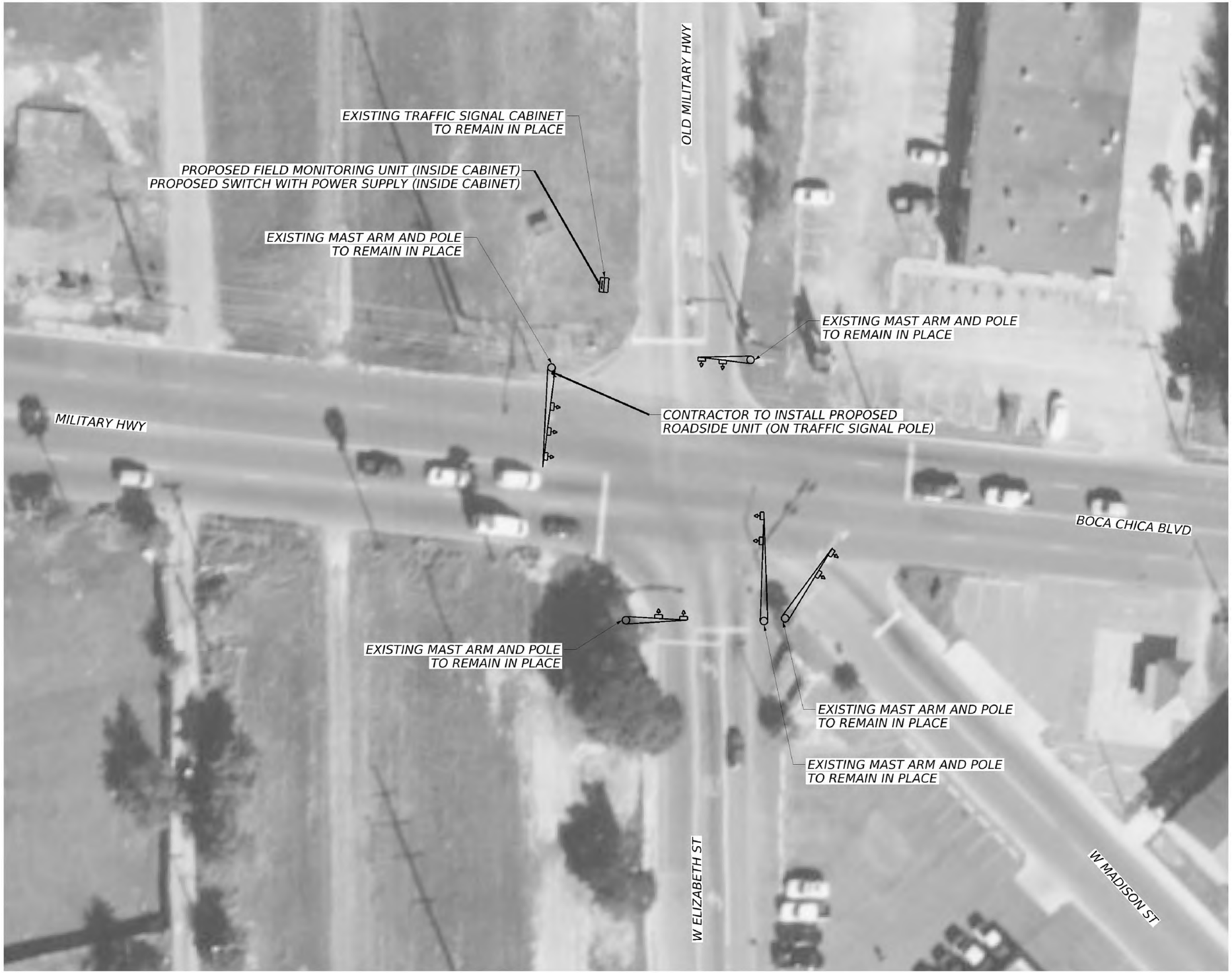
INTERSECTION 025

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	53

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PROP SIG 025 BOCA CHICA AT OLD ALICE RD CSJ 399.dgn



LEGEND

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STATE OF TEXAS
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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10048700

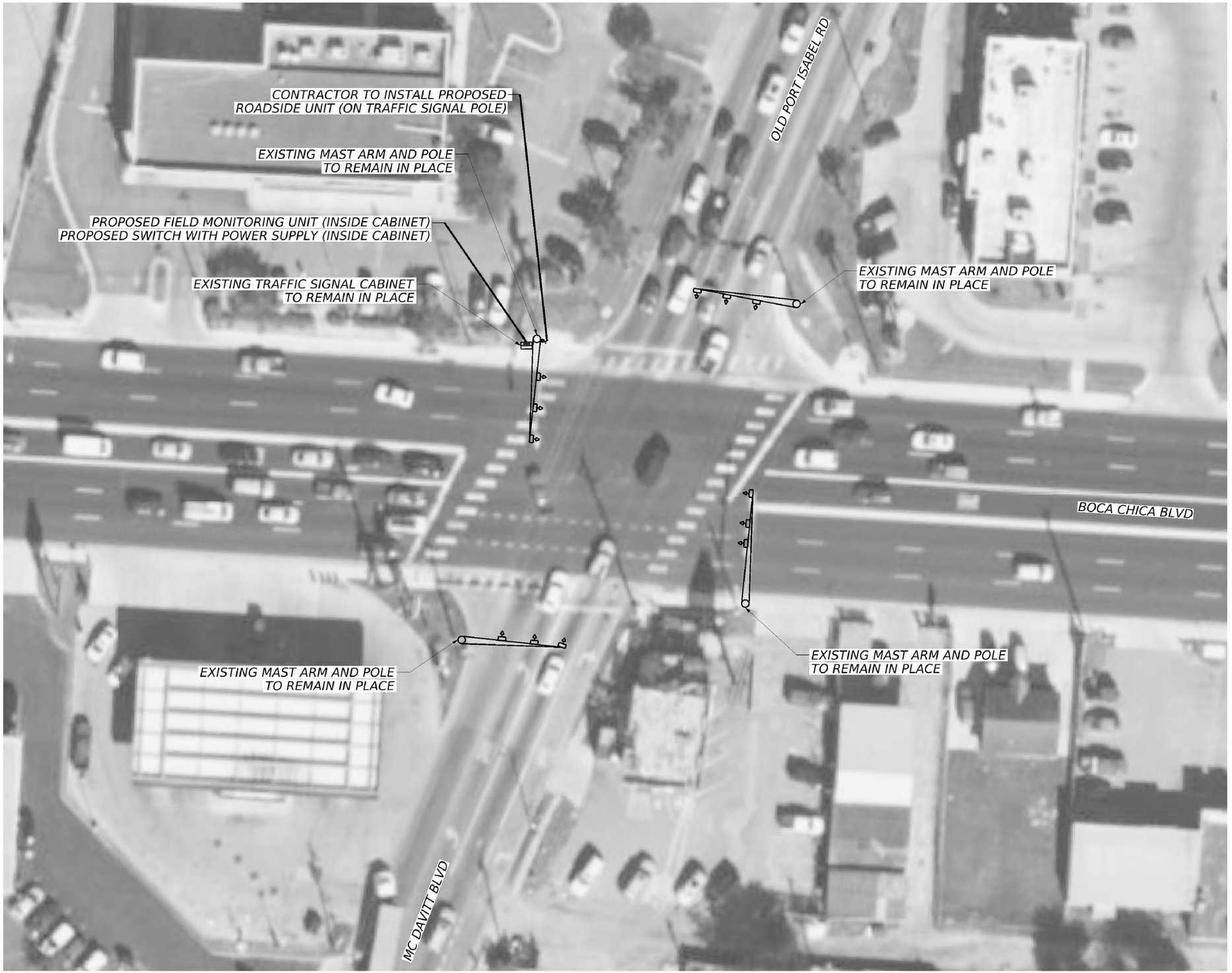
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BOCA CHICA BLVD - MILITARY HWY AT
OLD MILITARY HWY - W ELIZABETH ST & W MADISON ST
INTERSECTION 026
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	54

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PROP SIG 026 BOCA CHICA AT OLD MILITARY - MADISON ST CSJ 399.dgn



LEGEND

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6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.
7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT OLD PORT ISABEL RD - MCDAVITT BLVD

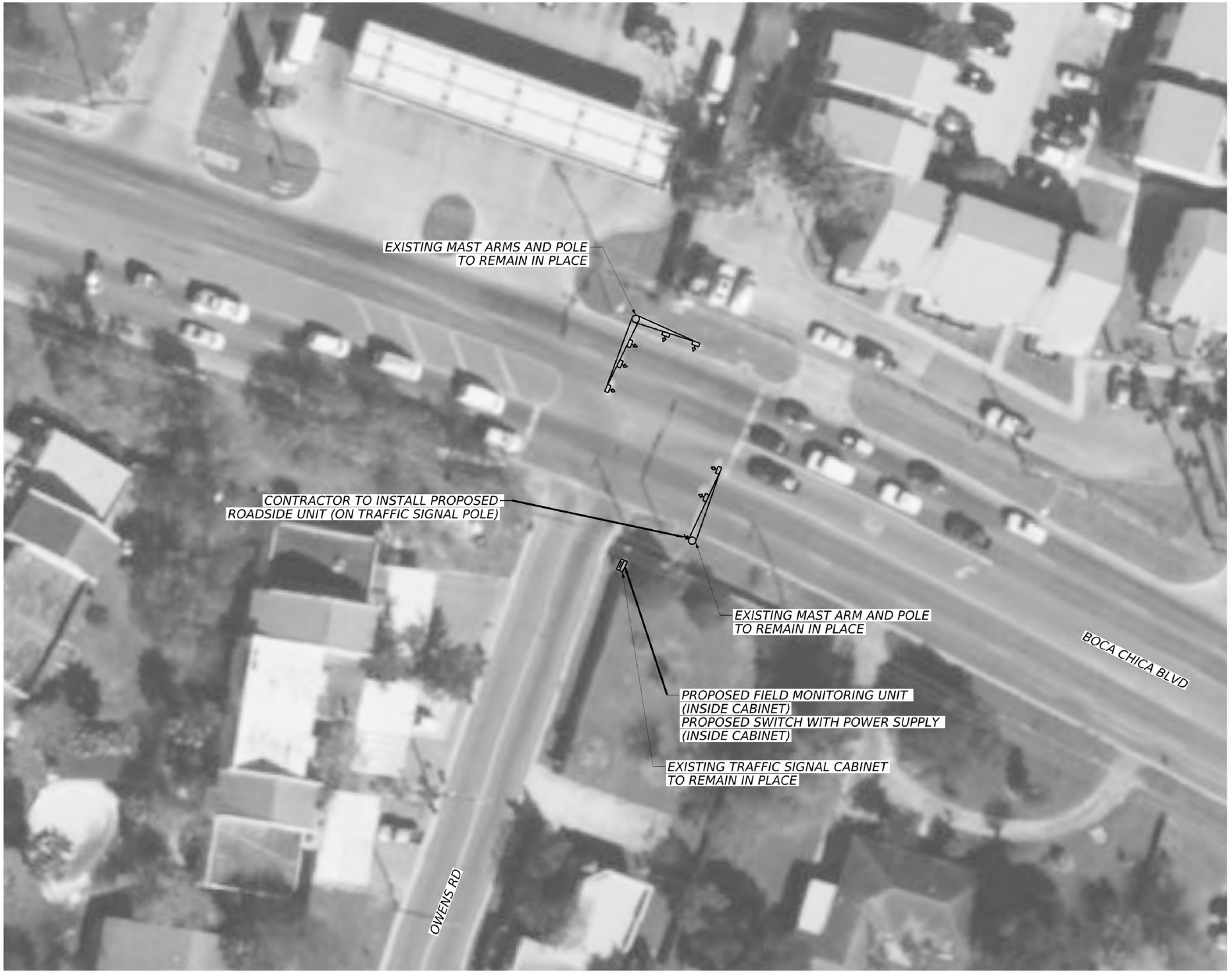
INTERSECTION 027

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	55

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PROP SIG 027 BOCA CHICA AT OLD PORT ISABEL RD - MCDAVITT BLVD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

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BOCA CHICA BLVD AT OWENS RD

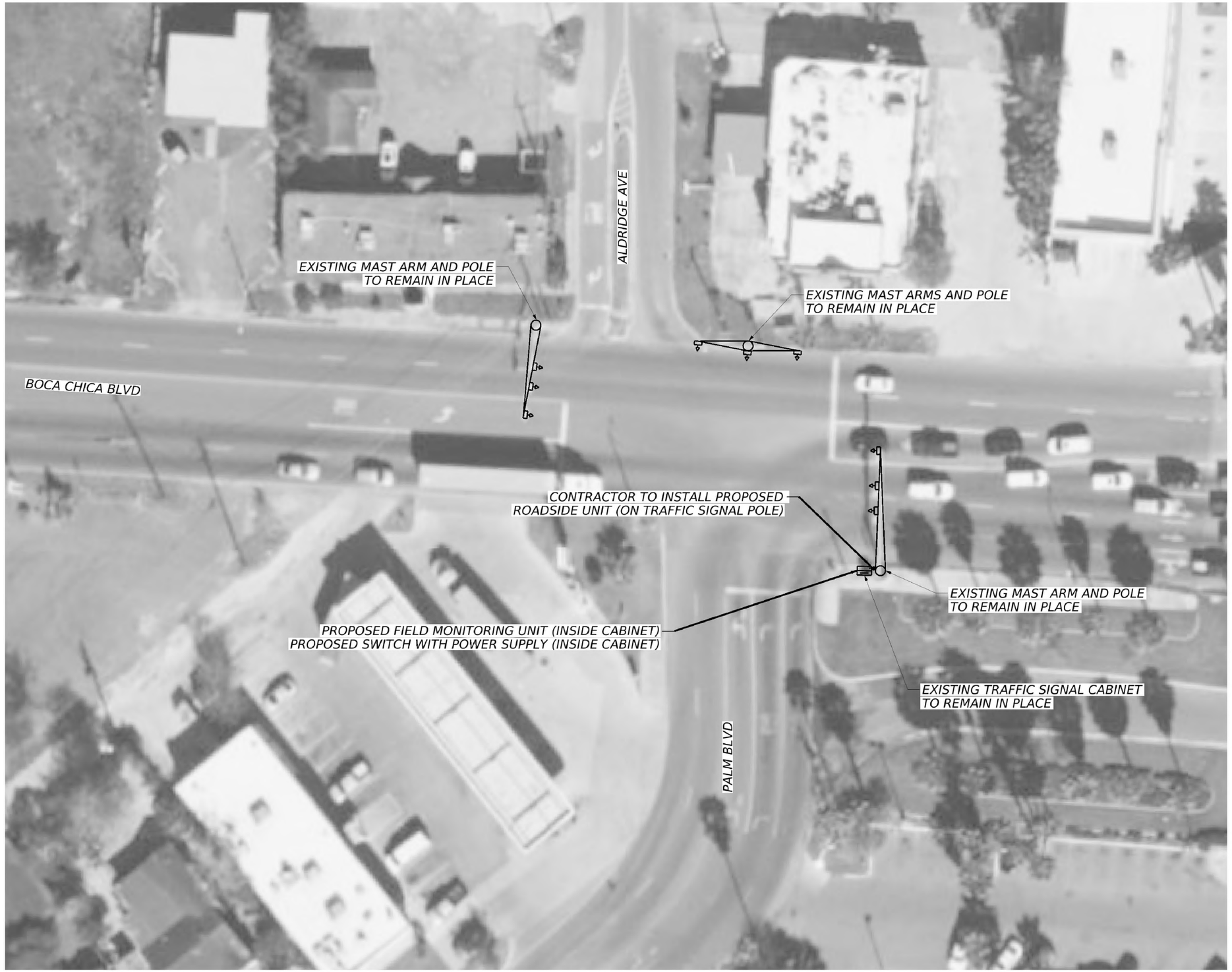
INTERSECTION 028

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	56

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PROP SIG 028 BOCA CHICA AT OWENS RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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PROFESSIONAL ENGINEER
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BOCA CHICA BLVD AT PALM BLVD - ALDRIDGE AVE

INTERSECTION 029

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	57

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PROP SIG 029 BOCA CHICA AT PALM BLVD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

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Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT PAREDES LINE RD (FM 1847)

INTERSECTION 030

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE	
6	VAR			TEXAS	
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	58

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PROP SIG 030 BOCA CHICA AT PAREDES LINE ROAD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT SECURITY DR

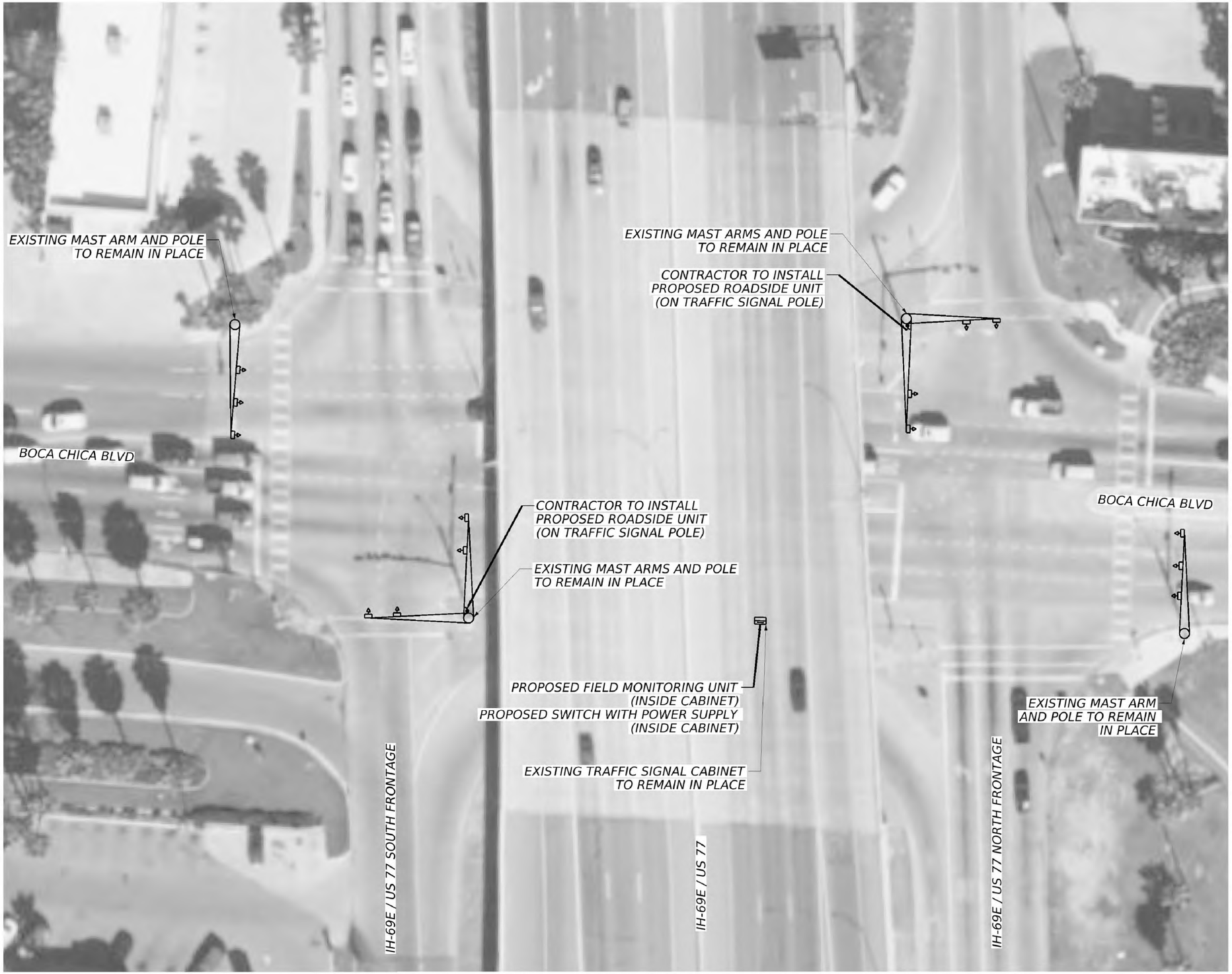
INTERSECTION 031

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	59

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PROP SIG 031 BOCA CHICA AT SECURITY DR CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
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03/06/2026

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CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT IH-69E / US 77

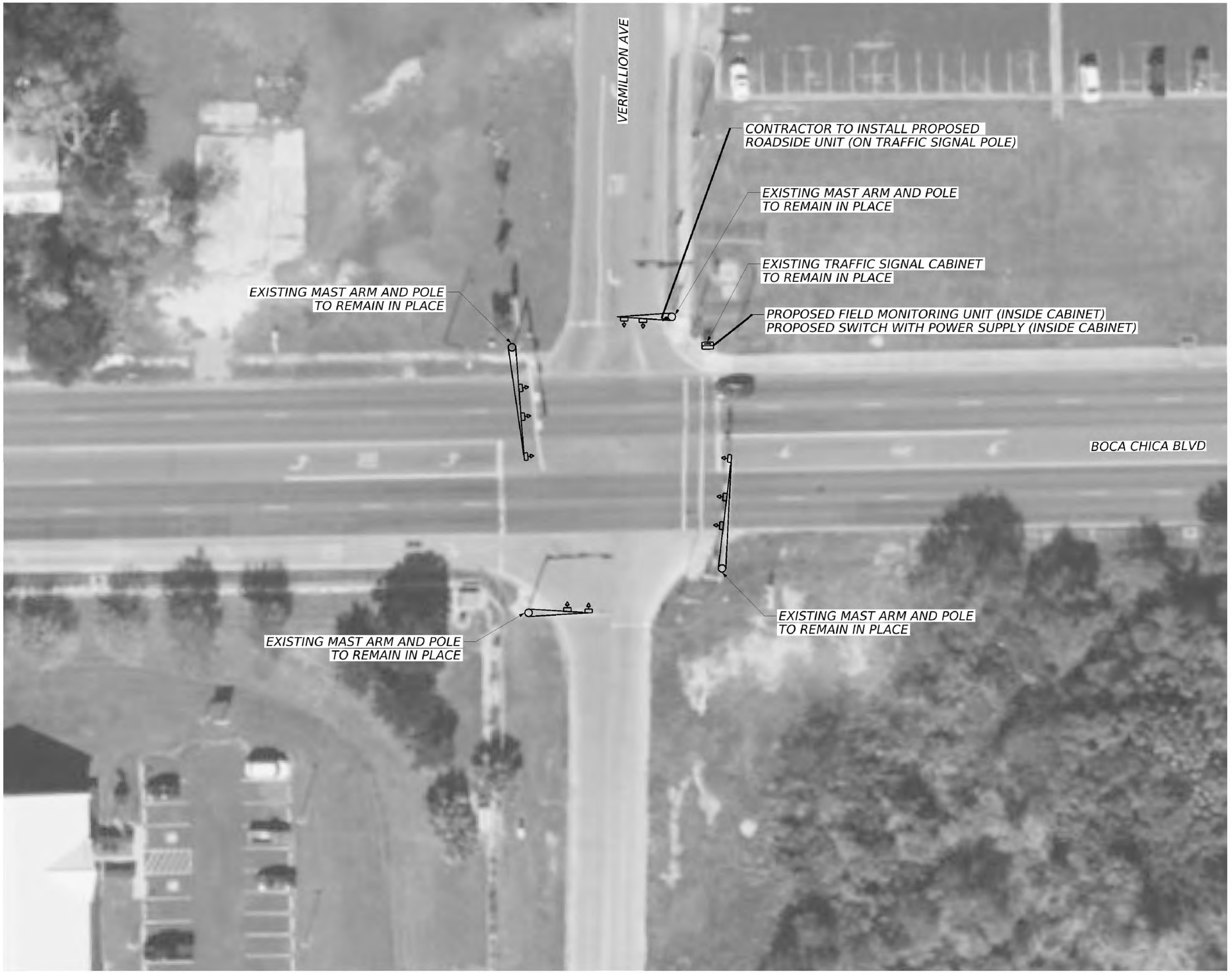
INTERSECTION 032

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	60

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PROP SIG 032 BOCA CHICA AT IH-69E - US 77 CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
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03/06/2026

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BOCA CHICA BLVD AT VERMILLION AVE

INTERSECTION 033

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	61

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PROP SIG 033 BOCA CHICA AT VERMILLION RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

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N CENTRAL AVE AT MACKENZIE RD

INTERSECTION 034

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	62

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PROP SIG 034 CENTRAL AVENUE AT MACKENZIE RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

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Land Surveying Firm No. 10046700

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CENTRAL BLVD AT W ELIZABETH ST - W 8TH ST

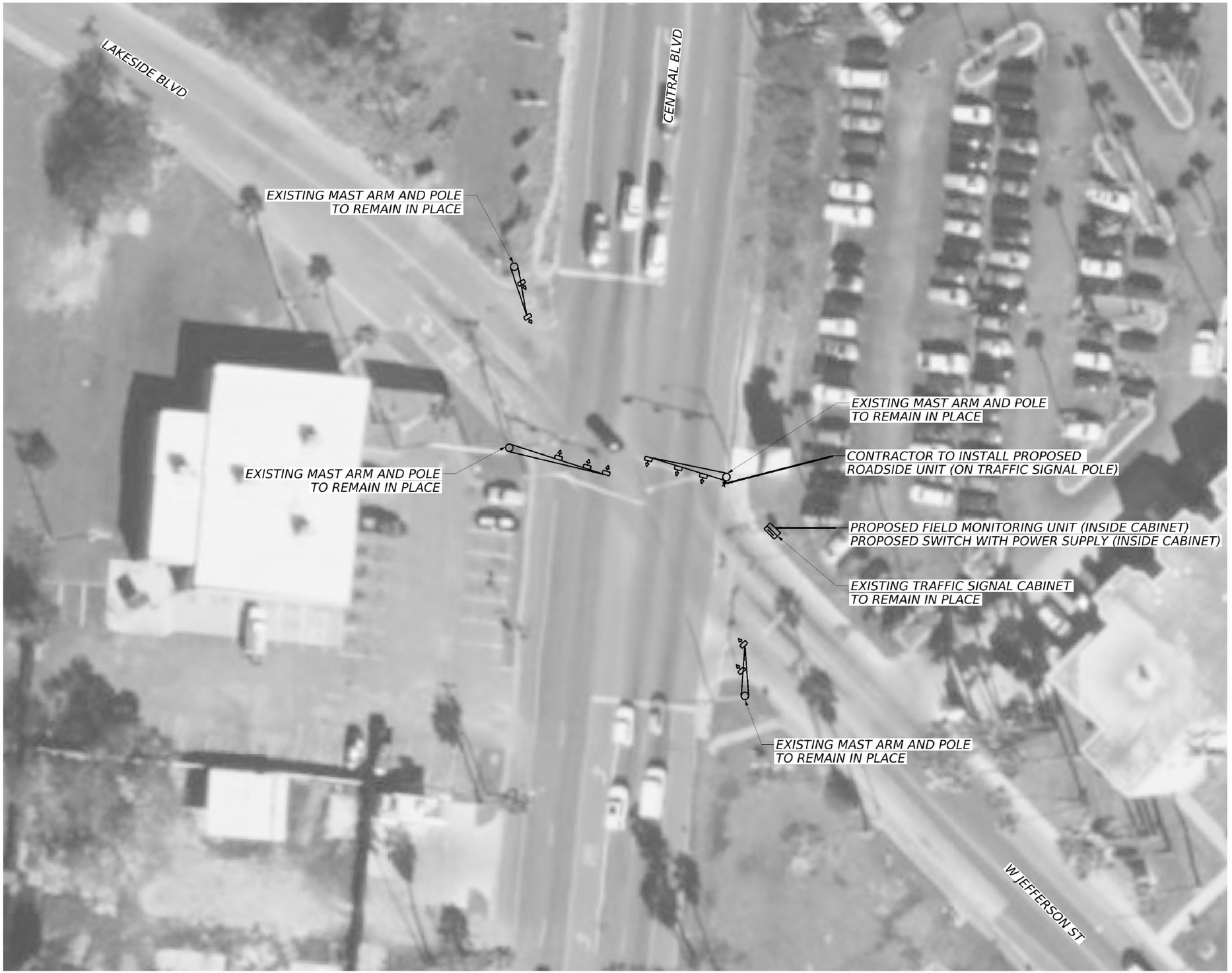
INTERSECTION 035

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	63

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PROP SIG 035 CENTRAL BLVD AT ELIZABETH ST - W 8TH ST CSJ 399.dgn



LEGEND

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03/06/2026

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CENTRAL BLVD AT
W JEFFERSON ST - LAKESIDE BLVD

INTERSECTION 036

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE	
6	VAR			TEXAS	
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	64

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PROP SIG 036 CENTRAL BLVD AT JEFFERSON ST - LAKESIDE ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
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PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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CENTRAL BLVD AT E LOS EBANOS BLVD

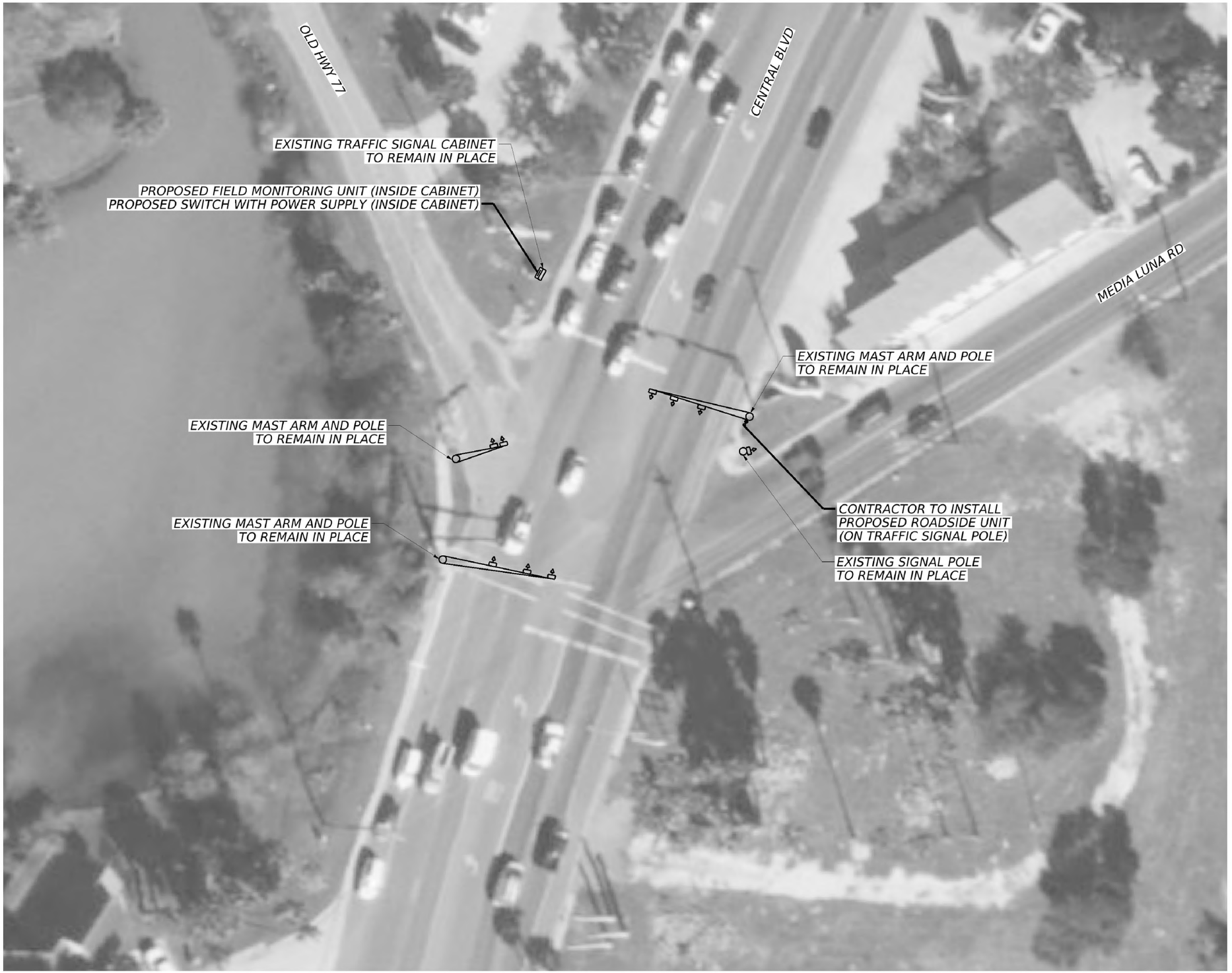
INTERSECTION 037

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	65

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PROP SIG 037 CENTRAL BLVD AT LOS EBANOS BLVD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

N

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274
Land Surveying Firm No. 10046700

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CENTRAL BLVD AT
MEDIA LUNA - OLD US HWY 77

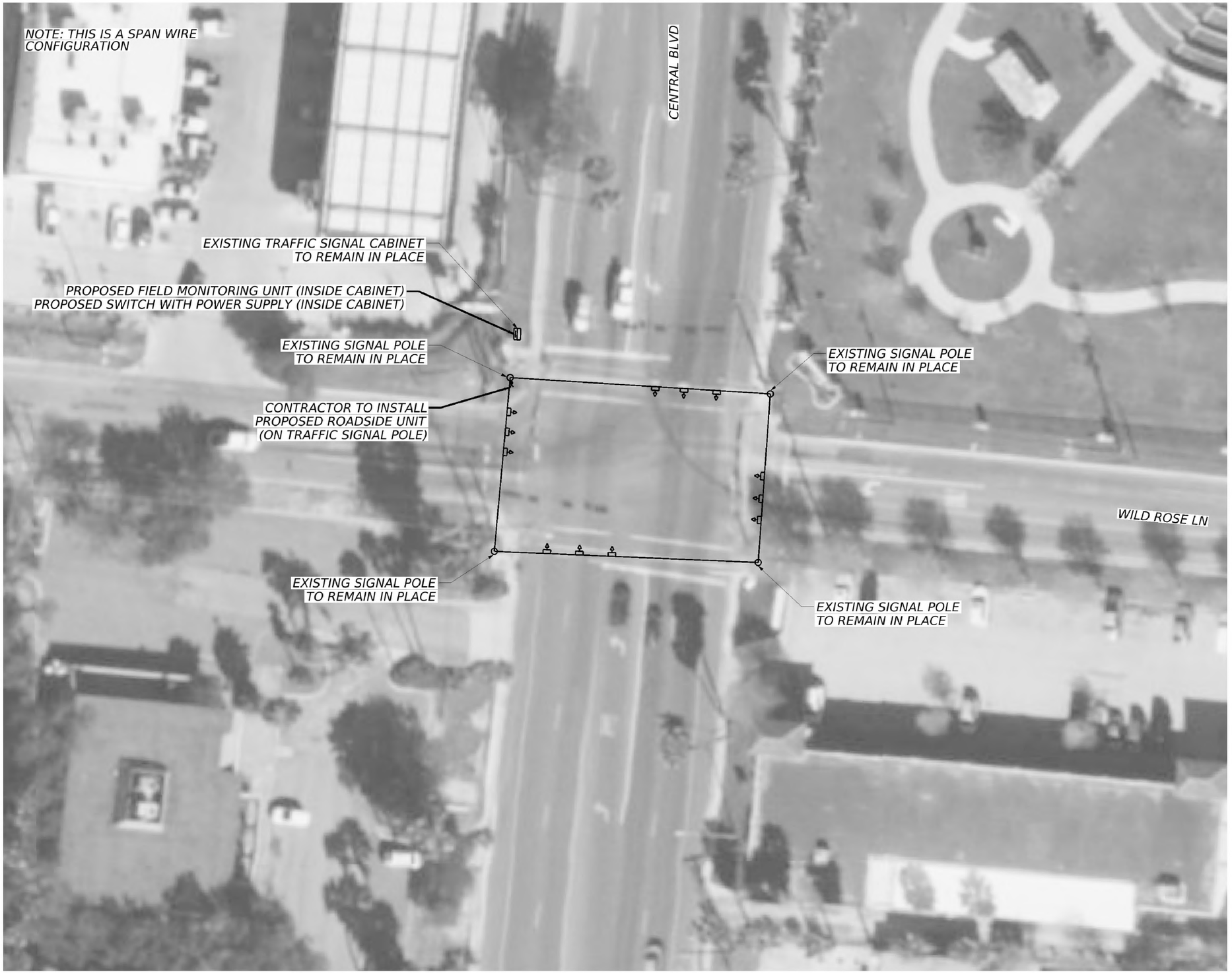
INTERSECTION 038

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	66

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PROP SIG 038 CENTRAL BLVD AT MEDIA LUNA - OLD US HWY 77 CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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CENTRAL BLVD AT WILD ROSE LN

INTERSECTION 039

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	67

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PROP SIG 039 CENTRAL BLVD AT WILD ROSE LN CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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1" = 40'

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03/06/2026

BROWNSVILLE

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COFFEE PORT RD AT N MINNESOTA AVE

INTERSECTION 040

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	68

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PROP SIG 040 COFFEE PORT AT MINNESOTA AVE CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
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LICENSED
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03/06/2026

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Land Surveying Firm No. 10046700

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COFFEE PORT RD / JAMIE J ZAPATA AVE AT OLD PORT ISABEL RD

INTERSECTION 041

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	69

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PROP SIG 041 COFFEE PORT AT OLD PORT ISABEL RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
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03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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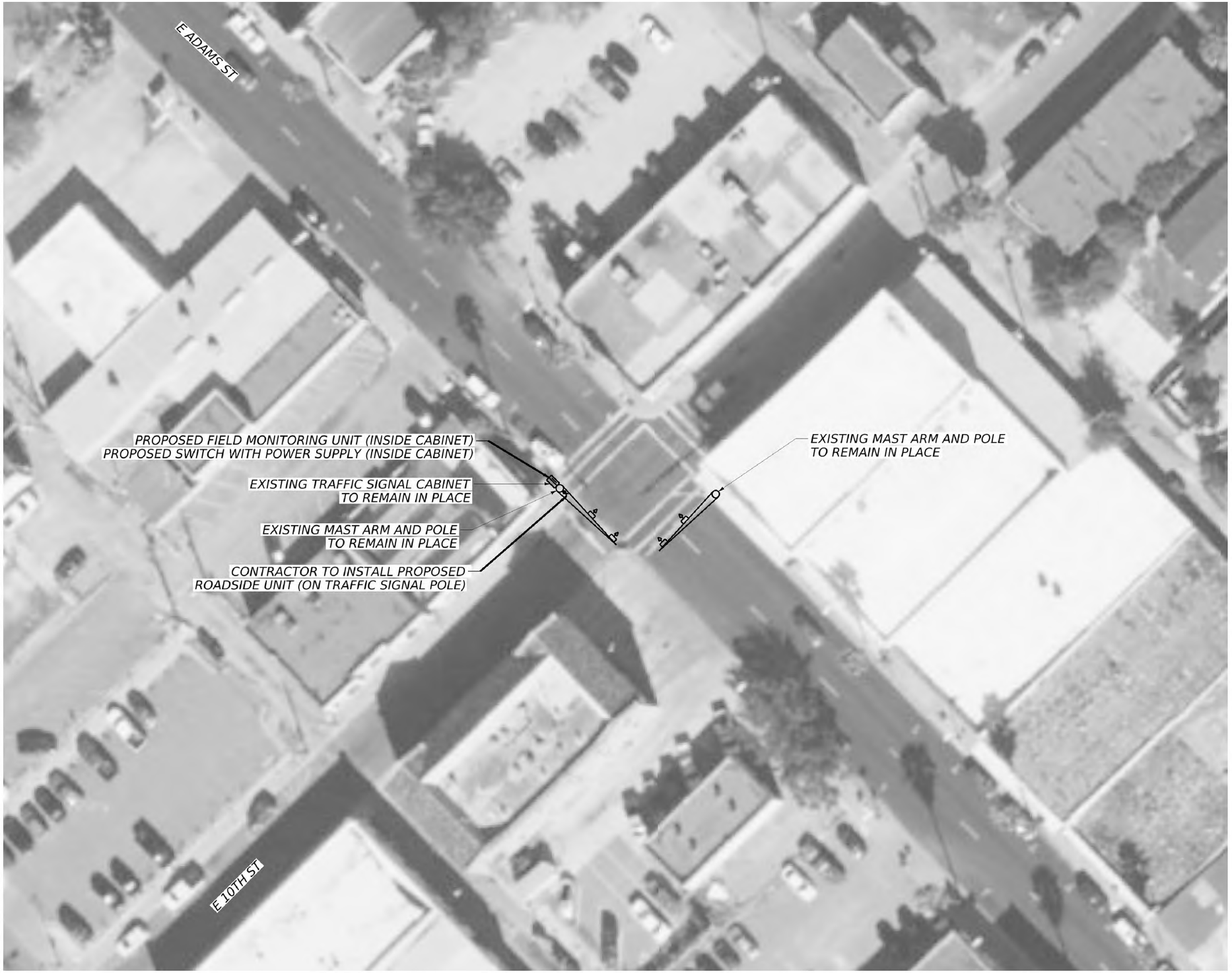
COFFEE PORT RD AT PAREDES LINE RD (FM 1847)

INTERSECTION 042

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	70

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PROP SIG 042 COFFEE PORT AT PAREDES LN RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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STATE OF TEXAS
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03/06/2026

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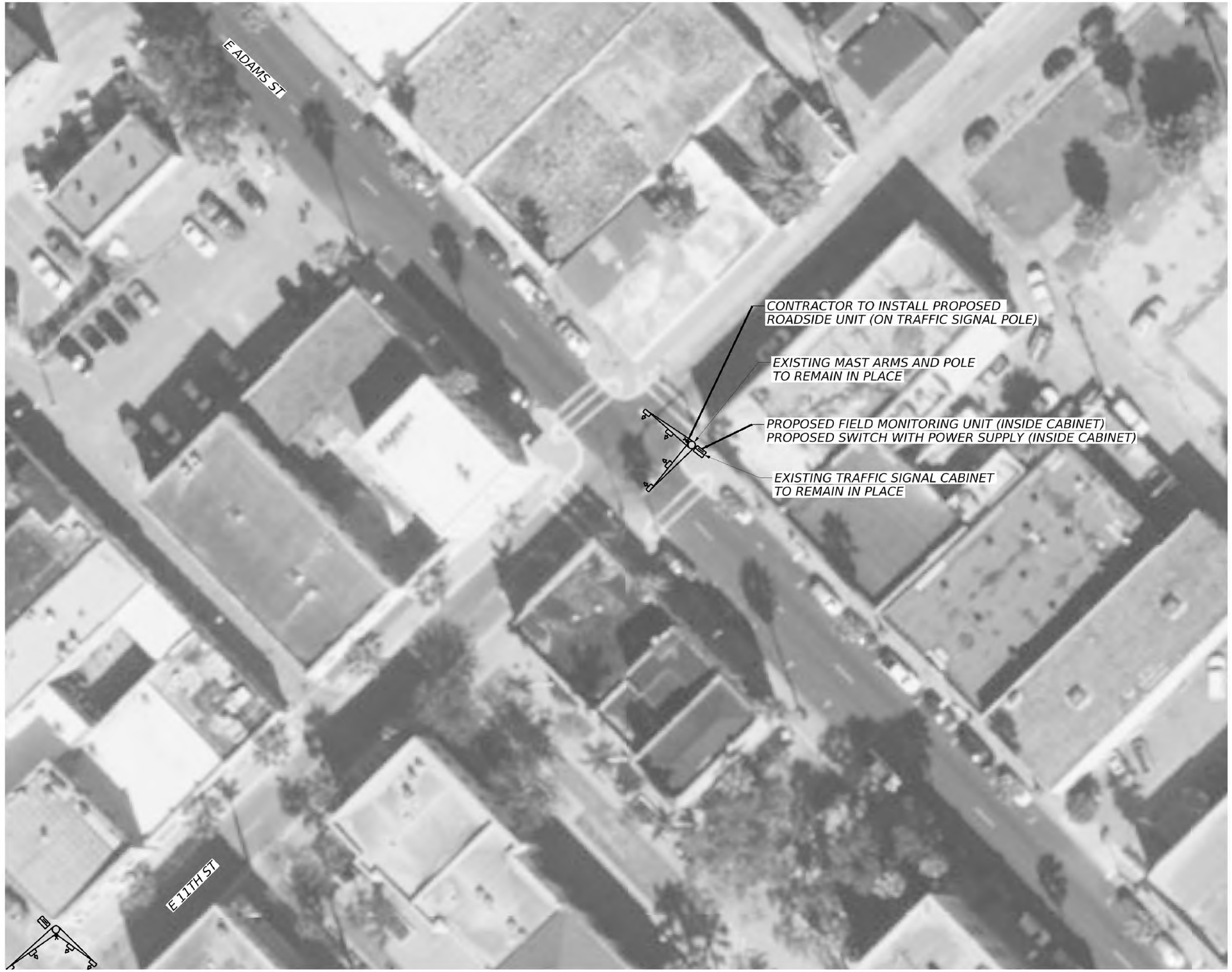
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E ADAMS ST AT
E 10TH ST
INTERSECTION 043
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	71

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PROP SIG 043 E ADAMS ST AT 10TH ST CSJ 399.dgn



LEGEND

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
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E ADAMS ST AT E 11TH ST

INTERSECTION 044

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	72

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PROP SIG 044 E ADAMS ST AT 11TH ST CSJ 399.dgn



LEGEND

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STATE OF TEXAS
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03/06/2026

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Land Surveying Firm No. 10046700

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E ADAMS ST AT
E 13TH ST
INTERSECTION 046
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	73

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PROP SIG 046 E ADAMS ST AT 13TH ST CSJ 399.dgn



LEGEND

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STATE OF TEXAS
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Land Surveying Firm No. 10046700

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E ADAMS ST AT E 14TH ST

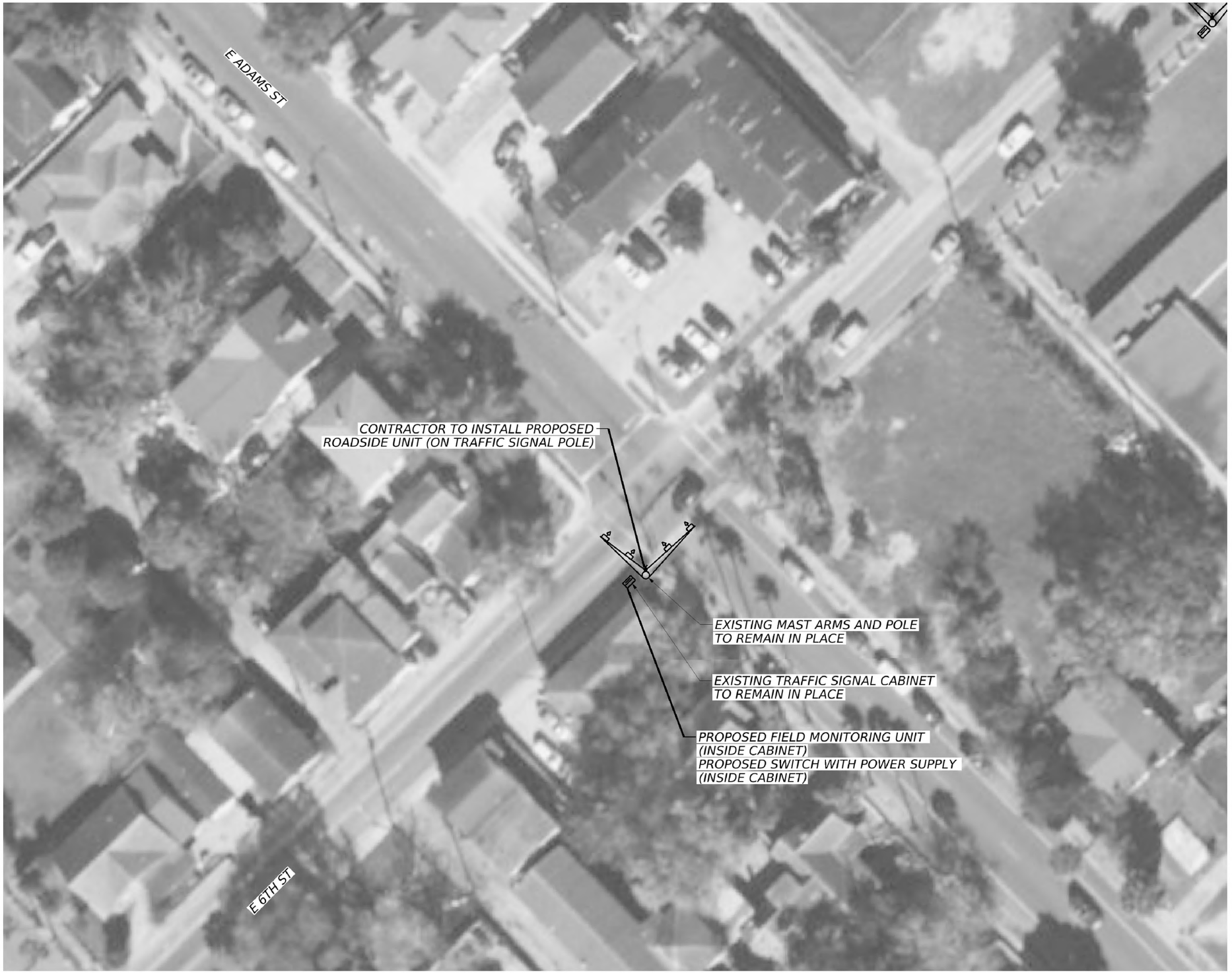
INTERSECTION 047

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	74

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PROP SIG 047 E ADAMS ST AT 14TH ST CSJ 399.dgn



LEGEND

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BROWNSVILLE

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Land Surveying Firm No. 10046700

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E ADAMS ST AT E 6TH ST

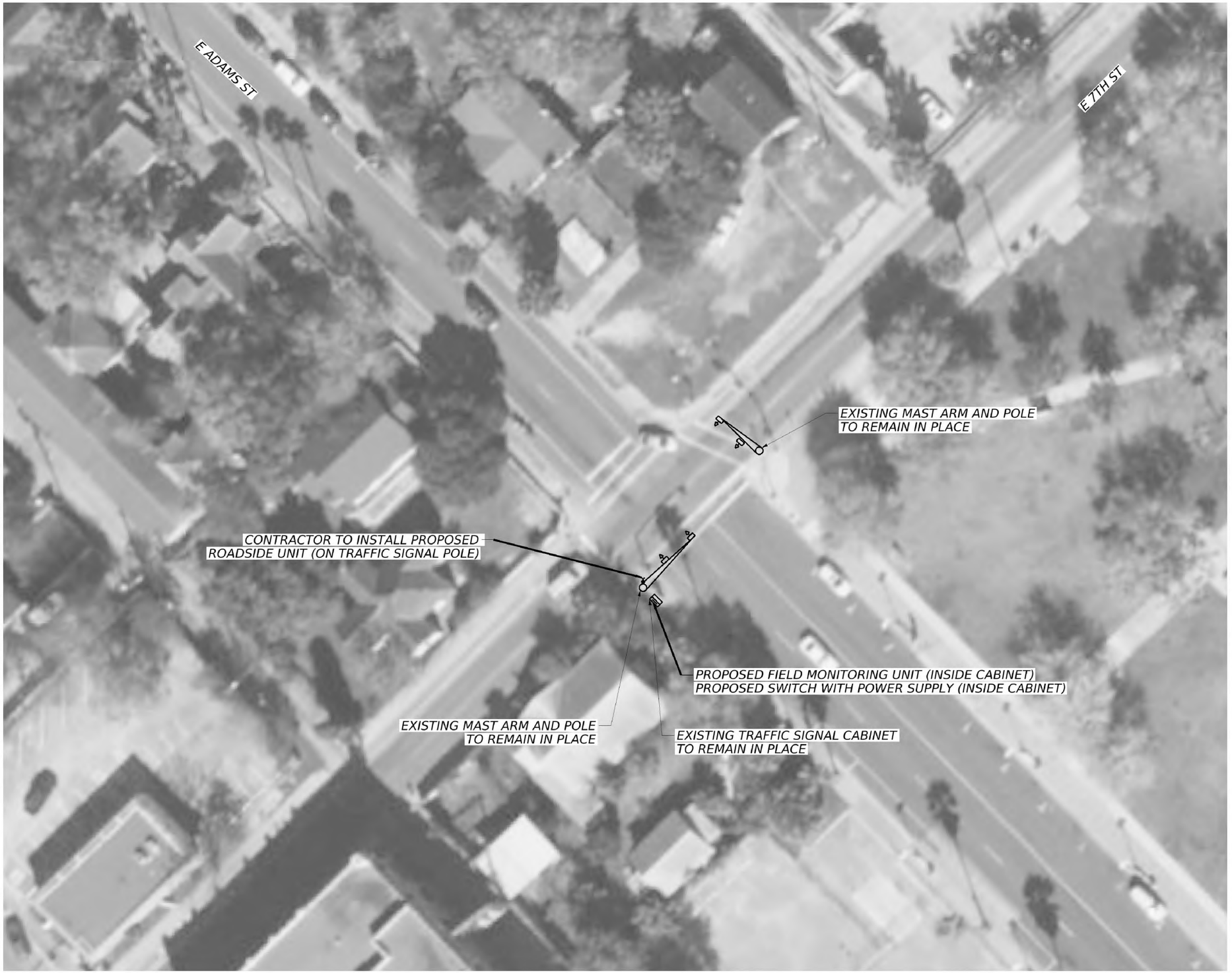
INTERSECTION 048

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	75

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PROP SIG 048 E ADAMS ST AT 6TH ST CSJ 399.dgn



LEGEND

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STATE OF TEXAS
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03/06/2026

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E ADAMS ST AT E 7TH ST

INTERSECTION 049

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	76

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PROP SIG 049 E ADAMS ST AT 7TH ST CSJ 399.dgn

NOTE: THIS IS A SPAN WIRE CONFIGURATION

ELENA ST

EAST AVENUE

IMPALA DR

EXISTING SIGNAL POLE TO REMAIN IN PLACE

EXISTING SIGNAL POLE TO REMAIN IN PLACE

PROPOSED FIELD MONITORING UNIT (INSIDE CABINET)
PROPOSED SWITCH WITH POWER SUPPLY (INSIDE CABINET)

EXISTING TRAFFIC SIGNAL CABINET TO REMAIN IN PLACE

EXISTING SIGNAL POLE TO REMAIN IN PLACE

CONTRACTOR TO INSTALL PROPOSED ROADSIDE UNIT (ON TRAFFIC SIGNAL POLE)

EXISTING SIGNAL POLE TO REMAIN IN PLACE

LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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EAST AVE AT IMPALA DR - ELENA ST

INTERSECTION 050

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	77

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PROP SIG 050 EAST AVENUE AT IMPALA DR - ELENA CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

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EAST AVE AT TULIPAN ST

INTERSECTION 051

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	78

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PROP SIG 051 EAST AVENUE AT TULIPAN ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ELIZABETH ST AT E 10TH ST

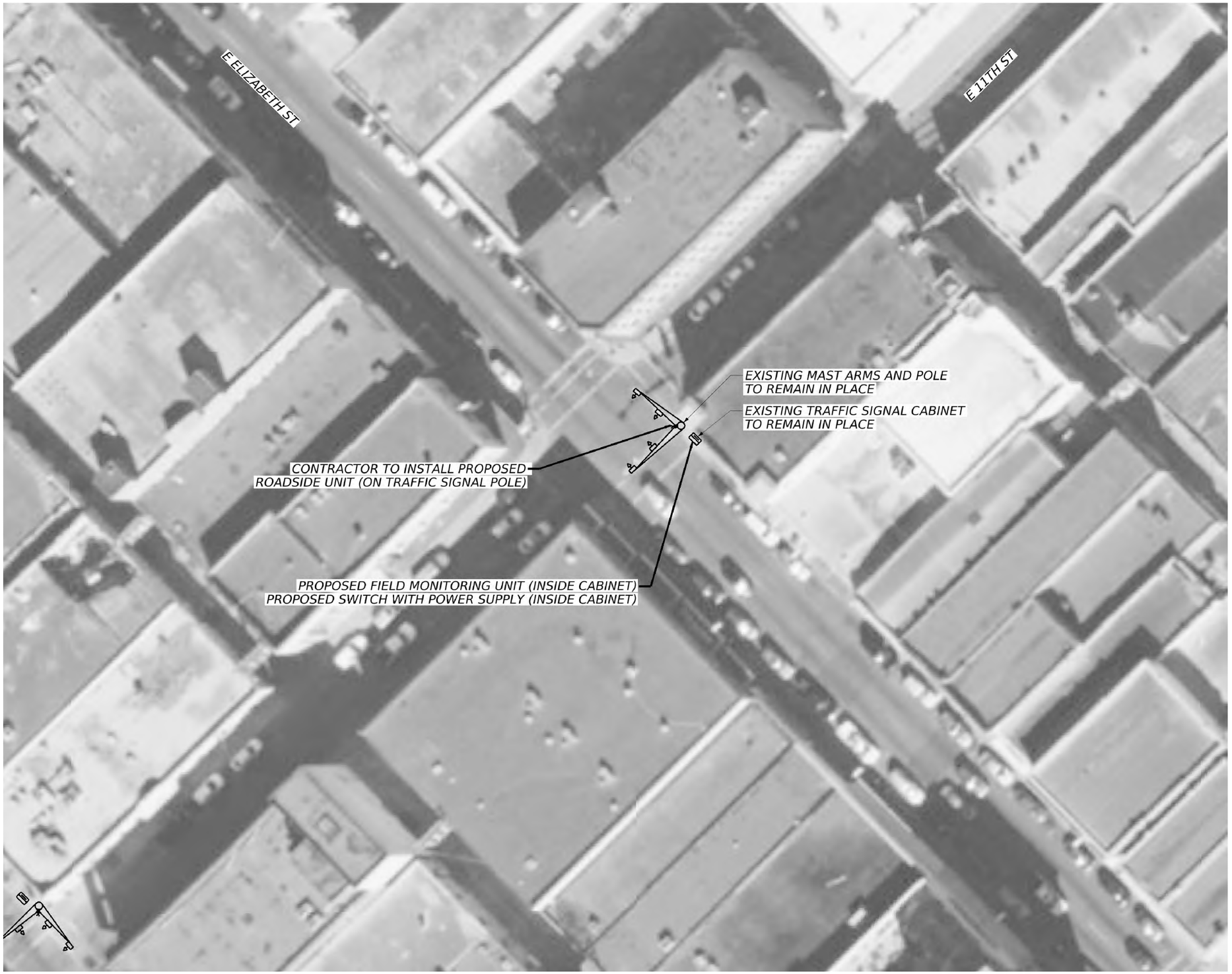
INTERSECTION 052

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE	
6	VAR			TEXAS	
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	79

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PROP SIG 052 E ELIZABETH AT 10TH CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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03/06/2026

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E ELIZABETH ST AT E 11TH ST

INTERSECTION 053

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	80

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PROP SIG 053 E ELIZABETH AT 11TH CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

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Land Surveying Firm No. 10046700

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E ELIZABETH ST AT E 13TH ST

INTERSECTION 055

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	81

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PROP SIG 055 E ELIZABETH AT 13TH CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

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E ELIZABETH ST AT E 6TH ST

INTERSECTION 057

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	82

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PROP SIG 057 E ELIZABETH AT 6TH CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
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LICENSED
PROFESSIONAL ENGINEER
03/06/2026

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E ELIZABETH ST AT E 7TH ST

INTERSECTION 058

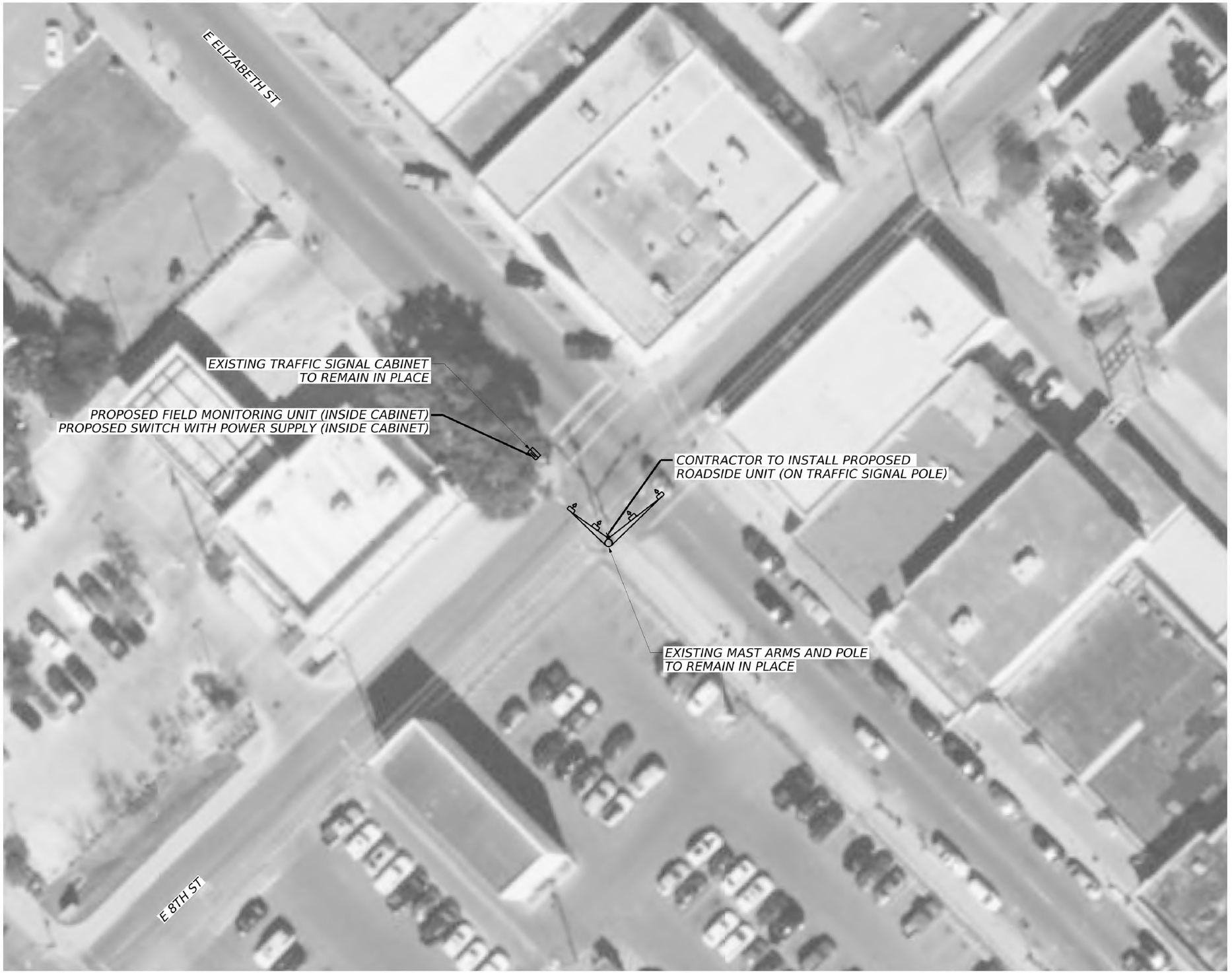
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY	STATE
6	VAR	TEXAS

STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	83

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PROP SIG 058 E ELIZABETH AT 7TH CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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STATE OF TEXAS
CARRIE A. JAEGER
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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ELIZABETH ST AT E 8TH ST

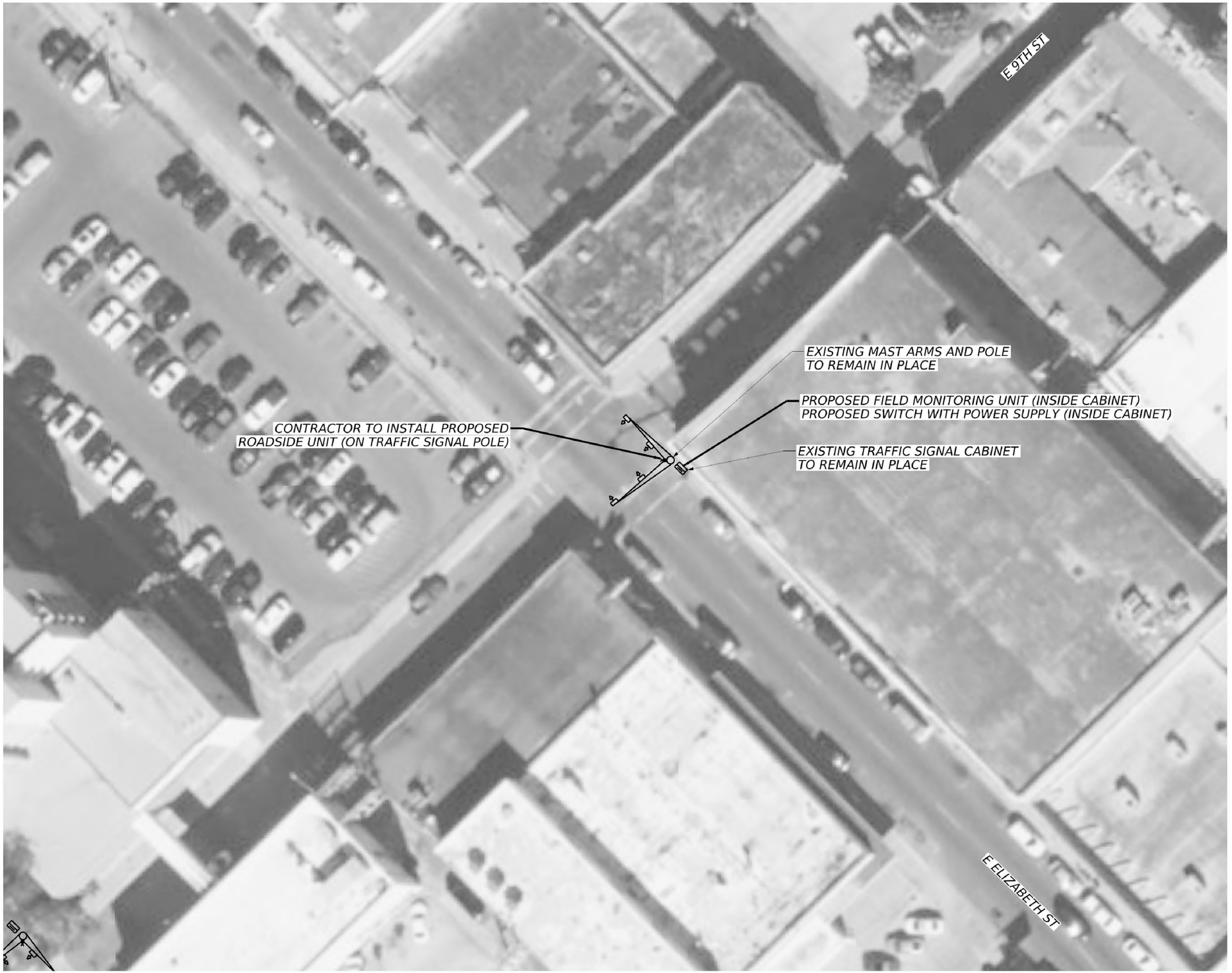
INTERSECTION 059

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	84

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PROP SIG 059 E ELIZABETH AT 8TH CSJ 399.dgn



LEGEND

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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ELIZABETH ST AT E 9TH ST

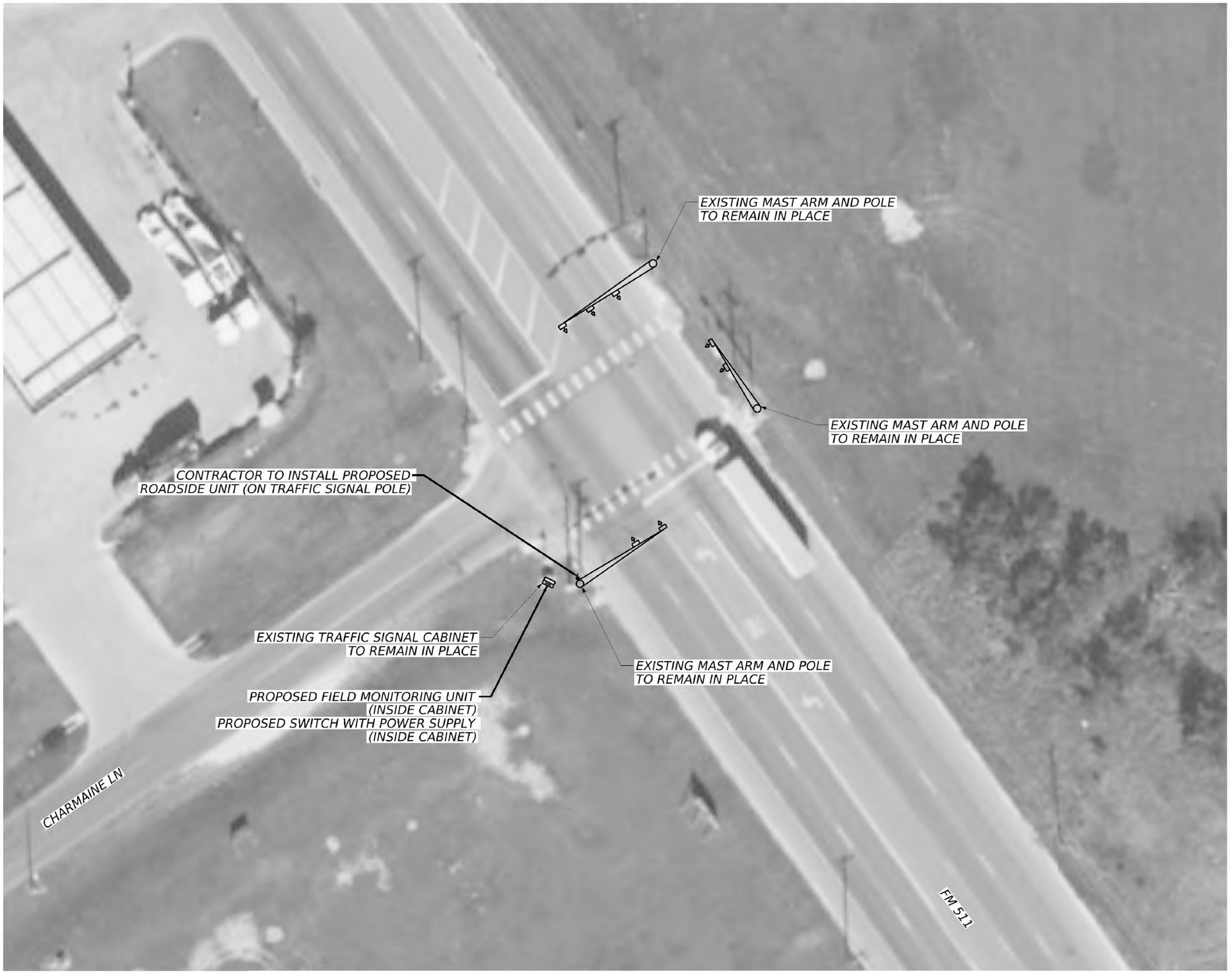
INTERSECTION 060

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	85

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PROP SIG 060 E ELIZABETH AT 9TH CSJ 399.dgn



LEGEND

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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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FM 511 AT CHARMAINE LN

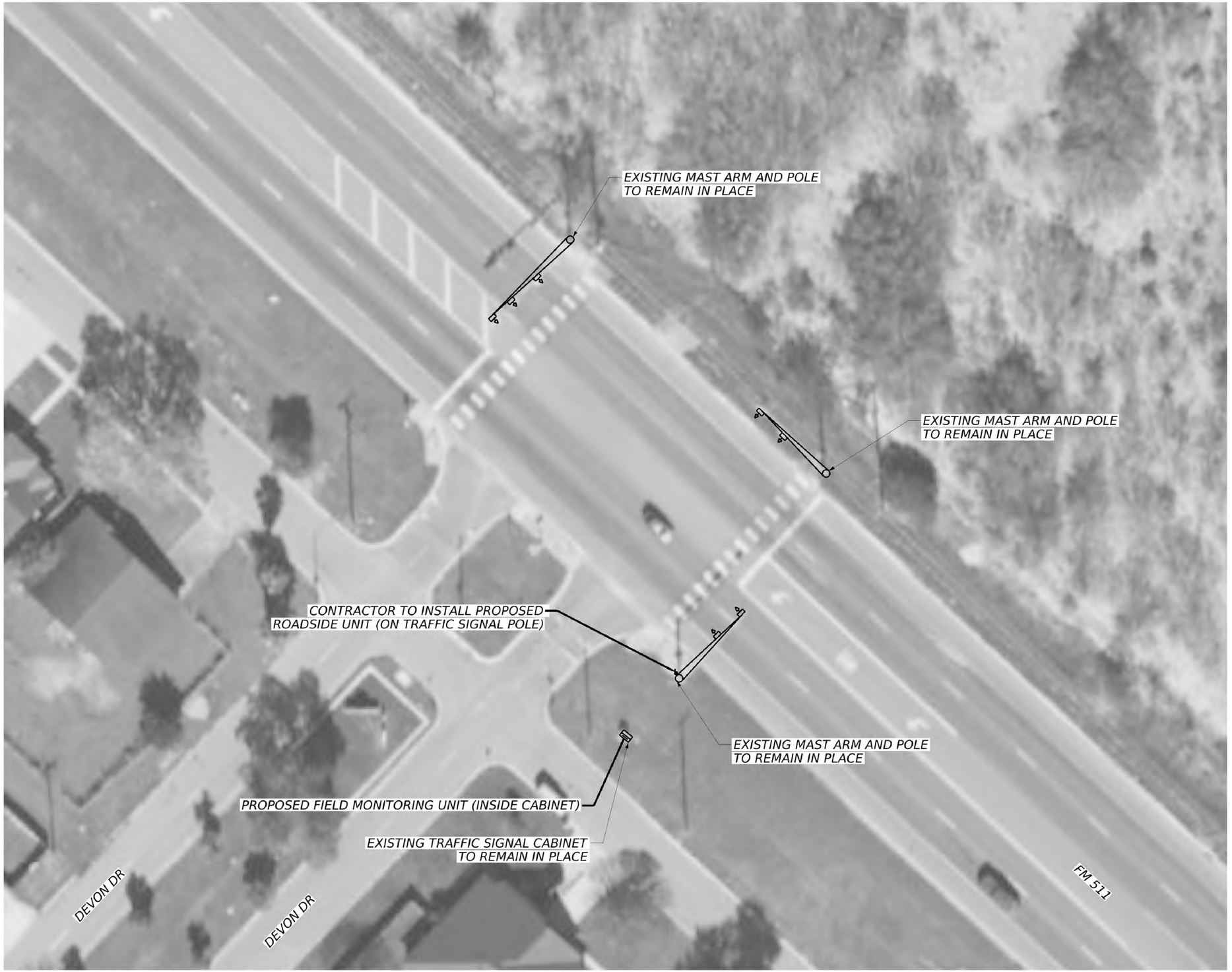
INTERSECTION 061

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	86

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PROP SIG 061 FM 511 AT CHARMAINE LN CSJ 399.dgn



LEGEND

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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

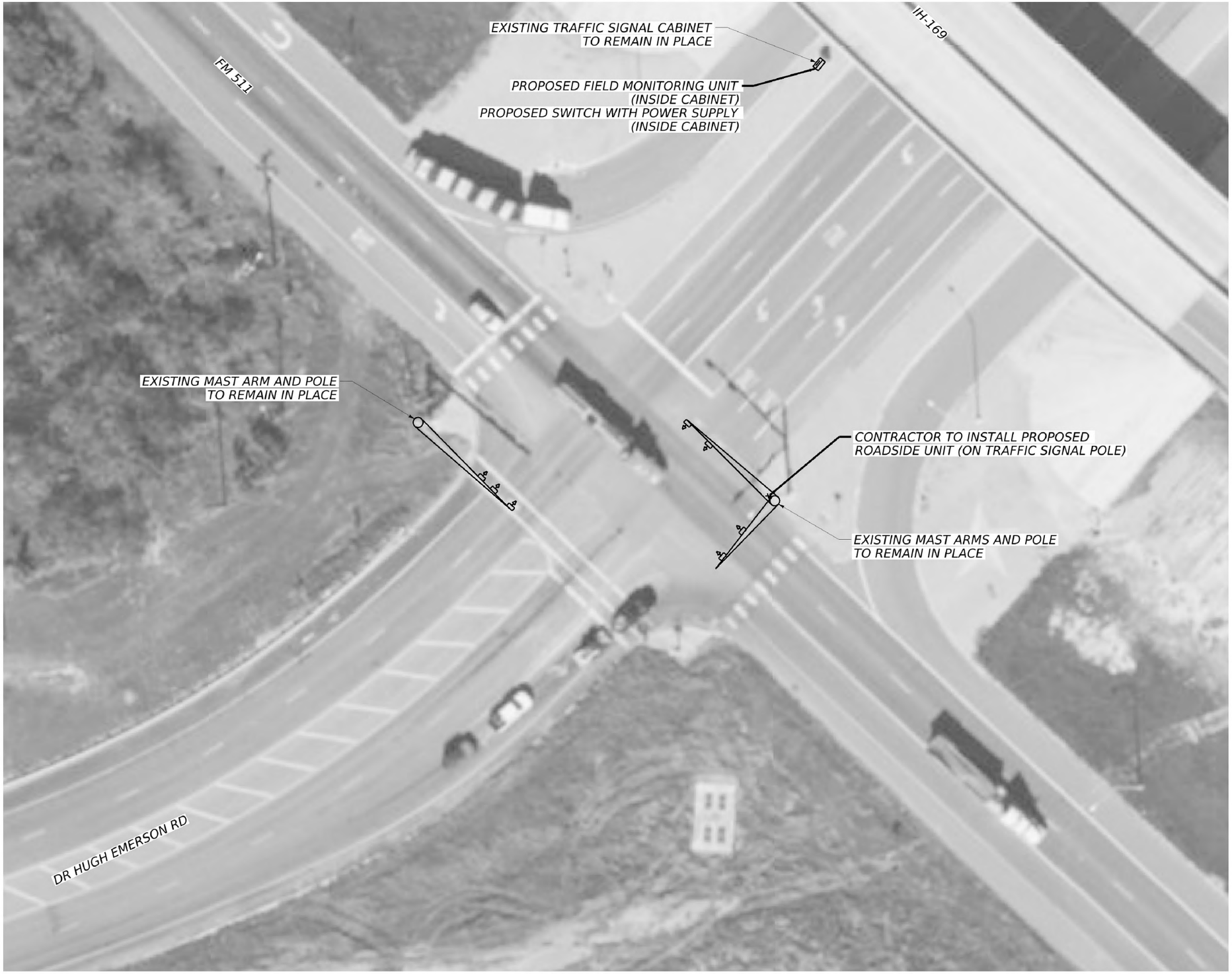
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FM 511 AT
DEVON DR
INTERSECTION 062
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	87

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PROP SIG 062 FM 511 AT DEVON DR CSJ 399.dgn



LEGEND

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3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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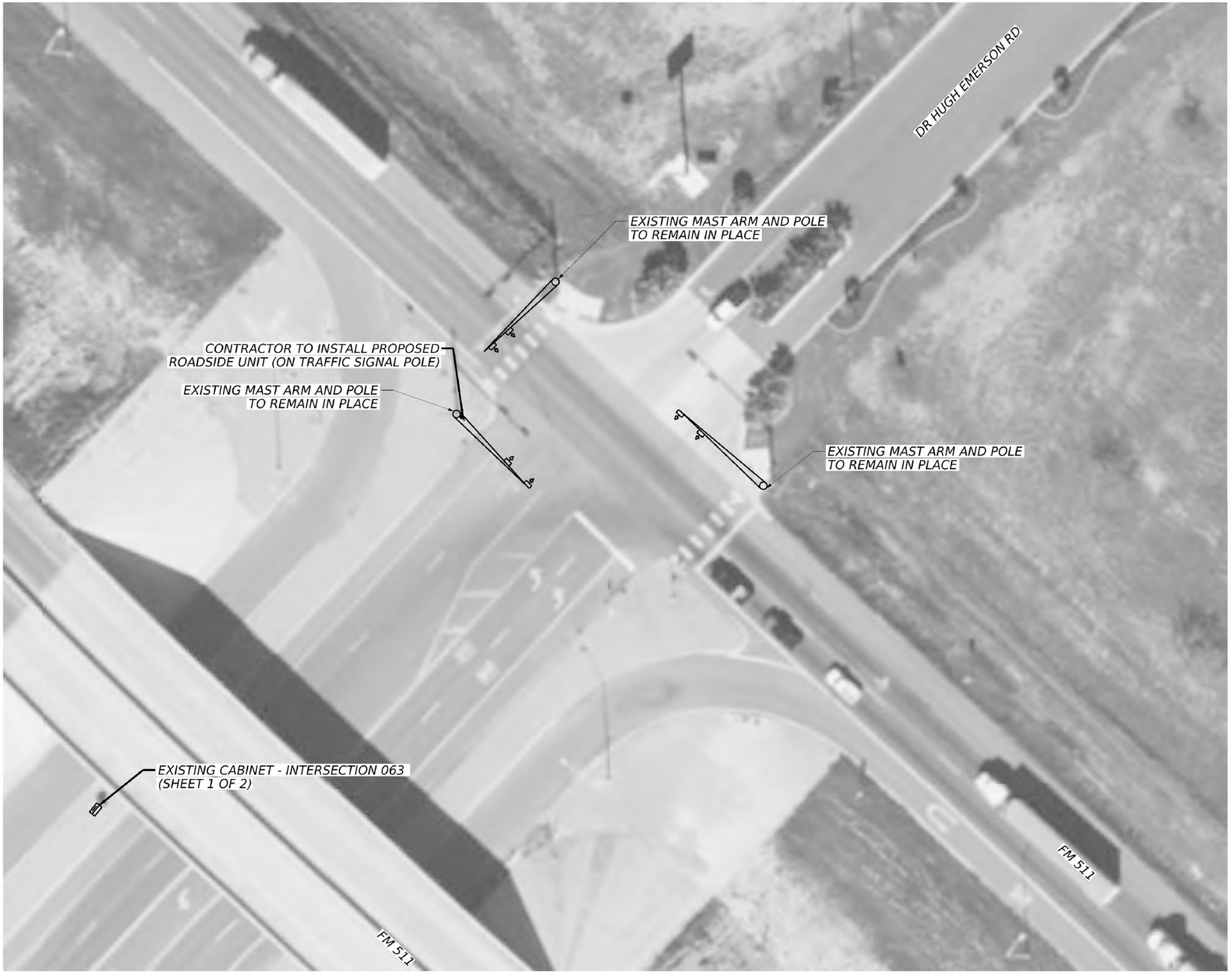
FM 511 AT DR HUGH EMERSON RD

INTERSECTION 063

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	88

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PROP SIG 063A FM 511 AT DR HIGH EMERSON RD (EAST FRONTAGE) CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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Land Surveying Firm No. 10046700

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FM 511 AT DR HUGH EMERSON RD

INTERSECTION 063

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	89

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PROP SIG 063B FM 511 (WEST FRONTAGE) AT DR HIGH EMERSON RD CSJ 399.dgn



LEGEND

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED PROFESSIONAL ENGINEER
03/06/2026

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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FM 511 AT RUBEN M TORRES BLVD (FM 802)

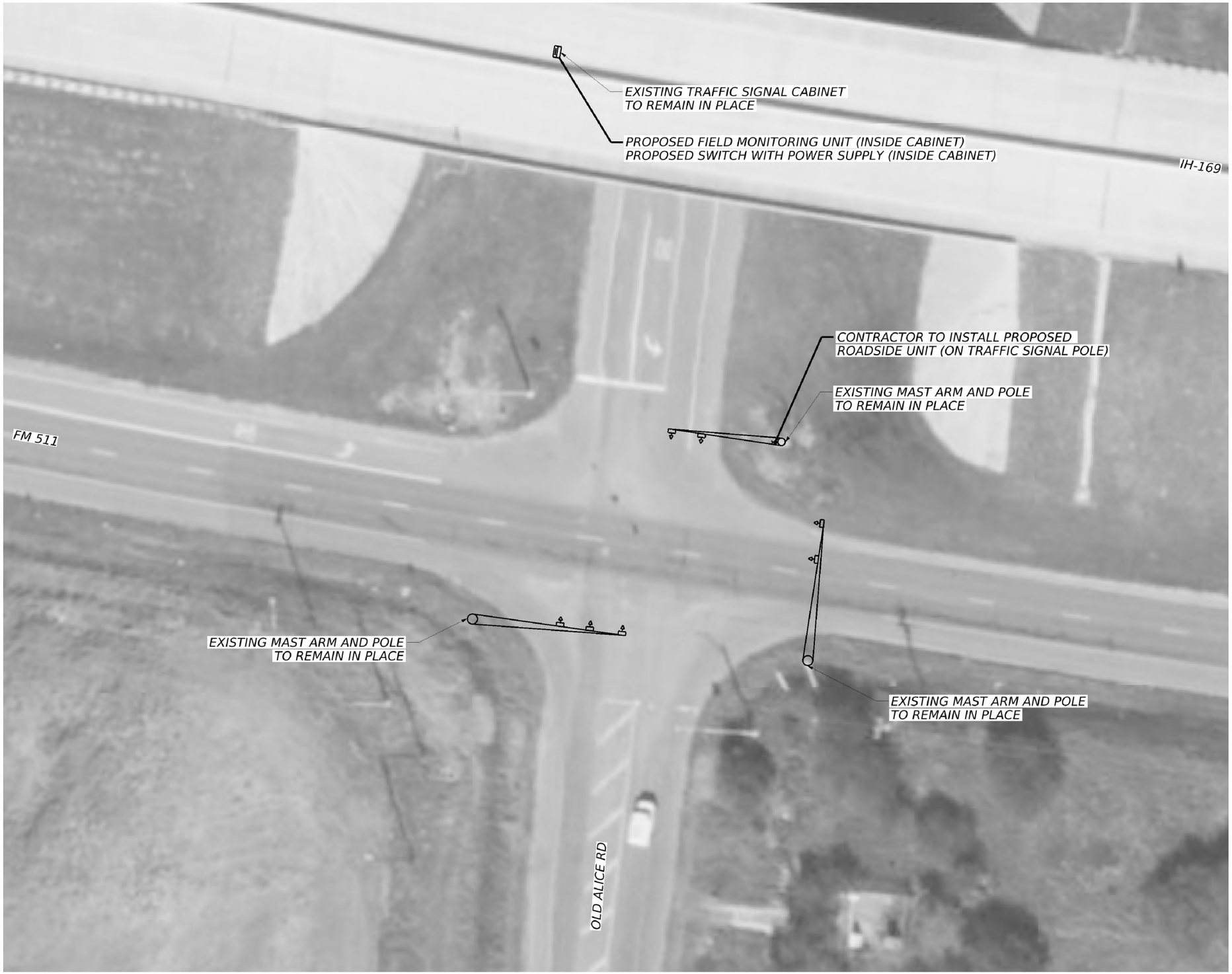
INTERSECTION 064

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	90

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PROP SIG 064 FM 511 AT FM 802 CSJ 399.dgn



LEGEND

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LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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FM 511 AT OLD ALICE RD (SOUTH)

INTERSECTION 065

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	91

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PROP SIG 065A FM 511 (EAST FRONTAGE) AT OLD ALICE RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274
Land Surveying Firm No. 10046700

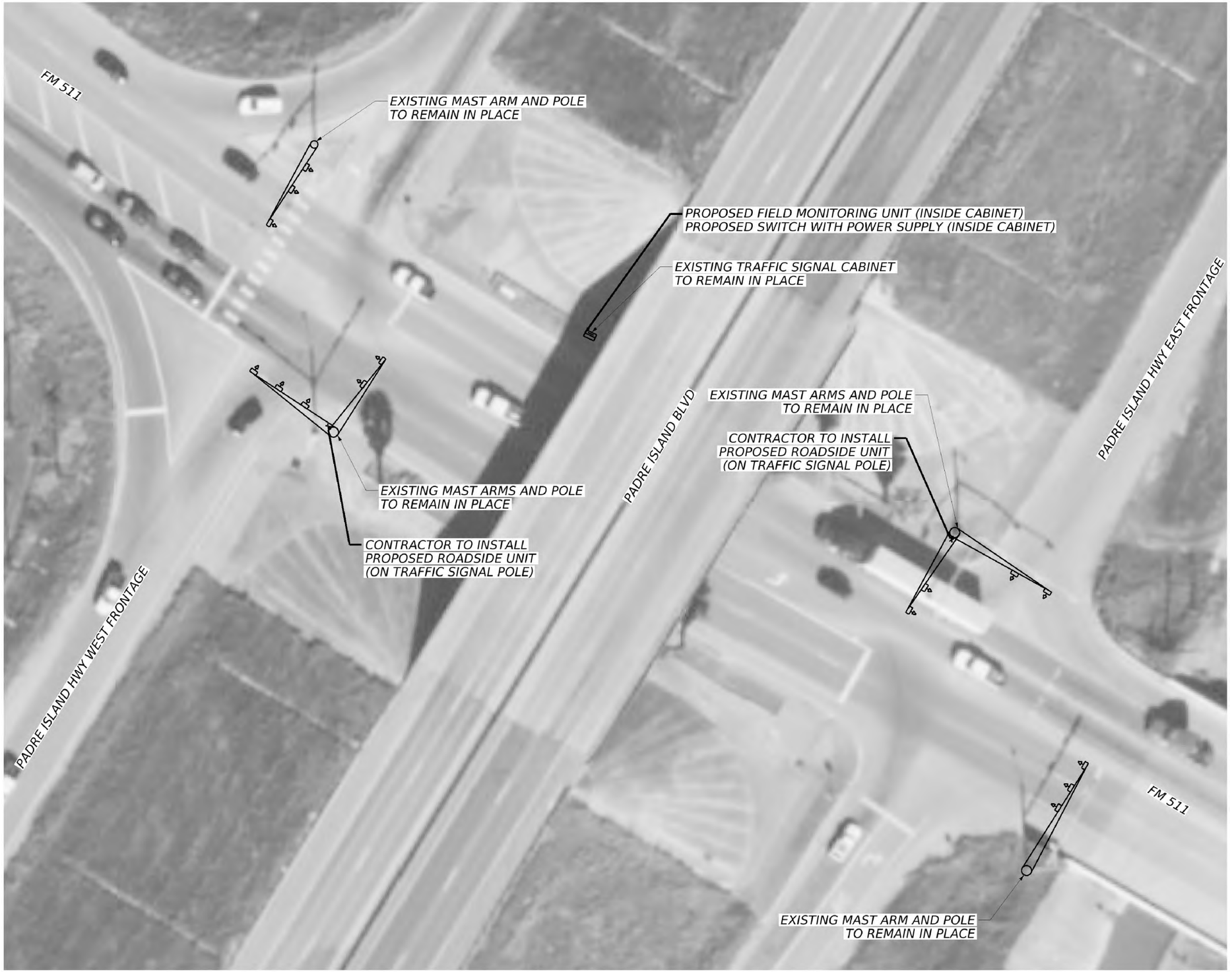
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FM 511 AT
OLD ALICE RD (NORTH)
INTERSECTION 065
SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	92

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PROP SIG 065B FM 511 (WEST FRONTAGE) AT OLD ALICE RD CSJ 399.dgn



LEGEND

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STATE OF TEXAS
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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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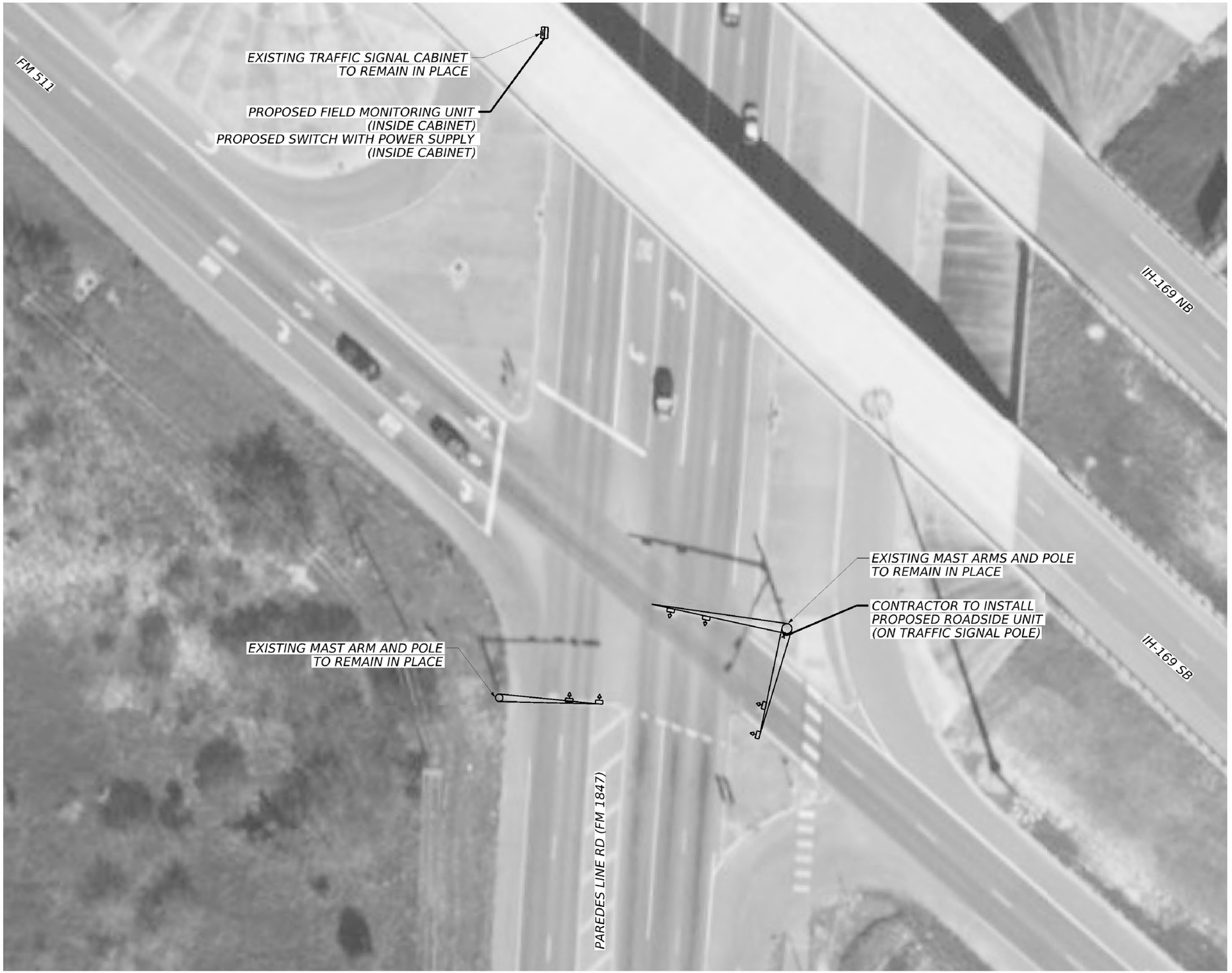
FM 511 AT PADRE ISLAND HWY

INTERSECTION 066

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	93

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PROP SIG 066 FM 511 AT PADRE ISLAND HWY CSJ 399.dgn



LEGEND

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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
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Land Surveying Firm No. 10046700

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FM 511 AT PAREDES LINE ROAD (FM 1847) (SOUTH)

INTERSECTION 067

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	94

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PROP SIG 067A FM 511 (EAST FRONTAGE) AT PAREDES LINE ROAD CSJ 399.dgn



LEGEND

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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10048700

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FM 511 AT PAREDES LINE RD (FM 1847) (NORTH)

INTERSECTION 067

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	95

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PROP SIG 067B FM 511 (WEST FRONTAGE) AT PAREDES LINE ROAD CSJ 399.dgn



LEGEND

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STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

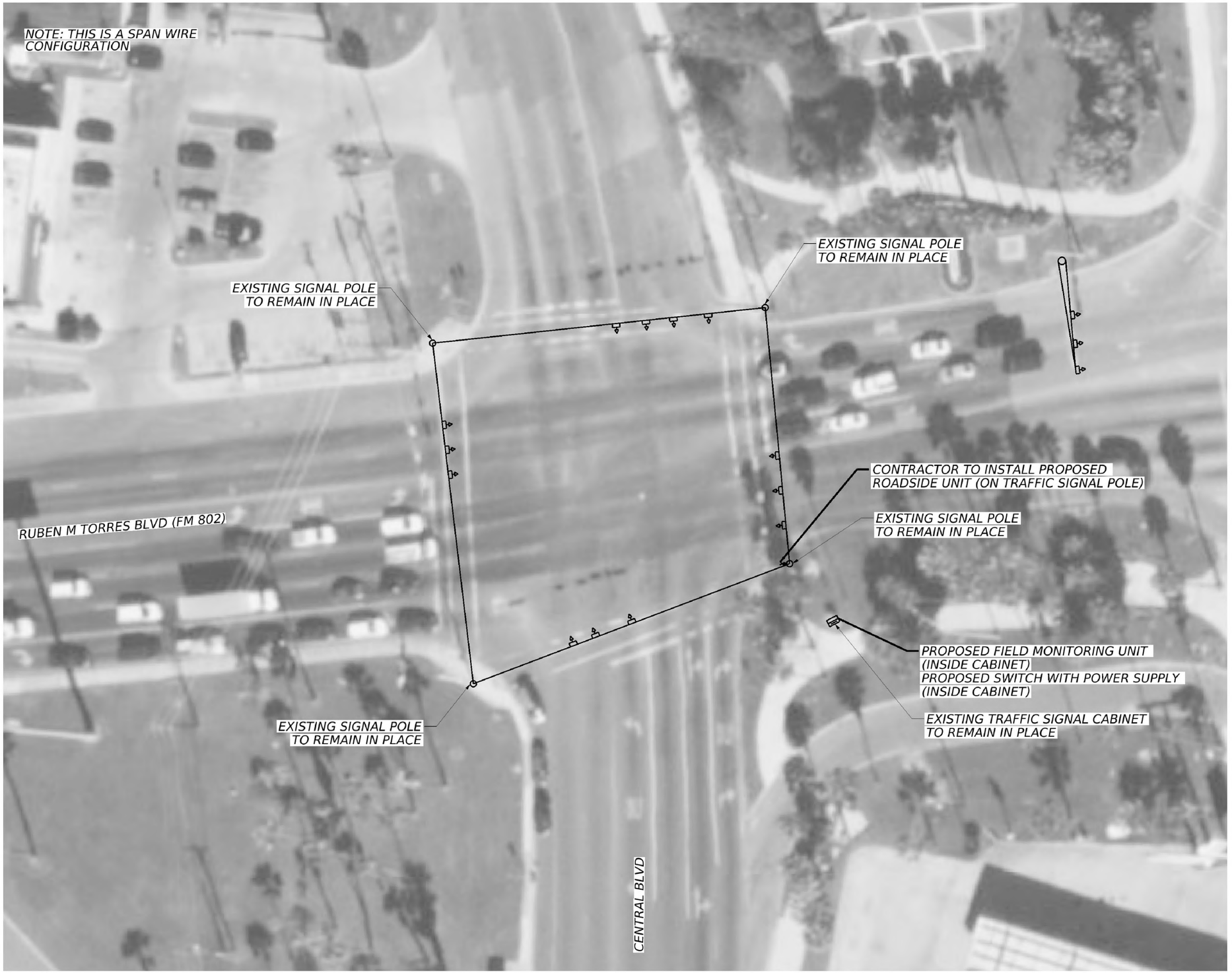
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RUBEN M TORRES BLVD (FM 802)
AT CENTRAL AVE
INTERSECTION 069
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	96

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PROP SIG 069 FM 802 AT CENTRAL AVENUE CSJ 399.dgn



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03/06/2026

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Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT CENTRAL BLVD

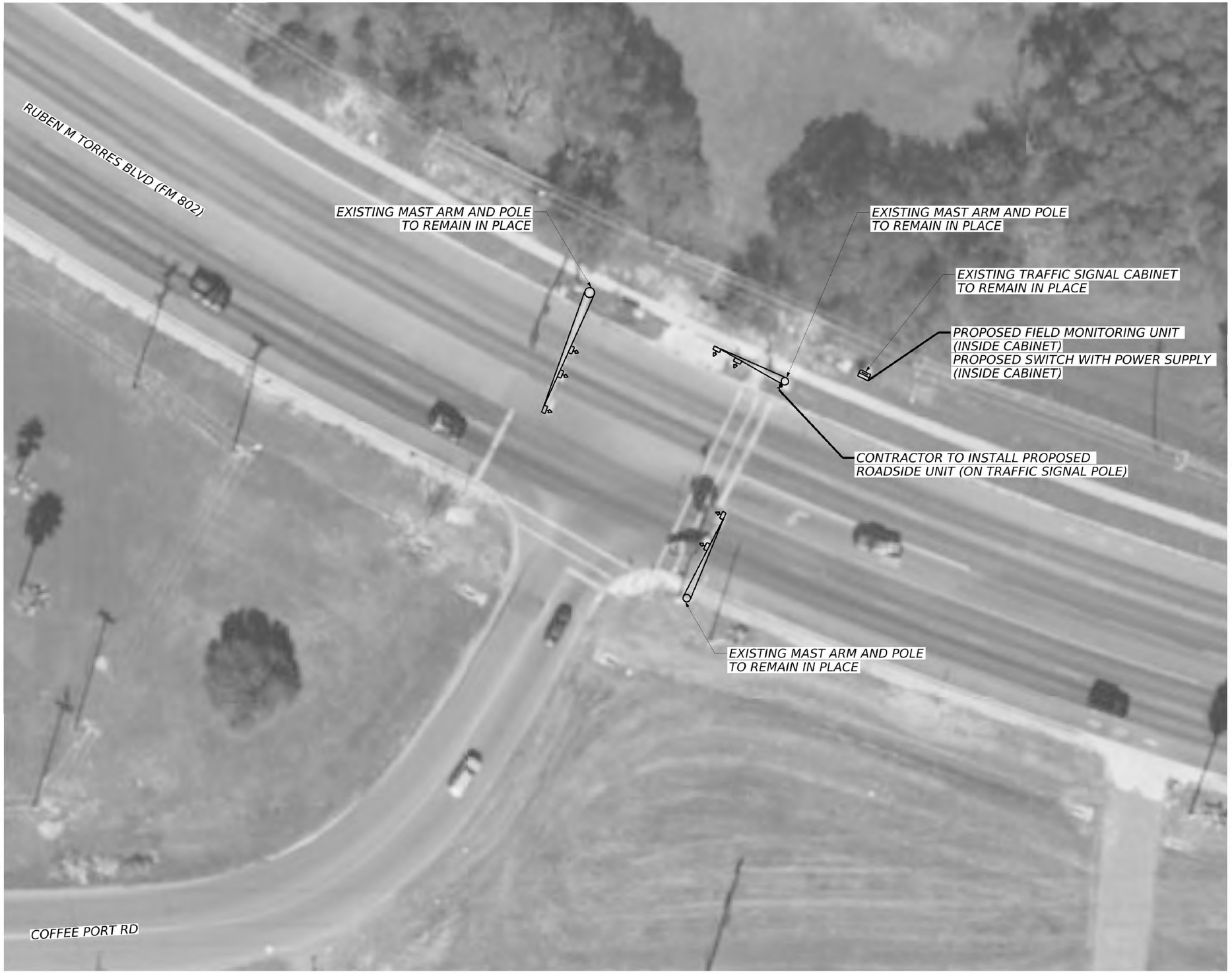
INTERSECTION 070

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	97

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PROP SIG 070 FM 802 AT CENTRAL BLVD CSJ 399.dgn



LEGEND

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PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT COFFEE PORT RD
INTERSECTION 071
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	98

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PROP SIG 071 FM 802 AT COFFEE PORT RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802) AT DANA AVE

INTERSECTION 072

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	99

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PROP SIG 072 FM 802 AT DANA AVENUE CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
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PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

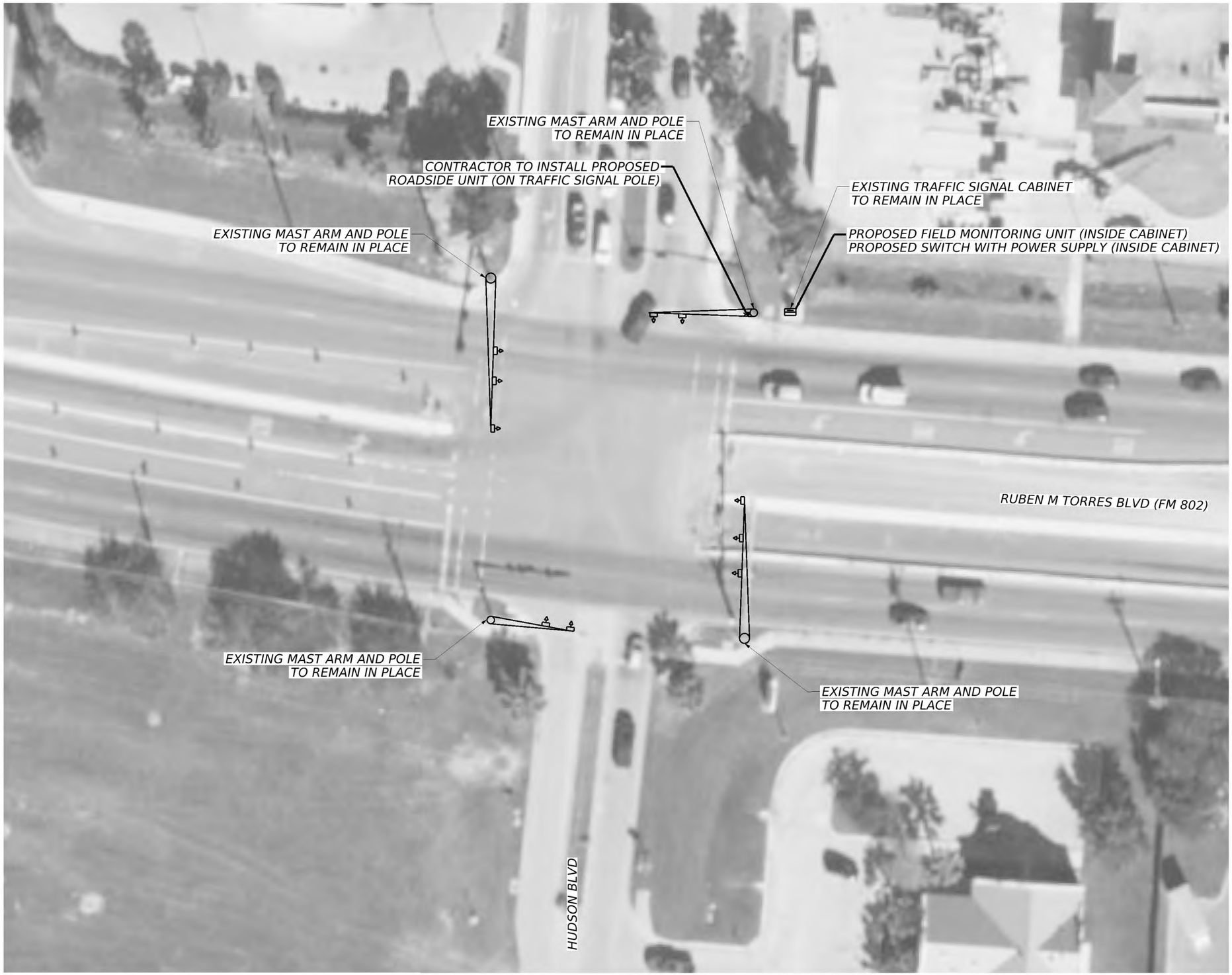
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RUBEN M TORRES BLVD (FM 802)
AT HABANA ST
INTERSECTION 073
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	100

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PROP SIG 073 FM 802 AT HABANA ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT HUDSON BLVD

INTERSECTION 074

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	101

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PROP SIG 074 FM 802 AT HUDSON BLVD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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- EXISTING TRAFFIC SIGNAL HEAD
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Lanc Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802) AT LAREDO RD

INTERSECTION 075

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	102

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PROP SIG 075 FM 802 AT LAREDO RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

N

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802) AT MCALLEN - COUNTRY CLUB RD

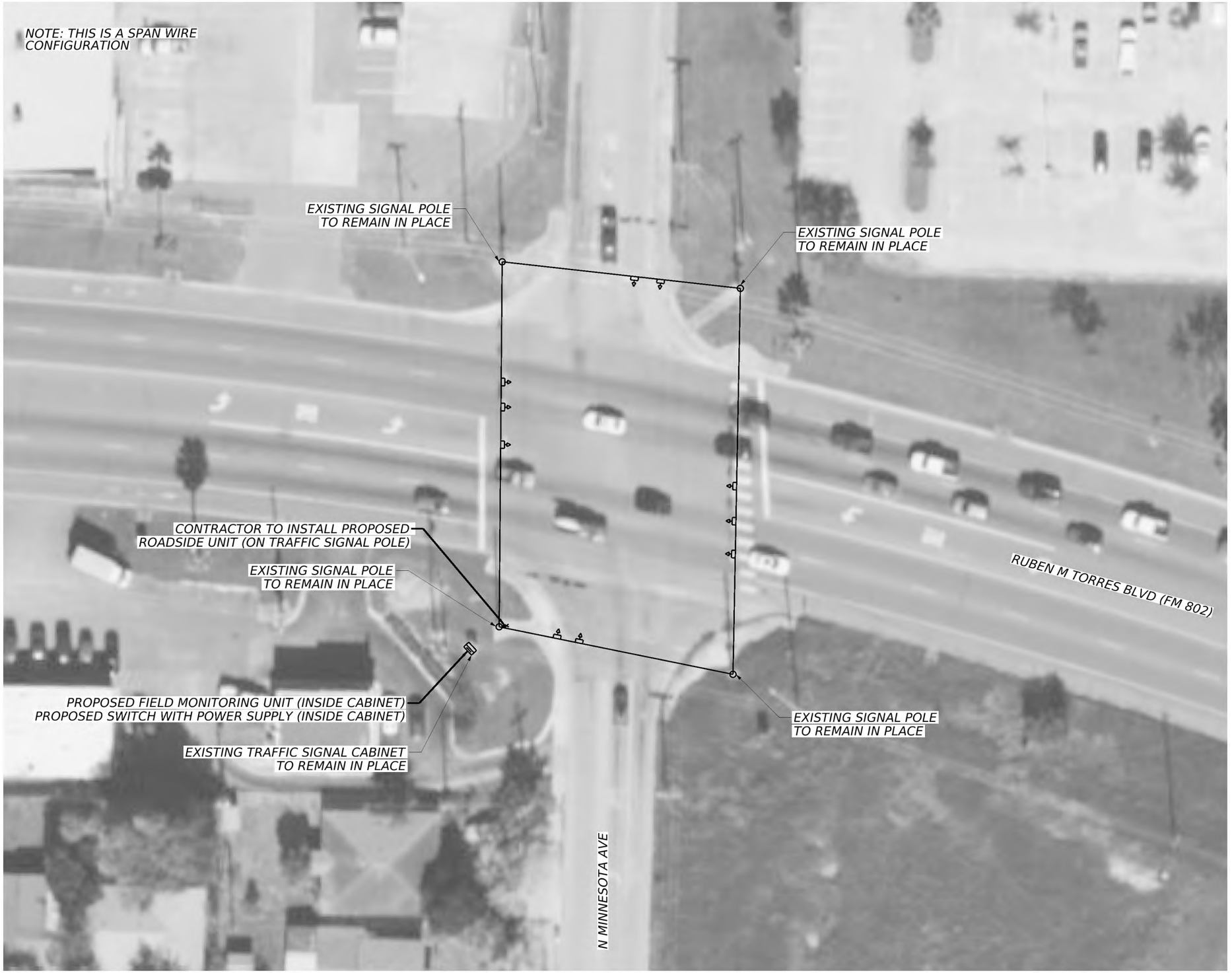
INTERSECTION 076

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	103

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PROP SIG 076 FM 802 AT MCALLEN - COUNTRY CLUB CSJ 399.dgn



LEGEND

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- EXISTING TRAFFIC SIGNAL HEAD
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STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Lanc Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802) AT N MINNESOTA AVE

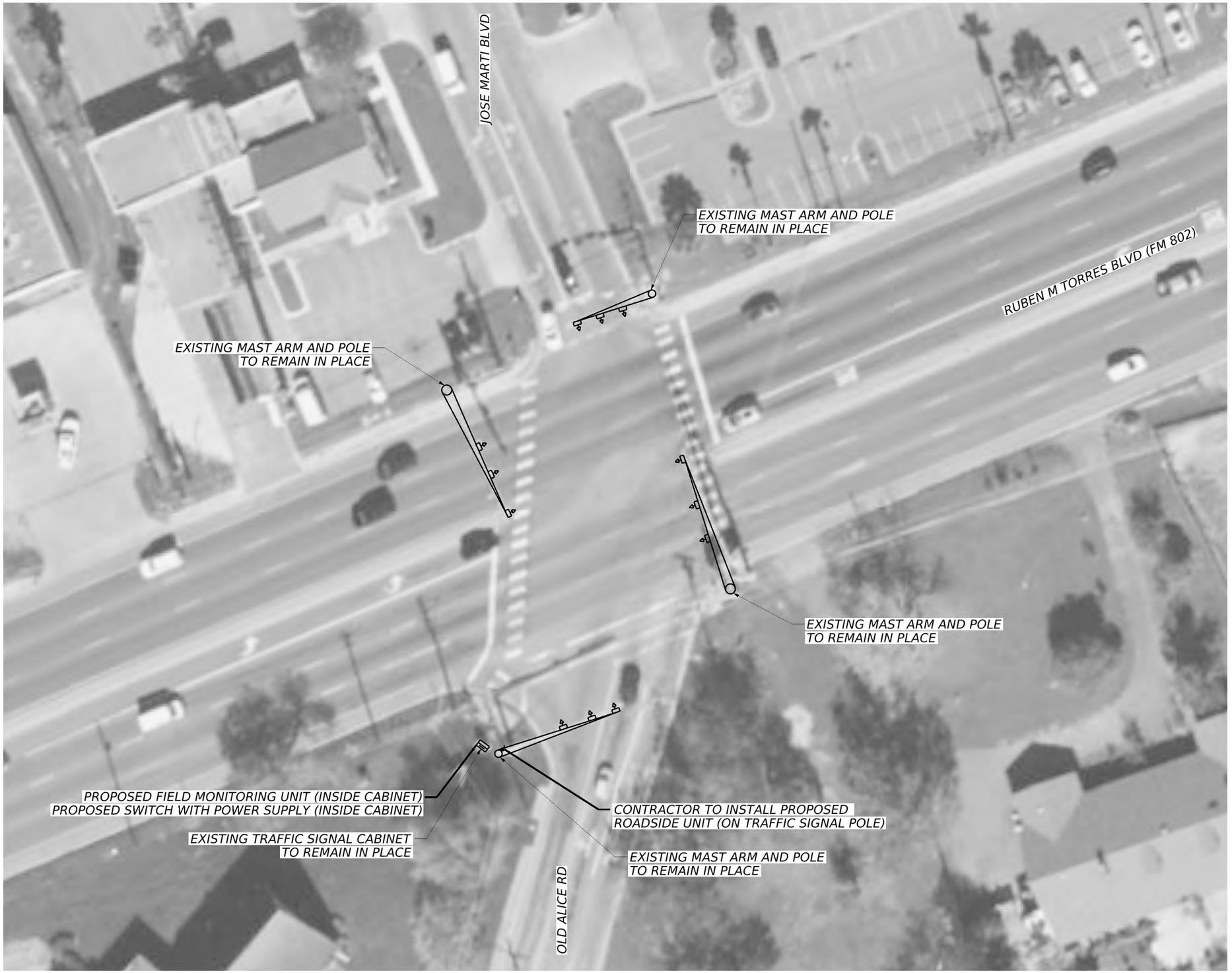
INTERSECTION 077

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	104

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PROP SIG 077 FM 802 AT MINNESOTA AVE CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT OLD ALICE RD - JOSE MARTI BLVD

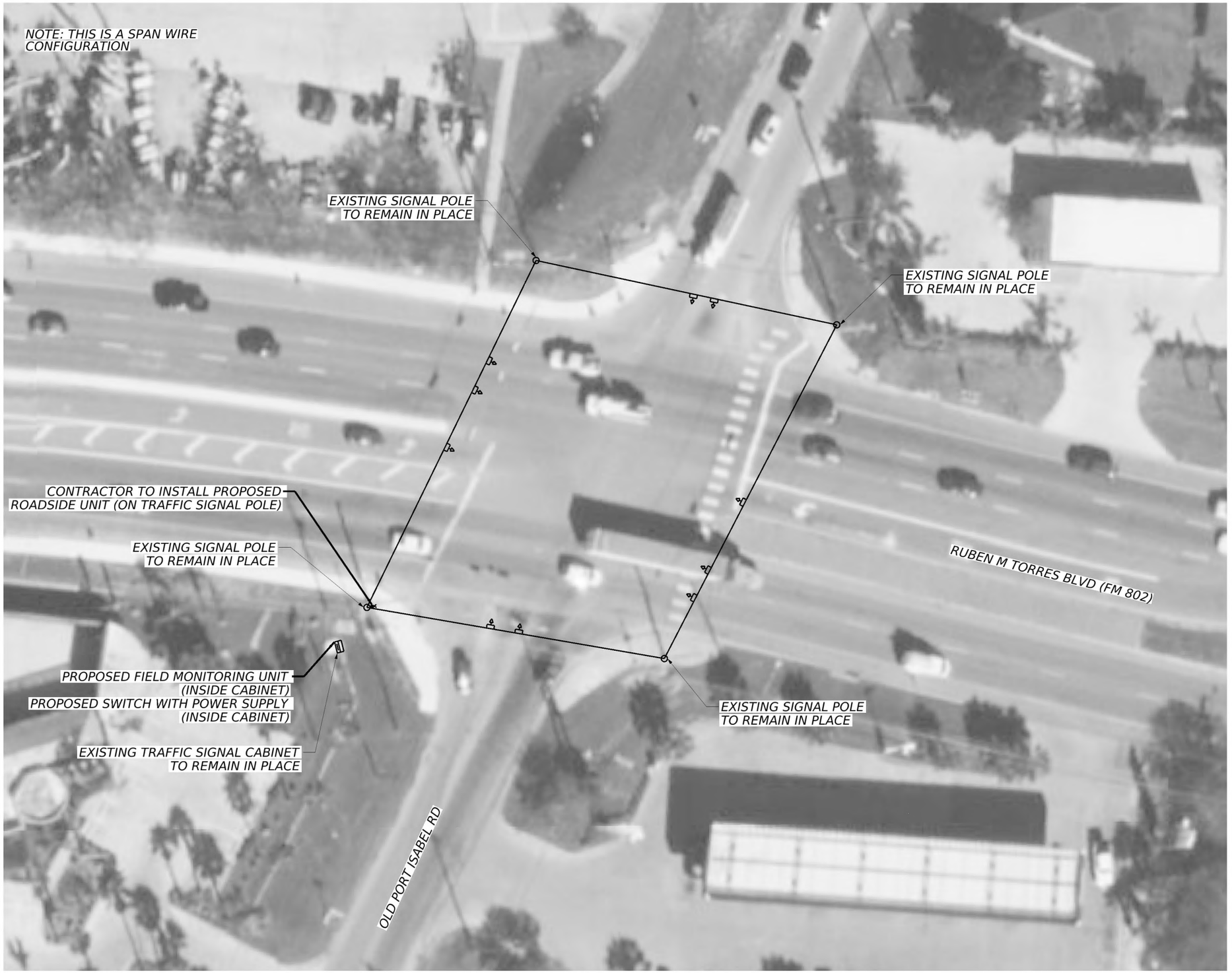
INTERSECTION 078

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	105

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PROP SIG 078 FM 802 AT OLD ALICE RD - JOSE MARTI BLVD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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STATE OF TEXAS
BRIAN G. CASTILLE
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3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802) AT OLD PORT ISABEL RD

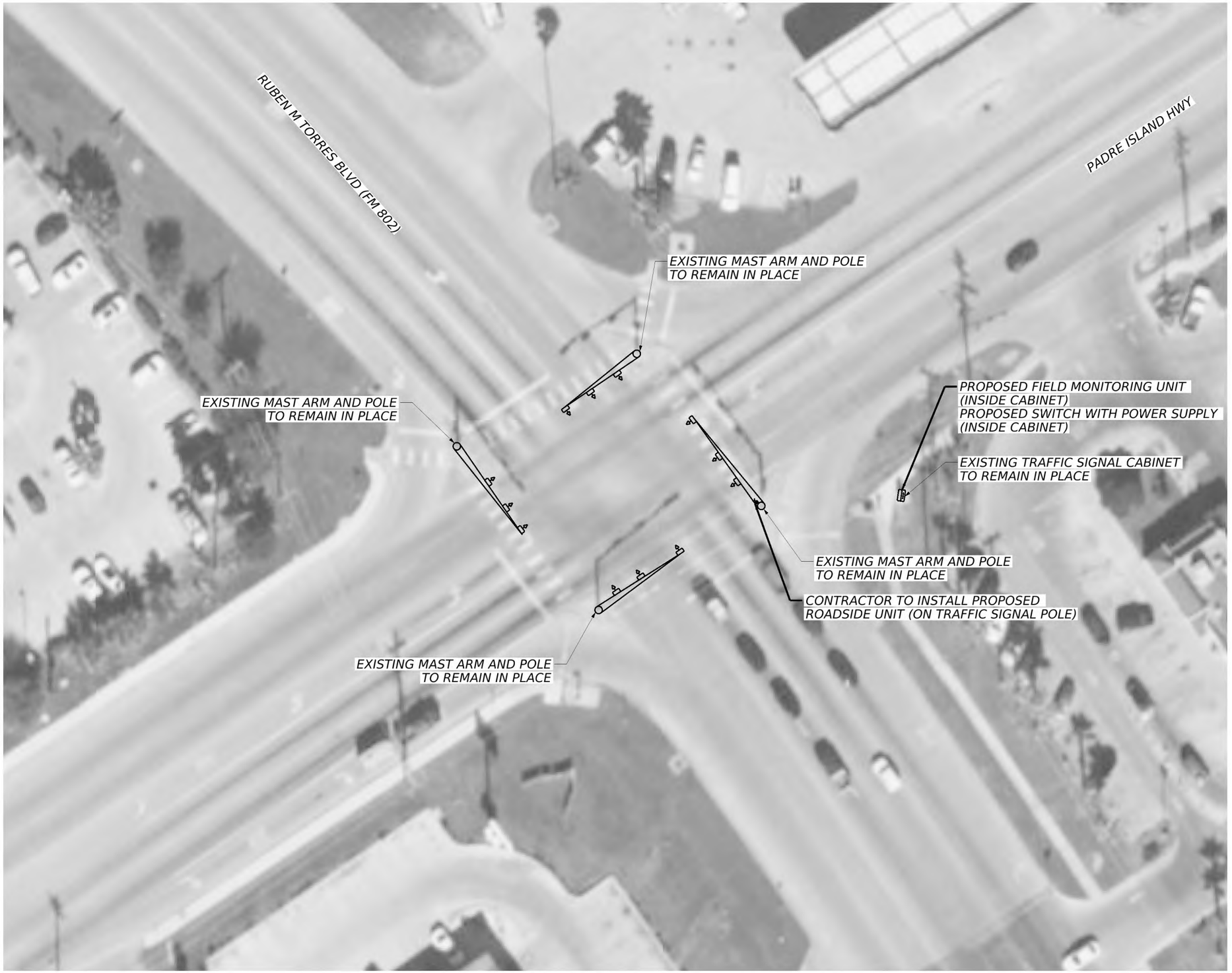
INTERSECTION 079

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	106

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PROP SIG 079 FM 802 AT OLD PORT ISABEL RD CSJ 399.dgn



LEGEND

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STATE OF TEXAS
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3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT PADRE ISLAND HWY

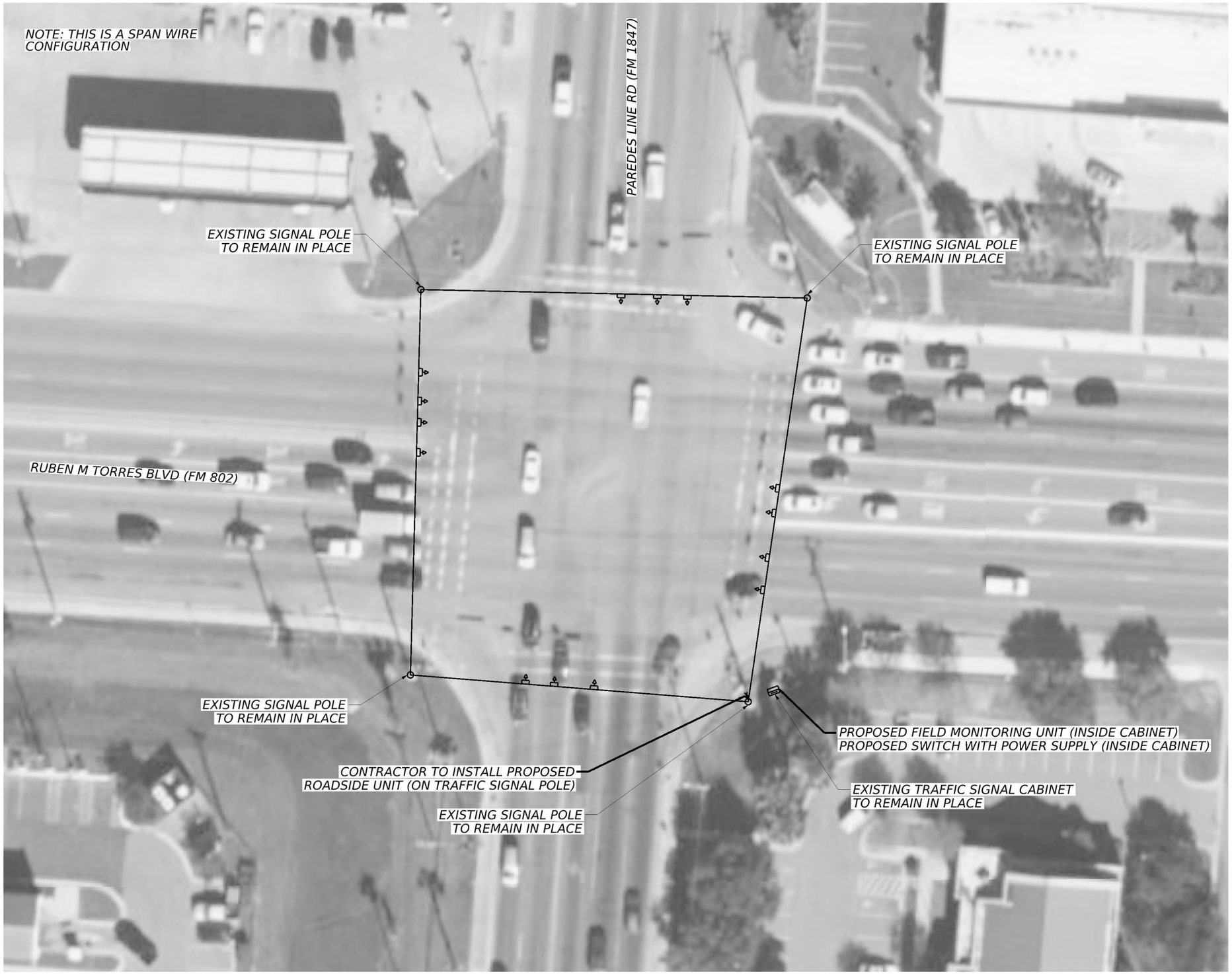
INTERSECTION 080

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	107

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PROP SIG 080 FM 802 AT PADRE ISLAND HWY CSJ 399.dgn



LEGEND

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STATE OF TEXAS
BRIAN G. CASTILLE
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3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT PAREDES LINE RD (FM 1847)

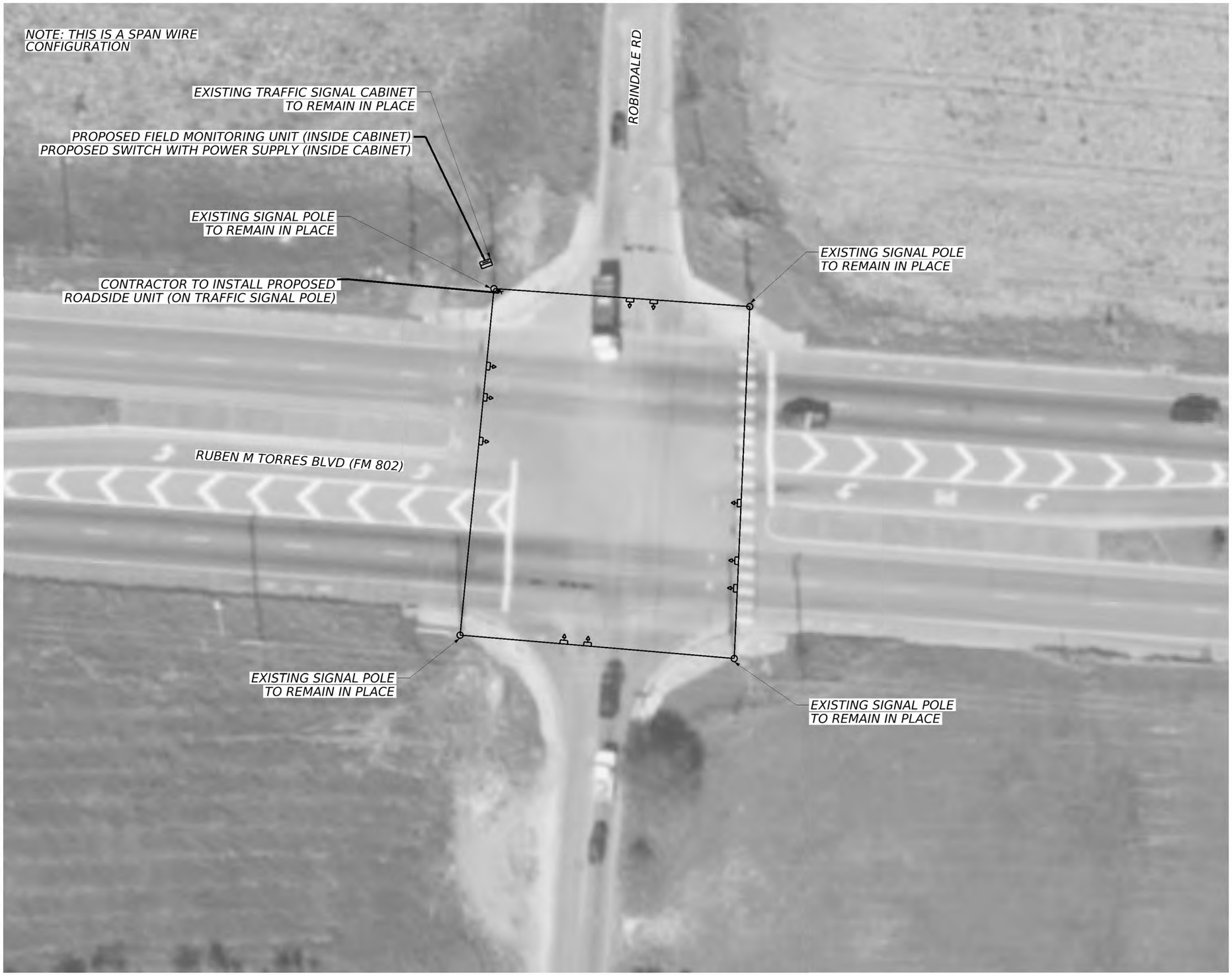
INTERSECTION 081

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	108

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PROP SIG 081 FM 802 AT PAREDES LINE RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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1" = 40'

STATE OF TEXAS
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3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT ROBINDALE RD

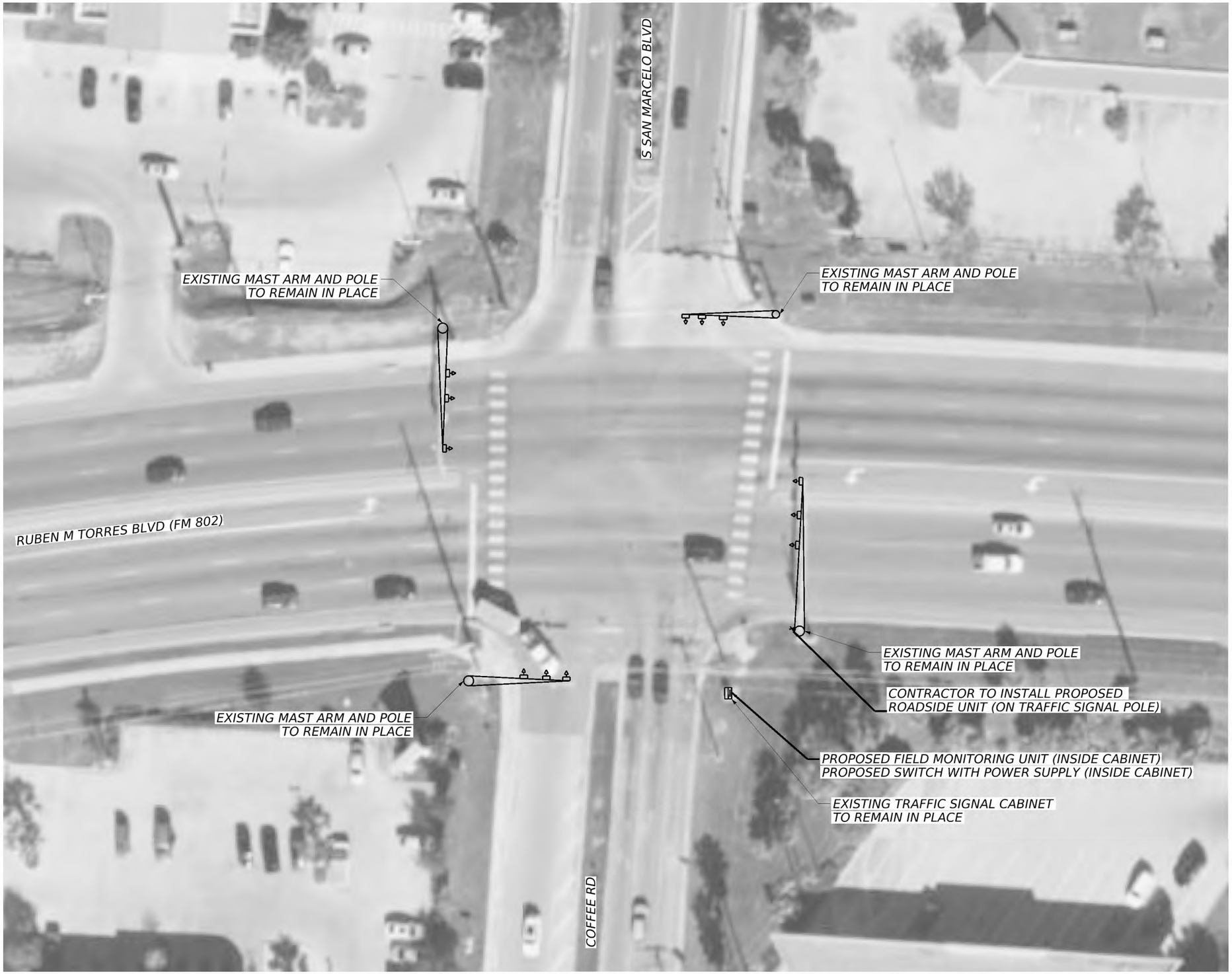
INTERSECTION 082

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	109

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PROP SIG 082 FM 802 AT ROBINDALE RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT SAN MARCELO - COFFEE RD

INTERSECTION 083

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	110

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PROP SIG 083 FM 802 AT SAN MARCELO BLVD AND COFFEE RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802) AT SEVILLE BLVD

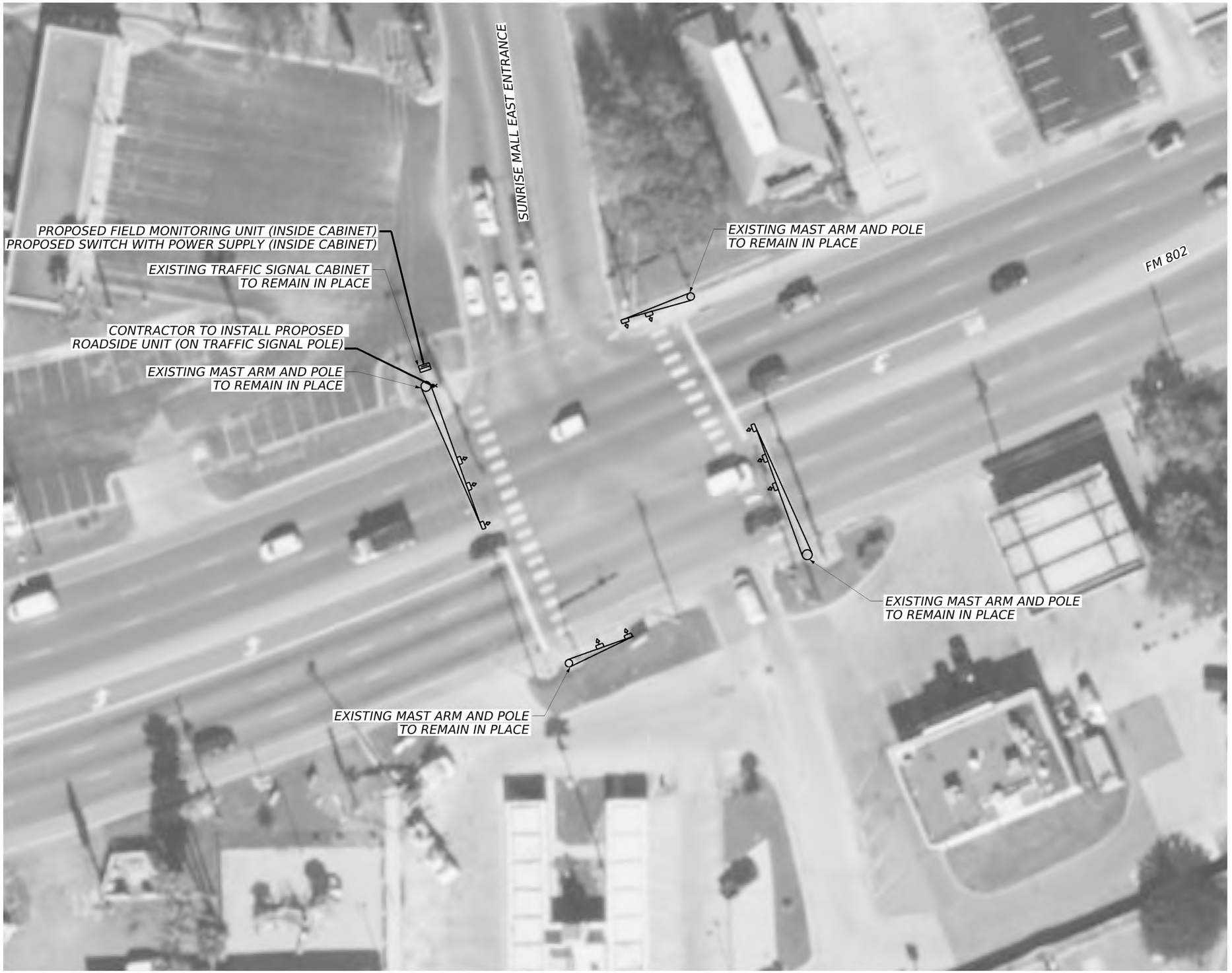
INTERSECTION 084

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	111

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PROP SIG 084 FM 802 AT SEVILLE BLVD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

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Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802) AT SUNRISE MALL

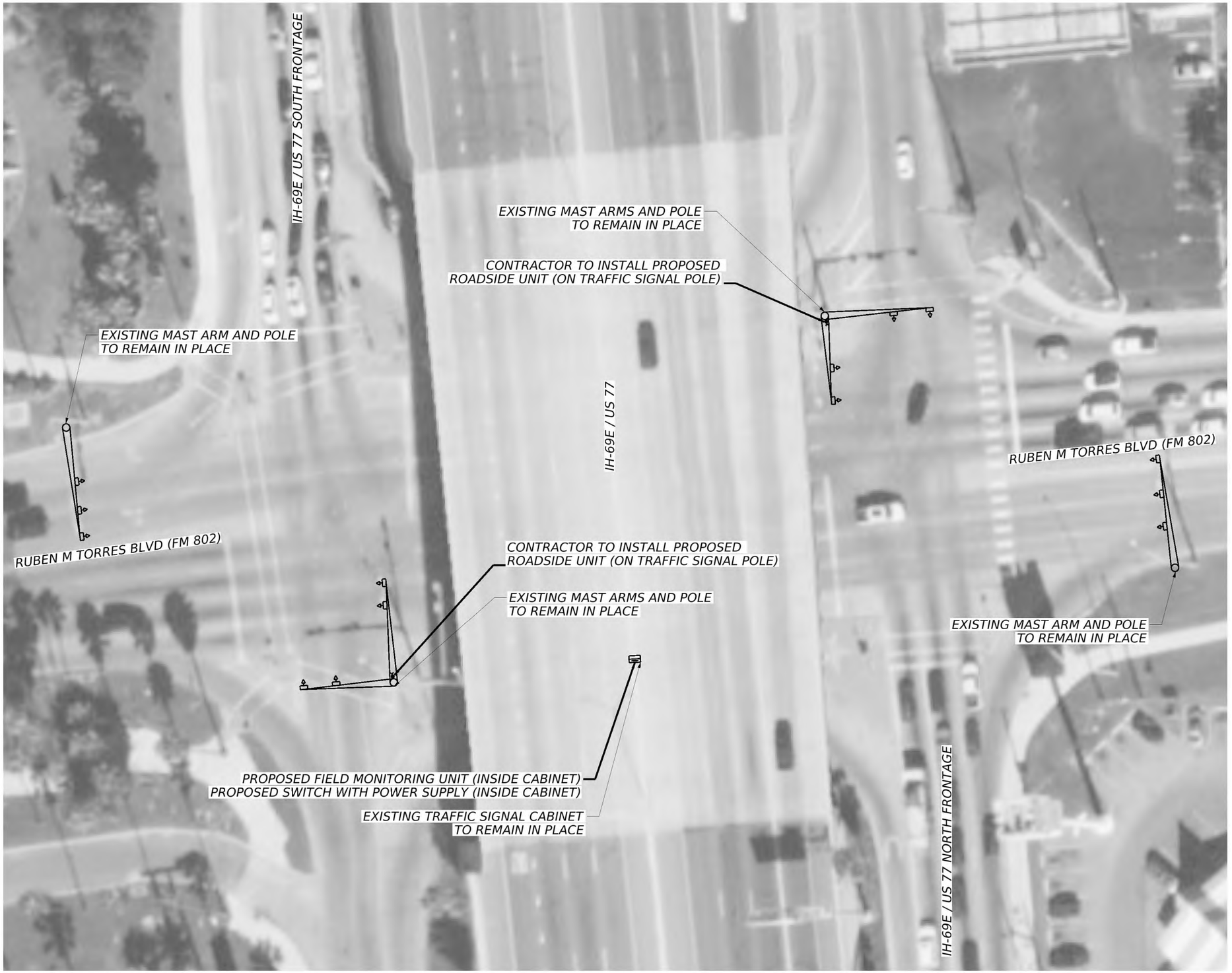
INTERSECTION 085

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	112

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PROP SIG 085 FM 802 AT SUNRISE MALL EAST ENTRANCE CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

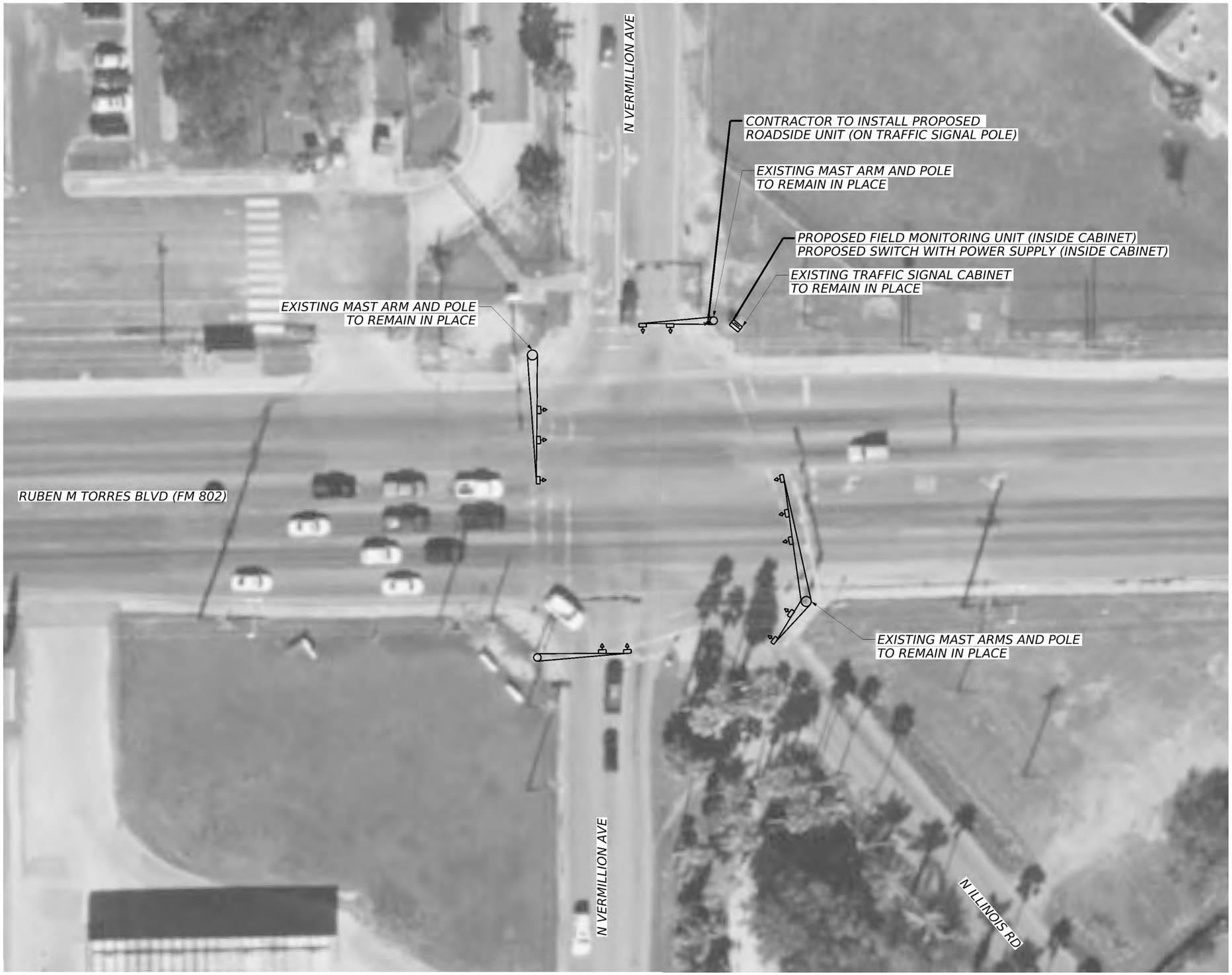
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RUBEN M TORRES BLVD (FM 802)
AT IH-69E / US 77
INTERSECTION 086
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	113

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PROP SIG 086 FM 802 AT IH-69 E - US 77 CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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RUBEN M TORRES BLVD (FM 802)

AT N VERMILLION AVE - N ILLINOIS RD

INTERSECTION 087

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	114

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PROP SIG 087 FM 802 AT VERMILLION AVE AND ILLINOIS AVE CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
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Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT VILLAGE CENTER DR
INTERSECTION 088
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	115

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PROP SIG 088 FM 802 AT VILLAGE CENTER DR CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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RUBEN M TORRES BLVD (FM 802)
AT WESTRAIL TRL
INTERSECTION 089

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	116

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PROP SIG 089 FM 802 AT WEST RAIL TRAIL CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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E HARRISON ST AT 13TH ST

INTERSECTION 091

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	117

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PROP SIG 091 HARRISON ST AT 13TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

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E HARRISON ST AT E 7TH ST

INTERSECTION 092

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	118

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PROP SIG 092 HARRISON ST AT 7TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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HORTENCIA BLVD AT E 28TH ST

INTERSECTION 093

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	119

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PROP SIG 093 HORTENCIA BLVD AT 28TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INTERNATIONAL BVLD AT CLEVELAND ST

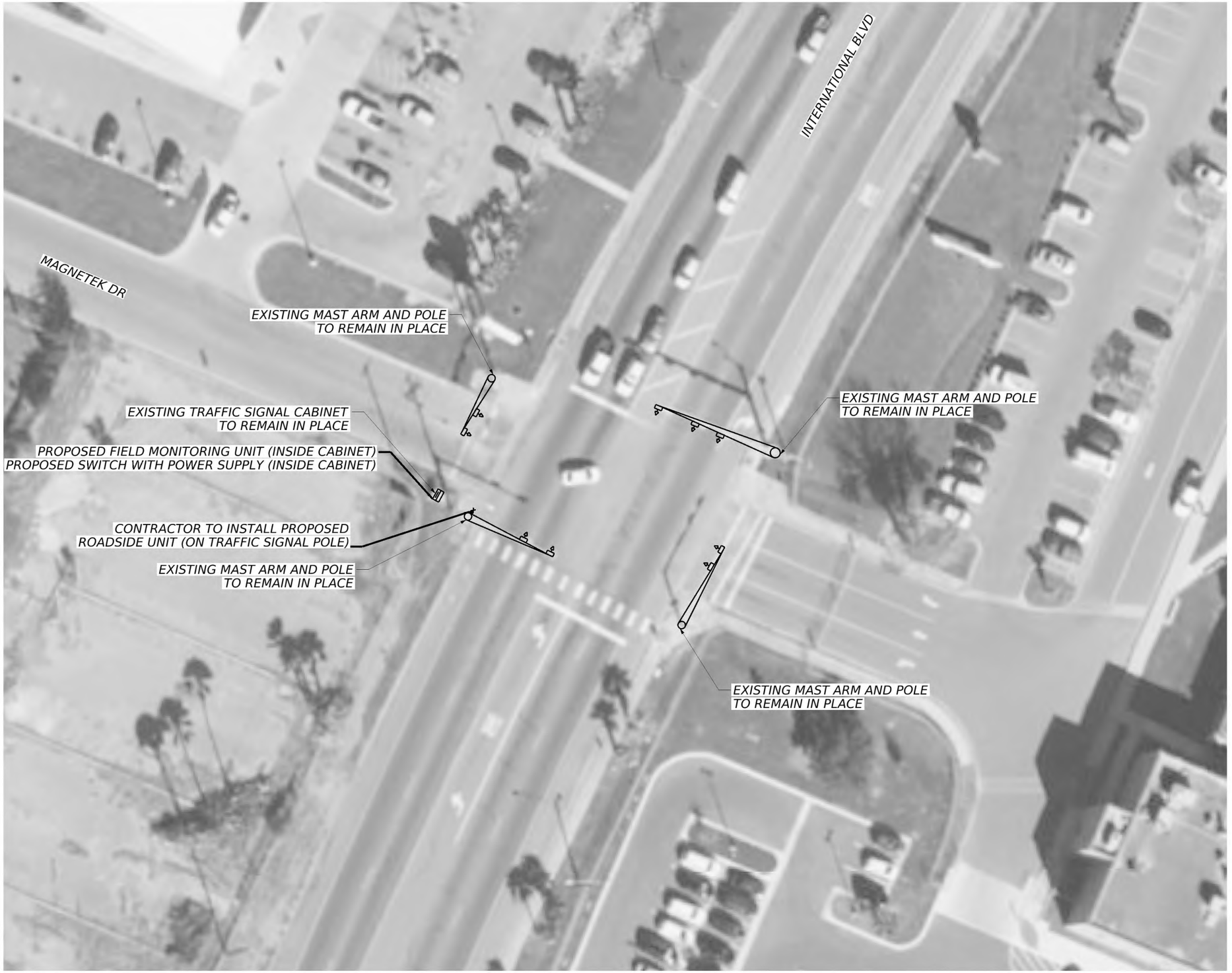
INTERSECTION 095

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	120

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PROP SIG 095 INTERNATIONAL BLVD AT CLEVELAND ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.
3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.
7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INTERNATIONAL BVLD AT MAGNETEK DR

INTERSECTION 100

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	121

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PROP SIG 100 INTERNATIONAL BLVD AT MAGNETEK DR CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INTERNATIONAL BVLD AT ROOSEVELT ST

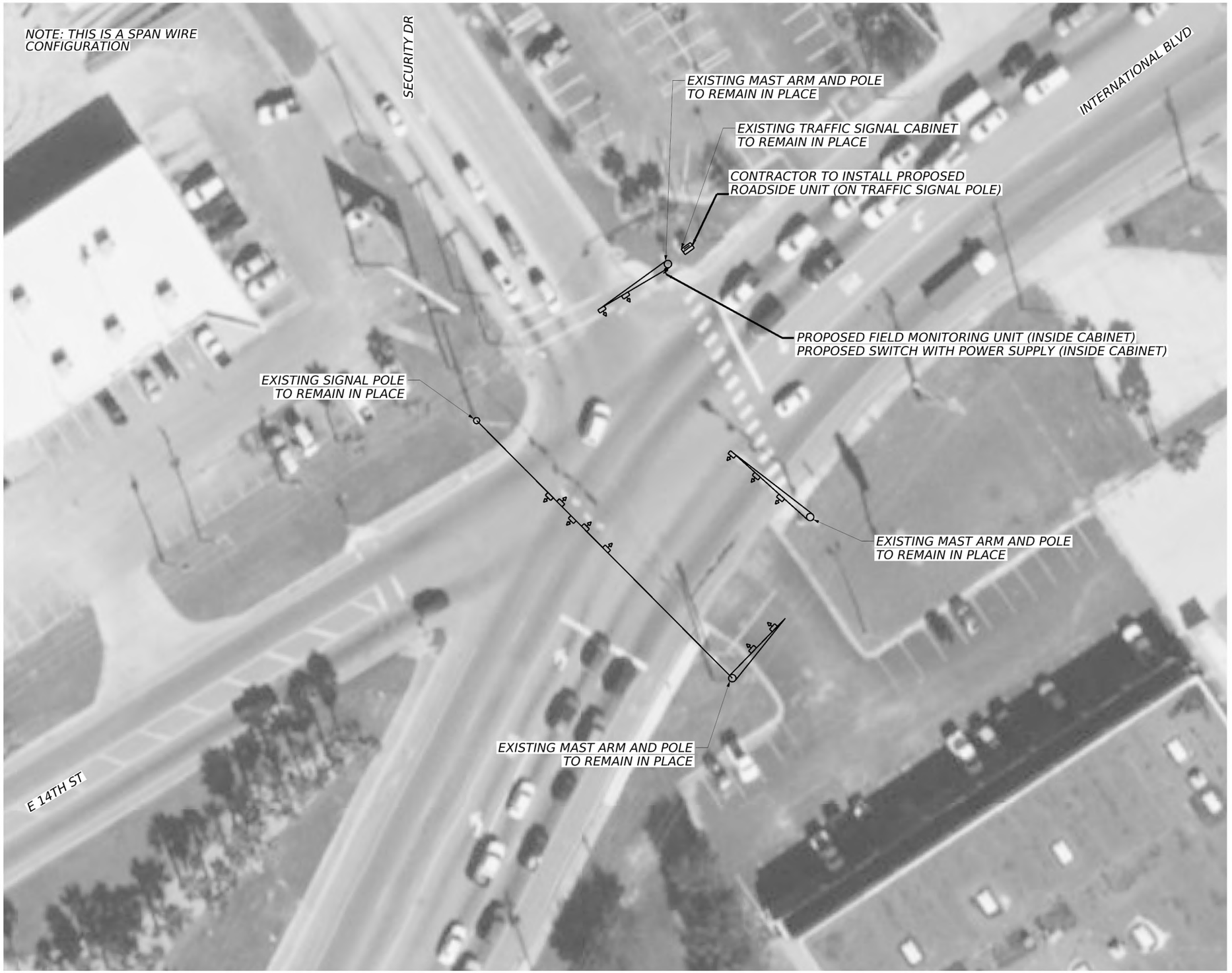
INTERSECTION 101

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	122

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PROP SIG 101 INTERNATIONAL BLVD AT ROOSEVELT ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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INTERNATIONAL BVLD AT SECURITY DR - E 14TH ST

INTERSECTION 102

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	123

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PROP SIG 102 INTERNATIONAL BLVD AT SECURITY DR AND 14TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

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INTERNATIONAL BVLD AT SOUTHMOST RD

INTERSECTION 103

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	124

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PROP SIG 103 INTERNATIONAL BLVD AT SOUTHMOST RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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INTERNATIONAL BVLD AT IH-69E / US 77 NB FRONTAGE

INTERSECTION 105

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	125

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PROP SIG 105A INTERNATIONAL BLVD AT IH-69E - US 77 (NORTH FRONTAGE) CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INTERNATIONAL BVLD AT
IH-69E / US 77 SB FRONTAGE

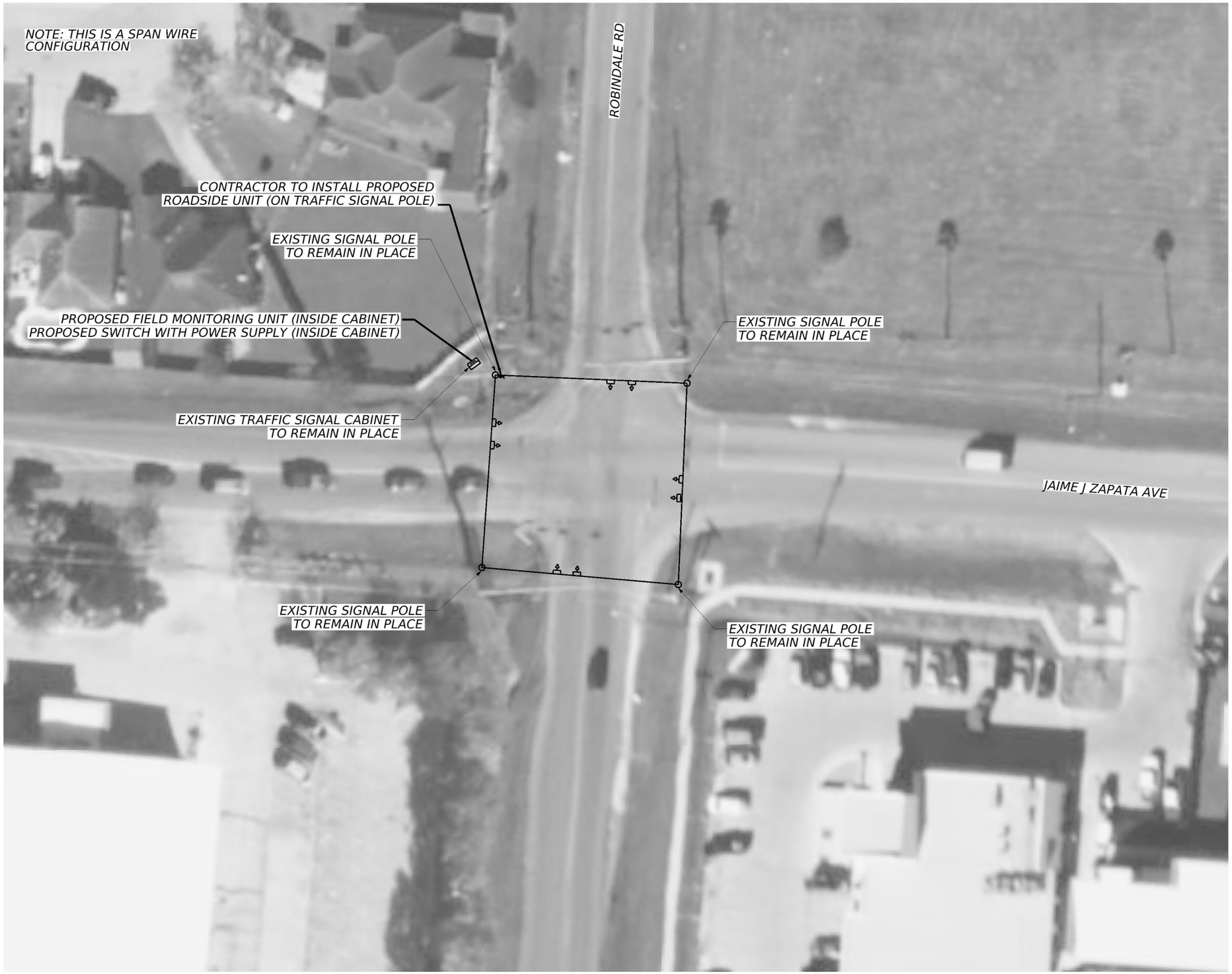
INTERSECTION 105

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	126

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PROP SIG 105B INTERNATIONAL BLVD AT IH-69E - US 77 (SOUTH FRONTAGE) CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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JAIME J ZAPATA AVE AT ROBINDALE RD

INTERSECTION 108

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	127

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PROP SIG 108 COFFEE PORT - JAIME ZAPATA AVE AT ROBINDALE RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

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E JEFFERSON ST AT
E 13TH ST

INTERSECTION 110

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE	
6	VAR			TEXAS	
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	128

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PROP SIG 110 E JEFFERSON ST AT 13TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E JEFFERSON ST AT E 14TH ST

INTERSECTION 111

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	129

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PROP SIG 111 E JEFFERSON ST AT 14TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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0 10 20 40
1" = 40'

STATE OF TEXAS
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98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E JEFFERSON ST AT
E 6TH ST

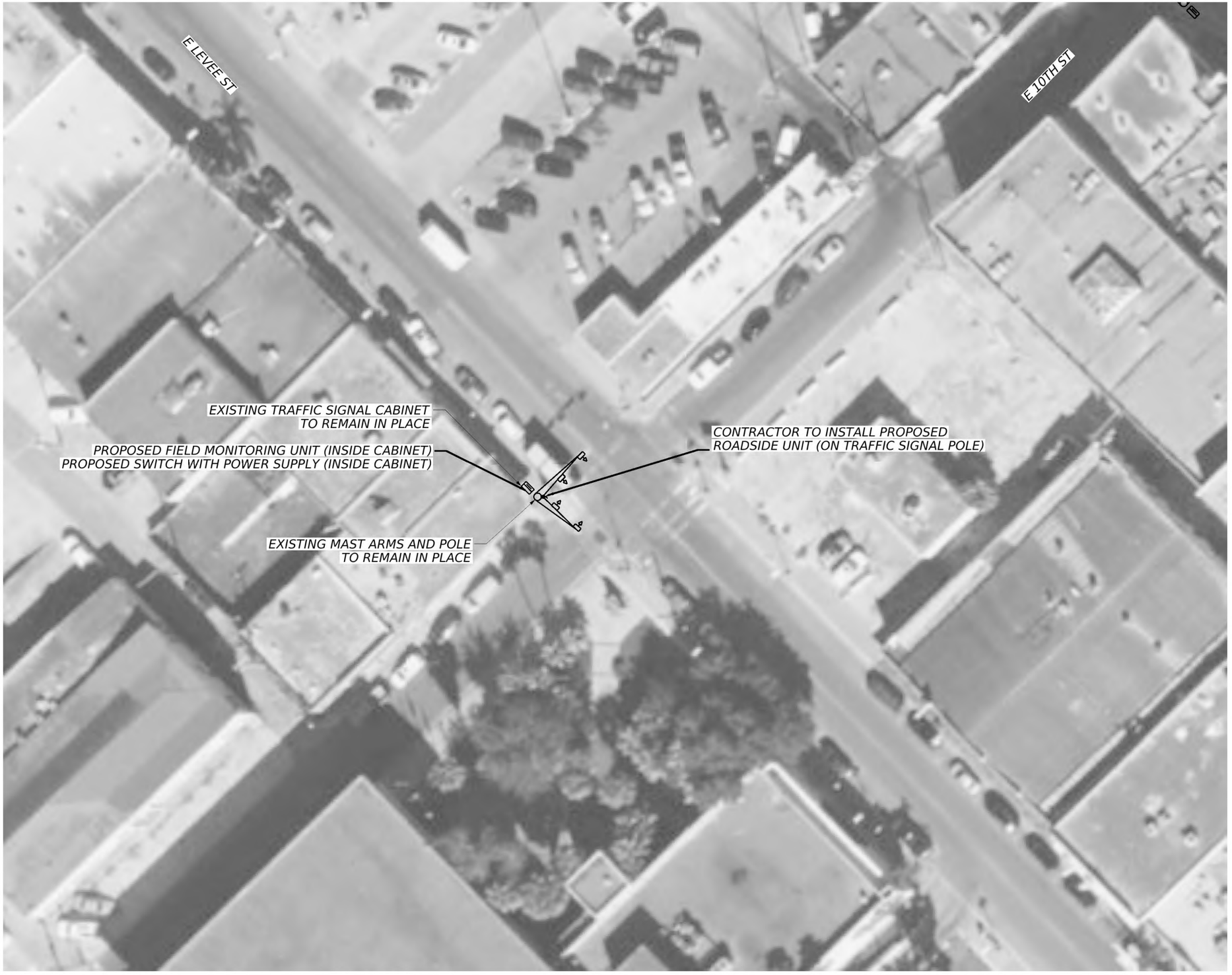
INTERSECTION 112

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	130

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PROP SIG 112 E JEFFERSON ST AT 6TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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STATE OF TEXAS
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98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E LEVEE ST AT E 10TH ST

INTERSECTION 113

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	131

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PROP SIG 113 E LEVEE ST AT 10TH ST CSJ 399.dgn



LEGEND

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6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E LEVEE ST AT
E 11TH ST

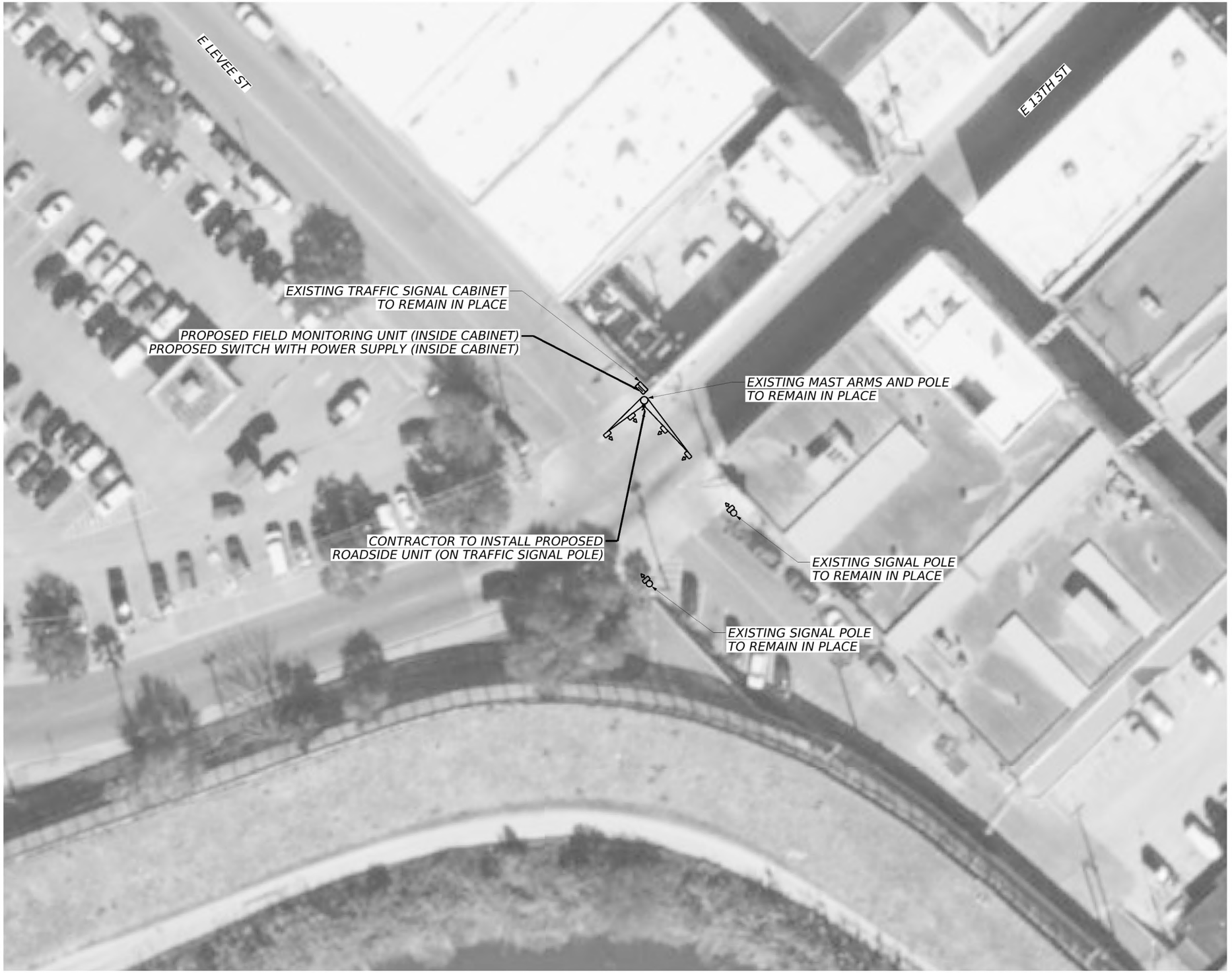
INTERSECTION 114

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	132

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PROP SIG 114 E LEVEE ST AT 11TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

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3/6/26

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E LEVEE ST AT E 13TH ST

INTERSECTION 116

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	133

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PROP SIG 116 E LEVEE ST AT 13TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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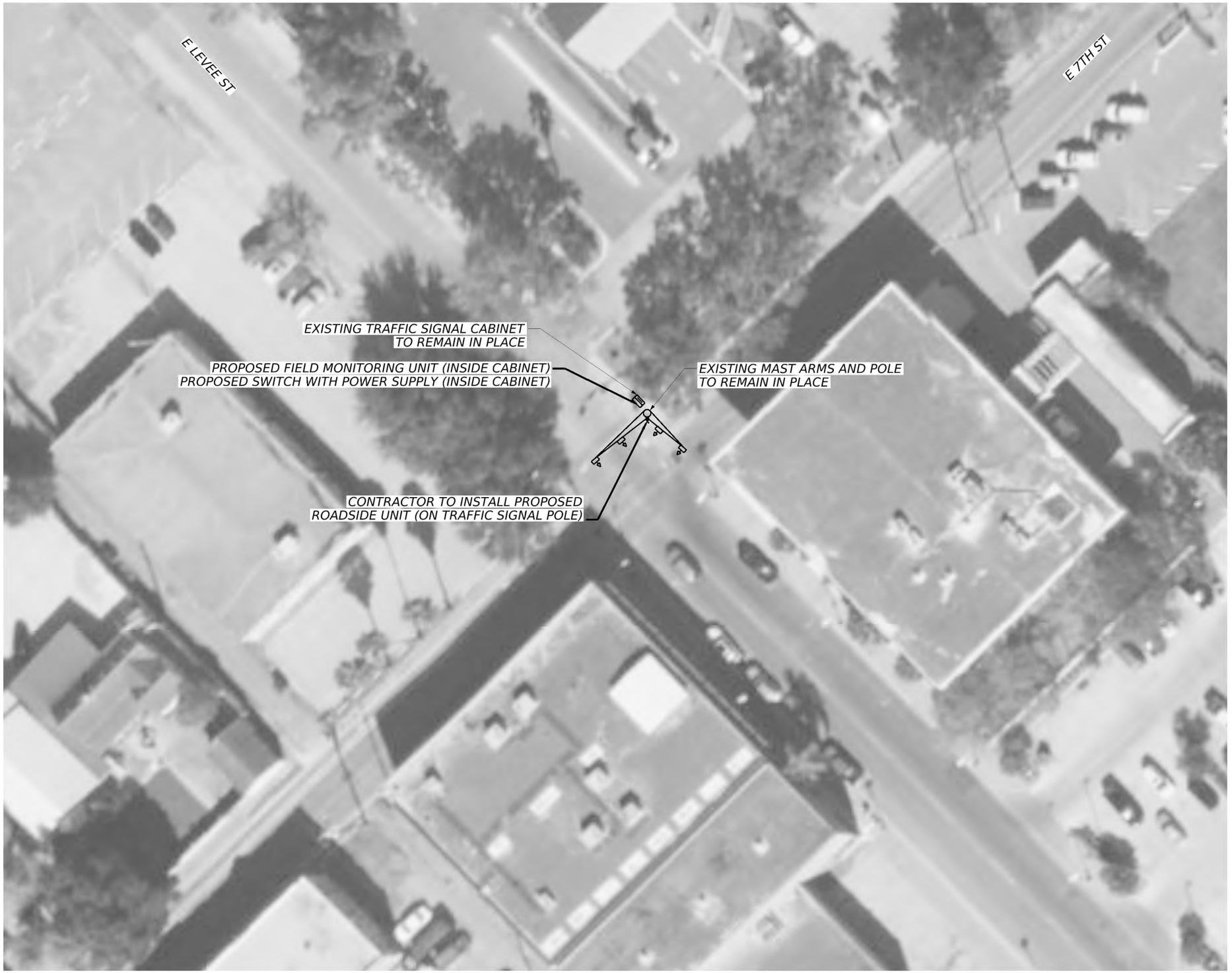
E LEVEE ST AT E 6TH ST

INTERSECTION 117

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	134

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PROP SIG 117 E LEVEE ST AT 6TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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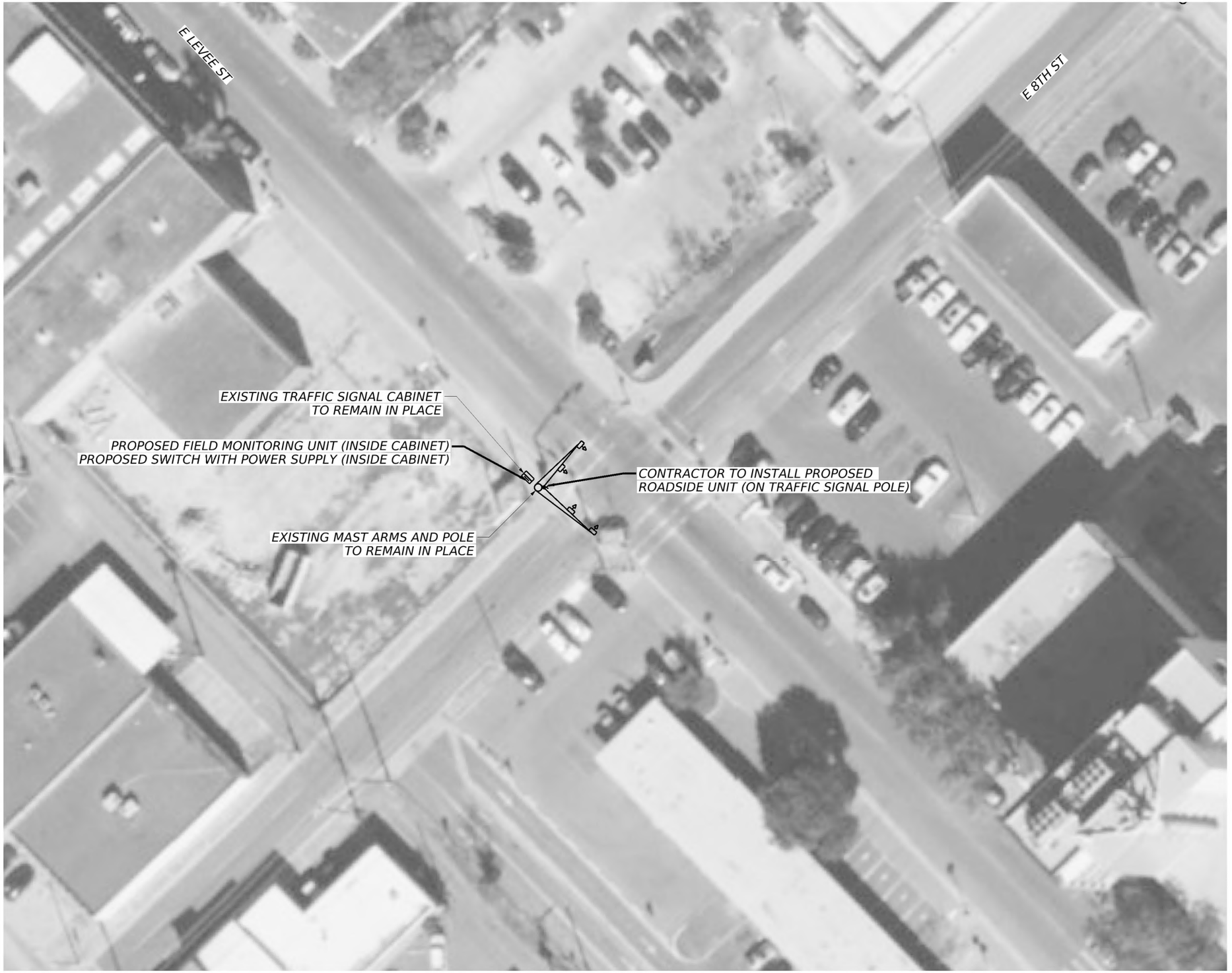
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E LEVEE ST AT
E 7TH ST
INTERSECTION 118
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	135

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PROP SIG 118 E LEVEE ST AT 7TH ST CSJ 399.dgn



LEGEND

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1" = 40'

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98414
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E LEVEE ST AT E 8TH ST

INTERSECTION 119

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	136

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PROP SIG 119 E LEVEE ST AT 8TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

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E LEVEE ST AT E 9TH ST

INTERSECTION 120

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	137

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PROP SIG 120 E LEVEE ST AT 9TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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LOS EBANOS BLVD AT CORIA ST

INTERSECTION 121

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	138

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PROP SIG 121 LOS EBANOS BLVD AT CORIA ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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LOS EBANOS BLVD AT OLD ALICE RD

INTERSECTION 122

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	139

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PROP SIG 122 LOS EBANOS BLVD AT OLD ALICE RD CSJ 399.dgn



LEGEND

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BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E MADISON ST AT E 11TH ST

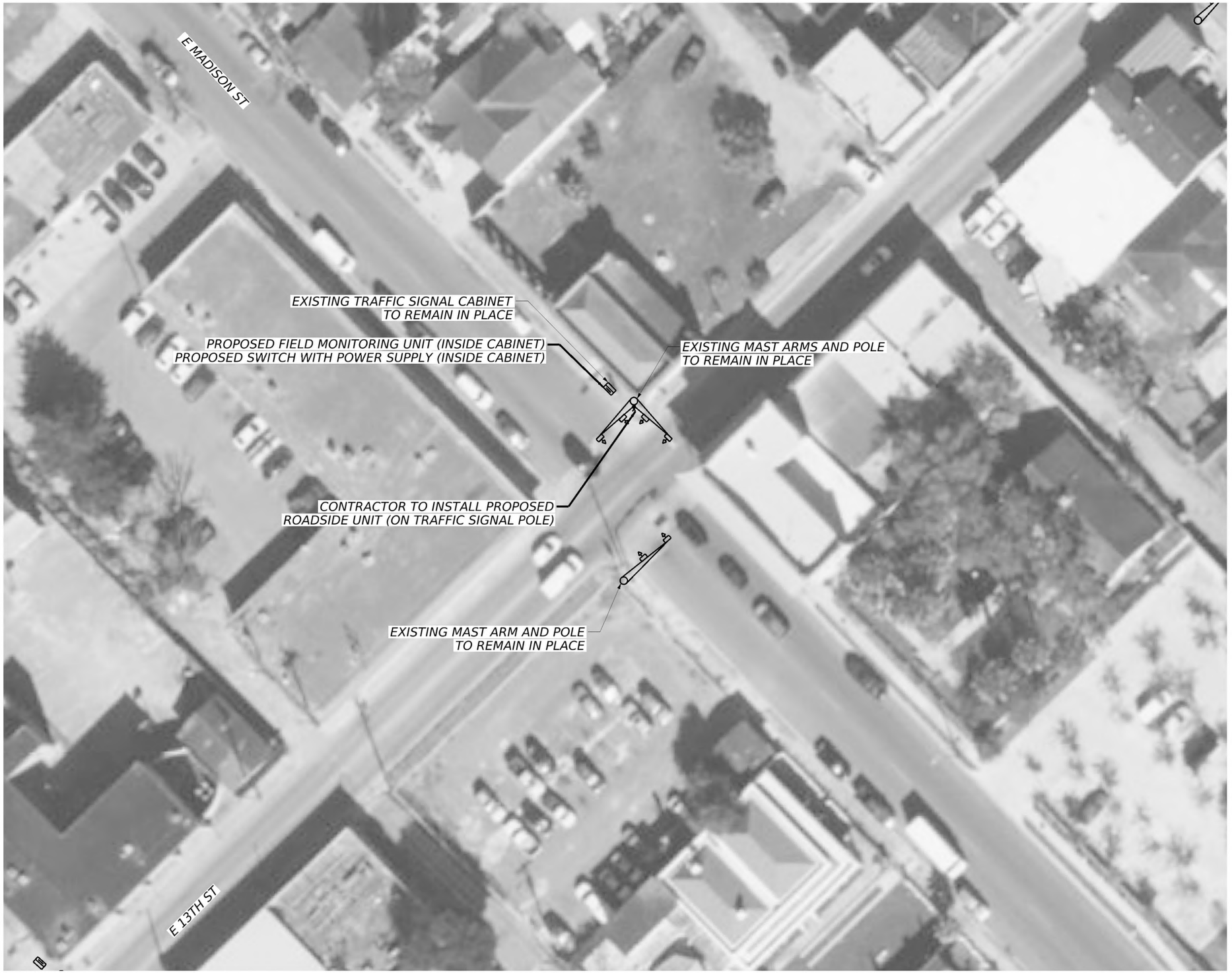
INTERSECTION 123

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	140

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PROP SIG 123 MADISON ST AT 11TH ST CSJ 399.dgn



LEGEND

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E MADISON ST AT
E 13TH ST

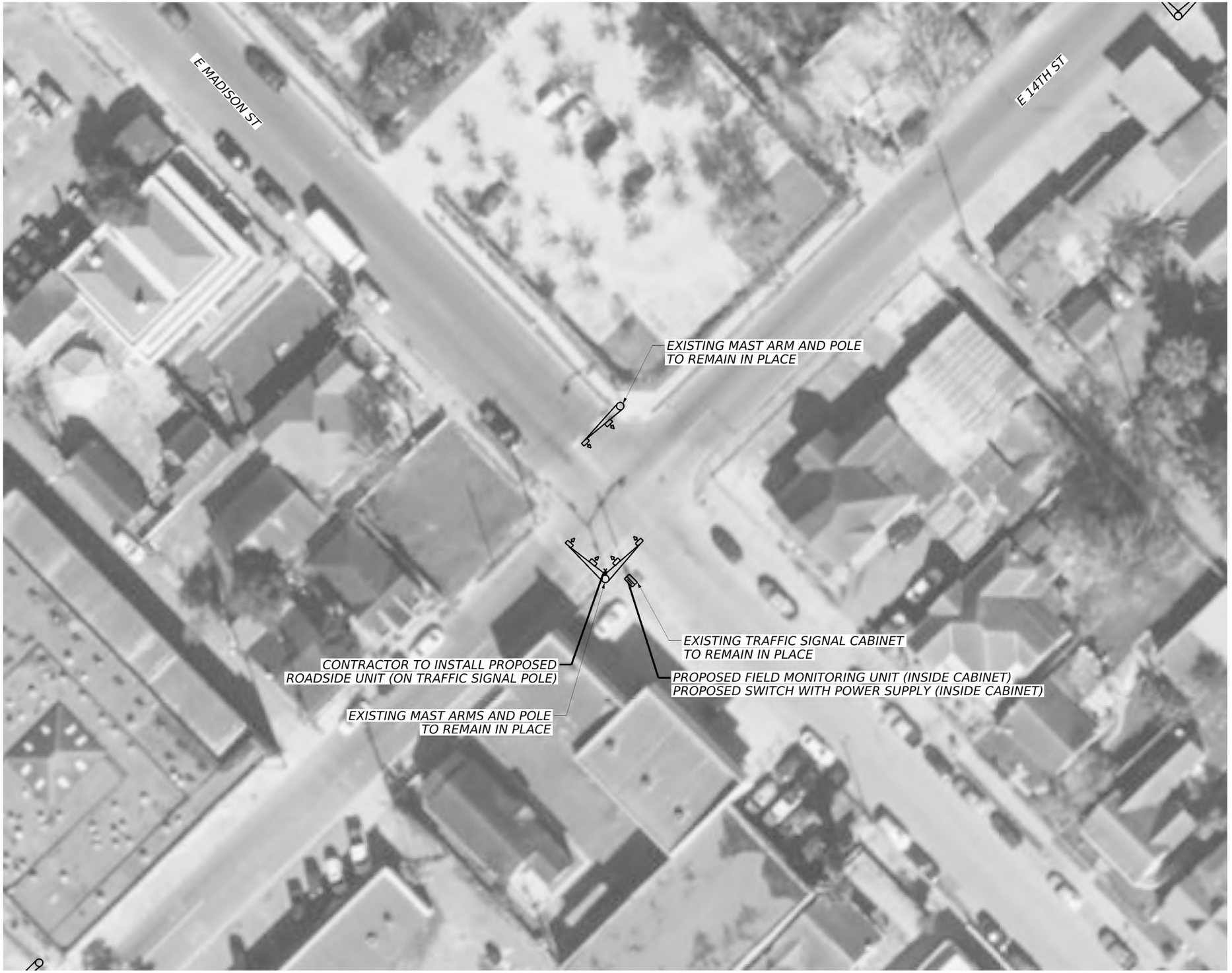
INTERSECTION 125

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	141

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PROP SIG 125 MADISON ST AT 13TH ST CSJ 399.dgn



LEGEND

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E MADISON ST AT E 14TH ST

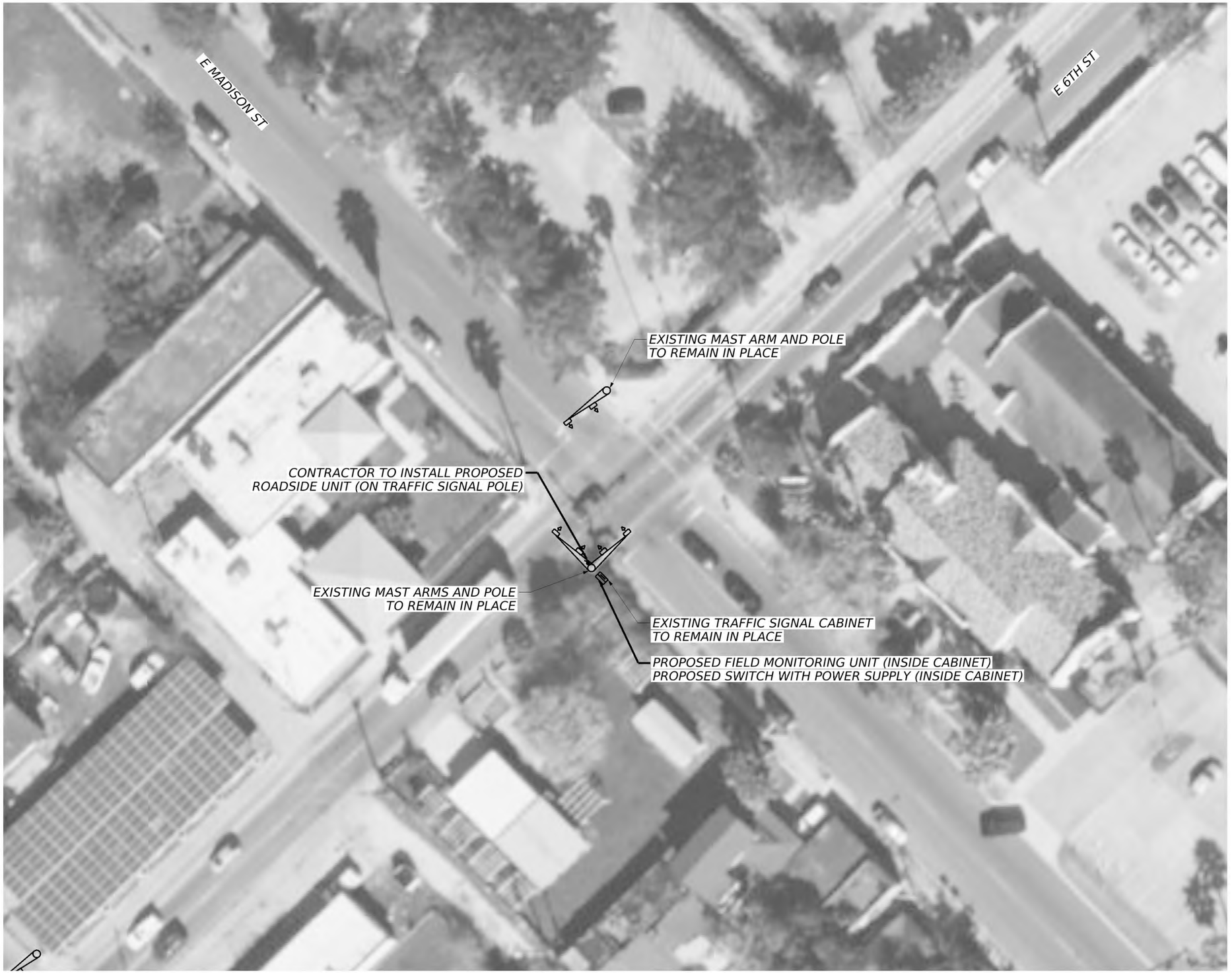
INTERSECTION 126

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	142

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PROP SIG 126 MADISON ST AT 14TH ST CSJ 399.dgn



LEGEND

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6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E MADISON ST AT
E 6TH ST

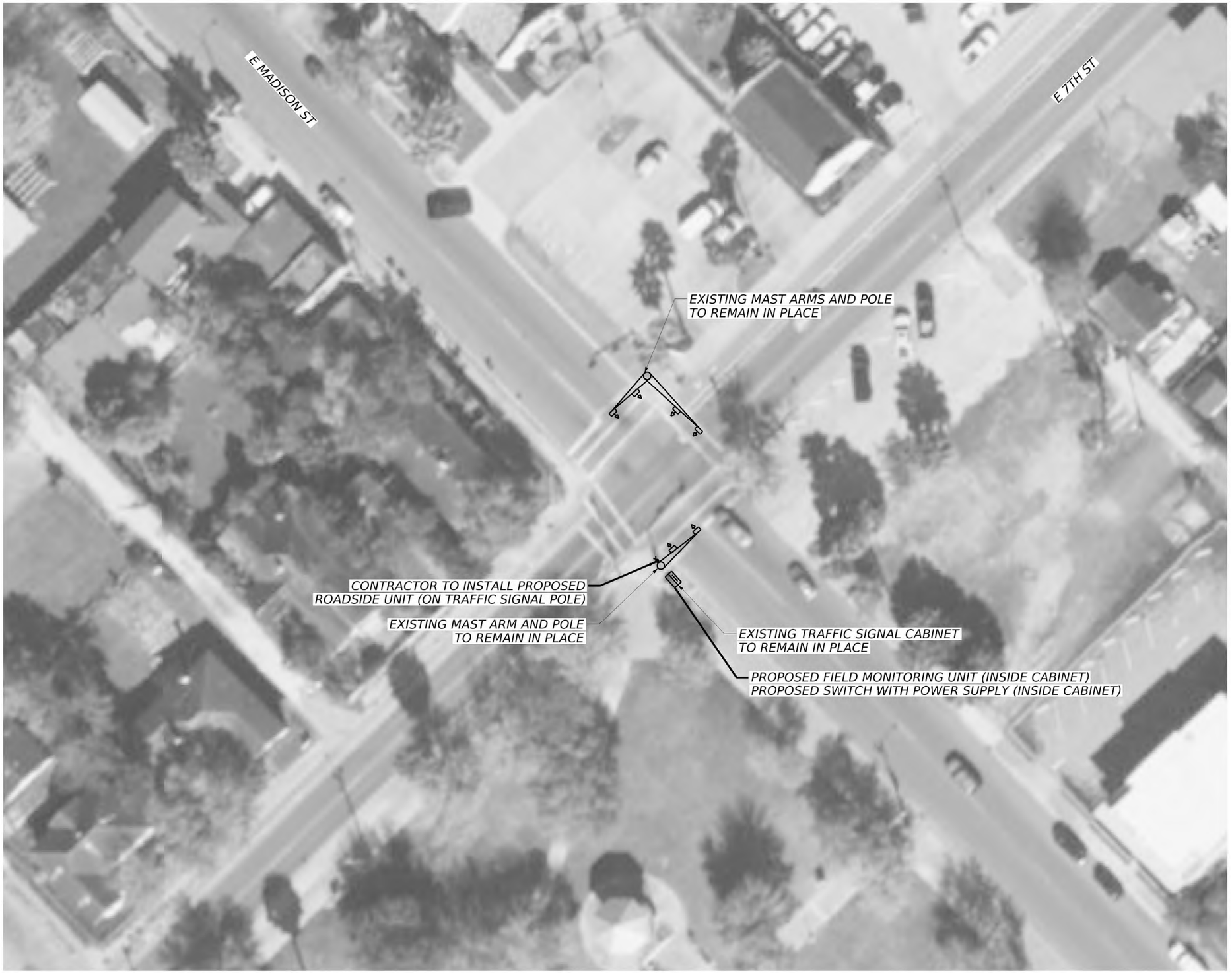
INTERSECTION 127

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	143

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PROP SIG 127 MADISON ST AT 6TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

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E MADISON ST AT E 7TH ST

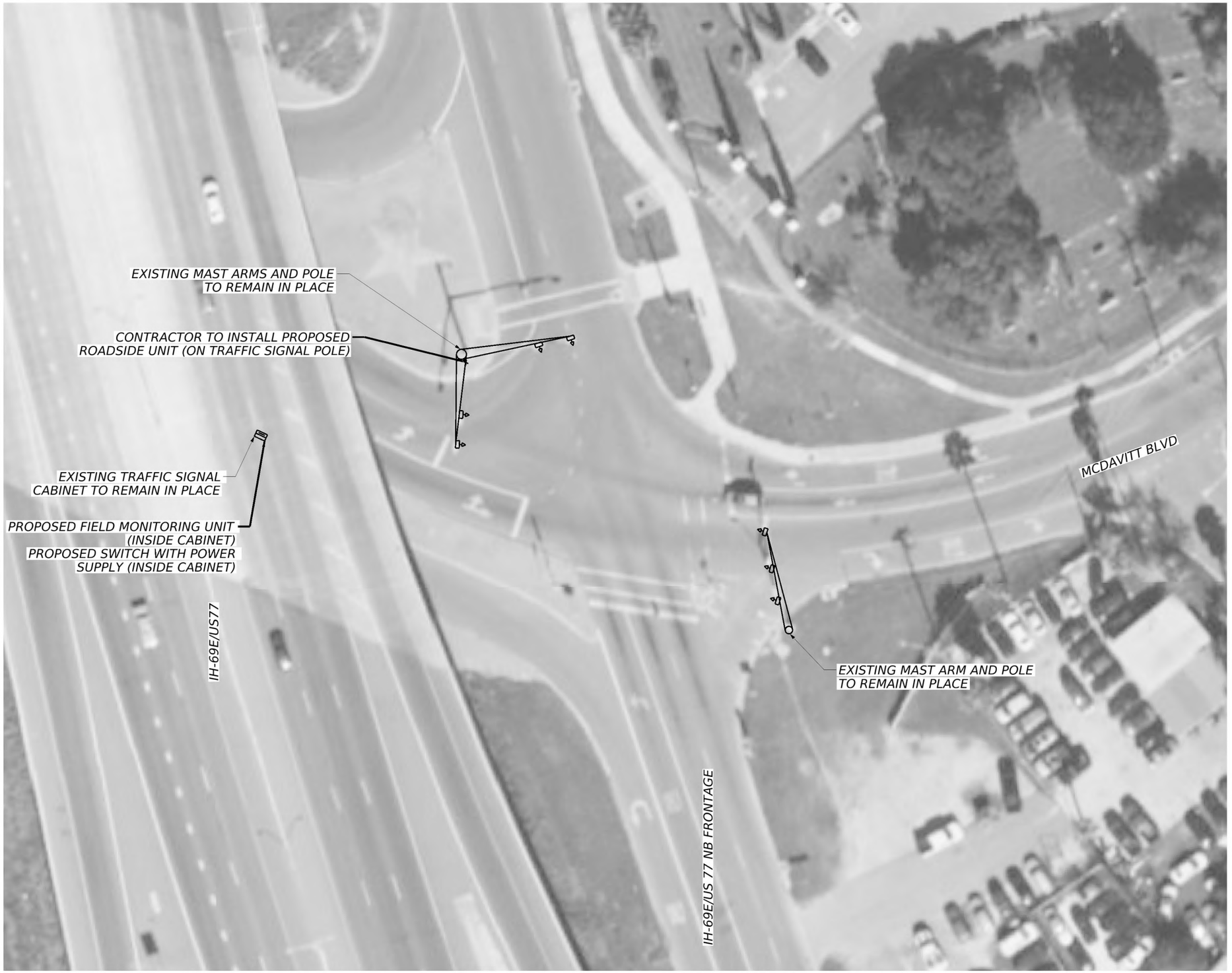
INTERSECTION 128

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	144

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PROP SIG 128 MADISON ST AT 7TH ST CSJ 399.dgn



LEGEND

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IH-69E/US 77 NB FRONTAGE AT
MCDAVITT BLVD - E 6TH ST

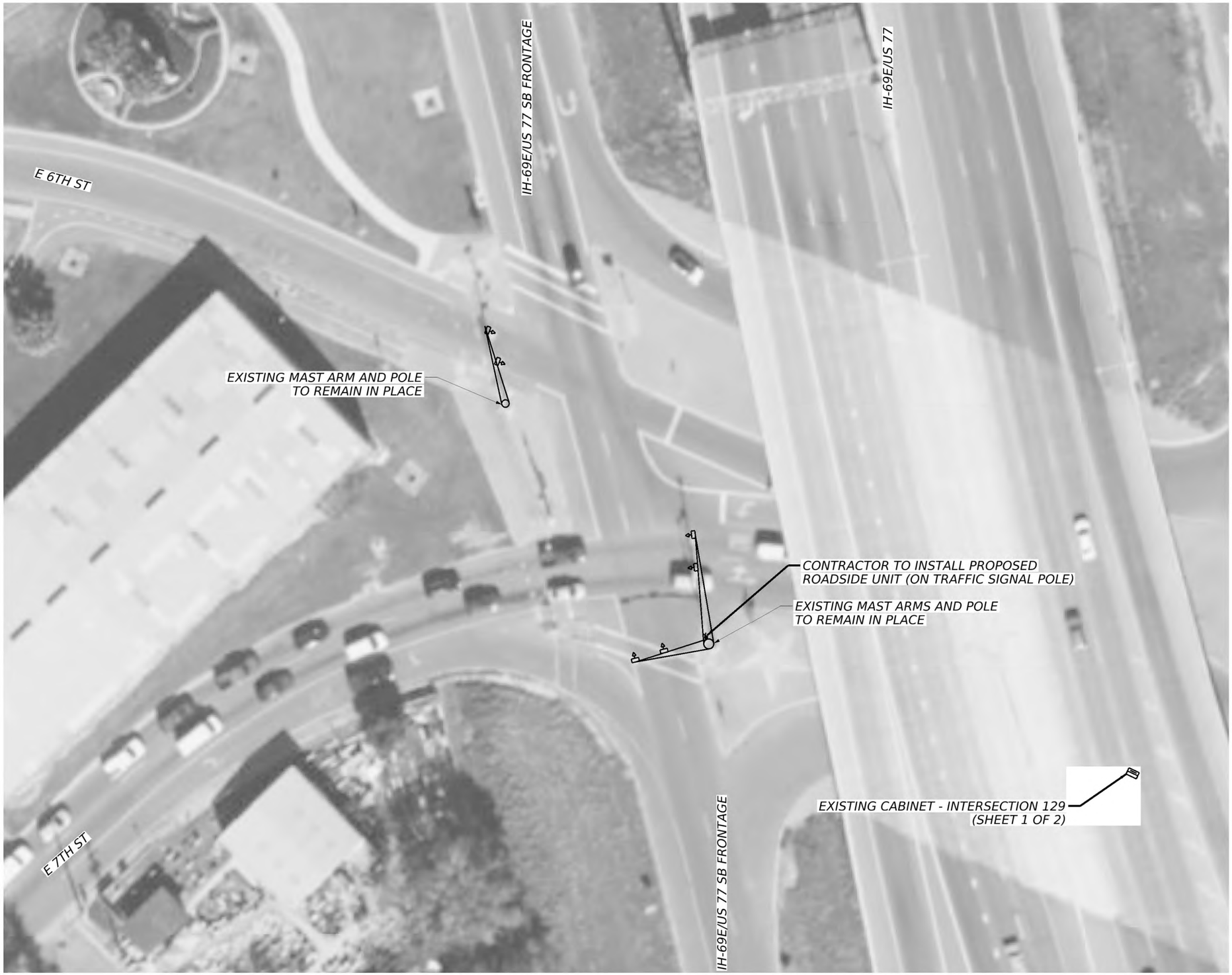
INTERSECTION 129

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	145

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PROP SIG 129A IH-69E - US 77 ST AT MCDAVITT - 6TH & 7TH (NORTH FRONTAGE) CSJ 399.dgn



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Land Surveying Firm No. 10046700

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IH-69E/US 77 SB FRONTAGE AT
MCDAVITT BLVD - E 6TH ST & E 7TH ST

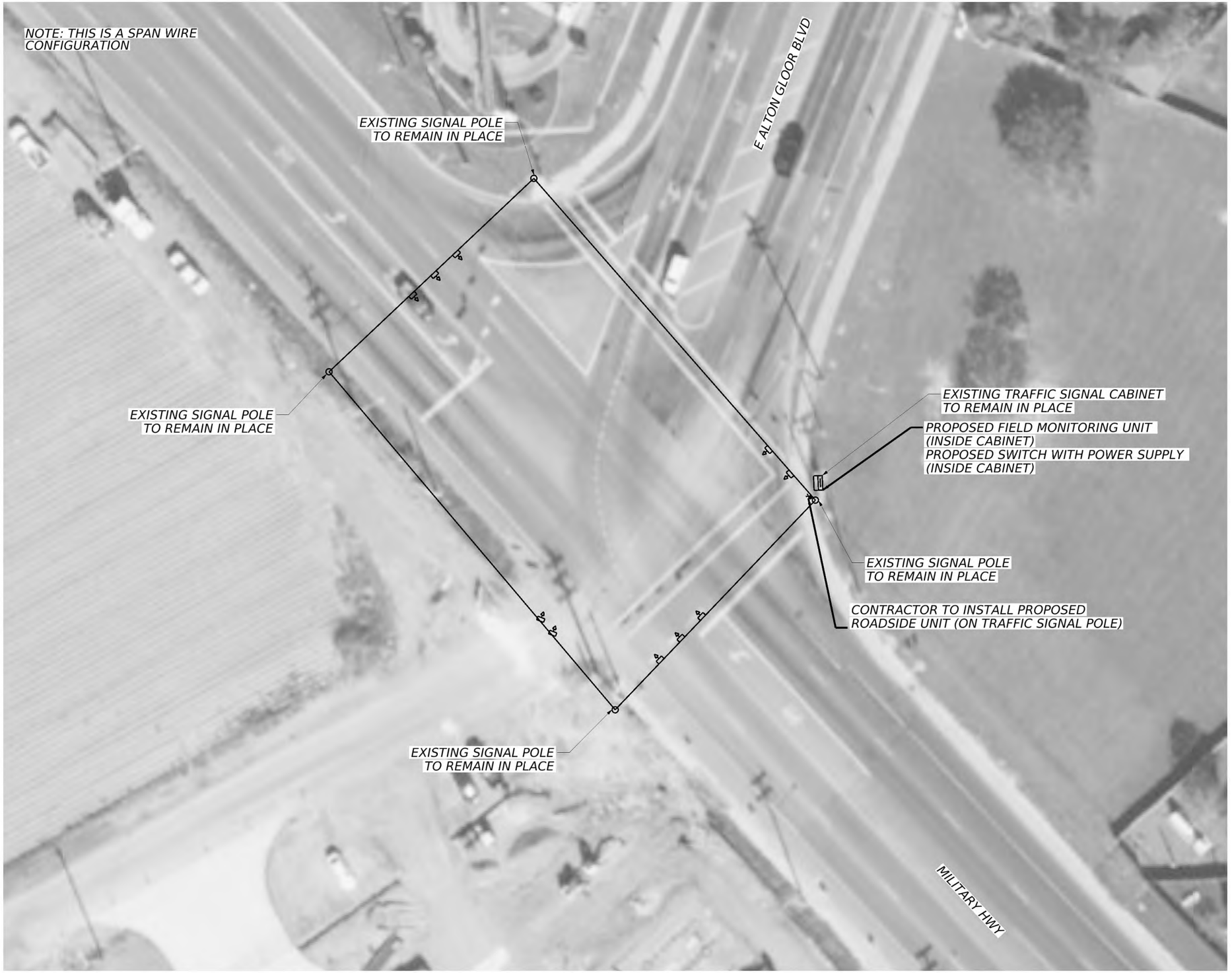
INTERSECTION 129

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	146

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PROP SIG 129B IH-69E - US 77 ST AT MCDAVITT - 6TH & 7TH (SOUTH FRONTAGE) CSJ 399.dgn



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98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Lanc Surveying Firm No. 10046700

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MILITARY HWY AT E ALTON GLOOR BLVD

INTERSECTION 130

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	147

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PROP SIG 130 MILITARY HWY AT ALTON GLOOR BLVD CSJ 399.dgn



LEGEND

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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
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Land Surveying Firm No. 10046700

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MILITARY HWY AT
CAPT BASLER AVE - CALLE PLUTON

INTERSECTION 131

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	148

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PROP SIG 131 MILITARY HWY AT CAPT BASLER AVE AND CALLE PLUTON CSJ 399.dgn



LEGEND

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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MILITARY HWY AT CARMEN AVENUE

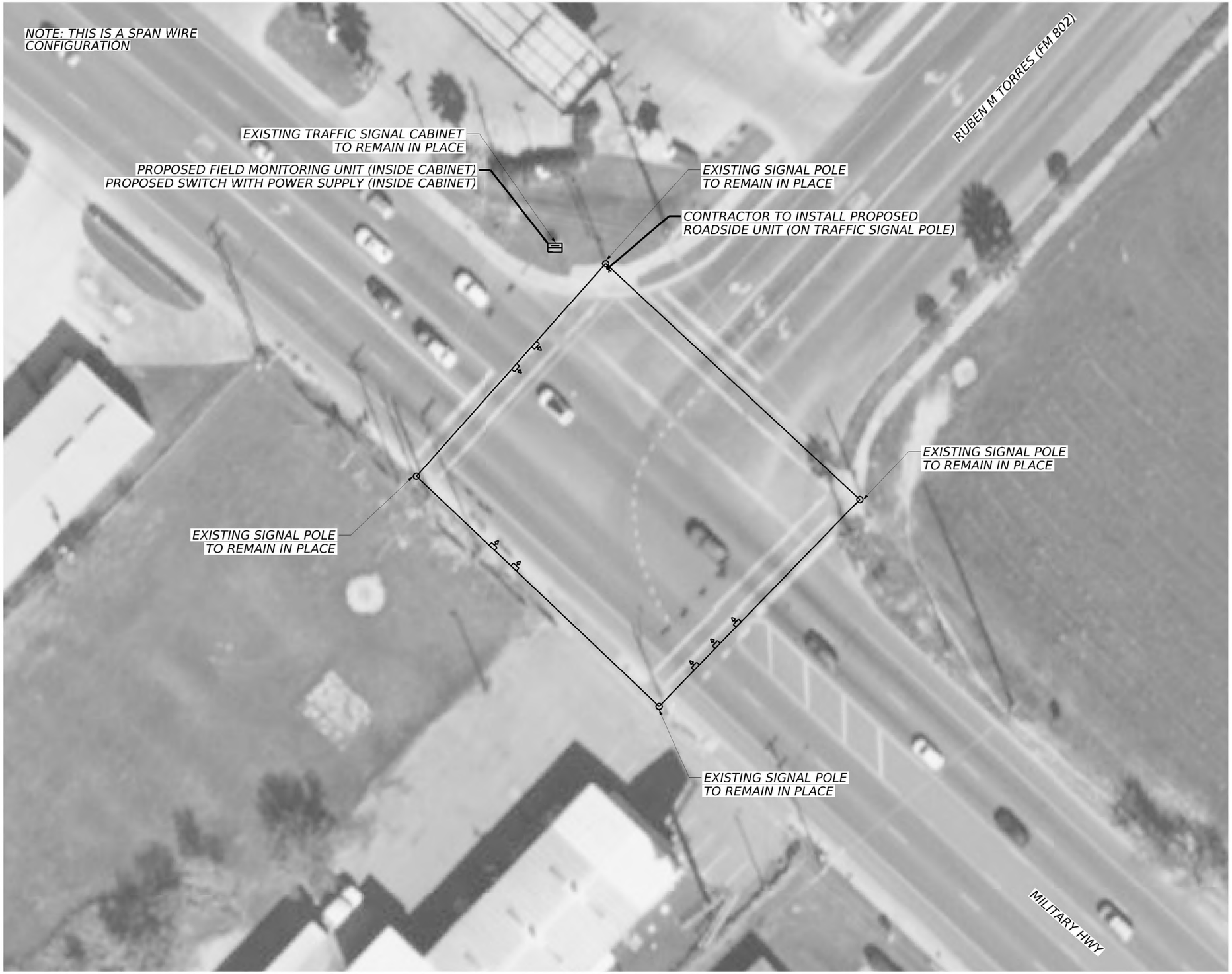
INTERSECTION 132

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	149

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PROP SIG 132 MILITARY HWY AT CARMEN AVENUE CSJ 399.dgn



LEGEND

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3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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MILITARY HWY AT RUBEN M TORRES BLVD (FM 802)

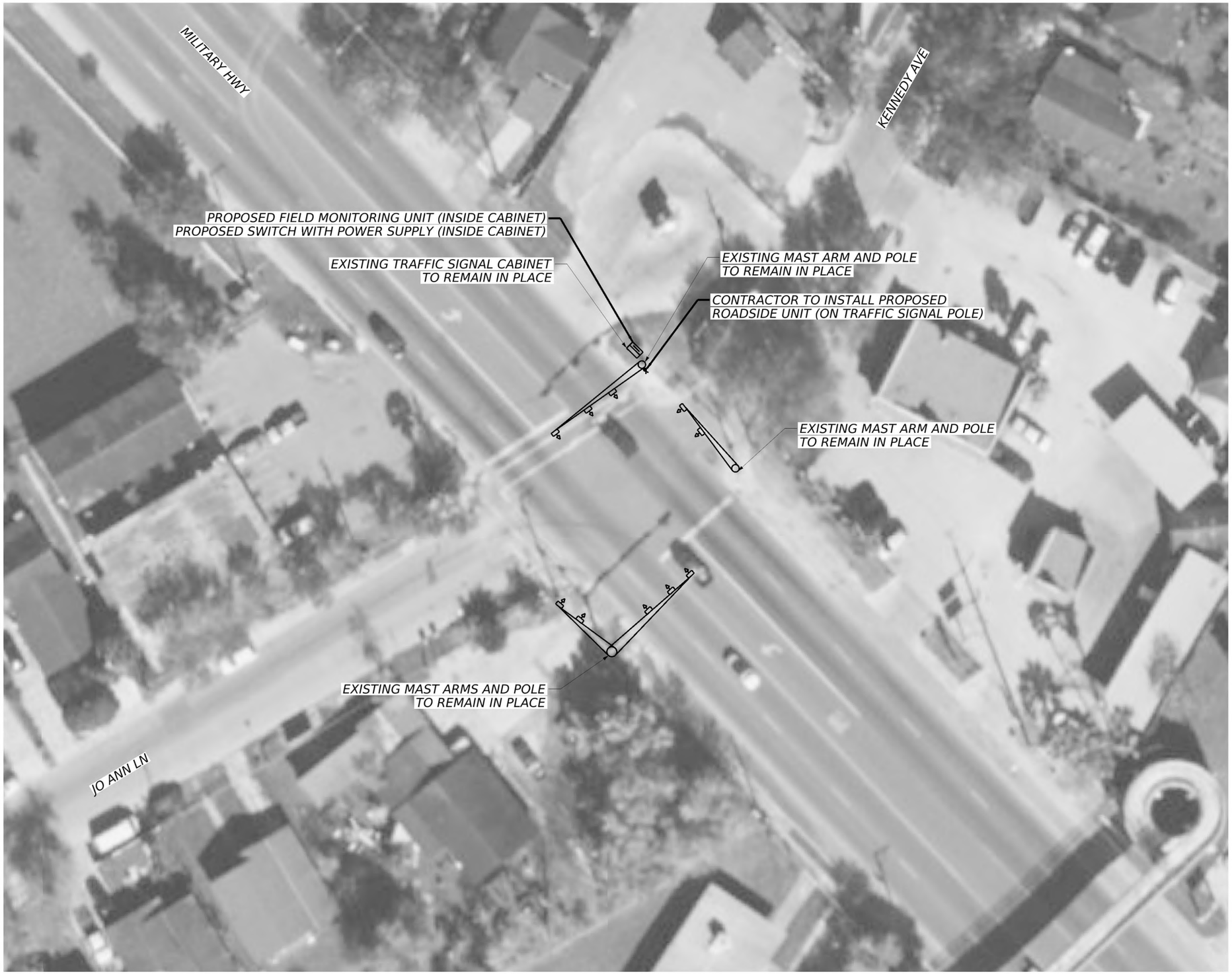
INTERSECTION 133

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	150

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PROP SIG 133 MILITARY HWY AT FM 802 CSJ 399.dgn



LEGEND

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3/6/26

BROWNSVILLE

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MILITARY HWY AT KENNEDY AVE - JO ANN LN

INTERSECTION 134

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	151

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PROP SIG 134 MILITARY HWY AT KENNEDY AVE AND JO ANN LN CSJ 399.dgn



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N MINNESOTA AVE AT AUSTIN RD

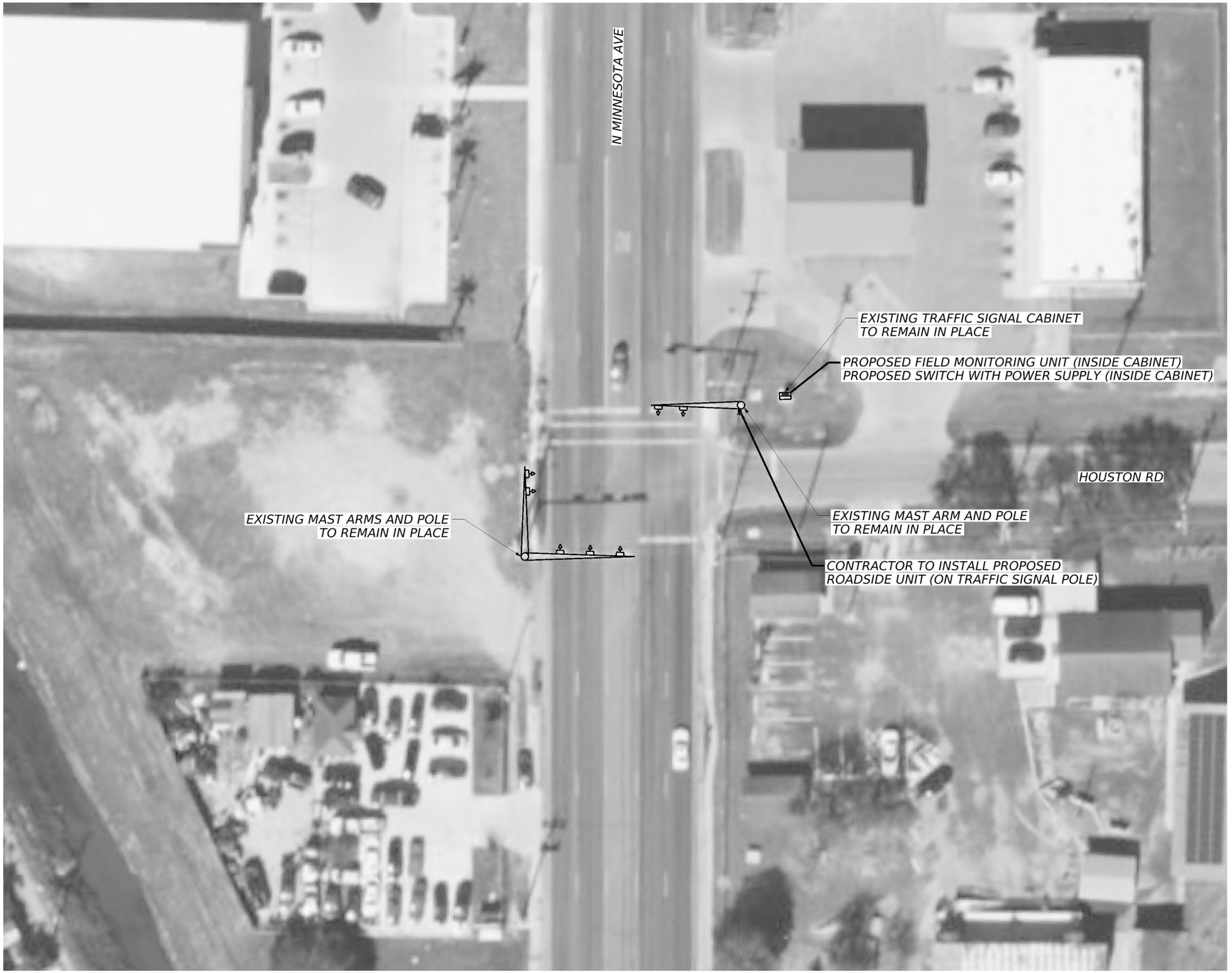
INTERSECTION 135

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	152

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PROP SIG 135 MINNESOTA AVE AT AUSTIN RD CSJ 399.dgn



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Land Surveying Firm No. 10046700

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N MINNESOTA AVE AT HOUSTON RD

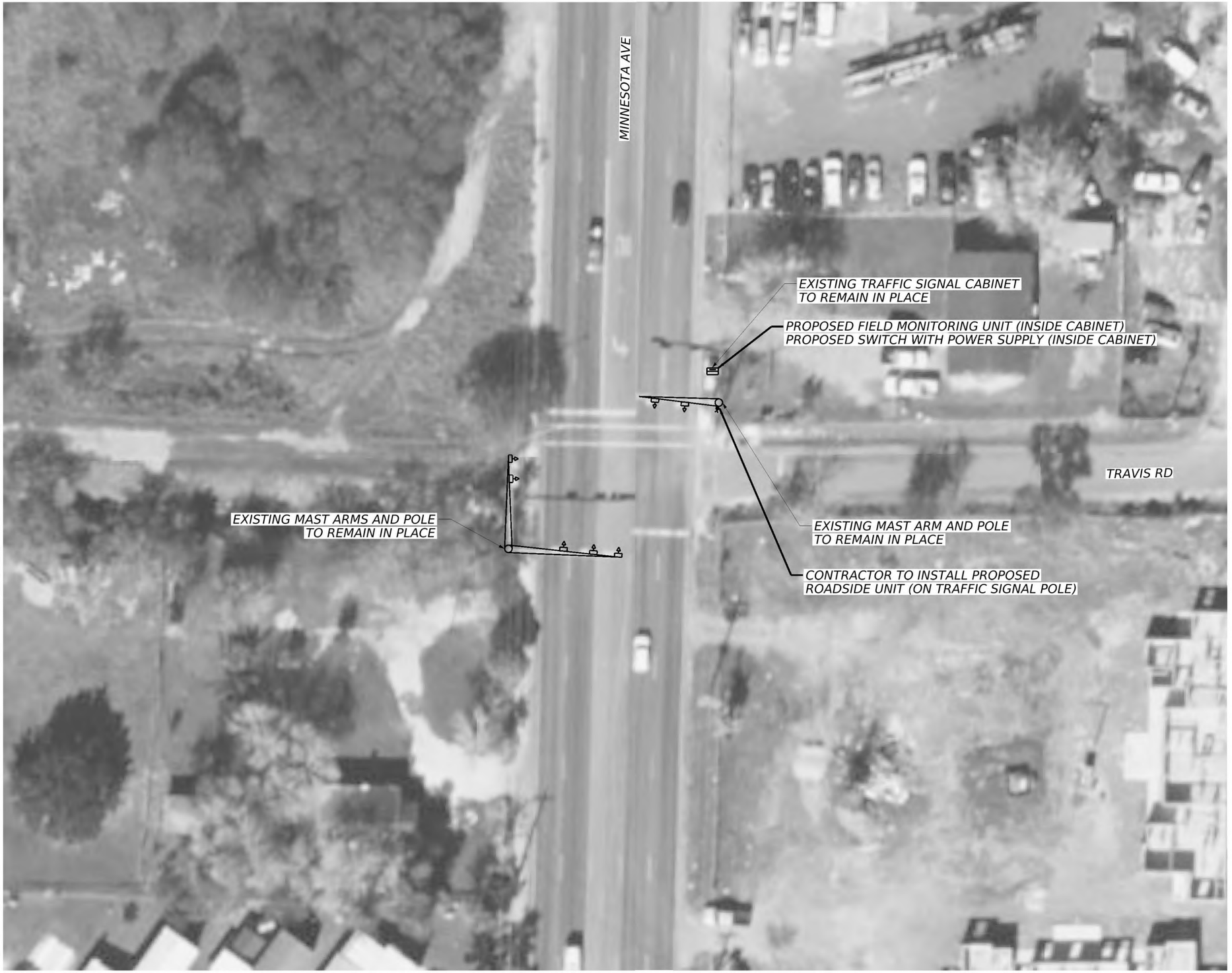
INTERSECTION 136

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	153

3/6/2026 10:29:36 AM
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PROP SIG 136 MINNESOTA AVE AT HOUSTON RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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N MINNESOTA AVE AT TRAVIS RD

INTERSECTION 137

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	154

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PROP SIG 137 MINNESOTA AVE AT TRAVIS RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E MONROE ST AT E 13TH ST

INTERSECTION 138

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	155

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PROP SIG 138 MONROE ST AT13TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E MONROE ST AT E 14TH ST

INTERSECTION 139

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	156

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PROP SIG 139 MONROE ST AT14TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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MORNINGSIDE RD AT
APOLLO AVE - JOSE COLUNGA JR S

INTERSECTION 140

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	157

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PROP SIG 140 MORNINGSIDE RD AT APOLLO AVE AND JOSE COLUNGA JR ST CSJ 399.dgn



LEGEND

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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MORNINGSIDE RD AT CENTRAL AVE

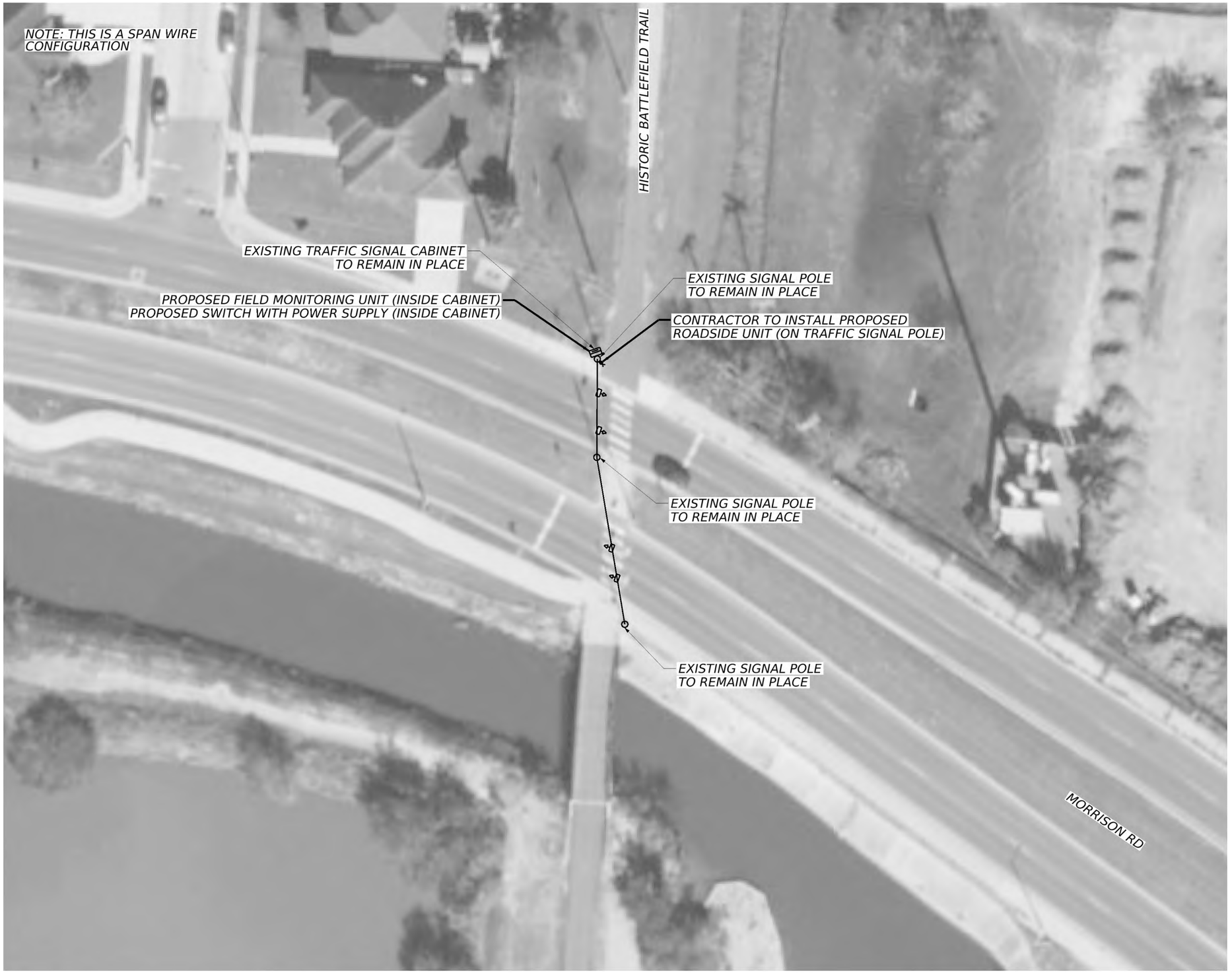
INTERSECTION 141

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	158

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PROP SIG 141 MORNINGSIDE RD AT CENTRAL AVE CSJ 399.dgn



LEGEND

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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MORRISON RD AT HISTORIC BATTLEFIELD TRL

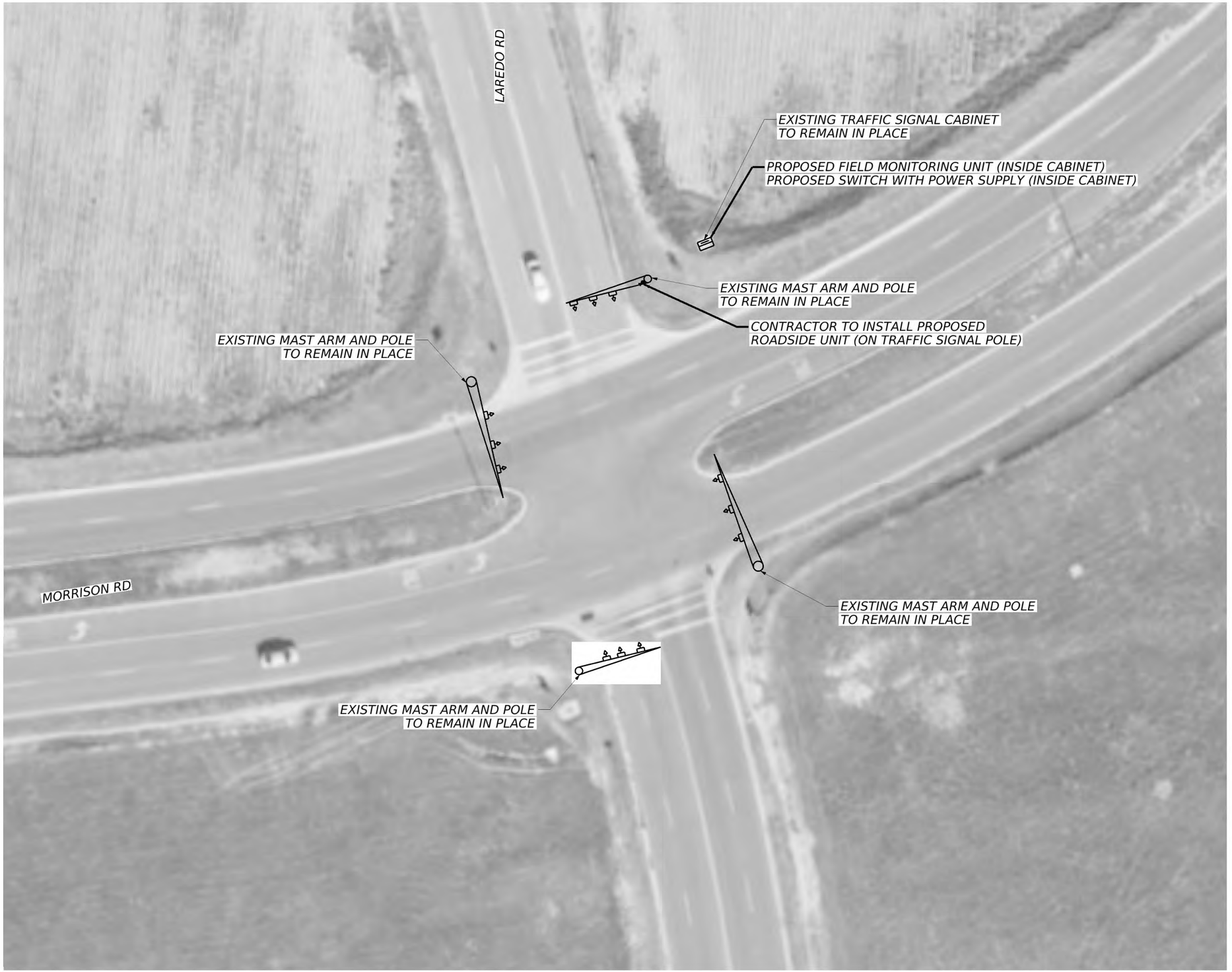
INTERSECTION 142

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	159

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PROP SIG 142 MORRISON RD AT HISTORICAL BATTLEFIELD TRAIL CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MORRISON RD AT LAREDO RD

INTERSECTION 143

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	160

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PROP SIG 143 MORRISON RD AT LAREDO RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

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MORRISON RD AT MCALLEN RD

INTERSECTION 144

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	161

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PROP SIG 144 MORRISON RD AT MCALLEN RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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MORRISON RD AT
PABLO KISEL BLVD
INTERSECTION 145
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	162

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PROP SIG 145 MORRISON RD AT PABLO KISEL BLVD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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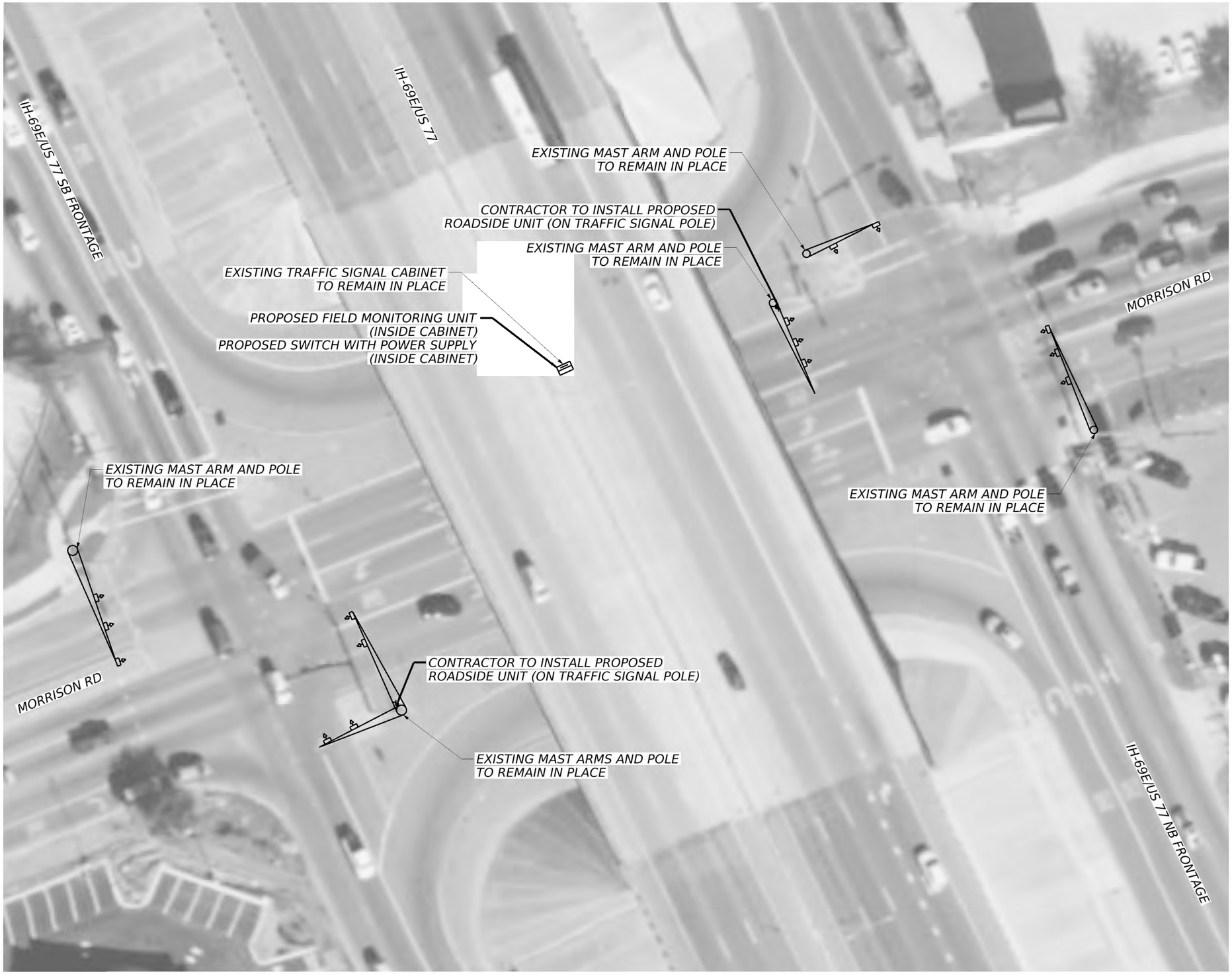
MORRISON RD AT
SAN MARCELO BLVD - LAS PALOMAS
INTERSECTION 146

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	163

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PROP SIG 146 MORRISON RD AT SAN MARCELO BLVD AND LAS PALOMAS ST CSJ 399.dgn



LEGEND

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STATE OF TEXAS
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LICENSED
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3/6/26

BROWNSVILLE

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MORRISON RD AT IH-69E / US 77

INTERSECTION 147

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	164

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PROP SIG 147 MORRISON RD AT IH-69E - US 77 CSJ 399.dgn



LEGEND

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3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MORRISON RD AT WESTRAIL TRL

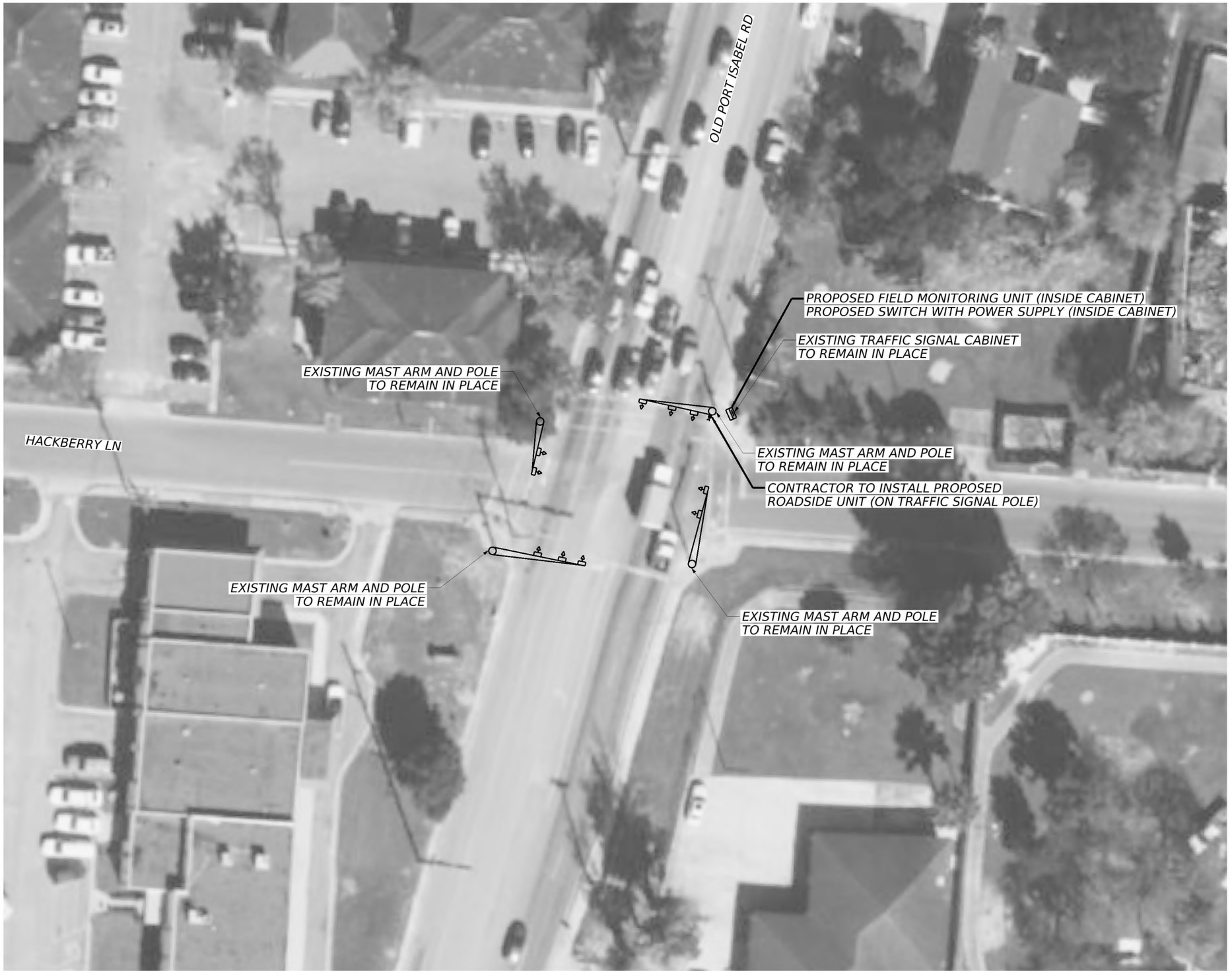
INTERSECTION 148

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	165

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PROP SIG 148 MORRISON RD AT WEST RAIL TRAIL CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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OLD PORT ISABEL RD AT HACKBERRY LN

INTERSECTION 149

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	166

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PROP SIG 149 OLD PORT ISABEL RD AT HACKBERRY LN CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
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Land Surveying Firm No. 10046700

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OLD PORT ISABEL RD AT ROBINHOOD DR

INTERSECTION 150

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	167

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PROP SIG 150 OLD PORT ISABEL RD AT ROBINHOOD DR CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT AUSTIN RD

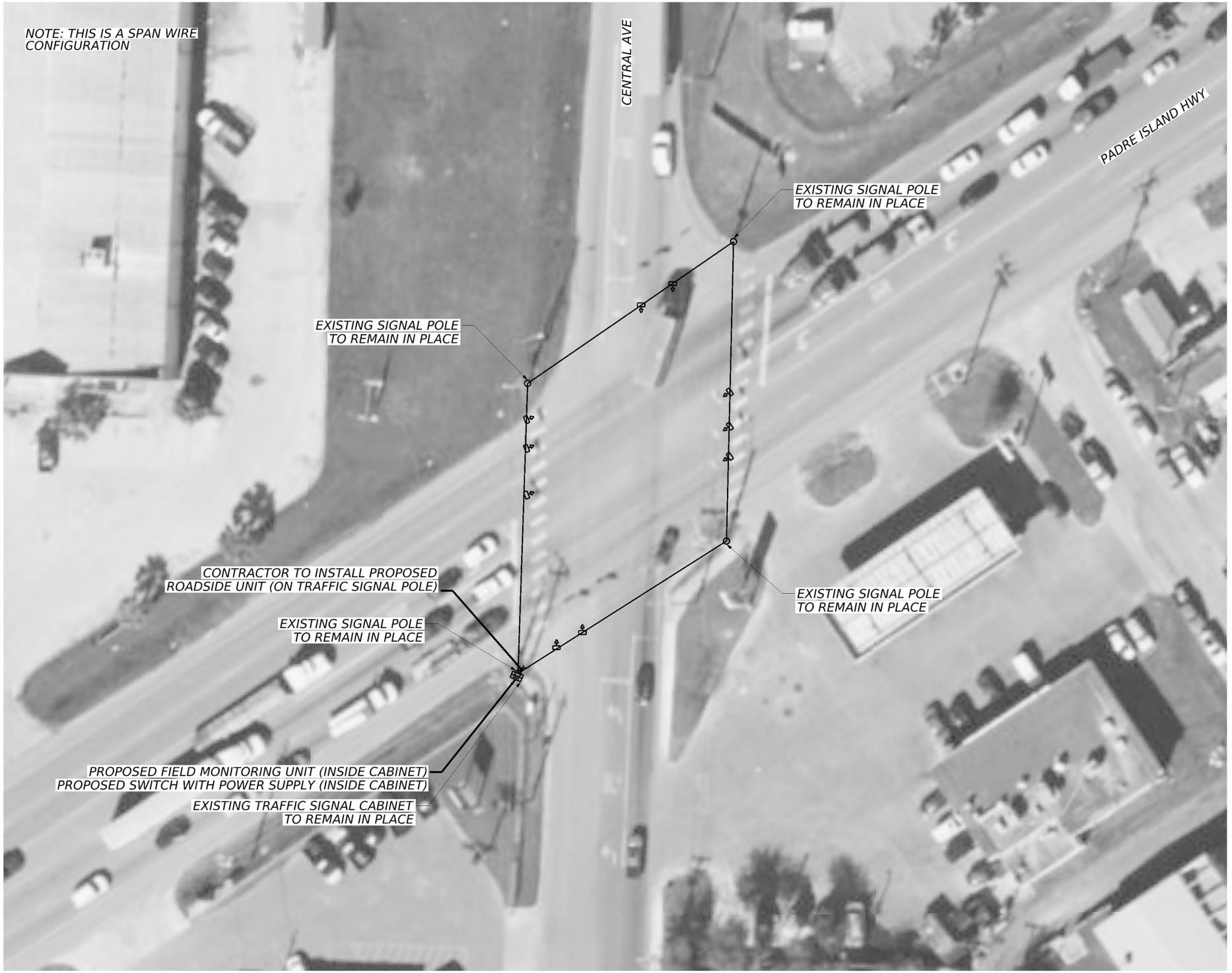
INTERSECTION 151

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	168

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PROP SIG 151 PADRE ISLAND HWY AT AUSTIN RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT CENTRAL AVE

INTERSECTION 152

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	169

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PROP SIG 152 PADRE ISLAND HWY AT CENTRAL AVE CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT COFFEE PORT RD

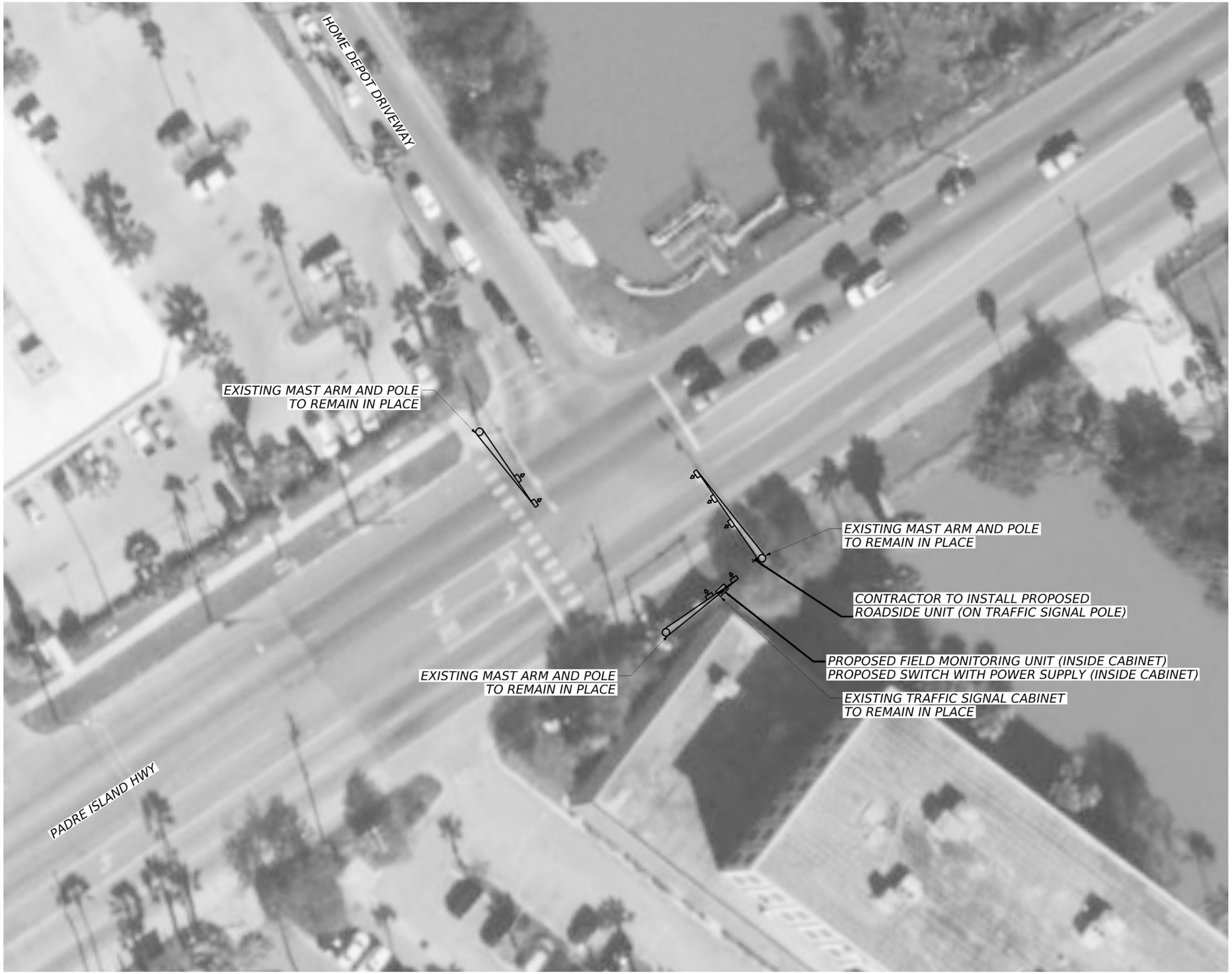
INTERSECTION 153

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	170

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PROP SIG 153 PADRE ISLAND HWY AT COFFEE PORT RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

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Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT HOME DEPOT DRIVEWAY

INTERSECTION 154

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	171

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PROP SIG 154 PADRE ISLAND HWY AT HOME DEPOT CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

N

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT MCKENZIE RD

INTERSECTION 155

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	172

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PROP SIG 155 PADRE ISLAND HWY AT MCKENZIE RD RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT N MINNESOTA AVE

INTERSECTION 156

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	173

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PROP SIG 156 PADRE ISLAND HWY AT MINNESOTA AVE CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT ROBINDALE RD - FRUITDALE DR

INTERSECTION 157

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	174

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PROP SIG 157 PADRE ISLAND HWY AT ROBINDALE AND FRUITDALE CSJ 399.dgn



LEGEND

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STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT WALMART DRIVEWAY

INTERSECTION 158

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	175

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PROP SIG 158 PADRE ISLAND HWY AT WALMART CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT ZENA DR

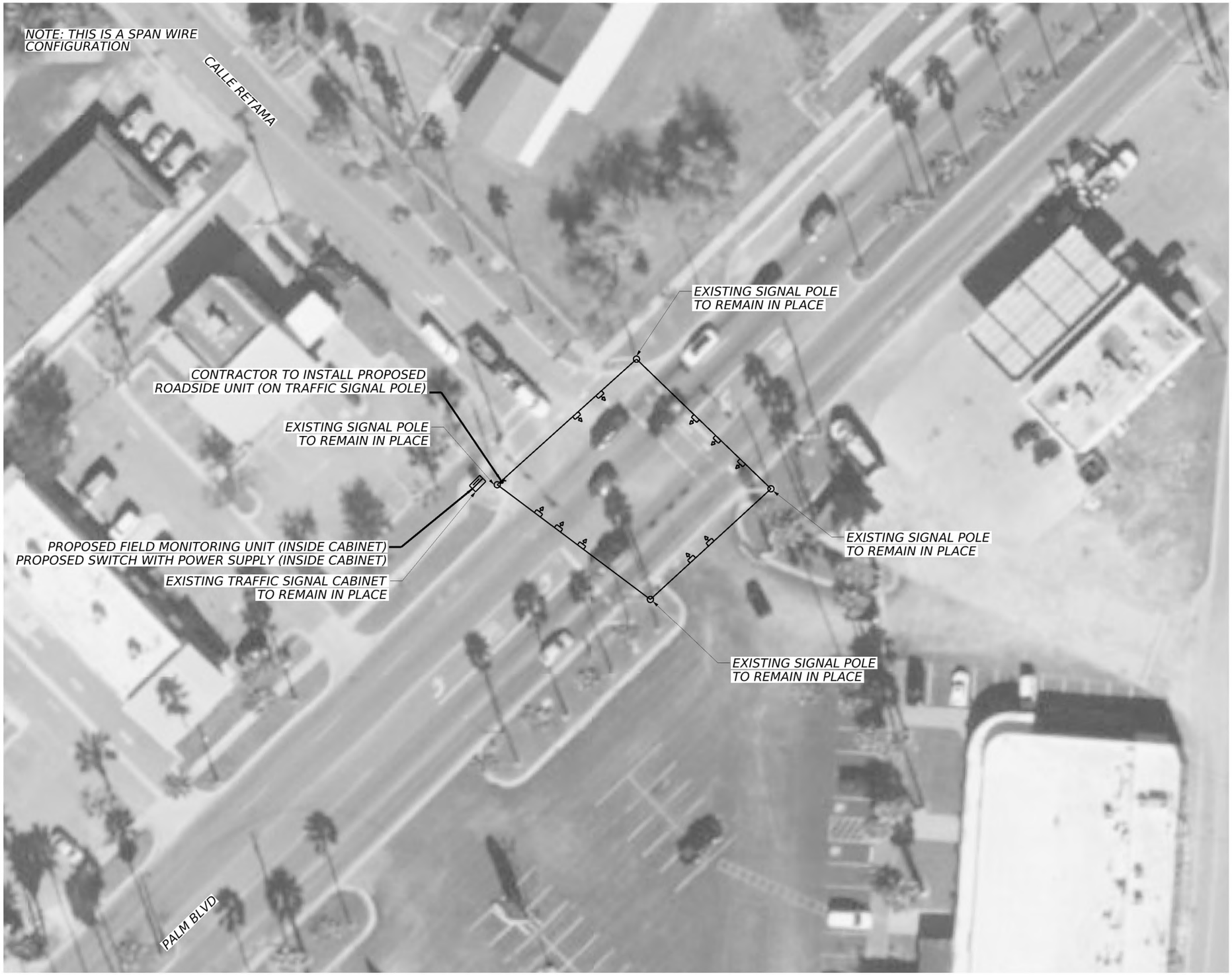
INTERSECTION 159

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	176

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pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-01-T03 Traffic Signals Communication/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 159 PADRE ISLAND HWY AT ZENA DR CSJ 399.dgn

PROP SIG 159 PADRE ISLAND HWY AT ZENA DR CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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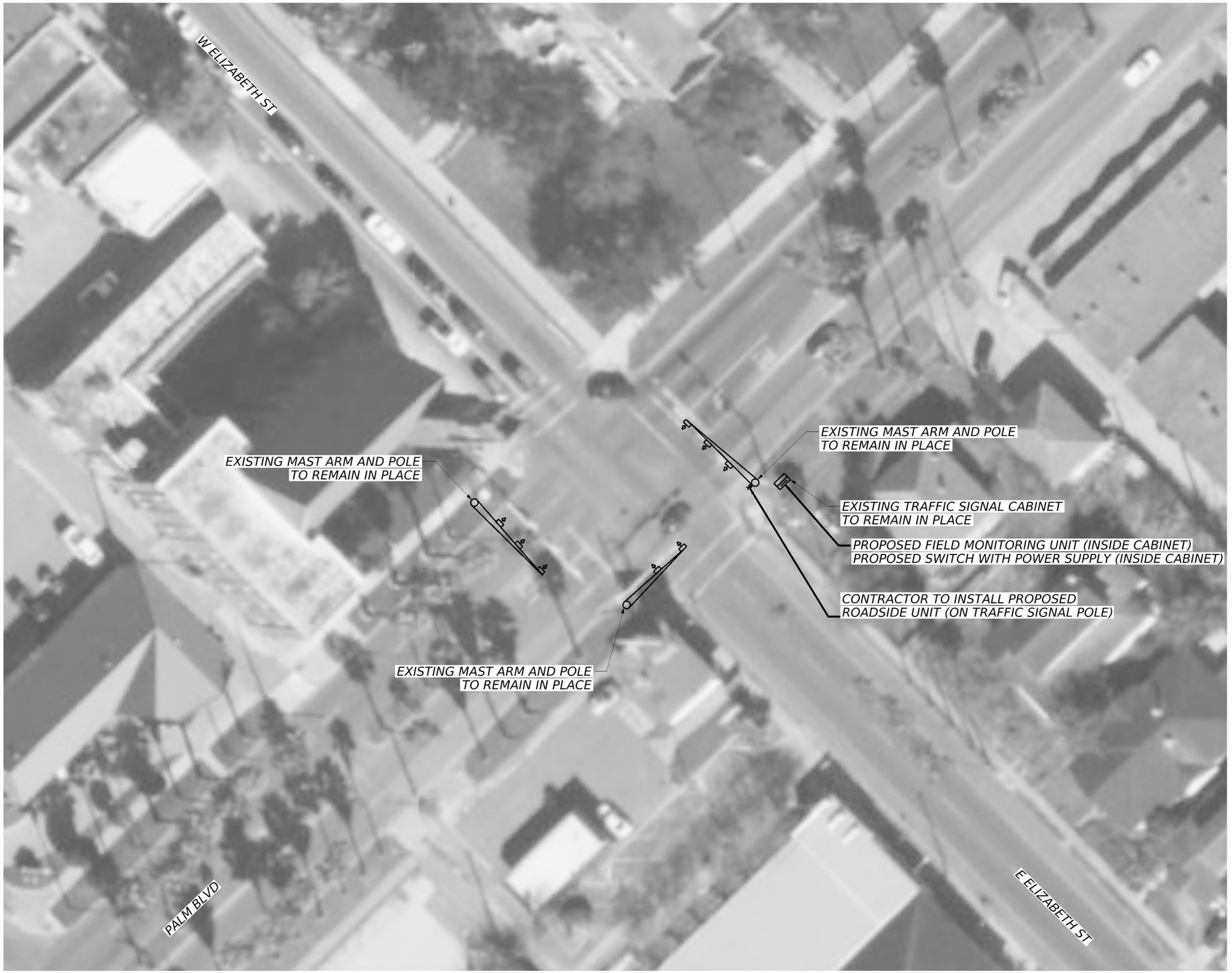
PALM BLVD AT CALLE RETAMA

INTERSECTION 160

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	177

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PROP SIG 160 PALM BLVD AT CALLE RETAMA CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PALM BLVD AT ELIZABETH ST

INTERSECTION 161

SHEET 1 OF 1

FED.RD DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	178

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PROP SIG 161 PALM BLVD AT ELIZABETH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PALM BLVD AT FRONTON ST

INTERSECTION 162

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	179

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PROP SIG 162 PALM BLVD AT FRONTON ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PALM BLVD AT JEFFERSON ST

INTERSECTION 163

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	180

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PROP SIG 163 PALM BLVD AT JEFFERSON ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PALM BLVD AT LEVEE ST

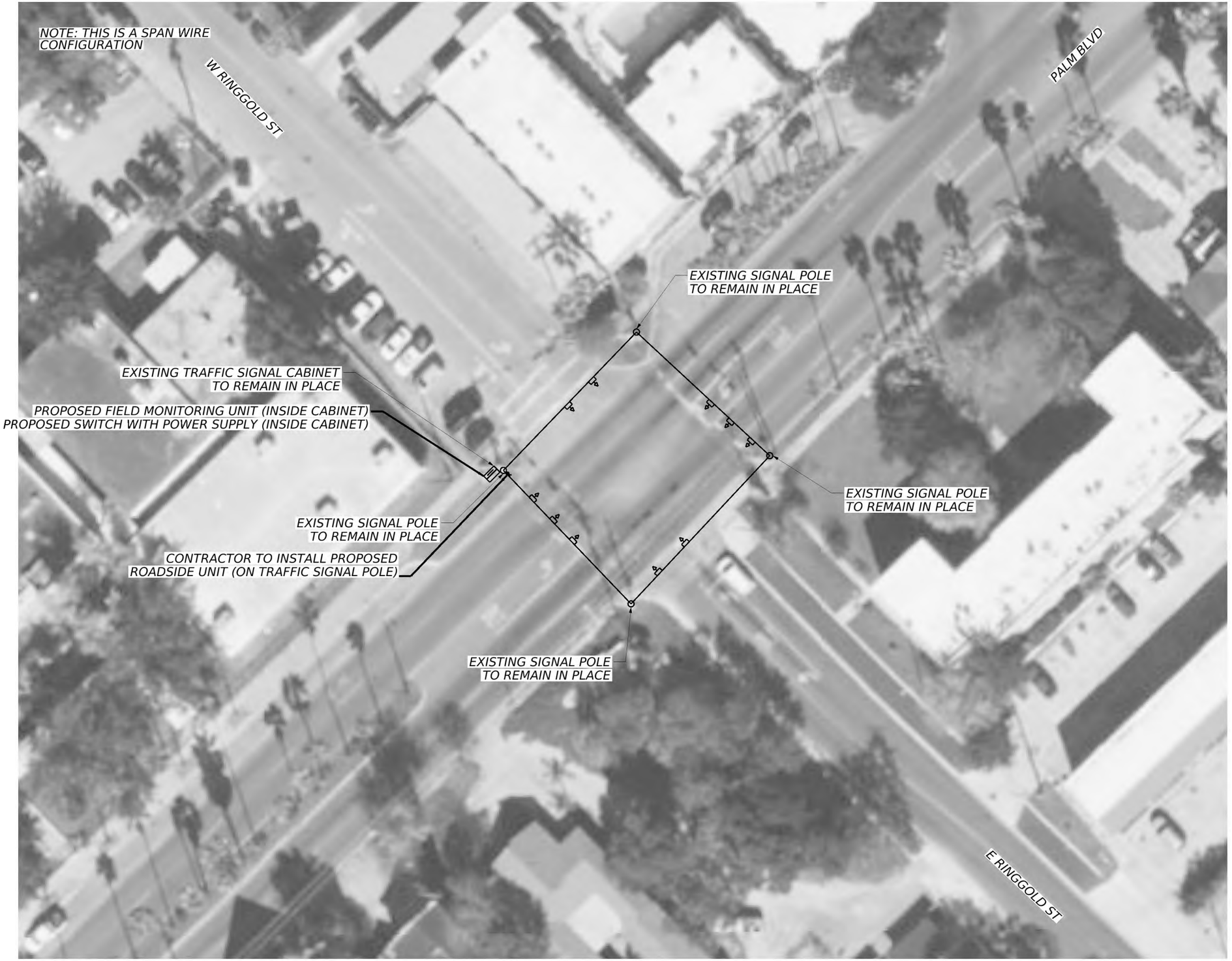
INTERSECTION 164

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	181

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PROP SIG 164 PALM BLVD AT LEVEE ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PALM BLVD AT RINGGOLD ST

INTERSECTION 165

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	182

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PROP SIG 165 PALM BLVD AT RINGGOLD ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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PALM BLVD AT ST CHARLES ST

INTERSECTION 166

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	183

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PROP SIG 166 PALM BLVD AT SAINT CHARLES ST CSJ 399.dgn



LEGEND

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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PALM BLVD AT ST FRANCIS ST

INTERSECTION 167

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	184

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PROP SIG 167 PALM BLVD AT SAINT FRANCIS ST CSJ 399.dgn



LEGEND

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STATE OF TEXAS
KARL F. ROTHERMEL
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LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847) AT AVENIDA CARLOS

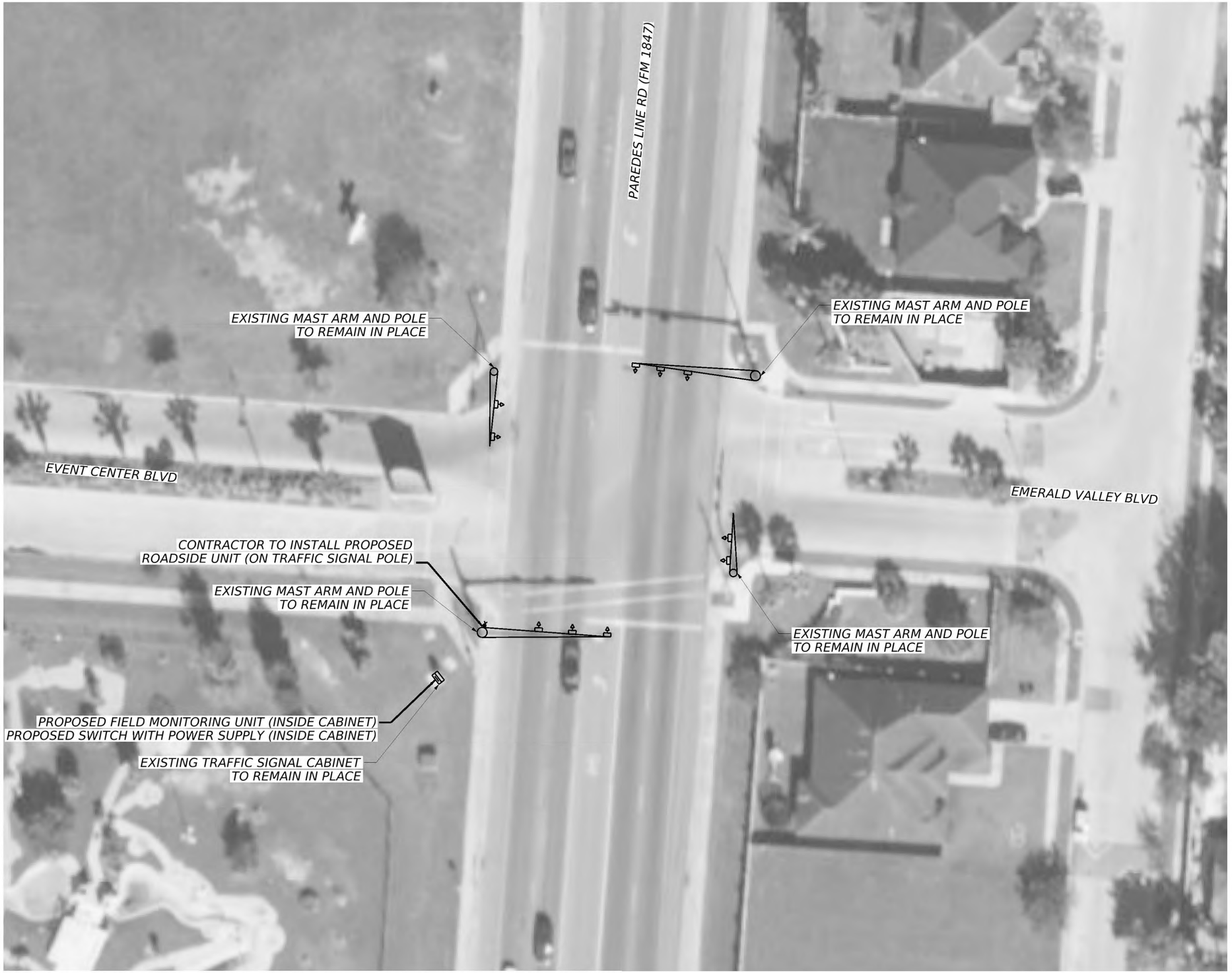
INTERSECTION 168

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	185

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PROP SIG 168 PAREDES LINE RD AT AVENIDA CARLOS CSJ 399.dgn



LEGEND

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116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847) AT
EVENT CENTER BLVD - EMERALD VA
INTERSECTION 169
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	186

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PROP SIG 169 PAREDES LINE RD AT EVENT CENTER AND EMERALD VALLEY BLVD CSJ 399.dgn



LEGEND

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0 10 20 40
1" = 40'



BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847) AT GALVESTON RD

INTERSECTION 170

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	187

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PROP SIG 170 PAREDES LINE RD AT GALVESTON RD CSJ 399.dgn



LEGEND

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3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

THE STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847) AT CSR DR - HERITAGE TRL

INTERSECTION 171

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	188

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PROP SIG 171 PAREDES LINE RD AT HERITAGE TRL CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.
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THE STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847) AT LOS EBANOS BLVD

INTERSECTION 172

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	189

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PROP SIG 172 PAREDES LINE RD AT LOS EBANOS BLVD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847) AT MAIN ST

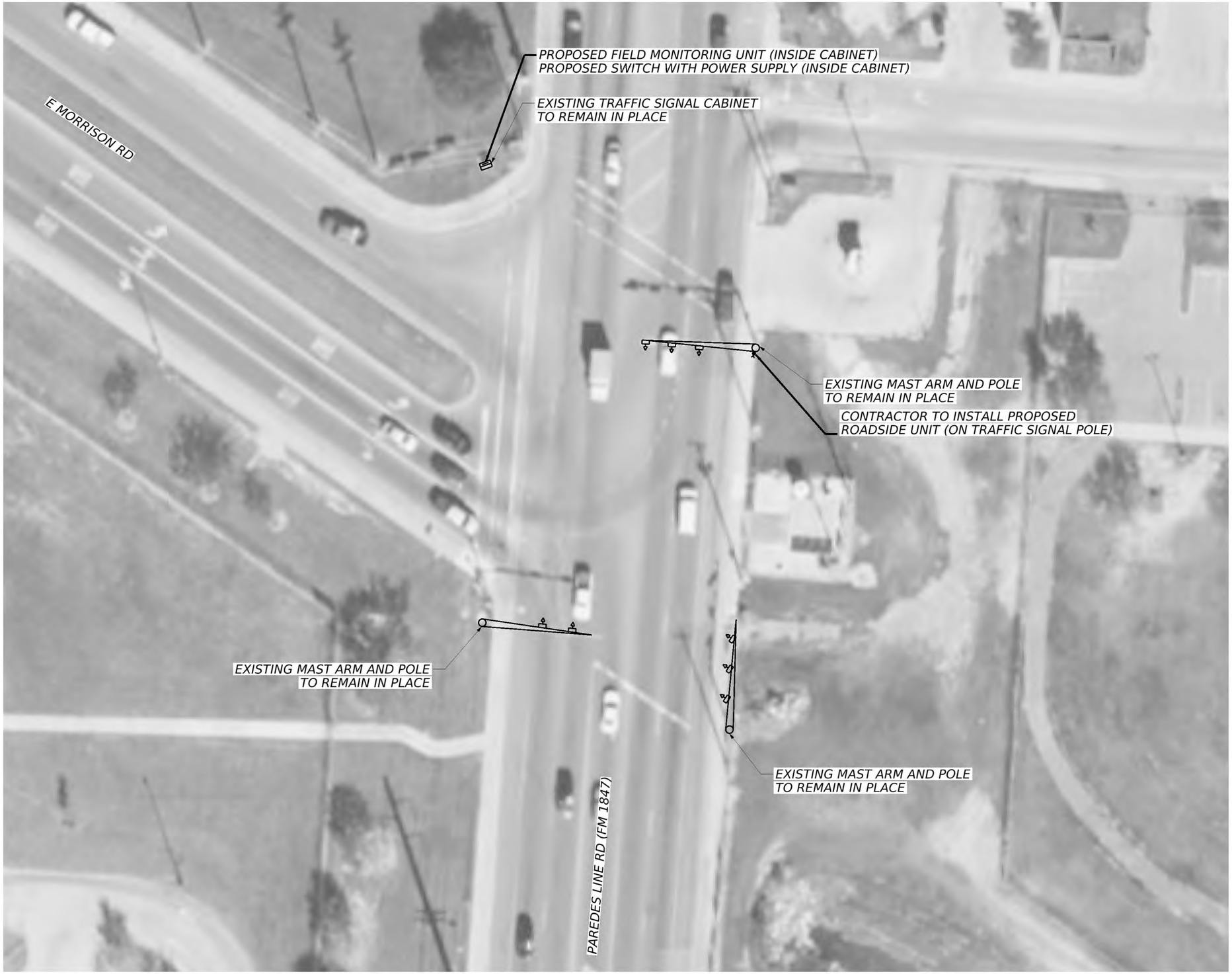
INTERSECTION 173

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	190

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PROP SIG 173 PAREDES LINE RD AT MAIN ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847) AT E MORRISON RD

INTERSECTION 174

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	191

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PROP SIG 174 PAREDES LINE RD AT MORRISON RD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E POLK ST AT
E 24TH ST

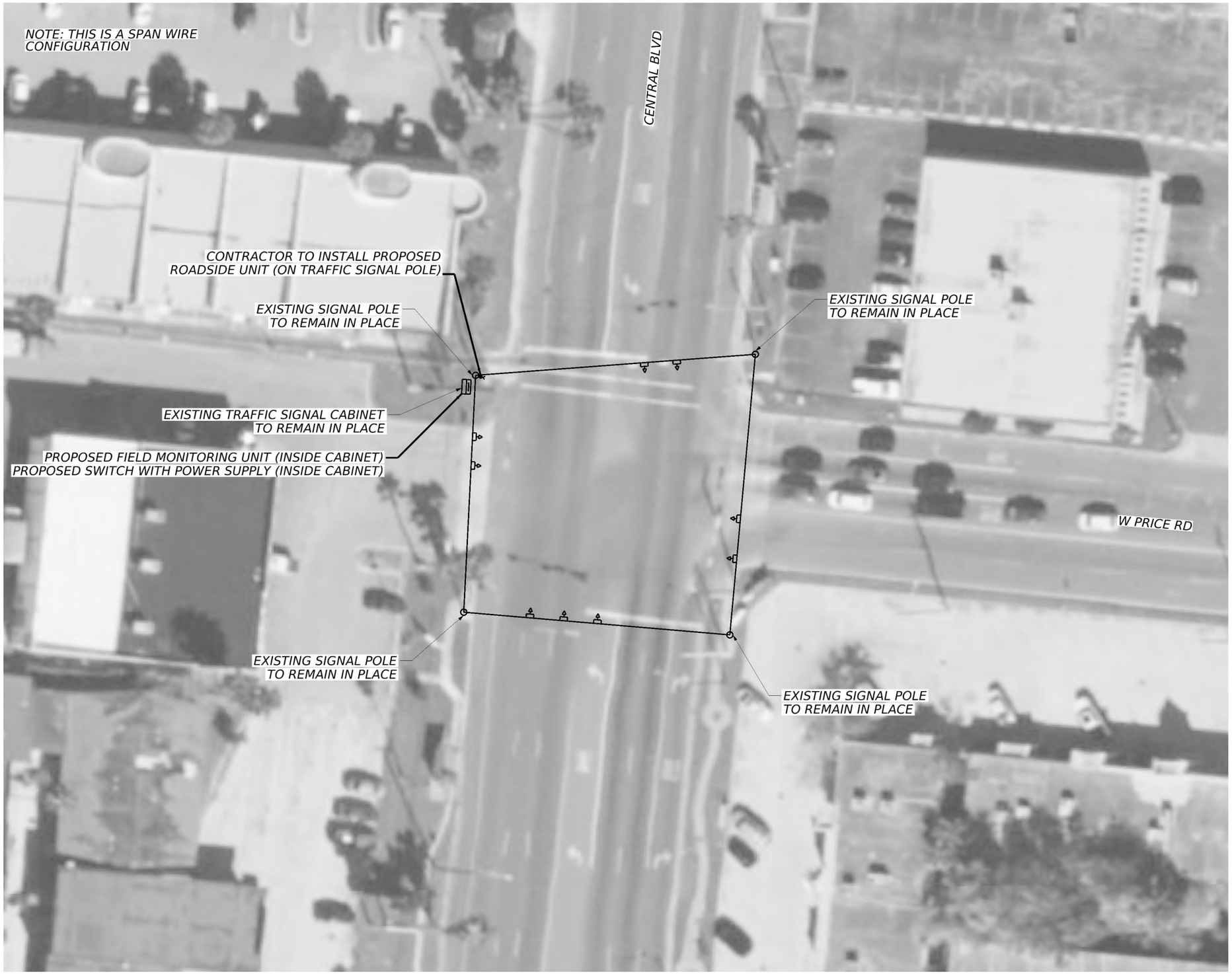
INTERSECTION 175

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	192

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PROP SIG 175 POLK ST AT 24TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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1" = 40'

STATE OF TEXAS
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116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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W PRICE RD AT CENTRAL BLVD

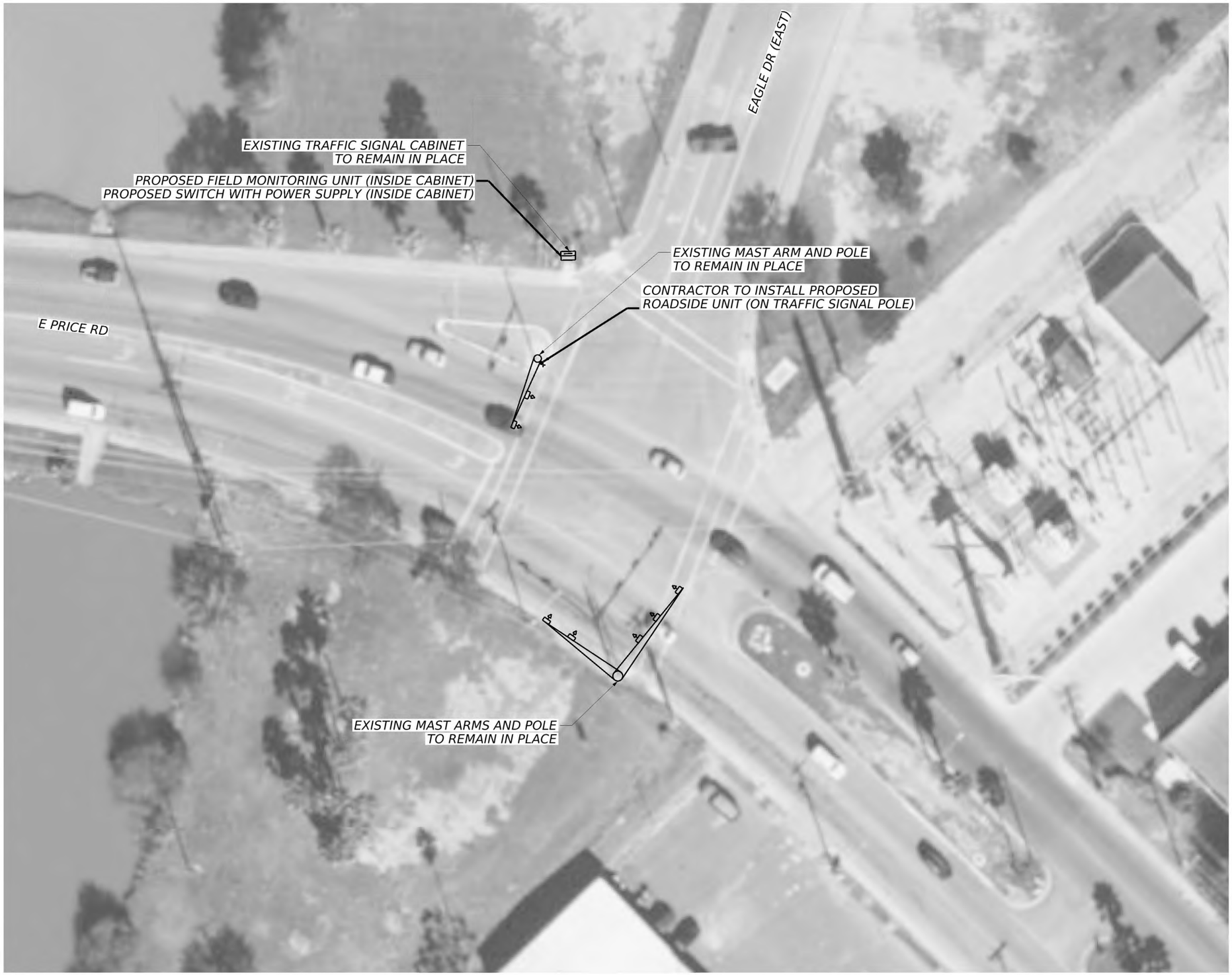
INTERSECTION 178

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	193

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PROP SIG 178 PRICE RD AT CENTRAL BLVD CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT EAGLE DR (EAST)

INTERSECTION 179

SHEET 1 OF 1

FED.RD DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	194

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PROP SIG 179 PRICE RD AT EAGLE DR (EAST) CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274
Land Surveying Firm No. 10046700

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E PRICE RD AT
EAGLE DR (WEST)
INTERSECTION 180
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	195

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PROP SIG 180 PRICE RD AT EAGLE DR (WEST) CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'



3/6/2026

BROWNSVILLE

CobbFendley

TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT
PADRE ISLAND HWY

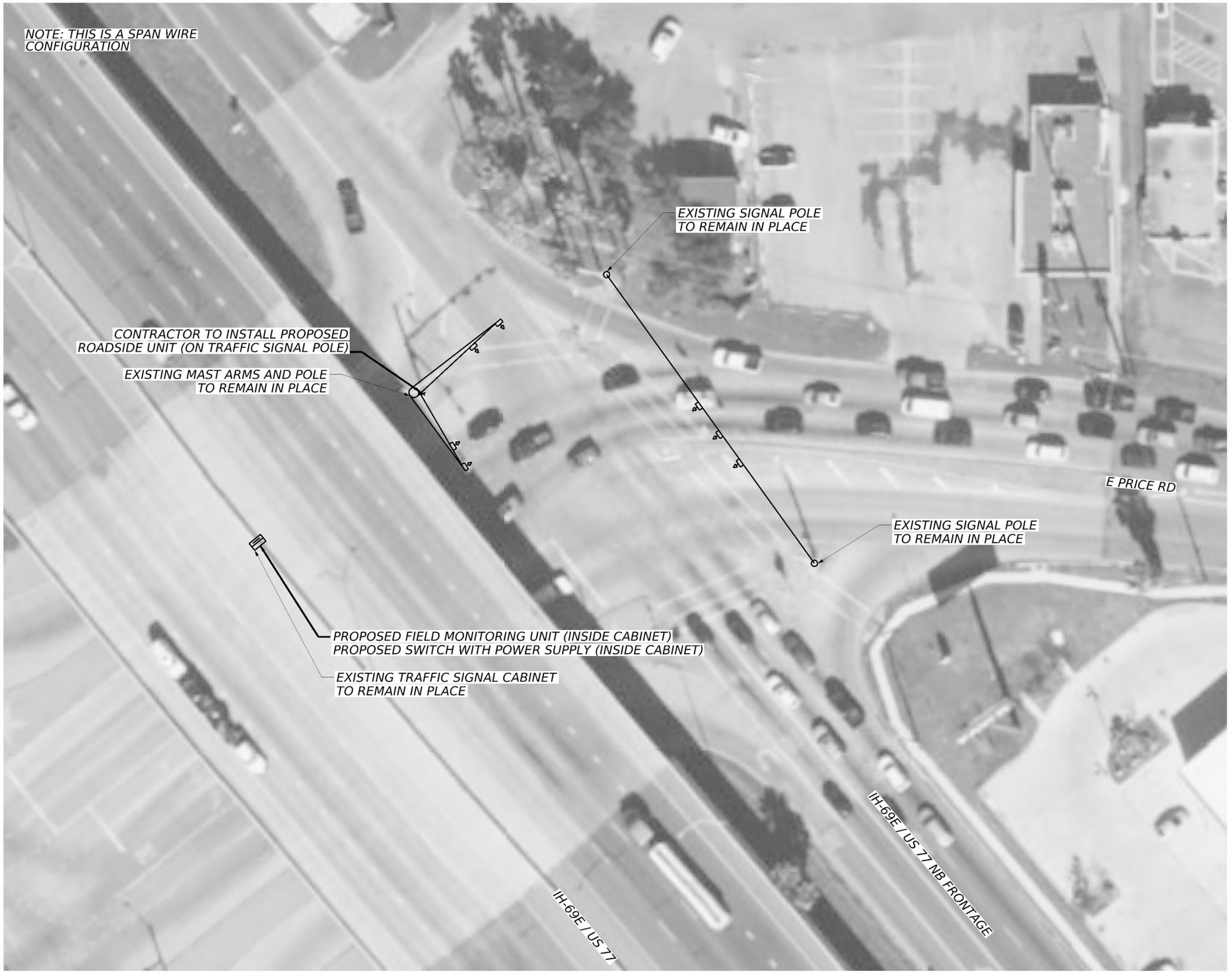
INTERSECTION 182

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	196

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PROP SIG 182 PRICE RD AT PADRE ISLAND HWY CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT IH-69E / US 77 NB FRONTAGE

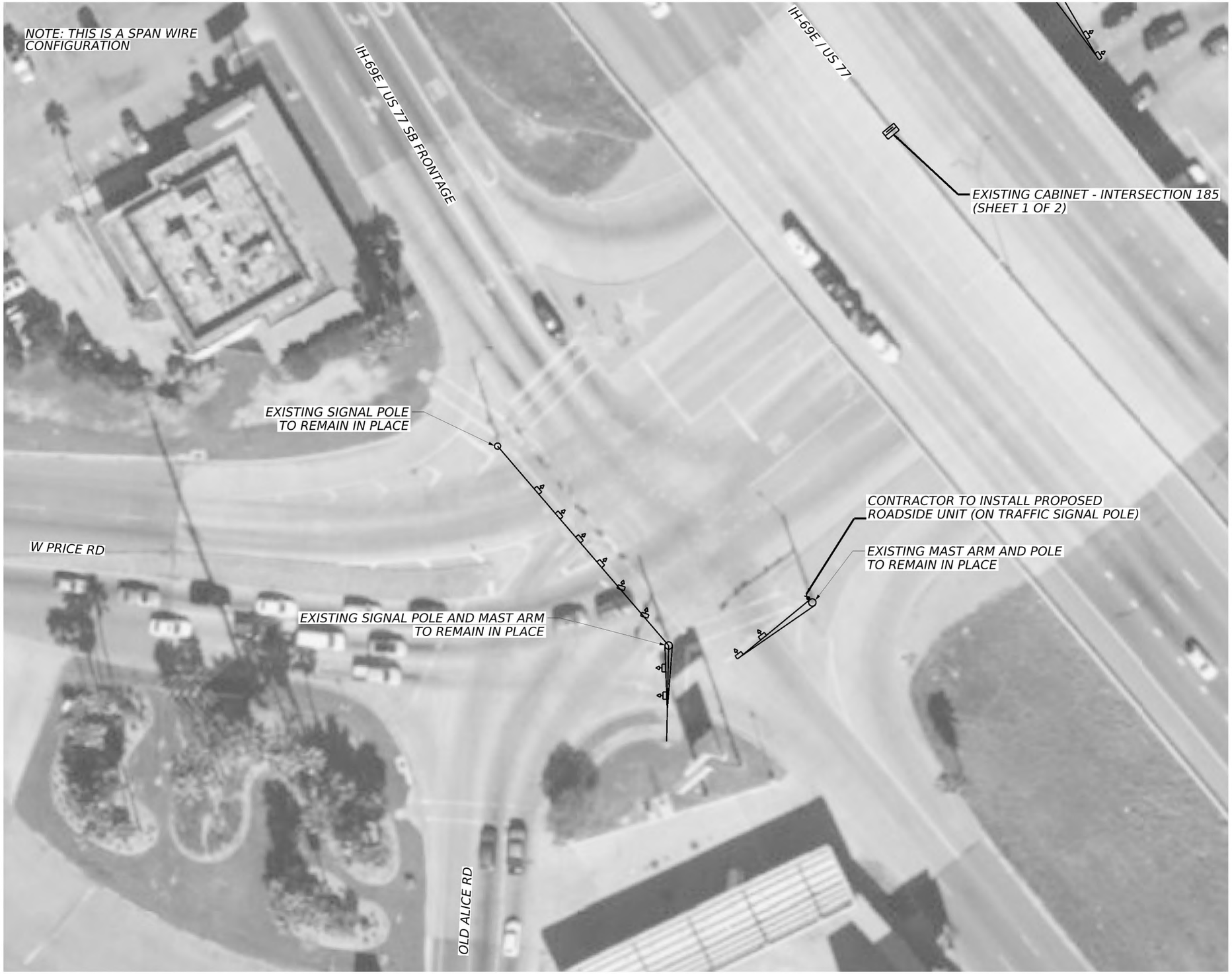
INTERSECTION 185

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	197

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PROP SIG 185A PRICE RD AT IH-69E - US 77 (NORTH FRONTAGE) CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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W PRICE RD & OLD ALICE RD AT IH-69E / US 77 SB FRONTAGE

INTERSECTION 185

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	198

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PROP SIG 185B PRICE RD AT IH-69E - US 77 (SOUTH FRONTAGE) CSJ 399.dgn



LEGEND

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3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E RINGGOLD ST AT E 13TH ST

INTERSECTION 187

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	199

3/6/2026 11:08:45 AM
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PROP SIG 186 RINGGOLD ST AT1.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

N

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E RINGGOLD ST AT E 6TH ST

INTERSECTION 188

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	200

3/6/2026 11:09:39 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-01-TO3 Traffic Signals Communication/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 188 RINGGOLD ST AT 6TH ST CSJ 399.dgn

PROP SIG 186 RINGGOLD ST AT2.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.
3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER

3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E RINGGOLD ST AT E 7TH ST

INTERSECTION 189

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	201

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PROP SIG 186 RINGGOLD ST AT3.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ROOSEVELT ST AT E 13TH ST

INTERSECTION 190

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	202

3/6/2026 11:11:22 AM
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PROP SIG 190 ROOSEVELT ST AT 13TH ST.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ROOSEVELT ST AT E 14TH ST

INTERSECTION 191

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	203

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PROP SIG 191 ROOSEVELT ST AT 14TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ROOSEVELT ST AT MCDAVITT BLVD - OAK ST

INTERSECTION 192

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	204

3/6/2026 3:40:02 PM
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PROP SIG 190 ROOSEVELT ST AT 13TH ST2.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

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3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ST CHARLES ST AT E 6TH ST

INTERSECTION 194

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	205

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PROP SIG 194 SAINT CHARLES ST AT 6TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

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3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

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6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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SOUTHMOST RD AT E 14TH ST

INTERSECTION 195

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	206

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PROP SIG 195 SOUTHMOST RD AT 14TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

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Land Surveying Firm No. 10046700

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SOUTHMOST RD AT E 23RD ST

INTERSECTION 196

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	207

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PROP SIG 196 SOUTHMOST RD AT 23RD ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
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6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.
7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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SOUTHMOST RD AT E 26TH ST

INTERSECTION 197

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	208

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PROP SIG 195 SOUTHMOST RD AT 14TH ST CSJ 3992.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

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4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

5. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED RSU CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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SOUTHMOST RD AT
E 30TH ST

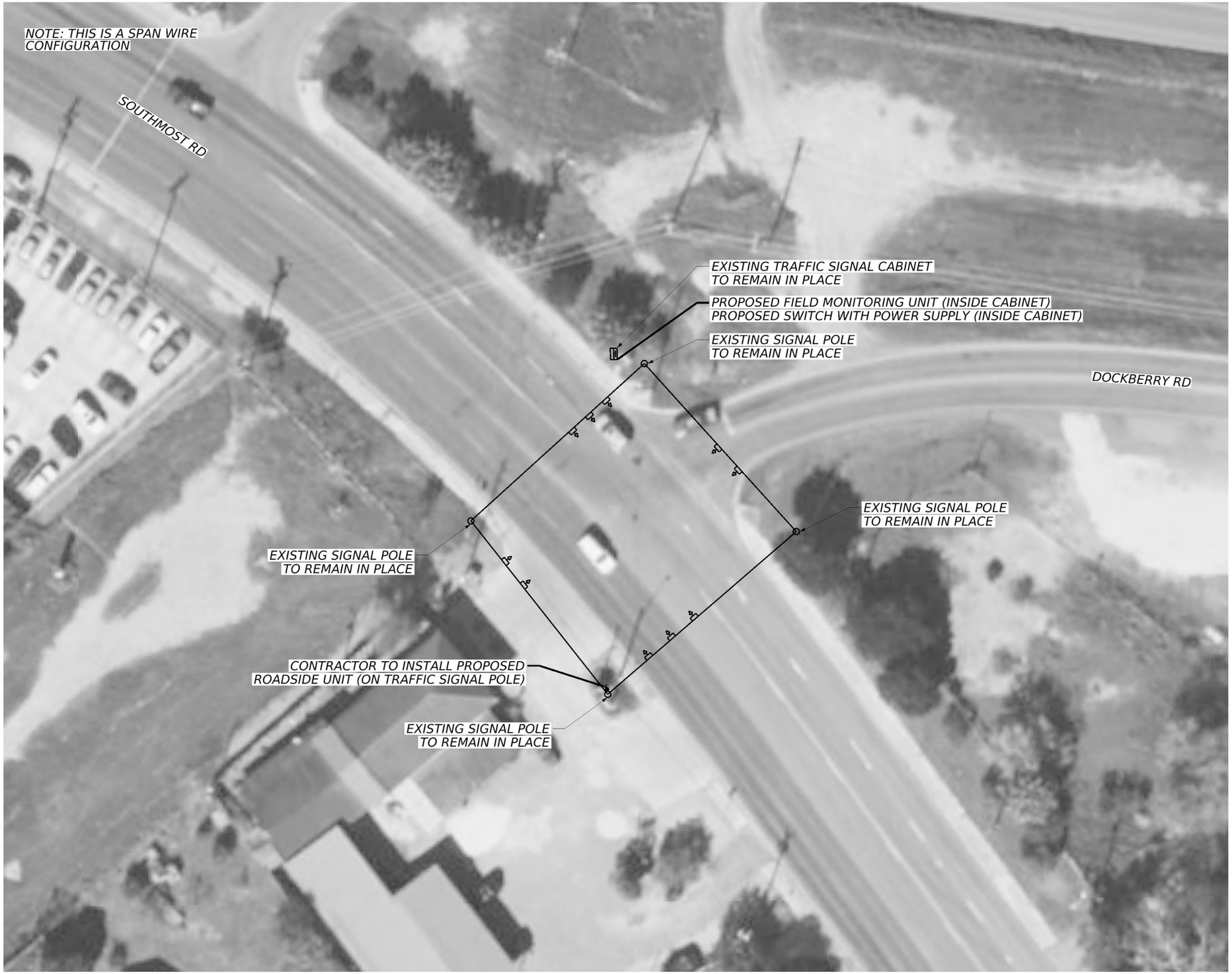
INTERSECTION 198

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	209

3/6/2026 11:17:27 AM
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PROP SIG 195 SOUTHMOST RD AT 14TH ST CSJ 3995.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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SOUTHMOST RD AT DOCKBERRY RD

INTERSECTION 199

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	210

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PROP SIG 195 SOUTHMOST RD AT 14TH ST CSJ 3994.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

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4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
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7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Lanc Surveying Firm No. 10046700

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SOUTHMOST RD AT ESPERANZA RD - MORNINGSIDE RD

INTERSECTION 200

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	211

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PROP SIG 195 SOUTHMOST RD AT 14TH ST CSJ 3996.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

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0 10 20 40

1" = 40'

N

STATE OF TEXAS
KARL F. ROTHERMEL
116355
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PROFESSIONAL ENGINEER

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SOUTHMOST RD AT MORNINGSIDE RD

INTERSECTION 201

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	212

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PROP SIG 195 SOUTHMOST RD AT 14TH ST CSJ 3997.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER

3/6/2026

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SOUTHMOST RD AT TULIPAN ST

INTERSECTION 202

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	213

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PROP SIG 202 SOUTHMOST RD AT TULIPAN ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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- EXISTING TRAFFIC SIGNAL HEAD
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1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
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W UNIVERSITY BLVD AT PARKING LOT DRIVEWAY

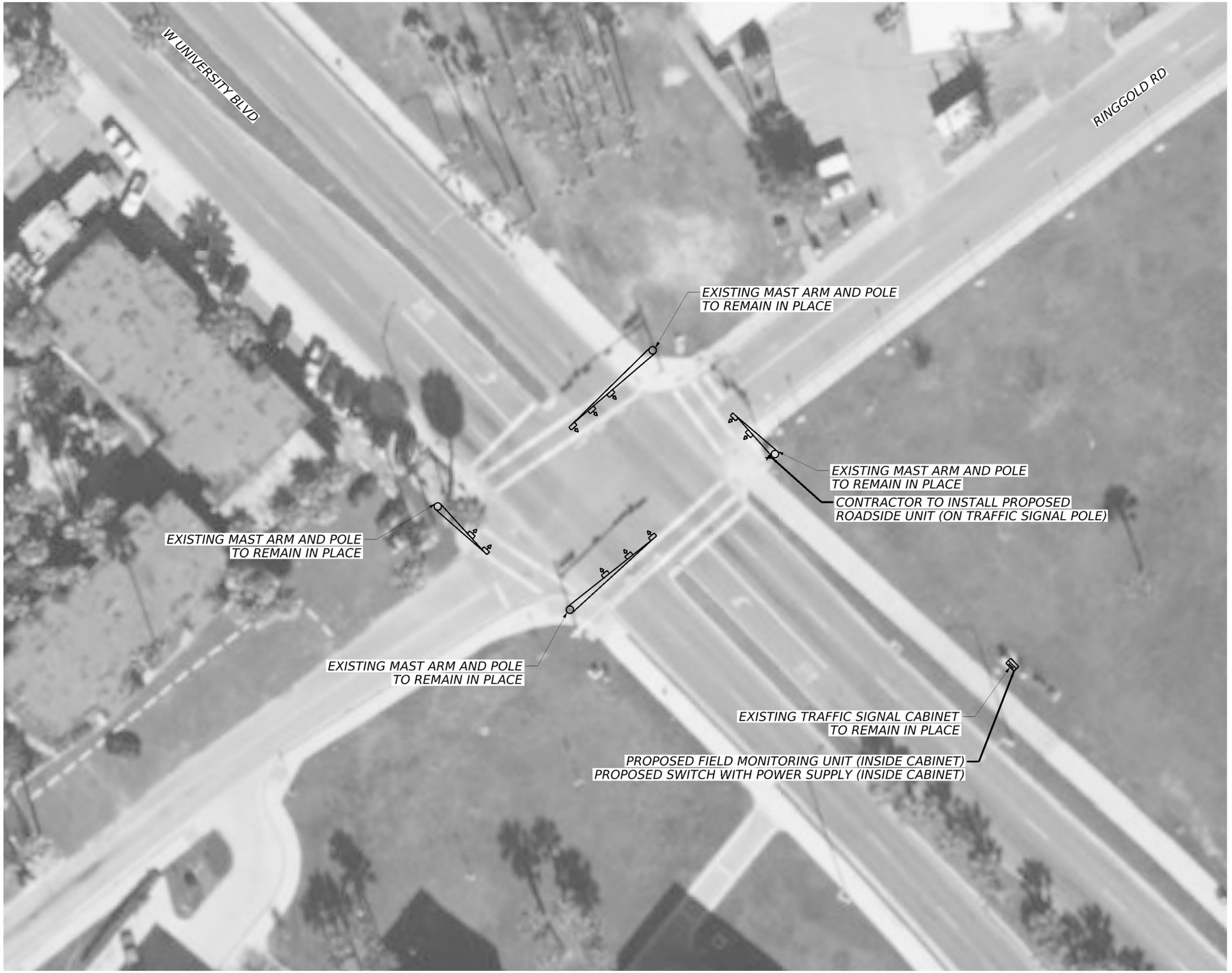
INTERSECTION 203

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	214

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PROP SIG 203 UNIVERSITY BLVD AT PARKING LOT CSJ 399.dgn



LEGEND

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STATE OF TEXAS
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3/6/2026

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W UNIVERSITY BLVD AT RINGGOLD RD

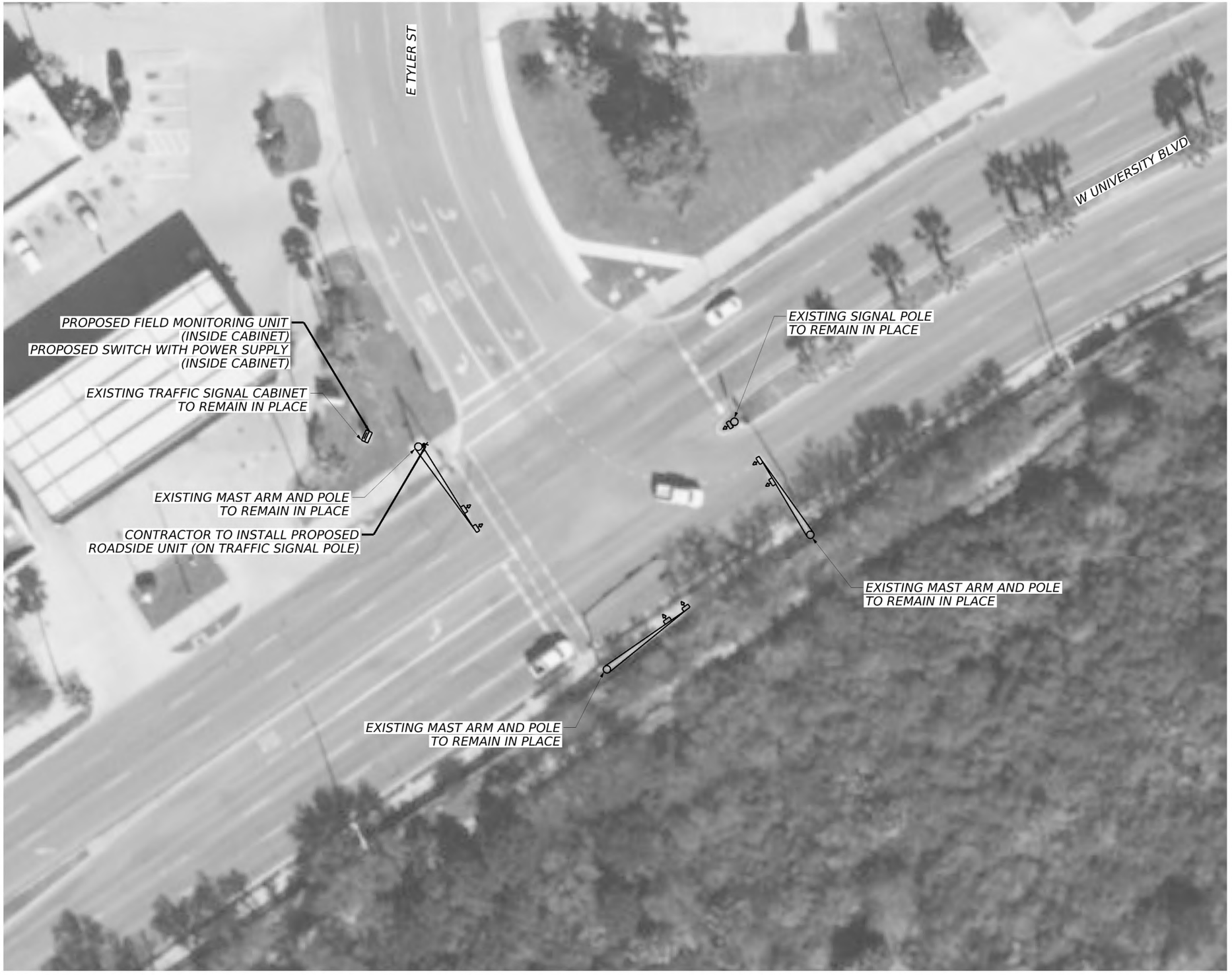
INTERSECTION 204

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	215

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PROP SIG 204 UNIVERSITY BLVD AT RINGGOLD ROAD CSJ 399.dgn



LEGEND

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STATE OF TEXAS
KARL F. ROTHERMEL
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W UNIVERSITY BLVD AT E TYLER ST

INTERSECTION 205

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	216

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PROP SIG 205 UNIVERSITY BLVD AT TYLER ST CSJ 399.dgn

NOTE: THIS IS A SPAN WIRE CONFIGURATION

IH-69E/US 77

EXISTING SIGNAL POLE TO REMAIN IN PLACE

EXISTING SIGNAL POLE TO REMAIN IN PLACE

W UNIVERSITY BLVD

E UNIVERSITY BLVD

EXISTING SIGNAL POLE TO REMAIN IN PLACE

CONTRACTOR TO INSTALL PROPOSED ROADSIDE UNIT (ON TRAFFIC SIGNAL POLE)

EXISTING SIGNAL POLE TO REMAIN IN PLACE

EXISTING TRAFFIC SIGNAL CABINET TO REMAIN IN PLACE

PROPOSED FIELD MONITORING UNIT (INSIDE CABINET)

PROPOSED SWITCH WITH POWER SUPPLY (INSIDE CABINET)

LEGEND

- EXISTING MAST ARM AND POLE
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STATE OF TEXAS
KARL F. ROTHERMEL
116355
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3/6/2026

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UNIVERSITY BLVD AT IH-69E/US 77

INTERSECTION 206

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	217

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PROP SIG 206 UNIVERSITY BLVD AND EAST AVENUE AT IH-69E - US 77 CSJ 399.dgn



LEGEND

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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

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IH-69E / US 77 AT E 13TH ST

INTERSECTION 207

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	218

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PROP SIG 207 IH69E - US 77 AT 13TH ST CSJ 399.dgn



LEGEND

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0 10 20 40
1" = 40'

THE STATE OF TEXAS
KARL F. ROTHERMEL
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3/6/2026

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IH-69E / US 77 AT
E 14TH ST

INTERSECTION 208

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	219

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PROP SIG 208 IH-69E - US 77 AT 14TH ST CSJ 399.dgn



LEGEND

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STATE OF TEXAS
KARL F. ROTHERMEL
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LICENSED PROFESSIONAL ENGINEER
3/6/2026

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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WASHINGTON ST AT E 10TH ST

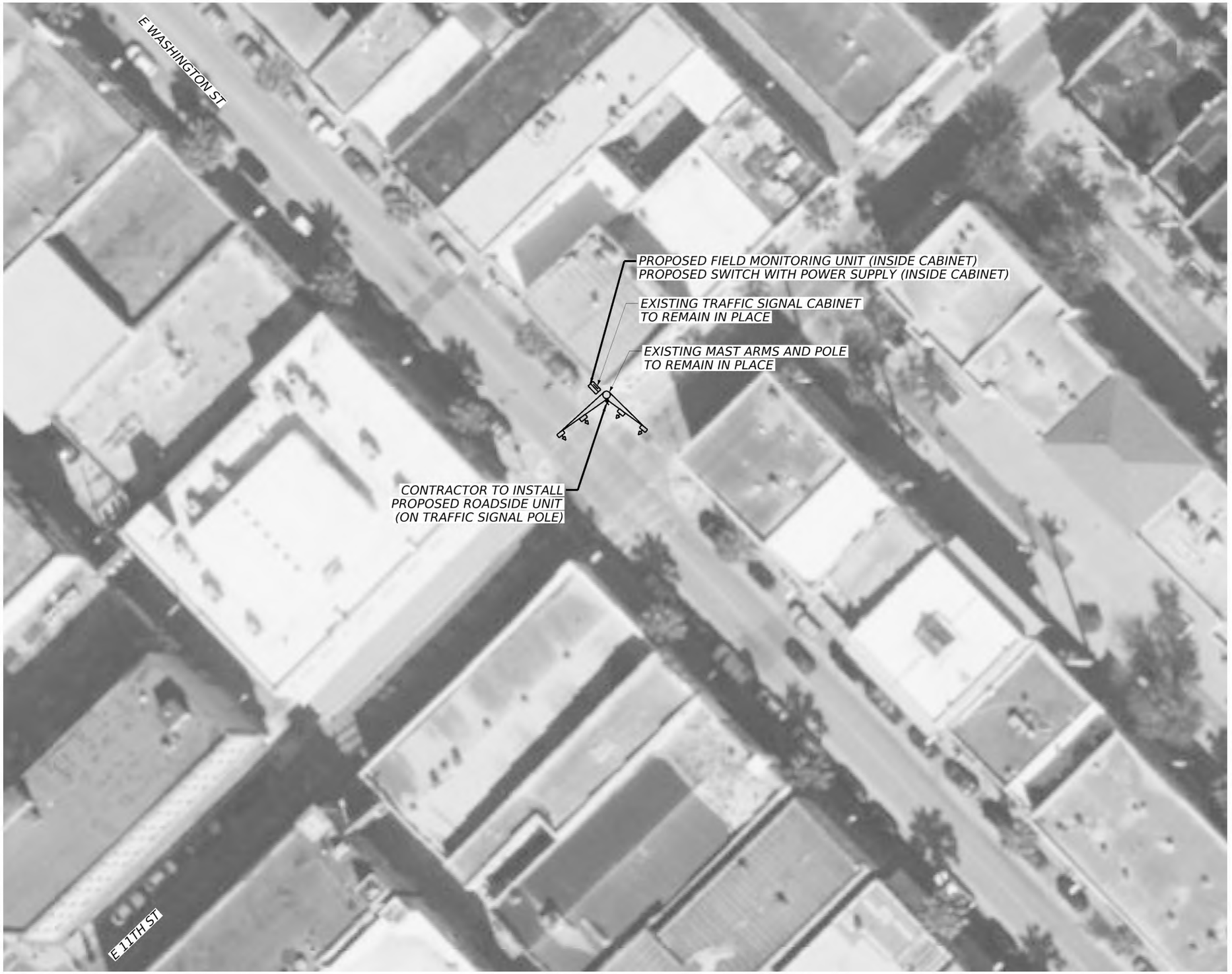
INTERSECTION 210

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	220

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PROP SIG 210 WASHINGTON ST AT E. 10TH ST CSJ 399.dgn



LEGEND

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WASHINGTON ST AT E 11TH ST

INTERSECTION 211

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	221

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PROP SIG 211 WASHINGTON ST AT E. 11TH ST CSJ 399.dgn



LEGEND

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3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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WASHINGTON ST AT E 13TH ST

INTERSECTION 213

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	399	222

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PROP SIG 213 WASHINGTON ST AT E. 13TH ST CSJ 399.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED RSU

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. INSTALL PROPOSED ROADSIDE UNIT (RSU) ON EXISTING TRAFFIC SIGNAL POLE.

3. INSTALL PROPOSED FIELD MONITORING UNIT (FMU) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

4. INSTALL PROPOSED SWITCH POWER SUPPLY (PS) INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

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6. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

7. INSTALL PROPOSED P5G GATEWAY AND ANTENNA AS SHOWN IN INSTALL DETAIL ON ALL INTERSECTIONS

0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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WASHINGTON ST AT E 14TH ST

INTERSECTION 214

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
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PROP SIG 214 WASHINGTON ST AT E. 14TH ST CSJ 399.dgn



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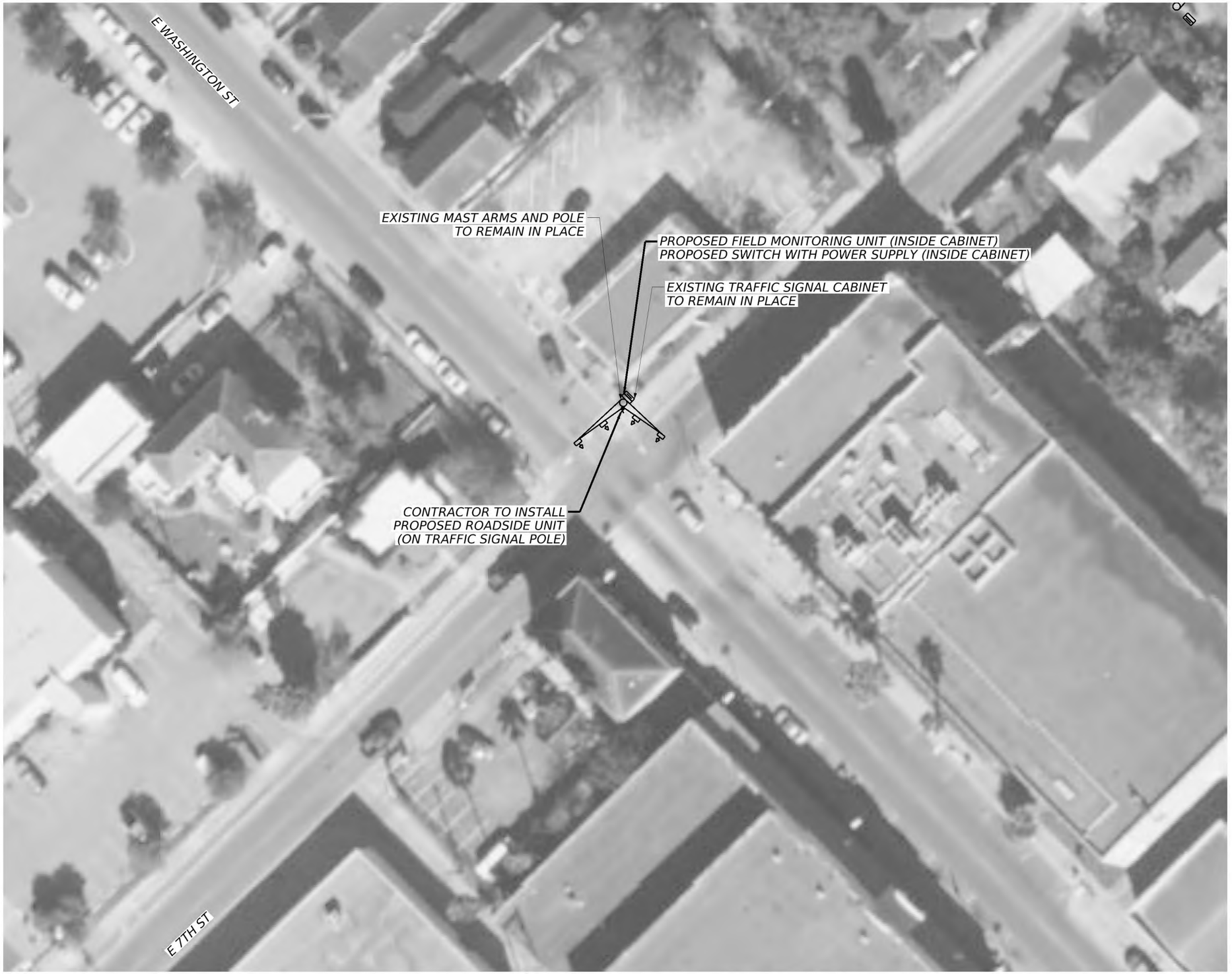
WASHINGTON ST AT E 6TH ST

INTERSECTION 215

SHEET 1 OF 1

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PROP SIG 215 WASHINGTON ST AT E. 6TH ST CSJ 399.dgn



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BROWNSVILLE

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WASHINGTON ST AT E 7TH ST

INTERSECTION 216

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FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
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PHR	CAMERON	0921	06	399	225

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PROP SIG 216 WASHINGTON ST AT E. 7TH ST CSJ 399.dgn



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LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
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WASHINGTON ST AT E 8TH ST

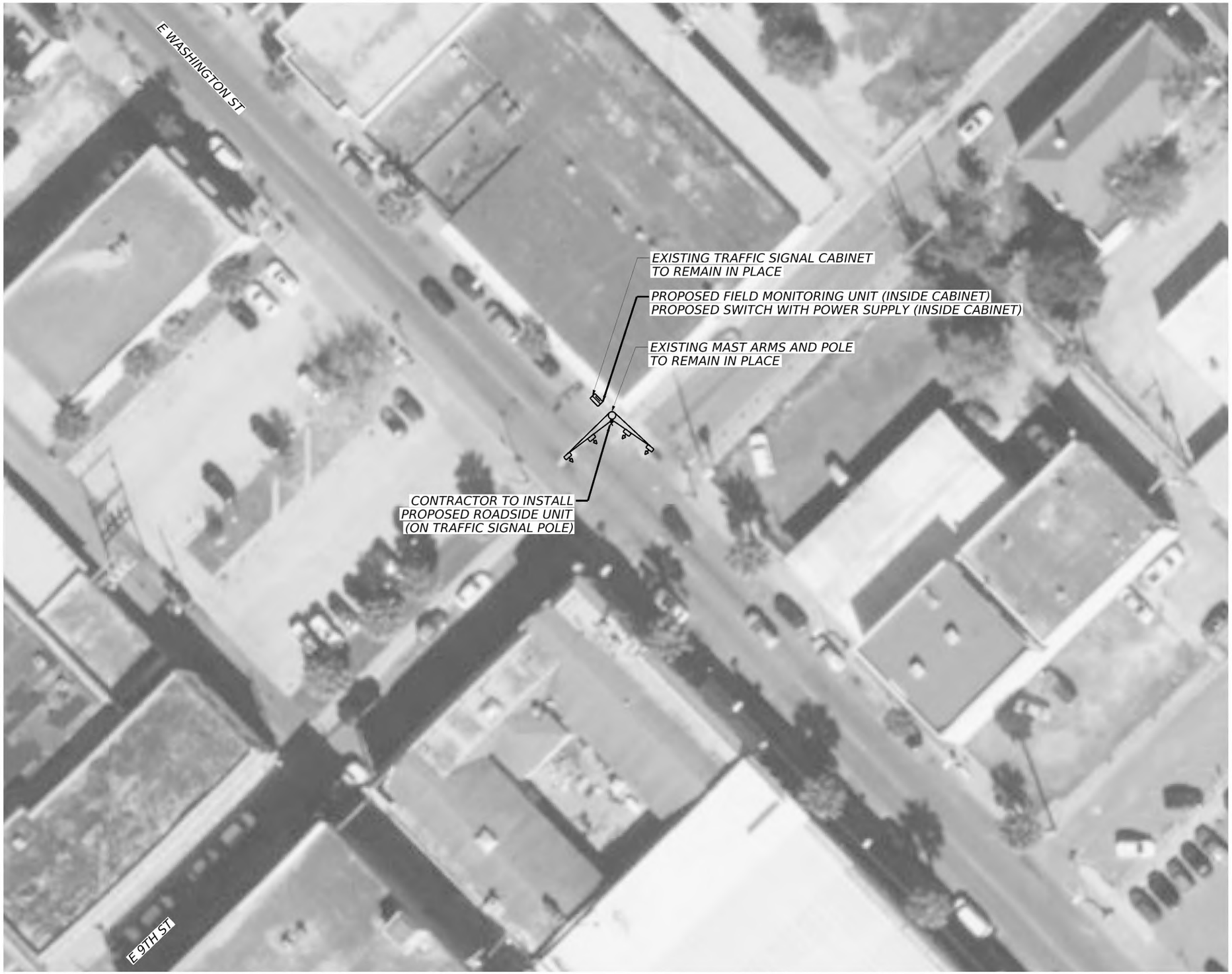
INTERSECTION 217

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
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PROP SIG 217 WASHINGTON ST AT E. 8TH ST CSJ 399.dgn



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WASHINGTON ST AT E 9TH ST

INTERSECTION 218

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
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PHR	CAMERON	0921	06	399	227

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PROP SIG 218 WASHINGTON ST AT E. 9TH ST CSJ 399.dgn

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DATE:$DATE$ $TIME$
FILE: $FILE$

GENERAL NOTES FOR ALL ELECTRICAL WORK

1. The location of all conduits, junction boxes, ground boxes, and electrical services is diagrammatic and may be shifted to accommodate field conditions.

2. Provide new, unused, and undamaged materials. Ensure that all materials and installations comply with the National Electrical Code (NEC), TxDOT standards and specifications, National Electrical Manufacturers Association (NEMA), and are listed by Underwriters Laboratories (UL) or a Nationally Recognized Testing Lab (NRTL). NRTLs such as CSA Group, Intertek Testing Services, or FM Approvals can be considered equivalent to UL. Where reference is made to NEMA listed devices, International Electrotechnical Commission (IEC) listed devices will not be considered an acceptable equal to NEMA. Faulty fabrication or poor workmanship in any material, equipment, or installation is justification for rejection. Replace or reinstall rejected material or equipment at no additional cost to the Department.

3. Miscellaneous nuts, bolts, and hardware, except for high strength bolts, may be stainless steel when plans specify galvanized, provided the bolt size is 1/2 in. or less in diameter.

4. Provide the following test equipment as required by the Engineer to confirm compliance with the contract and the NEC: voltmeter, ammeter, megohm meter (1000 volt DC), ground resistance tester, torque wrenches, and torque screwdrivers. Ensure all equipment has been properly calibrated within the last year. Provide calibration certification to the Engineer upon request. Operate test equipment during inspection as requested by the Engineer.

5. Install grounding as shown on the plans and in accordance with the NEC. Ensure all metallic conduits, metal poles, luminaires, and metal enclosures are bonded to an equipment grounding conductor. Provide stranded bare copper or green insulated grounding conductors. Ground rods, connectors, and bonding jumpers are subsidiary to the various bid items.

6. When required by the Engineer, notify the Department in writing of materials from the Material Producer List (MPL) intended for use on each project. Prequalified materials are listed on the MPL on TxDOT's website under "Roadway Illumination and Electrical Supplies." No substitutions will be allowed for materials on this list.

CONDUIT

A. MATERIALS

1. Provide conduit, junction boxes, fittings, and hardware per TxDOT Departmental Material Specification DMS-11030, "Conduit" and Item 618, "Conduit" of TxDOT's "Standard Specifications for Construction and Maintenance of Highways, Streets, And Bridges," latest edition. Provide conduits listed under Item 618 on the MPL under "Roadway Illumination and Electrical Supplies." Provide conduit types according to the descriptive code or as shown on the plans. Do not substitute other types of conduits for those shown. Provide Liquidtight Flexible Metal Conduit (LFMC) when flexible conduit is called for on galvanized steel Rigid Metal Conduit (RMC) systems. Provide Liquidtight Flexible Nonmetallic Conduit (LFNC) when flexible conduit is called for on Polyvinyl Chloride (PVC) systems.

2. Provide galvanized steel RMC for all exposed conduits, unless otherwise shown on the plans. Properly bond all metal conduits.

3. Unless otherwise shown on the plans, provide junction boxes with a minimum size as shown in the following table, which applies to the greatest number of conductors entering the box through one conduit with no more than four conduits per box. When a mixture of conductor sizes are present, count the conductors as if all are of the larger size. For situations not applicable to this table, size junction boxes per the NEC.

JUNCTION BOX SIZES

AWG	3 CONDUCTORS	5 CONDUCTORS	7 CONDUCTORS
#1	10" x 10" x 4"	12" x 12" x 4"	16" x 16" x 4"
#2	8" x 8" x 4"	10" x 10" x 4"	12" x 12" x 4"
#4	8" x 8" x 4"	10" x 10" x 4"	10" x 10" x 4"
#6	8" x 8" x 4"	8" x 8" x 4"	10" x 10" x 4"
#8	8" x 8" x 4"	8" x 8" x 4"	8" x 8" x 4"

4. Junction boxes with internal volumes up to 100 cu. in. and that are supported by entering raceways must have threaded entries or hubs identified for the intended purpose and be supported by connection of two or more rigid metal conduits. Secure conduit within 3 ft. of the box or within 18 in. of the box if all conduit entries are on the same side. Mechanically secure all junction boxes with an internal volume greater than 100 cu. in.

5. Provide hot dipped galvanized cast iron or sand cast aluminum outlet boxes for junction boxes containing only 10 AWG or 12 AWG conductors. Do not use die cast aluminum boxes. Size outlet boxes according to the NEC.

6. Do not use Intermediate Metal Conduit (IMC) or Electrical Metallic Tubing (EMT) unless specifically required by the plan sheets. When EMT is called for, provide junction boxes sized as directed above, listed and approved for outdoor use, unless otherwise noted on the plans. Provide junction boxes for IMC conduit systems that meet the same requirements for junction boxes used with RMC systems.

7. Provide PVC junction boxes intended for outdoor use on PVC conduit systems, unless otherwise noted on the plans.

8. Provide PVC elbows, unless otherwise shown in the plans. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the PVC conduit system.

A. MATERIALS (CONTINUED)

9. When galvanized steel RMC elbows are specifically called for in the plans and any portion of the RMC elbow is buried less than 18 in. below grade or bottom of the ground box, ground the RMC elbow with a grounding bushing on a rigid metal extension. Grounding of the rigid metal elbow is not required if the entire RMC elbow is encased in a minimum of 2 in. of concrete. PVC extensions are allowed on these concrete encased rigid metal elbows. Elbows are subsidiary to various bid items.

10. When required, provide High-Density Polyethylene (HDPE) conduit with factory installed internal conductors according to DMS-11060, "Duct Cable." At the Contractor's request and with approval by the Engineer, substitute HDPE conduit with no conductors according to DMS-11030 for PVC conduit bid under Item 618. Provide conduit of the size and schedule as shown on the plans. Do not extend HDPE conduit into ground boxes or foundations. Provide PVC elbows at all ground boxes and foundations.

11. Use two-hole straps or strut straps when supporting 2 in. and larger conduits. On electrical service poles, properly sized stainless steel or hot dipped galvanized strut straps or stand-off straps are allowed on the service riser conduit.

B. CONSTRUCTION METHODS

1. Provide and install expansion joint conduit fittings on all structure-mounted conduits at the structure's expansion joints to allow for movement of the conduit. In addition, provide and install expansion joint fittings on all continuous runs of galvanized steel RMC conduit externally exposed on structures such as bridges at maximum intervals of 150 ft. When requested by the project Engineer, supply manufacturer's specification sheet for expansion joint conduit fittings. Repair or replace expansion joint fittings that do not allow for movement at no additional cost to the Department. Provide the method of determining the amount of expansion to the Engineer upon request. Do not use LFMC or LFNC as a substitute for the required expansion conduit fittings.

2. Space all conduit supports at maximum intervals of 5 ft. Install conduit spacers when attaching metal conduit to surfaces of concrete structures. See "Conduit Mounting Options" on ED(2). Install conduit supports within 3 ft. of all enclosures and conduit terminations.

3. Do not attach conduit supports directly to pre-stressed concrete beams, except as shown specifically in the plans or as approved by the Engineer.

4. Unless otherwise shown on the plans, jack or bore conduit placed beneath existing roadways, driveways, sidewalks, or after the base or surfacing operation has begun. Backfill and compact the bore pits below the conduit per Item 476 "Jacking, Boring, or Tunneling Pipe or Box" prior to installing conduit or duct cable to prevent bending of the connections.

5. When placing conduit in the subgrade of new roadways, backfill all trenches with excavated material unless otherwise noted on the plans. When placing conduit in the subbase of new roadways, backfill all trenches with cement-stabilized base as per requirements of Items: 110, "Excavation;" 400, "Excavation and Backfill for Structures;" 401, "Flowable Backfill;" 402, "Trench Excavation Protection;" and 403, "Temporary Special Shoring."

6. During construction, temporarily cap or plug open ends of all conduit and raceways immediately after installation to prevent entry of dirt, debris and animals. Temporary caps constructed of durable duct tape are allowed. Tightly affix the tape to the conduit opening. Clean out the conduit and prove it clear in accordance with Item 618 prior to installing any conductors.

7. Ensure conduit entry into the top of an enclosure is waterproof by installing conduit sealing hubs or using boxes with threaded bosses. This includes surface mounted safety switches, meter cans, service enclosures, auxiliary enclosures and junction boxes. Grounding bushings on water tight sealing hubs are not required.

8. Fit the ends of all PVC conduit terminations with bushings or bell end fittings. Provide and install a grounding bushing on all metal conduit terminations.

9. Install a bonding jumper from each grounding bushing to the nearest ground rod, grounding lug, or equipment grounding conductor. Ensure all bonding jumpers are the same size as the equipment grounding conductor. Bonding of conduit used as a casing under roadways for duct cable is not required, if the duct extends the full length through the casing.

10. Place conduits entering ground boxes so that the conduit openings are between 3 in. and 6 in. from the bottom of the box. See the ground box detail on sheet ED(4).

11. After completion of conductor installation, immediately seal ends of all conduits emerging from ground with duct seal, expandable foam, or other methods approved by the Engineer. Do not use silicone caulking. Do not use duct tape as a permanent seal.

12. File smooth the cut ends of all mounting strut and conduit. To avoid overspray, paint the field cut ends of all mounting strut and RMC (threaded or non-threaded) with zinc rich paint (94% min. zinc content as specified on DMS-8103 and listed on the MPL for Galvanizing Repair Paints) before installing. Use zinc rich paint to touch up galvanized material as allowed under Item 445 "Galvanizing." Do not paint non-galvanized material with zinc rich paint as an alternative for materials required to be galvanized.

13. For all conduits, ensure the burial depth is 18" min. For conduits placed under a roadway, ensure the burial depth is 24" min.

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS CONDUITS & NOTES

ED(1)-25

FILE:	ed1-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT	April 2025	CONT	SECT	JOB	HIGHWAY
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4-98 5-03		PHR	CAMERON		228
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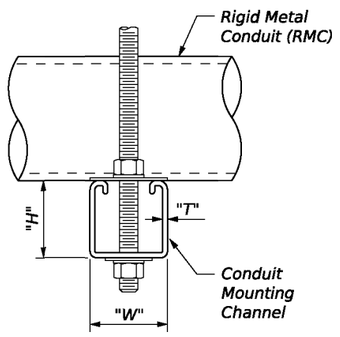
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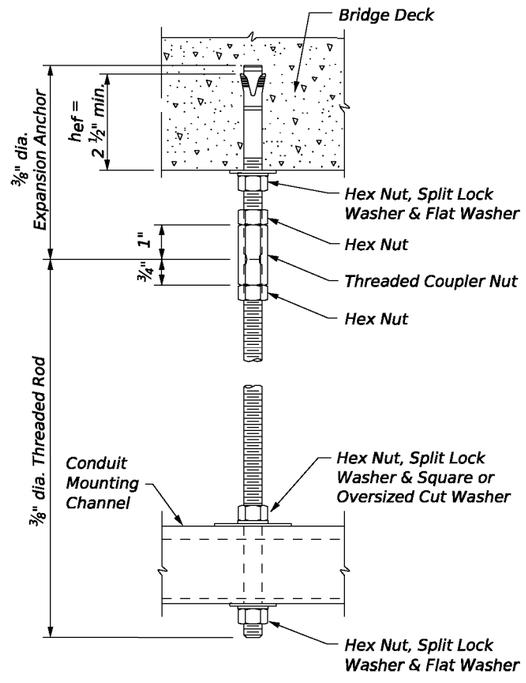
ELECTRIC CONDUIT TO BRIDGE DECK ATTACHMENT

HANGER ASSEMBLY DETAIL

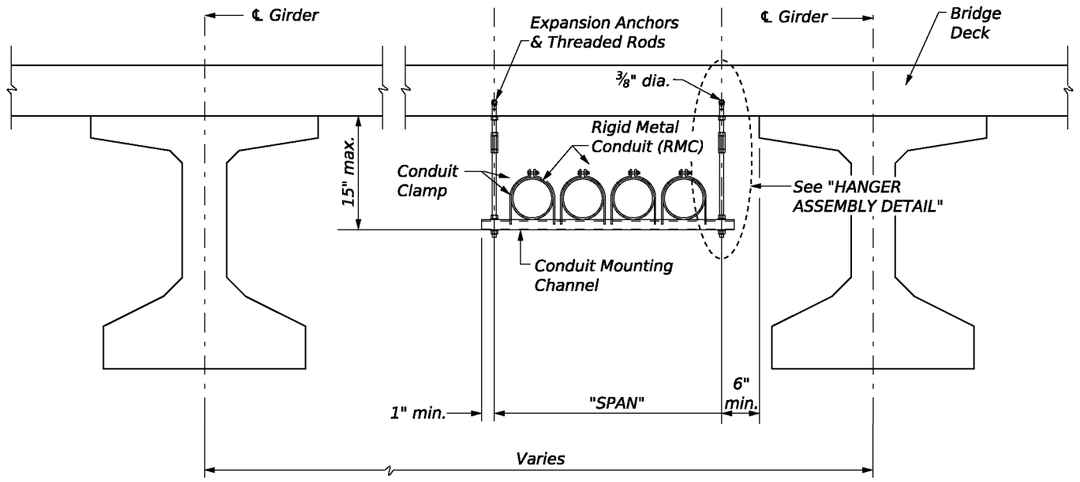
CONDUIT MOUNTING CHANNEL		
"SPAN"	"W" x "H"	"T"
less than 2'	1 5/8" x 1 3/8"	12 ga.
2'-0" to 2'-6"	1 5/8" x 1 5/8"	12 ga.
>2'-6" to 3'-0"	1 5/8" x 2 7/16"	12 ga.

NOTE: Channels with round or short slotted hole patterns are allowed, provided the load carrying capacity is not reduced by more than 15%.



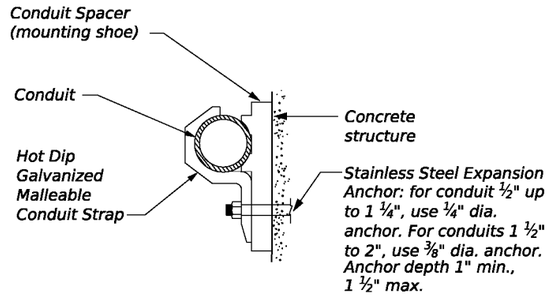


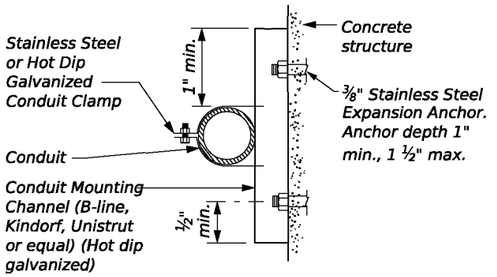
CONDUIT HANGING DETAIL



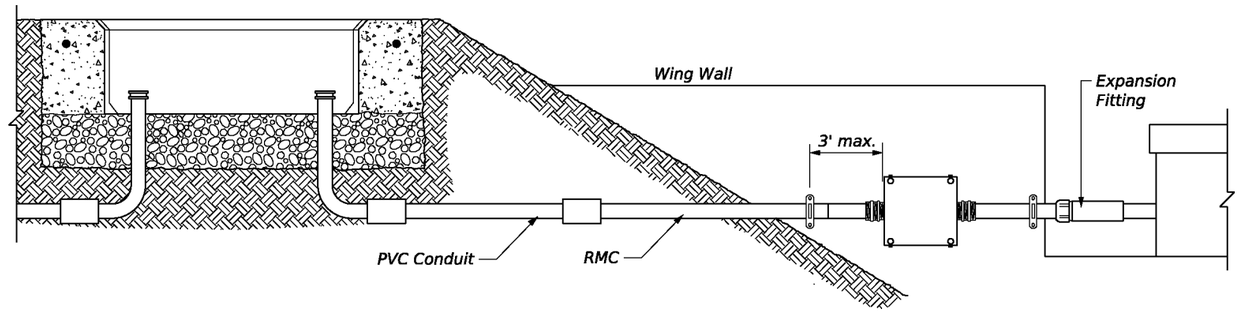
CONDUIT MOUNTING OPTIONS

ATTACHMENT TO CONCRETE SURFACES - SEE ED(1), CONDUIT, NOTE B.2





TYPICAL CONDUIT ENTRY TO BRIDGE STRUCTURE DETAIL



EXPANSION ANCHOR NOTES FOR BRIDGE DECK ATTACHMENT:

1. Use torque controlled mechanical expansion anchors that are approved for use in cracked concrete by the International Code Council, Evaluation Service (ICC-ES). The chosen anchor product shall have a designated ICC-ES Evaluation Report number, and its approval status shall be maintained on the ICC-ES website under Division 031600 for Concrete Anchors.

2. Unless otherwise approved by the Engineer: do not use adhesive anchors; do not use expansion anchors that are not included in the ICC-ES approval list; and do not use expansion anchors that are only approved for use in uncracked concrete.

3. Use anchors manufactured with stainless steel expansion wedges. Anchors manufactured with carbon steel expansion wedges are not allowed. Anchor bodies can be either zinc-plated carbon steel or stainless steel. Provide only stainless steel anchor bodies and expansion wedges for applications in marine environments.

4. Install anchors as shown on the plans and in accordance with the anchor manufacturer's published installation instructions. Arrange a field demonstration test to evaluate the procedures and tools. The test shall be witnessed and approved by the Engineer prior to furnishing anchors on the structure.

5. Prior to hole drilling, use rebar locator to ensure clearing of existing deck strands or reinforcement. Install anchors to ensure a minimum effective embedment depth, (h_{ef}), as shown. Increase (h_{ef}) as needed to ensure sufficient thread length for proper torquing and tightening of anchors.

6. Use anchors of at least 1600 lbs. tensile capacity (minimum of steel, concrete breakout, and concrete pullout strengths as determined by ACI 318 Appendix D) at the required minimum embedment depth (h_{ef}). No lateral loads shall be introduced after conduit installation.

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS CONDUIT SUPPORTS

ED(2)-25

FILE: ed2-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
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ELECTRICAL CONDUCTORS

A. MATERIAL INFORMATION

1. Provide Type XHHW insulated copper conductors in accordance with Departmental Material Specification DMS-11040, "Conductors" and Item 620, "Electrical Conductors." Provide conductors as listed on the Material Producer List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies" Item 620.
2. Identify grounded (neutral) conductors with white insulation. Identify grounding conductors (ground wires) with green insulation or bare conductors. Identify ungrounded (hot) conductors with any color insulation except green, white, or gray. Keep color scheme consistent throughout the wiring system. Identify conductors 6 American Wire Gauge (AWG) and smaller by continuous color jacket. Identify electrical conductors 4 AWG and larger by continuous color jacket or by colored tape. When identifying conductors with colored tape, mark at least 6 in. of the conductor's insulation with half laps of tape at each accessible location.
3. Insulated grounding conductors may be substituted for bare conductors, unless otherwise shown in the plans. Insulated grounding conductors must be color coded green in accordance with Note 2.
4. Provide a 6 AWG bare solid copper grounding electrode conductor to bond the electrical service equipment to the concrete encased grounding electrode or the ground rod at the service location. Connect the grounding electrode conductor to the ground rod with a UL listed connector in accordance with DMS-11040. Connect the grounding electrode conductor to the concrete encased grounding electrode as shown in the plans.
5. Where two or more circuits are present in one conduit or enclosure, permanently label the conductors of each branch circuit by attaching a non-metallic, weather resistant tag around both circuit conductors at each accessible location. Provide one-piece tags with two $\frac{3}{16}$" straps, large enough to indicate circuit number, letter, or other identification as shown in the plans. Print circuit identification on the tag with a permanent marker.
6. Use listed compression connectors, mechanical lugs, terminal blocks, or split bolt connectors for splicing as specified in DMS-11040. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Provide UL listed gel-filled insulating splice covers. Splicing materials, insulating materials, breakaway disconnects, splice covers, and fuse holders are subsidiary to various bid items.

B. CONSTRUCTION METHODS

1. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the conduit system.
2. Leave 2 ft. to 3 ft. of length for each conductor up to the splice in ground boxes. Leave 3 ft. to 4 ft. of length for each conductor in ground boxes when pulled through with no splice. Leave 1 ft. to 1.5 ft. of length for each conductor at enclosures and pole bases. Leave 1.5 ft. to 3 ft. of length as required by electric utility for conductors exiting weatherheads.
3. Make splices only in junction boxes, ground boxes, pole bases, or electrical enclosures and use only listed compression connectors, mechanical lugs, terminal blocks, or split bolt connectors. Insulate splices with heavy wall heat shrink tubing or gel-filled insulating splice covers to provide a watertight splice. Overlap conductor insulation with heat shrink tubing a minimum of 2 in. past both sides of the splice. Where heat shrink tubing may not shrink sufficiently to provide a watertight seal around the individual conductors, prior to heating the tubing, increase the diameter of the conductor insulation using hot melt adhesive tape to provide a watertight seal between each conductor and the heat shrink tubing. Ensure the tape extends past the heat shrink tubing. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Heat shrink tubing that appears to have been burned or overheated is considered defective and must be replaced.
4. Size and install gel-filled insulating splice covers according to manufacturer's specifications when used in place of heat shrink tubing.
5. Wire nuts with factory applied waterproof sealant may be used for 8 AWG or smaller conductors in above ground junction boxes, but not in pole bases or ground boxes. Install wire nuts in an upright position to prevent the accumulation of water.
6. Support conductors in illumination poles with a J-hook at the top of the pole.
7. When terminating conductors, remove the insulation and jacketing material without nicking the individual strands of the conductor. Conductors with nicked individual conductor strands or removed strands will be considered damaged.
8. Replace conductors and cables that are damaged or that fail an insulation resistance test at no additional cost to the Department.
9. Do not repair damaged conductors with duct tape, electrical tape, or wire nuts. Use only approved splicing methods.

B. CONSTRUCTION METHODS (CONTINUED)

10. Do not terminate more than one conductor under a single lug unless it is rated for multiple conductors. Do not exceed the lug's listing for maximum number and size of conductors allowed.
11. Follow manufacturer's instructions when terminating conductors to breakaway connectors. Properly torque threaded connections. Proper terminations are critical to the safe operation of breakaway devices. Trim waterproofing boots on breakaway connectors to fit snugly around the conductor to ensure a waterproof connection. Only one conductor may enter a single opening in a boot. Provide waterproof boots with the correct number of openings. Leave unused openings factory sealed. Use prequalified breakaway connectors as shown on the MPL.
12. Provide and install a separate stranded equipment grounding conductor (EGC) in all conduits that contain circuit wiring of 50 volts or more. Unless shown elsewhere, size the EGC to be the same size as the largest current carrying conductor in the conduit. Bond all EGCs together at every accessible location. For ITS installations, bond and ground metal ground box covers and other metal equipment as shown on ITS standards.

C. TEMPORARY WIRING

1. Install temporary conductors and electrical equipment in accordance with the NEC article "Temporary Installations" and Department standard sheets.
2. Provide a ground fault circuit interrupter (GFCI) for powering portable electrical equipment, power tools, ice machines, ice storage bins and refrigerators located outdoors at grade. GFCI may be any one of the following: molded cord and plug set, receptacle, or circuit breaker type.
3. Use listed wire nuts with factory applied sealant for temporary wiring where approved.
4. Enclose conductor splices within a listed enclosure or ground box, or ensure the splices are more than 10 ft. above grade vertically and more than 5 ft. horizontally from any metal structure. When installing temporary conductors in areas subject to vehicle traffic or mobile construction equipment, ensure the vertical clearance to ground is at least 18 ft. when measured at the lowest point. Ground messenger wires that support power conductors in conformance with the NEC.
5. Protect and when necessary repair any existing electrical conduits uncovered during the construction process in a timely manner and in conformance with the NEC.

GROUND RODS & GROUNDING ELECTRODES

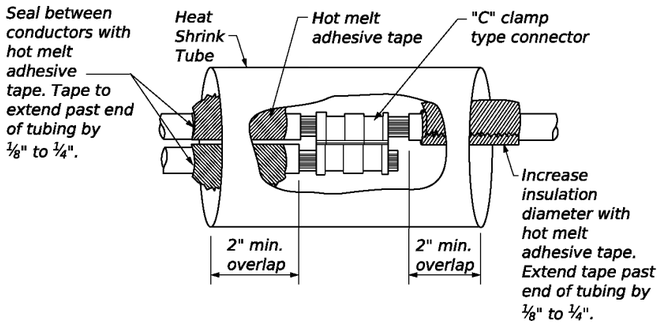
A. MATERIAL INFORMATION

1. Provide and install a grounding electrode at electrical services. Provide ground rods according to DMS-11040 and the plans. Larger diameter or longer length rods may be called for in some locations. Concrete encased grounding electrodes may be called for in some locations including electrical services — see plan sheets.

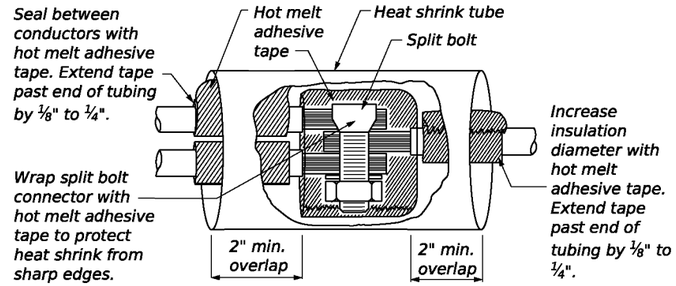
B. CONSTRUCTION METHODS

1. Furnish and install ground rods in soil, concrete, or both, as called for in the plans. For ground rods installed in concrete, ensure the connection of the conductor to the ground rod is readily accessible for inspection or repairs. For ground rods installed in soil, ensure that the upper end is between 2 to 4 in. below finished grade.
2. Do not place ground rods in the same drilled hole as a timber or concrete pole.
3. Install ground rods so the imprinted part number is at the upper end of the rod.
4. Remove all non-conductive material such as concrete splatter from the rod at the clamp location.
5. Route all conductors as short and straight as possible for connection to lightning protection ground rods. When a bend is required, ensure a minimum radius bend of 4 in.
6. Unless otherwise called for in the plans, protect grounding electrode conductors with non-metallic conduit. When protecting grounding electrode conductors with metal conduit, provide and install a grounding bushing and properly sized bonding jumper on each end of the metal conduit.
7. Written authorization is required before installing a ground rod in a horizontal trench for rocky soil or a solid rock bottom.

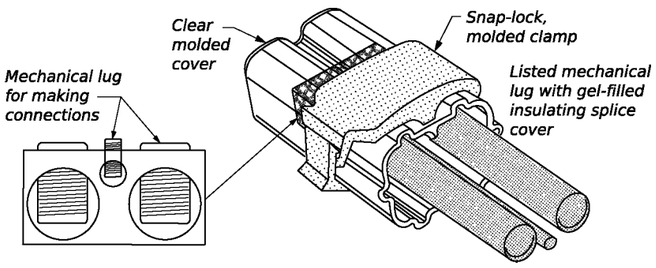
COMPRESSION SPLICE
OPTION 1



SPLIT BOLT SPLICE
OPTION 2



GEL-FILLED INSULATED SPLICE
OPTION 3



Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS CONDUCTORS

ED(3)-25

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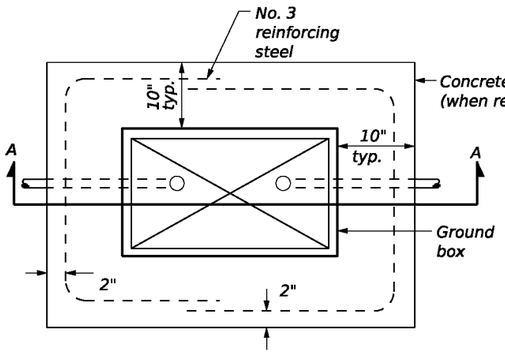
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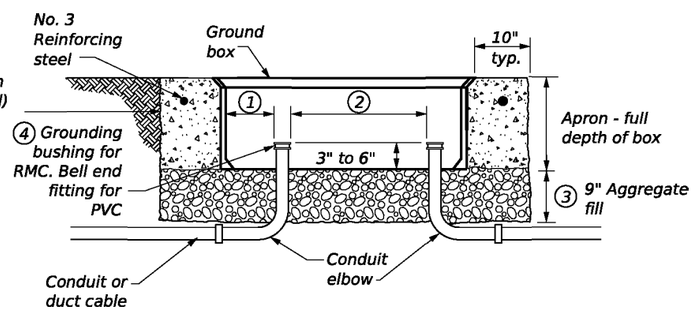
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APRON FOR GROUND BOX

PLAN VIEW



SECTION A - A



SECTION A - A NOTES:

1. *Uniformly space ends of conduits within the ground box. Position ends of conduits so that ground box walls do not interfere with the installation of grounding bushings or bell end fittings.*
2. *Maintain sufficient space between conduits to allow for proper installation of bushing.*
3. *Place aggregate under the box, not in the box. Aggregate should not encroach on the interior volume of the box.*
4. *Install a grounding bushing on the upper end of all RMC terminating in a ground box. Ground RMC elbows when any part of the elbow is less than 18 in. below the bottom of the ground box. Install a PVC bushing or bell end fitting on the upper end of all PVC conduits terminating in a ground box.*

GROUND BOXES	
TYPE	OUTSIDE DIMENSIONS (Width x Length X Depth)
A	12" X 23" X 11"
B	12" X 23" X 22"
C	16" X 29" X 11"
D	16" X 29" X 22"
E	12" X 23" X 17"

NOTES:

A. MATERIALS

1. *Provide polymer concrete ground boxes measuring 16 in. x 30 in. x 24 in. (W x L x D) or smaller in accordance with Departmental Material Specification DMS-11070, "Ground Boxes" and Item 624, "Ground Boxes."*
2. *Provide Type A, B, C, D, and E ground boxes as shown in the plans and as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Item 624.*
3. *Ensure ground box cover is correctly labeled in accordance with DMS-11070.*
4. *Provide larger ground boxes in accordance with Item 624 and as shown in the plans.*

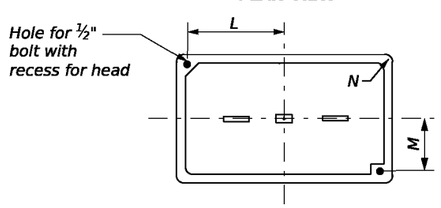
B. CONSTRUCTION METHODS

1. *Before setting ground box and after placing and capping conduits, lay an aggregate bed a minimum of 9 in. deep that extends 10 in. beyond the sides of the ground box. Provide coarse aggregate sized 3/4 in. to 2 in., with no more than 20% material passing through a no. 8 sieve, and as defined by the current ASTM C33/33M standard. Clean aggregate and dirt from conduits according to Item 618.*
2. *Cast ground box aprons in place. Reinforcing steel may be field bent. Ensure the depth of concrete for the apron extends from finished grade to the top of the aggregate bed under the box. Ground box aprons, including concrete and reinforcing steel, are subsidiary to ground boxes when called for by descriptive code.*
3. *Keep bolt holes in the box clear of dirt. Bolt covers down when not working in ground boxes.*
4. *Install all conduits and elbows in a professional and skillful manner. Uniformly space conduits so grounding bushings and bell end fittings can easily be installed.*
5. *Temporarily seal all conduits in the ground box until conductors are installed.*
6. *Permanently seal conduits immediately after the completion of conductor installation. Permanently seal the ends of all conduits with duct seal, expandable foam, or other method as approved. Do not use duct tape as a permanent conduit seal. Do not use silicone caulk as a sealant.*
7. *Bond all equipment grounding conductors in a ground box together with listed connectors.*
8. *When a Type B or D ground box is stacked to meet volume requirements, an appropriately sized hole may be cut for conduit entry in the side wall at least 18 in. below grade.*
9. *If an existing ground box in the contract has a metal cover, bond the cover to the equipment grounding conductor with a 3 ft. long stranded bonding jumper that is the same size as the grounding conductor. The bonding jumper is subsidiary to various bid items. Verify existing ground boxes with metal covers are shown on the plans, with notes fully describing the work required.*
10. *If other ground boxes with metal covers are within the project limits but are not part of the contract, the Engineer may direct the Contractor to bond the metal covers, identifying the specific boxes in writing. This work will be paid for separately.*
11. *Bond metal ground box covers to the grounding conductor with a tank ground type lug.*

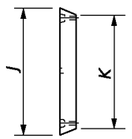
GROUND BOX COVERS								
TYPE	DIMENSIONS							
	H	I	J	K	L	M	N	P
A, B & E	23 ¼"	23"	13 ¾"	13 ½"	9 ⅞"	5 ⅛"	1 ⅜"	2"
C & D	30 ½"	30 ¼"	17 ½"	17 ¼"	13 ¼"	6 ¾"	1 ⅜"	2"

GROUND BOX COVER

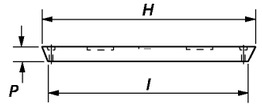
PLAN VIEW



END



SIDE



Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS GROUND BOXES

ED(4)-25

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ELECTRICAL SERVICES NOTES

1. Provide electrical services in accordance with Electrical Details standard sheets, Departmental Material Specification (DMS)-11080, "Electrical Services" and Item 628, "Electrical Services." Provide electrical service types A, C, and D, as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Item 628. Provide other service types as detailed on the plans.

2. Coordinate with the Engineer and the utility provider for metering and compliance with utility requirements. Primary line extensions, connection charges, meter charges, and other charges by the utility company to provide power to the location are paid for in accordance with Item 628. Get approval for the costs associated with these charges prior to engaging the utility company to do the work. Consult with the utility provider to determine costs and requirements, and coordinate the work as approved.

3. Provide a Master Lock, Model No. 2, M1, or 6121, keyed to code 2195. Master Lock 2195 keys and locks become property of the Department. Unless otherwise approved, do not energize electrical service equipment until locks are installed.

4. Enclosures with external disconnects that de-energize all equipment inside the enclosure do not need a dead front trim. Protect incoming line terminations from incidental contact as required by the NEC.

5. When galvanized is specified for nuts, screws, bolts or miscellaneous hardware, stainless steel may be used.

6. Provide wiring and electrical components rated for 75°C. Provide red, black, and white colored XHHW service entrance conductors of minimum size 6 American Wire Gauge (AWG). Identify conductors per ED(3). Ensure each service entrance conductor exits through a separately bushed non-metallic opening in the weatherhead. The lengths of the conductors outside the weatherhead are to be 1.5 ft. to 3 ft. as required by electric utility.

7. Provide rigid metal conduit (RMC) for all conduits on service, except for the ½ in. PVC conduit containing the electrical service grounding electrode conductor. Size the service entrance conduit as shown in the plans. Ensure conduit for branch circuit entry to enclosure is the same size as shown on the layout sheets for branch circuit conduit. Extend all rigid metal conduits a minimum of 6 in. underground and then couple to the type and schedule of the conduit shown on the plans. Install a grounding bushing on the RMC where it terminates in the service enclosure.

8. Use of liquidtight flexible metal conduit (LFMC) is allowed between the meter and service enclosure when they are mounted 90 to 180 degrees from each other. Size this LFMC the same size as the service entrance conduit. LFMC must not exceed 3 ft. in length. Strap LFMC within 1 ft. of each end. Terminate each end of the LFMC with a grounding bushing or fitting. The LFMC must contain a grounded (neutral) conductor. Ensure bends in LFMC do not exceed 180 degrees. A pull test is required on all installed conductors, with at least 6 in. of free conductor movement demonstrated to the satisfaction of the Engineer.

9. Ensure all mounting hardware and installation details of services conform to utility company specifications.

10. Provide the following documents in the electrical service document pocket: schematic drawing unique to the service from the UL 508 shop; plan sheet showing Electrical Service Data Chart for the service; plan sheets for the circuits powered by the service; and red lined plan sheets if installation differs from the original design. Reduce larger sheets to 8 ½ in. x 11 in. and laminate all documents.

11. When providing an "Off The Shelf" Type D or Type T service, provide laminated plan sheets detailing equipment and branch circuits supplied by that service. Reduce 11 in. x 17 in. plan sheets to 8 ½ in. x 11 in. before laminating. When the enclosure has no door pocket, deliver these drawings to the Engineer before completion of the work.

12. Do not install conduit in the back wall of a service enclosure where it would penetrate the equipment mounting panel inside the enclosure. Provide grounding bushings on all metal conduits, and terminate bonding jumpers to grounding bus. Grounding bushings are not required when the end of the metal conduit is fitted with a watertight conduit hub or meter hub.

MAIN DISCONNECT & BRANCH CIRCUIT BREAKERS

1. Field drill flange-mounted remote operator handle, if needed, to ensure handle is lockable in both the "On" and "Off" positions.

2. When the utility company provides a transformer larger than 50 KVA, verify that the available fault current is less than the circuit breaker's ampere interrupting capacity (AIC) rating and provide documentation from the electric utility provider to the Engineer.

PHOTOELECTRIC CONTROL

1. Provide photocell as listed on the MPL. Move, adjust, or shield the photocell from stray or ambient night time light to ensure proper operation. Mount photocell facing north when practical. Mount top of pole photocells as shown on Top Mounted Photocell Detail.

ELECTRICAL SERVICE DATA (EXAMPLE) *

ELEC. SERVICE ID	PLAN SHEET NUMBER	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE **	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN CKT. BKR. POLE/AMPS	LIGHTING CONTACTOR AMPS	PANELBOARD/ LOADCENTER AMP RATING	BRANCH CIRCUIT ID	BRANCH CKT. BKR. POLE/AMPS	BRANCH CIRCUIT AMPS	KVA LOAD
SB 183	289	ELC SRV TY A 240/480 100(SS)AL(E)SF(U)	2"	3/#2	100	2P/100	2P/100	N/A	Lighting NB	2P/40	26	28.1
									Lighting SB	2P/40	25	
									Underpass	1P/20	15	
NB Access	30	ELC SRV TY D 120/240 060(NS)SS(E)TS(O)	1 ¼"	3/#6	N/A	2P/60	2P/30	100	Sig. Controller	1P/30	23	5.3
									Luminaires	2P/20	9	
									CCTV	1P/20	3	
2nd & Main	58	ELC SRV TY T 120/240 000(NS)GS(N)SP(O)	1 ¼"	3/#6	N/A	N/A	N/A	70	Flashing Beacon 1	1P/20	4	1.0
									Flashing Beacon 2	1P/20	4	

* Example only, not for construction. All new electrical services must have electrical service data chart specific to that service as shown in the plans.

** Verify service conduit size with utility. Size may change due to utility meter requirements. Ensure conduit size meets the National Electrical Code.

ELECTRICAL SERVICE BID ITEM DESCRIPTIONS

ELEC SERV TY X XXX/XXX XXX(XX)XX(X)XX(X)

SCHEMATIC TYPE

SERVICE VOLTAGE

DISCONNECT AMP RATING
NOTE: 000 indicates main lug only, typically Type T

SAFETY SWITCH
(SS) = Safety Switch Ahead of Meter - Check with Utility
(NS) = No Safety Switch Ahead of Meter - Check with Utility

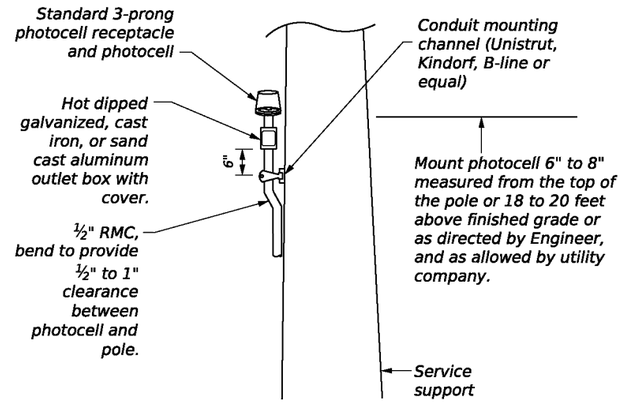
ENCLOSURE TYPE
GS = Galvanized steel ("off the shelf")
SS = Stainless steel (Custom Enclosure) - See MPL
AL = Aluminum (Custom Enclosure) - See MPL

PHOTOCELL MOUNTING LOCATION
(E) = Inside Service/Enclosure Mounted
(T) = Top of pole
(L) = Luminaire mounted
(N) = None - No Photocell or Lighting Contactor Required

SERVICE SUPPORT TYPE
GC = Granite concrete
OC = Other concrete
TP = Timber pole
SP = Steel pole
SF = Steel frame
OT = Pole by others or paid for separately
EX = Existing pole
TS = Service on traffic signal pole
PS = Pedestal Service

SERIVCE FEED
O = Overhead Service Feed from Utility
U = Underground Service Feed from Utility

TOP MOUNTED PHOTOCELL



Install conduit strap maximum 3 ft. from box. Spacing between straps supporting conduit is 5 ft. maximum.

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Traffic Safety Division Standard

ELECTRICAL DETAILS SERVICE NOTES & DATA

ED(5)-25

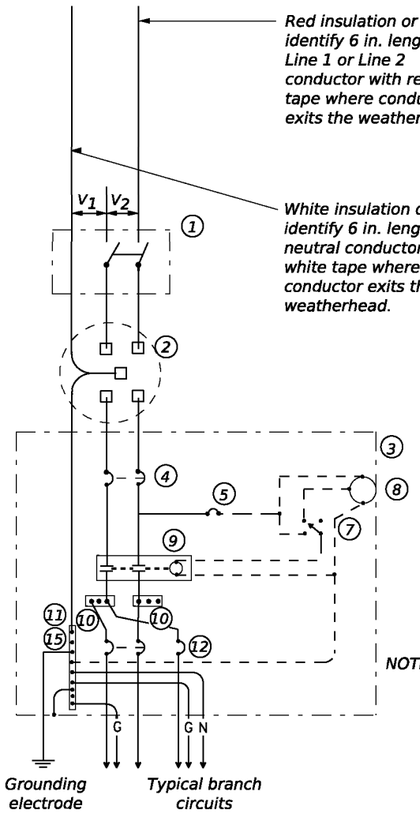
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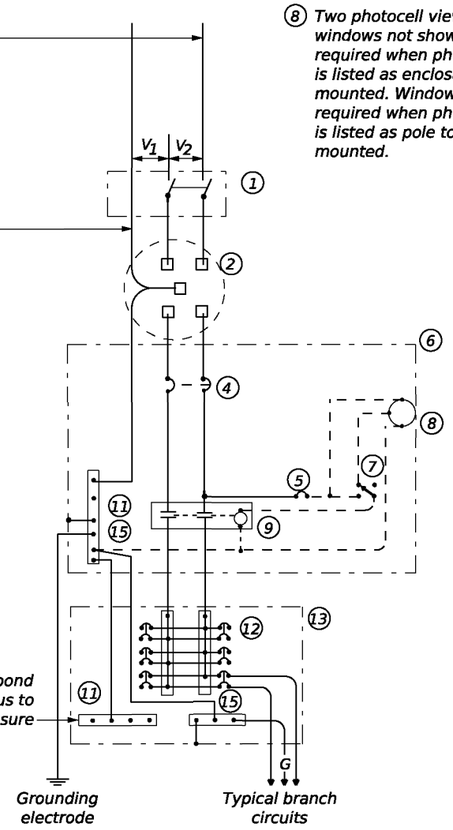
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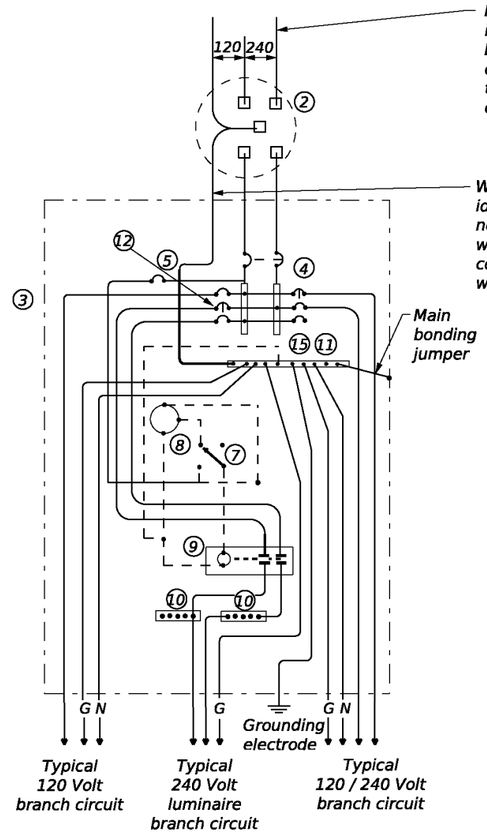
TYPE A
THREE WIRE



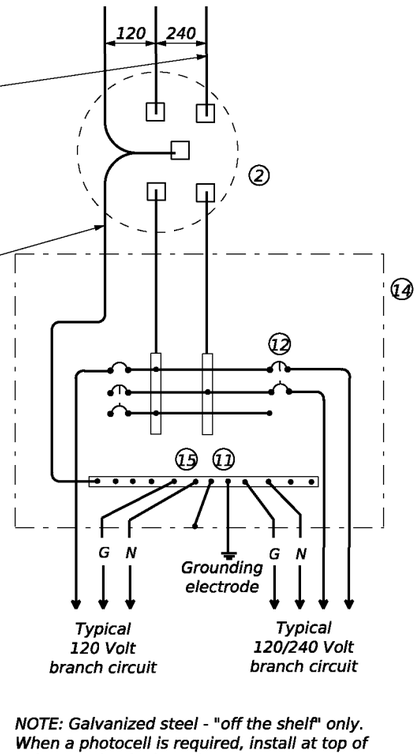
TYPE C
THREE WIRE



TYPE D - CUSTOM
120/240 VOLTS - THREE WIRE



TYPE T
120/240 VOLTS - THREE WIRE



NOTE: Galvanized steel - "off the shelf" only. When a photocell is required, install at top of pole or on luminaire only.

WIRING LEGEND	
———	Power Wiring
– – – –	Control Wiring
—N—	Neutral Conductor
—G—	Equipment grounding conductor (always required)

SCHEMATIC NOTES:

1. Safety Switch (when required)
2. Meter (when required - verify with electric utility provider)
3. Service Assembly Enclosure
4. Main Disconnect Breaker (See Electrical Service Data)
5. Circuit Breaker, 15 Amp (Control Circuit)
6. Auxiliary Enclosure
7. Control Station ("H-O-A" Switch)
8. Photo Electric Control (enclosure-mounted shown)
9. Lighting Contactor
10. Power Distribution Terminal Blocks
11. Neutral Bus
12. Branch Circuit Breaker (See Electrical Service Data)
13. Separate Circuit Breaker Panelboard
14. Load Center
15. Ground Bus

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS SERVICE SCHEMATICS AND NOTES

ED(6)-25

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	PHR	CAMERON		233

71F

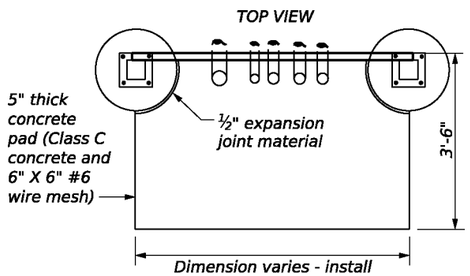
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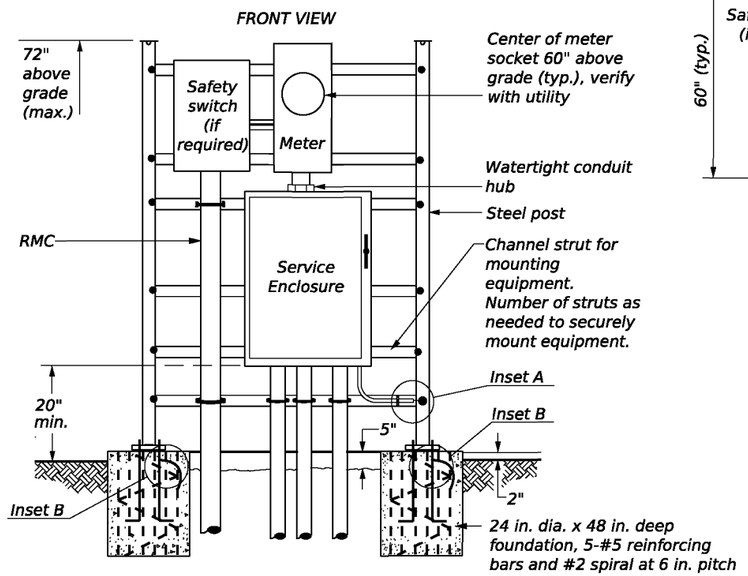
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SUPPORT TYPE STEEL POLE (SP) AND STEEL FRAME (SF) NOTES:

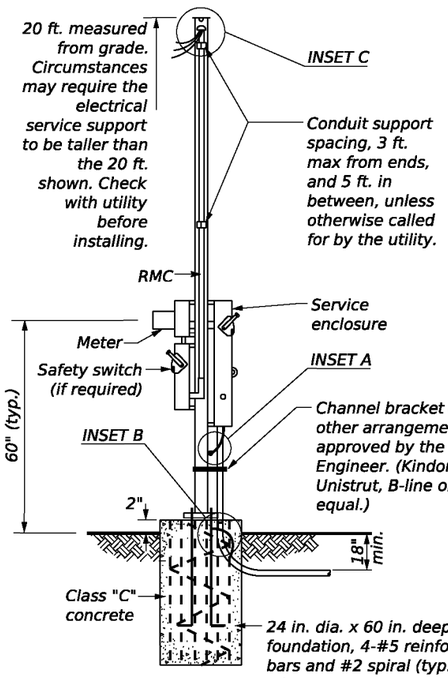
1. Provide steel pole and steel frame supports as per TxDOT Departmental Material Specification DMS-11080, "Electrical Services." Mount all equipment and conduit on 12 gauge galvanized steel or stainless steel channel strut, 1 ½ in. or 1 ⅝ in. wide by 1 in. to 3 ¾ in. deep Unistrut, Kindorf, B-line or equal. Drill, tap, and bolt or weld all channel and hardware to vertical members as approved. Do not stack channel. File smooth and paint field-cut ends of all channel with zinc-rich paint before installing.
2. Install a one point rack or eye bolt bracket 6 in. to 12 in. below the weatherhead as an overhead service drop anchoring point for the electric utility. Attaching bolt must pass through the pole and use a nut, washer, and locking washer on the other size. Self-tapping screws or lag bolts are not allowed.
3. Provide and install galvanized ¾ in. x 18 in. x 4 in. (dia. x length x hook length) anchor bolts for underground service supports. Provide and install galvanized ¾ in. x 56 in. x 4 in. anchor bolts for overhead service supports. Ensure anchor bolts have 3 in. of thread, with 3 ¼ in. to 3 ½ in. of the exposed anchor bolt projecting above finished foundation. Provide and install leveling nuts for all anchor bolts.
4. Use Class C concrete for foundations. Ensure reinforcing steel is Grade 60 with 3 in. of unobstructed concrete cover.
5. Shop drawings are not required for service support structure unless specifically stated elsewhere or directed by the Engineer.
6. Avoid contact of the service drop and service entrance conductors with the metal pole to prevent abrasion of the insulated conductors.
7. Placement of the meter and service enclosure may vary based on the installation of a safety switch.
8. Drill and tap steel poles and frames for ½ in. x 13 UNC tank ground fitting. For steel pole service supports, provide and install tank ground fitting 4 in. to 6 in. directly below the electrical service enclosure. Provide properly sized hole through the bottom of the enclosure for the service grounding electrode conductor. Ensure electrical service grounding electrode conductor is as short and straight as possible from the enclosure to the tank ground fitting.
9. For steel frame service supports, provide and install tank ground fitting on steel frame post. Install service grounding electrode conductor in a non-metallic conduit or tubing from the enclosure to the steel frame post. Connect electrical service grounding electrode conductor to the tank ground fitting. See SF, SP details and Inset A for more information.
10. Provide and install grounding bushings where RMC terminates in the enclosure. Grounding bushings are not required when RMC is fitted into a watertight conduit hub or meter hub.
11. If steel pole or frame is painted, bond each separate painted piece with a bonding jumper and lugs screwed into tapped holes.
12. Provide ¼ in. x 20 UNC machine screws for bonding. Do not use sheet metal screws. Remove all non-conductive material at contact points. Terminate bonding jumpers with listed devices. Install 6 AWG or larger stranded copper bonding jumpers. Make up all threaded bonding connections wrench-tight.
13. Bond one of the anchor bolts to the rebar cage with 6 AWG bare stranded copper conductor. Use listed mechanical connectors rated for embedment in concrete. See Inset B.

TYPE SF(U)
UNDERGROUND SERVICE

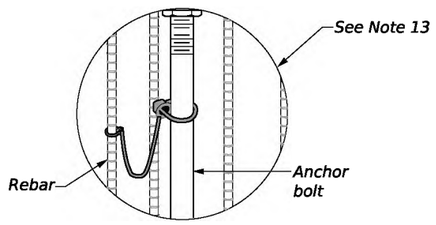




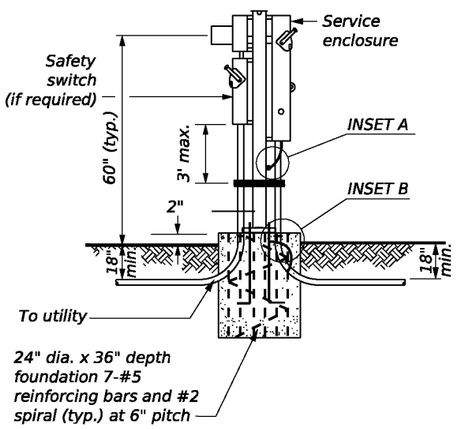
TYPE SP(O)
OVERHEAD SERVICE



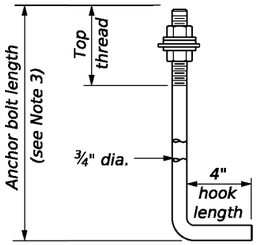
INSET B



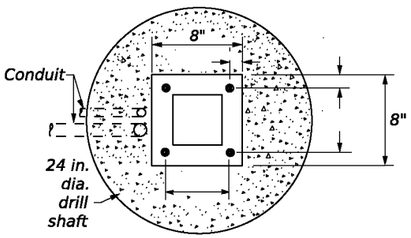
TYPE SP(U)



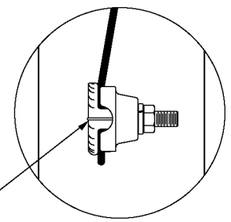
HOOKED ANCHOR DETAIL



BASE PLATE DETAIL

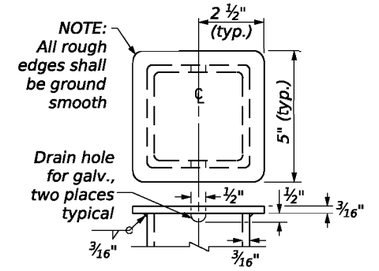


INSET A
FRONT VIEW

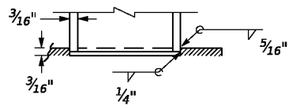


Drill, tap, and thread ½" x 13 UNC. Install tank ground fitting, connect electrical service grounding electrode conductor. See Note 8.

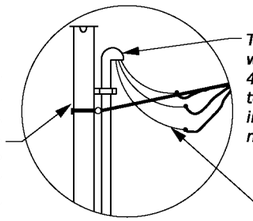
POLE TOP PLATE DETAIL



BOTTOM OF POLE DETAIL
TYPES SF & SP



INSET C
SIDE VIEW



Identify conductors red, black, and white as specified in ED(3), Electrical Conductors, Note A.2. Provide 1.5 ft. to 3 ft. of conductor length as required by electric utility.

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS SERVICE SUPPORT TYPES SF & SP

ED(7)-25

FILE: ed7-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2025	CONT	SECT	JOB	HIGHWAY
REVISIONS 1-92 3-03 4-25 4-98 5-03 12-00 10-14	0921	06	399	VAR
	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		234

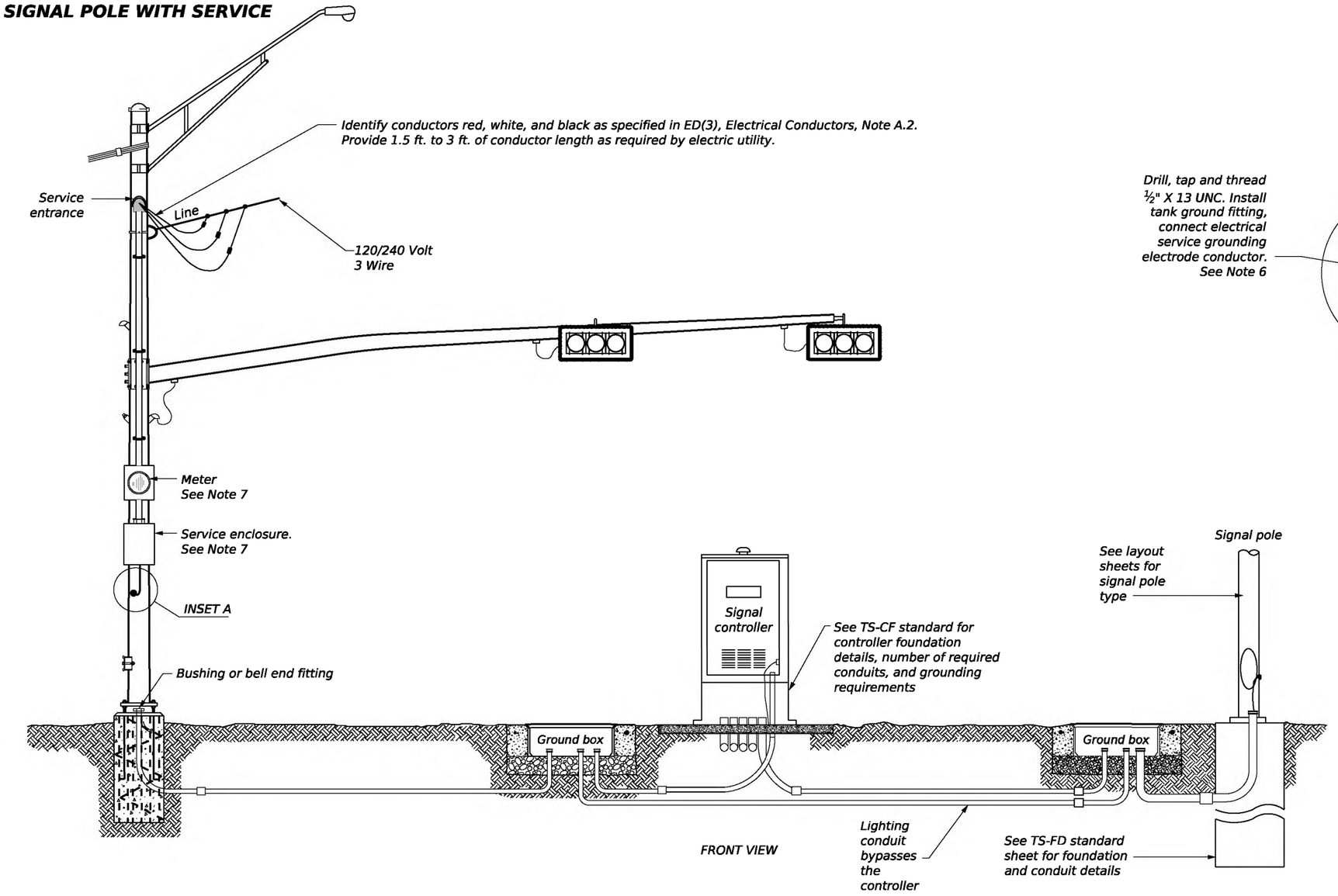
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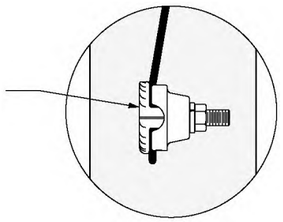
NOTES:

1. *Do not pass luminaire conductors through the signal controller cabinet.*
2. *Include an equipment grounding conductor in all conduits throughout the electrical system. Bond all exposed metal parts to the grounding conductor.*
3. *Provide roadway luminaires, when required, in accordance with Item 610, "Roadway Illumination Assemblies," except for performance testing of luminaires. Test installed roadway luminaires for proper operation as a part of the associated traffic signal system test.*
4. *Ground internally lighted street name (ILSN) signs to the pole with a 12 AWG green XHHW conductor.*
5. *Bond anchor bolts to rebar cage in two locations using #3 bars or 6 AWG stranded copper conductors. Use listed mechanical connectors rated for embedment in concrete. See TXDOT standard TS-FD for further details.*
6. *Drill and tap signal poles for ½ in. x 13 UNC tank ground fitting. Provide and install tank ground fitting 4 in. to 6 in. directly below electrical service enclosure. Provide properly sized hole through the bottom of the enclosure for the service grounding electrode conductor. Connect the electrical service grounding electrode conductor to the tank ground fitting. Ensure electrical service grounding electrode conductor is as short and straight as possible from the enclosure to the tank ground fitting. See Inset A detail for further information. Size service entrance conduit and branch circuit conduit as shown in the plans.*
7. *Mount electrical service enclosure and meter to signal pole with stainless steel bands. Ensure bands are at least ¾ in. wide. Secure enclosures to bands using two-bolt brackets. Install brackets near top and bottom of each enclosure. Install properly sized stainless steel washers on each bolt in the enclosure. Band or drill and tap properly sized stand-off straps to signal pole for attaching conduit.*
8. *Lock all enclosures and bolt down all ground box covers before applying power to the signal installation.*
9. *Terminate conduits entering the top of enclosures with a watertight conduit hub or meter hub. Install a grounding bushing on all metal conduits not connected to conduit-sealing hub or threaded boss. Bond the grounding bushing to the ground bus with a bonding jumper. Seal all conduits entering enclosures with duct seal or expanding foam. Do not use silicone to seal conduit ends.*

SIGNAL POLE WITH SERVICE



INSET A



Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS TYPICAL TRAFFIC SIGNAL SYSTEM DETAILS

ED(8)-25

FILE: ed8-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2025	CONT	SECT	JOB	HIGHWAY
REVISIONS	0921	06	399	VAR
1-92 3-03 4-25 4-98 5-03 12-00 10-14	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		235

71H

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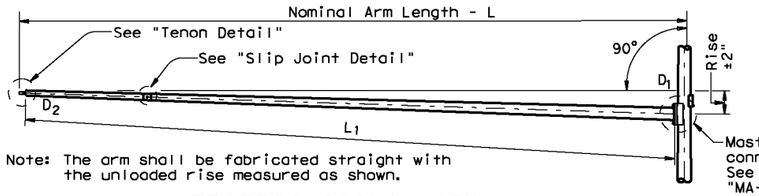
Arm Length	ROUND POLES					POLYGONAL POLES					Foundation Type
	D_B	D_{19}	D_{24}	D_{30}	① thk	D_B	D_{19}	D_{24}	D_{30}	① thk	
ft.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
20	12.0	9.3	8.6	7.8	.239	12.5	9.5	8.7	7.8	.239	36-A
24	12.0	9.3	8.6	7.8	.239	13.0	10.0	9.2	8.3	.239	36-A
28	12.0	9.3	8.6	7.8	.239	13.5	10.5	9.7	8.8	.239	36-A
32	13.0	10.3	9.6	8.8	.239	14.0	11.0	10.2	9.3	.239	36-A
36	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
40	14.0	11.3	10.6	9.8	.239	16.0	13.0	12.2	11.3	.239	36-B
44	14.5	11.8	11.1	10.3	.239	16.5	13.5	12.7	11.8	.239	36-B

Arm Length	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	① thk	Rise	L_1	D_1	② D_2	① thk	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	8.0	5.3	.179	1'-8"	19.1	8.0	3.5	.179	1'-7"
24	23.1	9.0	5.8	.179	1'-9"	23.1	9.0	3.5	.179	1'-8"
28	27.1	9.5	5.7	.179	1'-10"	27.1	10.0	3.5	.179	1'-9"
32	31.0	9.5	5.2	.239	1'-11"	31.0	9.5	3.5	.239	1'-10"
36	35.0	10.0	5.1	.239	2'-0"	35.0	10.0	3.5	.239	1'-11"
40	39.0	10.5	5.1	.239	2'-3"	39.0	11.0	3.5	.239	2'-1"
44	43.0	11.0	5.1	.239	2'-8"	43.0	11.5	4.0	.239	2'-3"

D_B = Pole Base O.D.
D_{19} = Pole Top O.D. with no Luminaire and no ILSN
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L = Nominal Arm Length

① Thickness shown are minimums, thicker materials may be used.

② D_2 may be increased by up to 1" for polygonal arms.



Note: The arm shall be fabricated straight with the unloaded rise measured as shown.

TRAFFIC SIGNAL ARM

(Fixed Mount)

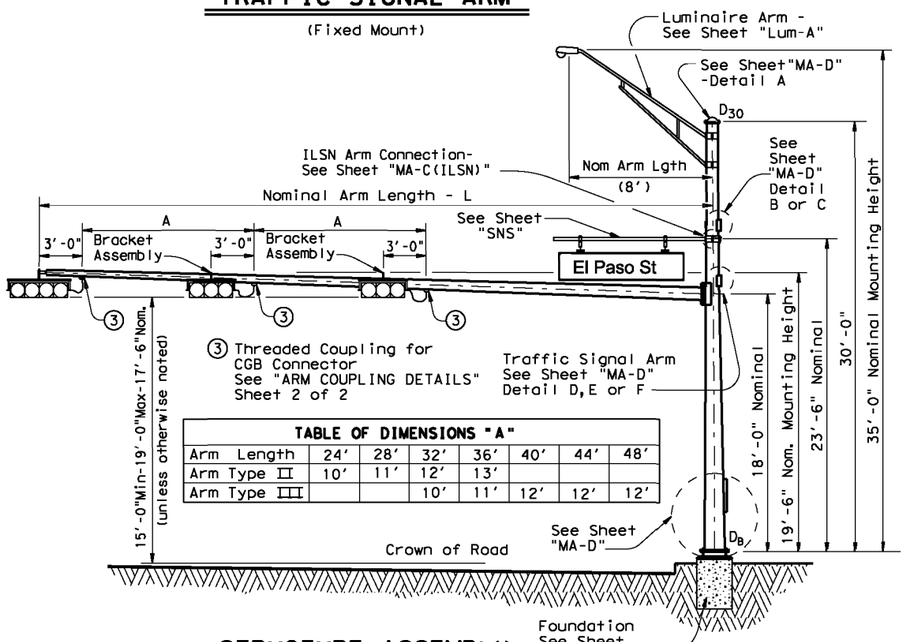


TABLE OF DIMENSIONS "A"

Arm Length	24'	28'	32'	36'	40'	44'	48'
Arm Type II	10'	11'	12'	13'			
Arm Type III			10'	11'	12'	12'	12'

STRUCTURE ASSEMBLY

SHIPPING PARTS LIST

Ship each pole with the following attached: enlarged hand hole, pole cap, fixed-arm connection bolts and washers and any additional hardware listed in the table.

Nominal Arm Length	30' Poles With Luminaire		24' Poles With ILSN		19' Poles With No Luminaire and No ILSN	
	Above hardware plus: One (or two if ILSN attached) small hand hole, clamp-on simplex		Above hardware plus one small hand hole		See note above	
ft	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20L-100		20S-100		20-100	
24	24L-100		24S-100		24-100	
28	28L-100		28S-100		28-100	
32	32L-100		32S-100		32-100	
36	36L-100		36S-100		36-100	
40	40L-100		40S-100		40-100	
44	44L-100		44S-100		44-100	

Traffic Signal Arms (1 per pole) Ship each arm with the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal)		Type II Arm (2 Signals)		Type III Arm (3 Signals)	
	1 CGB connector		1 Bracket Assembly and 2 CGB Connectors		2 Bracket Assemblies and 3 CGB Connectors	
ft	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100			
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100		36III-100	
40					40III-100	
44					44III-100	

Luminaire Arms (1 per 30' pole)

Nominal Arm Length	Quantity
8' Arm	

ILSN Arm (Max. 2 per pole) Ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7' Arm	
9' Arm	

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
1 ½"	3'-4"	
1 ¾"	3'-10"	
2"	4'-3"	

Each anchor bolt assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Templates may be removed for shipment.

SHEET 1 OF 2

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES

SINGLE MAST ARM ASSEMBLY

(100 MPH WIND ZONE)

SMA-100(1)-12

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REVISIONS
5-96
11-98
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CONT	SECT	JOB	HIGHWAY
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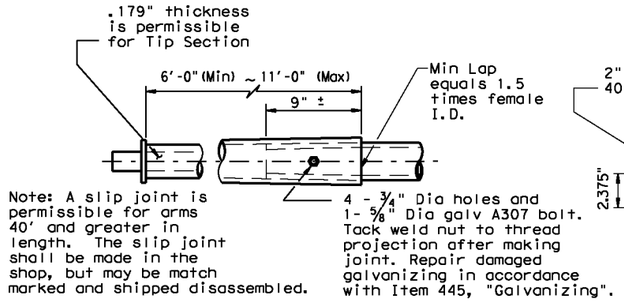
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PHR	CAMERON	236

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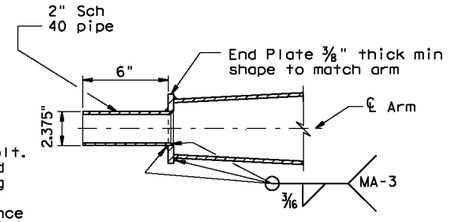
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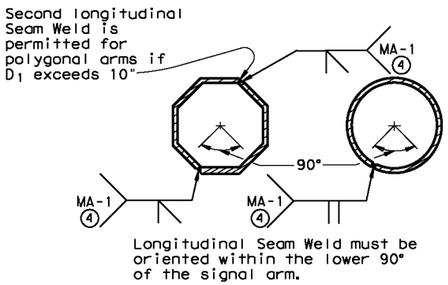
SLIP JOINT DETAIL



TENON DETAIL

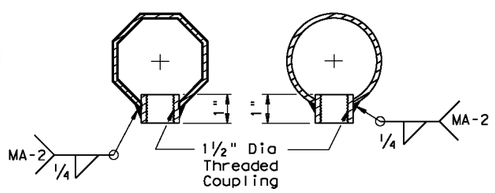
Stainless steel bands (or Cables) and cast bracket as in "Astro-Brac", "Sky Bracket" or "Easy Bracket" with 1 ½" Dia Threaded Coupling.

BRACKET ASSEMBLY



ARM WELD DETAIL

④ 60% Min. penetration
100% pemetration within 6" of circumferential base welds.



ARM COUPLING DETAILS

VIBRATION WARNING

Mast Arms of SMA and DMA structures and clamp-on Arms of LMA structures of approximately 40 ft or longer are subject to harmonic vertical vibrations in light wind conditions due to the aeroelastic characteristics of a few of the myriads of possible combinations of the following: signal numbers, weights and positions; existence/solidity of backplates; presence of additional attachments to the arm, such as signs and cameras; arm-wind orientation; and arm-pole stiffness.

Such vibrations may cause fatigue damage to the structure and may lead to galloping in moderate wind conditions which may further damage the structure and alarm the public. Tests have indicated that when wind is blowing toward the back side of signal heads having un-vented backplates attached the probability of unacceptable harmonic vibration and/or galloping is rather high.

If backplates are not required for improved visibility they should not be applied to the signal heads or, if they must be applied, they should be vented as a first and inexpensive measure to mitigate vibrations.

The traffic signal mast arms shall be visually inspected in 5 to 20 mph wind conditions after installation of signal heads and any attachments, including any required backpates. If vertical movements with a total excursion (maximum upward excursion to maximum downward excursion) of more than approximately 8" are observed at the arm tip, a damping plate shall be fitted to the arm. See "Damping Plate Mounting Details" on standard sheet, MA-DPD-10.

This visual inspection shall be repeated after each modification of the structure that could affect its aeroelastic response. Excessive vibrations shall not be allowed to continue for more than two days.

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 100 mph plus a 1.3 gust factor.

Poles are designed to support one 8'-0" luminaire arm, one 9'-0" internally lighted street name sign and one traffic signal arm with a length as tabulated. The specified luminaire load applied at the end of the luminaire arm equals 60 lbs vertical dead load plus the horizontal wind load on an effective projected area of 1.6 sq ft. The specified internally lighted street name sign load applied 4.5 ft from the centerline of the pole equals 85 lbs vertical dead load plus horizontal wind load on an effective projected area of 11.5 sq ft. The specified signal load applied at the end of the traffic signal arm equals 180 lbs vertical dead load plus the horizontal wind load on an effective projected area of 32.4 sq ft (actual area times drag coefficient).

See Standard Sheet "MA-D" for pole details, "MA-C" for traffic signal arm connection details, "MA-C (ILSN)" for internally lighted street name sign arm connection details, "LUM-A" for luminaire arm and connection details, "SNS" for internally lighted street name sign details, and "TS-FD" for anchor bolt and foundation details. See "MA-C" for material specifications.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing", after fabrication.

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES

SINGLE MAST ARM ASSEMBLY

(100 MPH WIND ZONE)

SMA-100(2)-12

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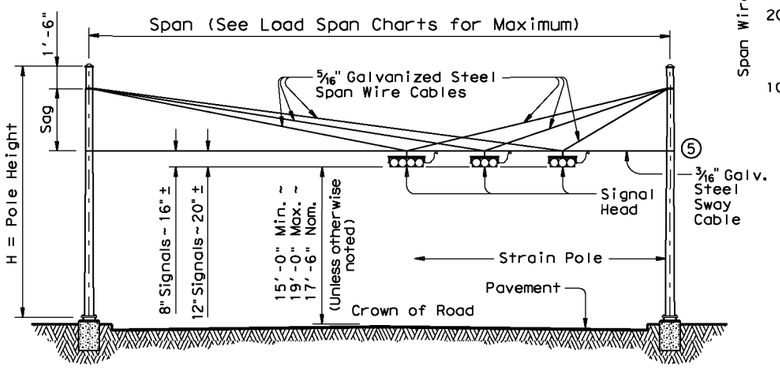
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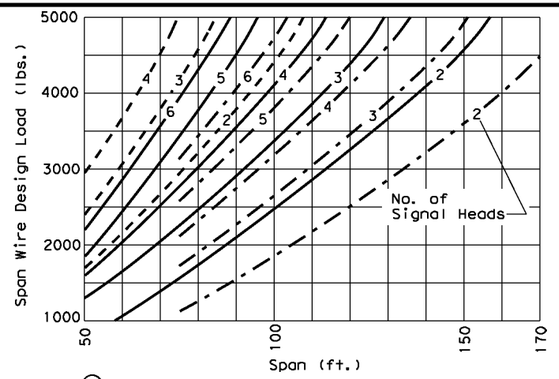
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STRAIN POLE DESCRIPTION	Pole Type	Foundation Type	Maximum Permissible Span Wire Load (lbs.)
26' Pole	A	36-A	4900
30' Pole	B	36-A	4300
30' Pole with Lum.	B	36-A	4000
30' Pole with 20' Mast Arm	C	36-B	4400
30' Pole with 24' Mast Arm	C	36-B	4000
30' Pole with 28' Mast Arm	C	36-B	3600
30' Pole with 32' Mast Arm	C	36-B	3300
30' Pole with 36' Mast Arm	C	36-B	2900
30' Pole with 20' Mast Arm & Lum.	C	36-B	4100
30' Pole with 24' Mast Arm & Lum.	C	36-B	3800
30' Pole with 28' Mast Arm & Lum.	C	36-B	3400
30' Pole with 32' Mast Arm & Lum.	C	36-B	3000
30' Pole with 36' Mast Arm & Lum.	C	36-B	2500
34' Pole	D	36-B	5200
34' Pole with Lum.	D	36-B	4900

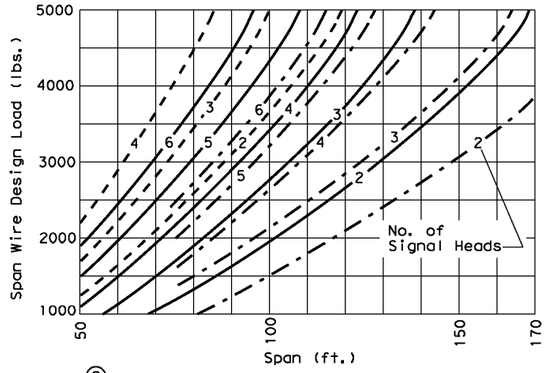
② Numbers on Load Span Charts indicate the number of signal heads on the span. The total span wire design load is based on one 5-section head and one or more additional 3-section head(s). Design wind pressures on cables are assumed as 1.6 lb/ft. Weight of span wire cables (one per signal head) is assumed as 0.65 lb/ft which includes an allowance for conductor cables and miscellaneous hardware. The effect of the sway cable on load distribution is ignored as it is assumed to break at design wind conditions. When a pole supports 2 spans, the span wire design loads for both spans should be added vectorially to determine the design load for that pole.



STRAIN POLE ELEVATIONS HORIZONTAL SIGNALS



② SIGNALS WITH 12-INCH LENS

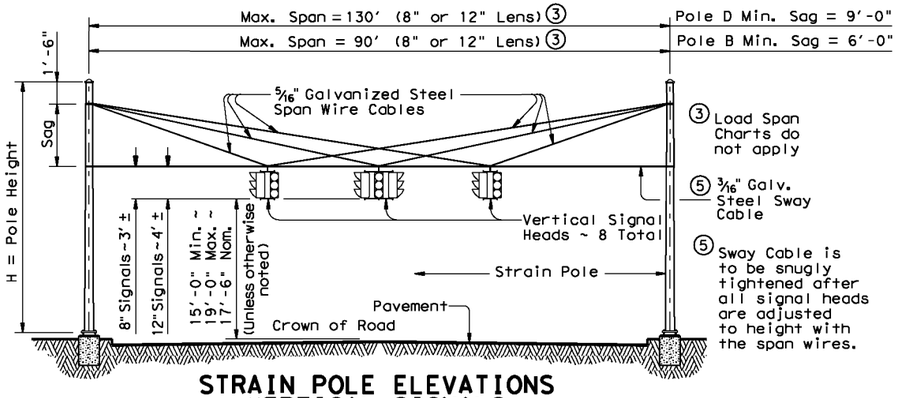


② SIGNALS WITH 8-INCH LENS

Signal Head Type	Wt. Per Head	Wind Area ◆
5-Section, 12" Lens	125 lbs	9.6 sq. ft.
5-Section, 8" Lens	70 lbs	4.8 sq. ft.
3-Section, 12" Lens	75 lbs	5.64 sq. ft.
3-Section, 8" Lens	45 lbs	3.0 sq. ft.

◆ Effective projected design wind area (actual area times drag coefficient)

- - - - - - - Sag = 4'-6" (26' or 30' Pole)
——————— Sag = 8'-0" (30' or 34' Pole)
— — — — — Sag = 11'-6" (34' Pole)



STRAIN POLE ELEVATIONS VERTICAL SIGNALS

(Mast arms are not used with vertical signals)

Pole Type	ROUND POLES D_B in.	ROUND POLES D_T in.	ROUND POLES (4)thk in.	ROUND POLES H ft.	POLYGONAL POLES D_B in.	POLYGONAL POLES D_T in.	POLYGONAL POLES (4)thk in.	POLYGONAL POLES H ft.
A	12.5	8.9	.239	26	13.0	9.0	.239	26
B	13.5	9.3	.239	30	14.0	9.0	.239	30
C	15.5	11.3	.239	30	16.0	11.0	.239	30
D	15.5	10.7	.239	34	16.0	11.0	.239	34

D_B = Pole Base O.D. D_T = Pole Top O.D. H = Pole Height

④ Thickness shown are minimum, thicker materials may be used.

SHIPPING PARTS LIST

Poles (Without Traffic Signal Arm)

Pole Type	Strain poles with Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap, 2 clamp-on simplex and 1 pipe plug.			Strain poles without Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap and 1 pipe plug.		
	Description	Designation	Quantity	Description	Designation	Quantity
A				26' Strain Pole	SP 26 A-100	
B	30' Strain Pole	SPL 30 B-100		30' Strain Pole	SP 30 B-100	
D	34' Strain Pole	SPL 34 D-100		34' Strain Pole	SP 34 D-100	

Poles (With Traffic Signal Arm)

Pole Type	Strain poles with Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap, clamp-on simplex and 3 pipe plugs.			Strain poles without Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap and 3 pipe plugs.		
	Description	Designation	Quantity	Description	Designation	Quantity
C	30' SPw/TS Arm	SPL 30 C-100		30' SPw/TS Arm	SP 30 C-100	

Traffic Signal Arms (For Type C poles)

Nominal Arm Length	Type I Arm (1 Signal): Ship each Type I Arm with the following hardware attached: 2 CGB Connectors, 1 clamp with bolts and washers		Type II Arm (2 Signals): Ship each Type II Arm with the following hardware attached: ① 1 Bracket Assembly, 3 CGB Connectors and 1 clamp with bolts and washers		Type III Arm (3 Signals): Ship each Type III Arm with the following hardware attached: ① 2 Bracket Assemblies, 4 CGB Connectors and 1 clamp with bolts and washers	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24 II -100			
28	28I-100		28 II -100			
32			32 II -100		32 III -100	
36			36 II -100		36 III -100	

Anchor Bolt Assemblies (1 per pole)

Templates may be removed for shipment.

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
1 3/4"	3'-10"	
2"	4'-3"	

Each Anchor Bolt Assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Luminaire Arms

Nominal Arm Length	Quantity
8' Arm	

① See Sheet "DMA-100"

SHEET 1 OF 2

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES STRAIN POLE ASSEMBLIES

(100 MPH WIND ZONE)

SP-100(1)-12

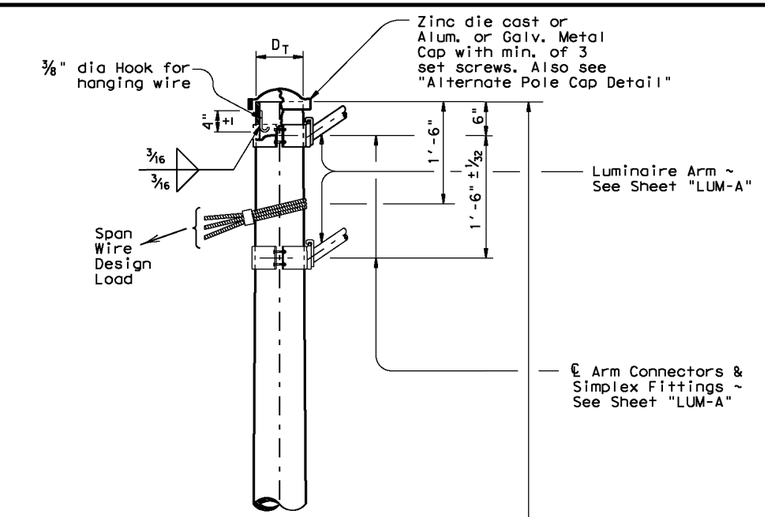
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REVISIONS	DN: MS	CK: JSY	DW: BR	CK: JSY
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	0921	06	399	VAR
	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		238

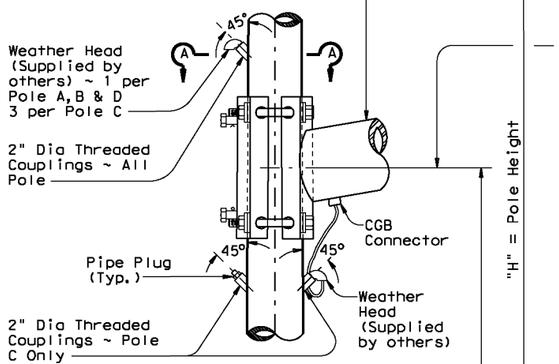
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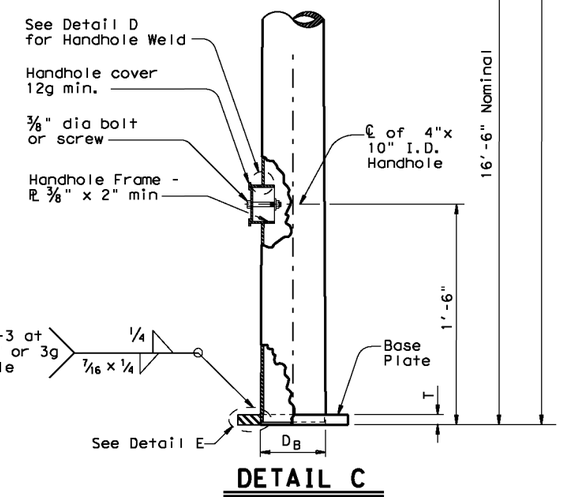
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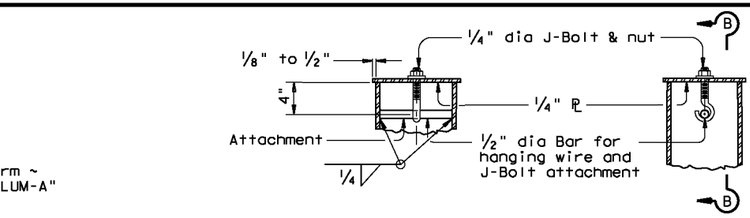
DETAIL A



DETAIL B



POLE ELEVATION



SECTION B-B

ALTERNATE POLE CAP DETAIL

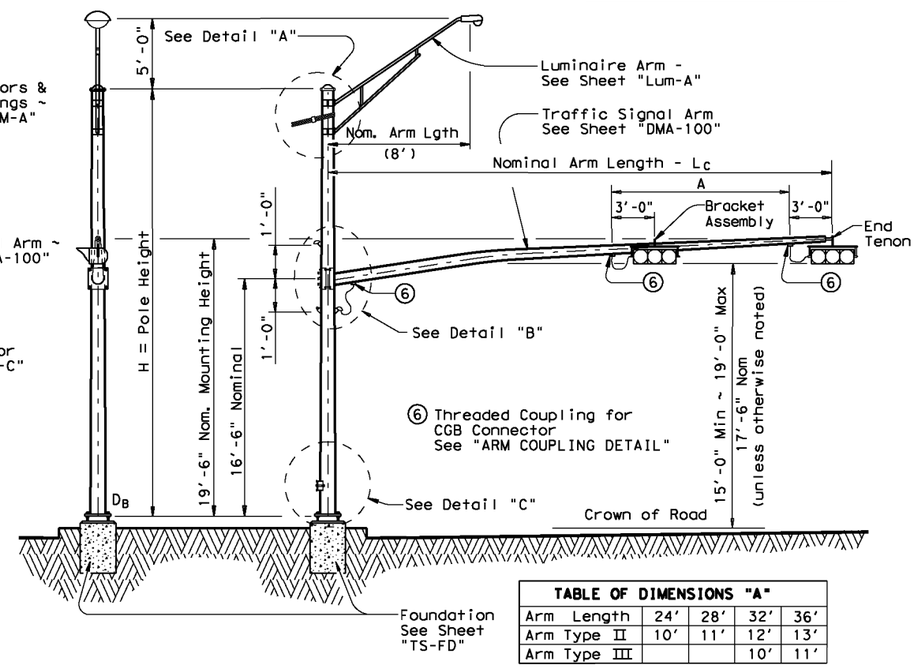
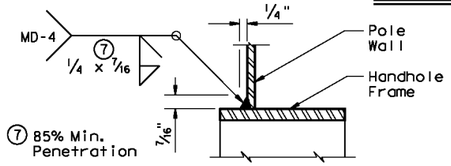
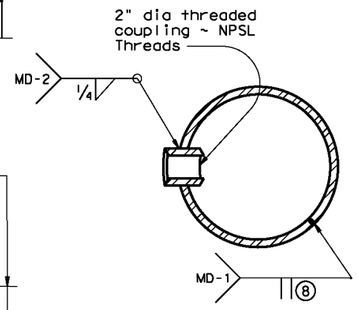


TABLE OF DIMENSIONS "A"				
Arm Length	24'	28'	32'	36'
Arm Type II	10'	11'	12'	13'
Arm Type III			10'	11'

STRUCTURE ASSEMBLY

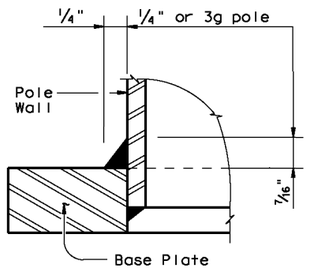


DETAIL D



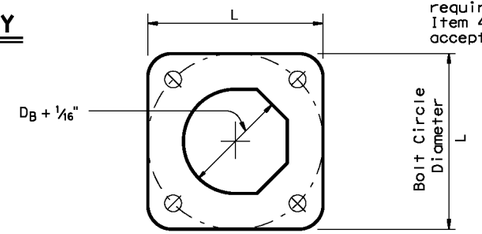
SECTION A-A

(Pole Coupling and Seam Weld Details)

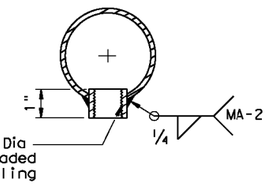


DETAIL E

⑧ 60% Min. penetration, except 100% penetration within 6" of circumferential base welds.



BASE PLATE PLAN



ARM COUPLING DETAIL

MATERIALS	
Round Shafts or Polygonal Shafts⑨	ASTM A595 Gr.A, A588, A1008 HSLAS Gr.50 Class 2, A1011 HSLAS Gr.50 Class 2, A572 Gr.50 or A1011 SS Gr.50⑩
Plates⑨	ASTM A36, A588, or A572 Gr.50
Connection Bolts	ASTM A325 except where noted
Pin Bolts	ASTM A325
Pipe⑨	ASTM A53 Gr.B, A501, A1008 HSLAS-F Gr.50, A1011 HSLAS-F Gr.50
Steel Cable	ASTM A475, 7 Wire Utilities Grade
Misc. Hardware	Galvanized steel or stainless steel or as noted

⑨ ASTM A572, A1008 HSLAS, A1011 HSLAS, A1008 HSLAS-F, A1011 HSLAS-F, or A1011 SS may have higher yield strengths but shall not have less elongation than the grade indicated.

⑩ ASTM A1011 SS Gr.50 shall also have a minimum elongation of 18 percent in 8 inches or 23 percent in 2 inches. Material thickness in excess of those stipulated under A1011 SS will be acceptable providing the material meets all other A1011 SS requirements and the requirements of this item.

GENERAL NOTES

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 100 mph plus a 1.3 gust factor. The maximum permissible span wire design loads tabulated are calculated at a stress load of 1.4 times the basic allowable stress. A simultaneous wind on the pole, mast arm, and luminaire is also included.

See standard sheet "DMA-100" for details of clamp-on traffic signal arms, sheet "MA-C" for traffic signal arm connection details, sheet "LUM-A" for luminaire arm and connection details, and sheet "TS-FD" for anchor bolt and foundation details.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing", after fabrication.

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

Foundation Type	Anchor Bolt Diameter	Bolt Hole Diameter	Bolt Circle Diameter	Base PL Dim. L x T
36-A	1 3/4"	2"	19"	19" x 1 3/4"
36-B	2"	2 1/4"	21"	21" x 2"

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES STRAIN POLE ASSEMBLIES

(100 MPH WIND ZONE)

SP-100(2)-12

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REVISIONS
6-96
1-12

DN: MS | CK: JSY | DW: BR | CK: JSY

CONT	SECT	JOB	HIGHWAY
0921	06	399	VAR

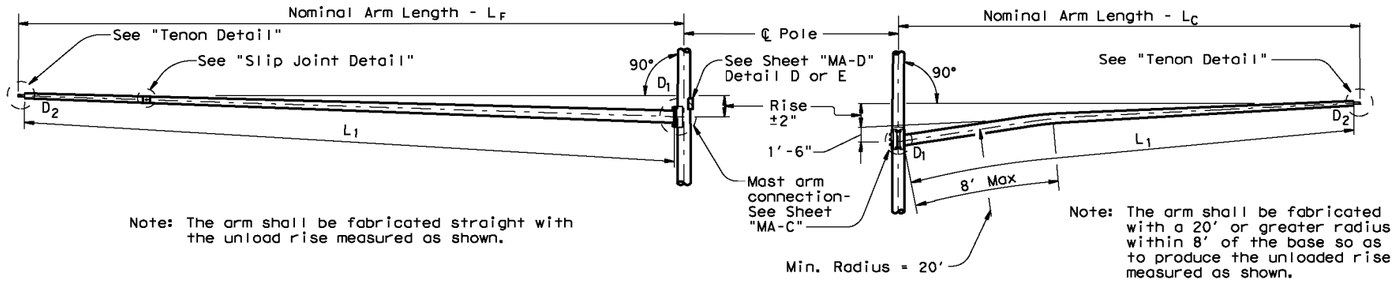
DIST	COUNTY	SHEET NO.
PHR	CAMERON	239

121B

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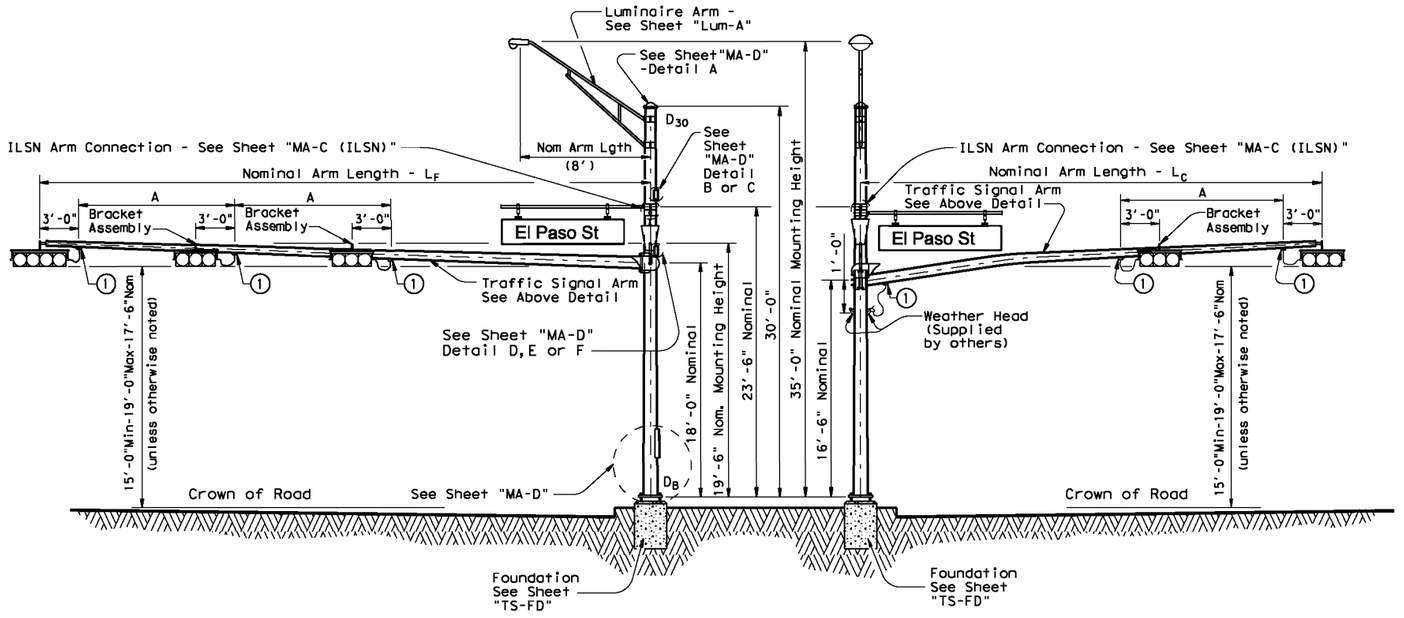


Note: The arm shall be fabricated straight with the unload rise measured as shown.

Note: The arm shall be fabricated with a 20' or greater radius within 8' of the base so as to produce the unloaded rise measured as shown.

FIXED MOUNT TRAFFIC SIGNAL ARM

CLAMP-ON TRAFFIC SIGNAL ARM



ELEVATION

(Showing fixed mount arm)

STRUCTURE ASSEMBLY

① Threaded Coupling for CGB Connector
See "ARM COUPLING DETAILS" Sheet 2 of 3

ELEVATION

(Showing clamp mount arm)

TABLE OF DIMENSIONS "A"						
Arm Length	24'	28'	32'	36'	40'	44'
Arm Type II	10'	11'	12'	13'		
Arm Type III			10'	11'	12'	12'

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 100 mph plus a 1.3 gust factor. Designs are based on an arm included angle of 90 degrees or more. Angles of less than approximately 75 degrees will require a special design.

Poles are designed to support one 8'-0" luminaire arm, two 9'-0" internally lighted street name signs and two traffic signal arms with length combinations as tabulated. The specified luminaire load applied at the end of luminaire arm equals 60 lbs vertical dead load plus the horizontal wind load on an effective projected area of 1.6 sq ft. The specified internally lighted street name sign applied 4'-6" from the centerline of the pole equals 85 lbs vertical dead load plus the horizontal wind load on an effective projected area of 11.5 sq ft. The specified signal load applied at the end of the traffic signal arm equals 180 lbs vertical dead load plus the horizontal wind load on an effective projected area of 32.4 sq ft (actual area times drag coefficient).

See Standard Sheet "MA-D" for pole details, "MA-C" for traffic signal arm connection details, "MA-C (ILSN)" for internally lighted street name sign arm connection details, "LUM-A" for luminaire arm and connection details, "SNS" for internally lighted street name sign details, and "TS-FD" for anchor bolt and foundation details. See "MA-C" for material specifications.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing", after fabrication.

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

SHEET 1 OF 3

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
DUAL MAST ARM ASSEMBLY
(100 MPH WIND ZONE)
DMA-100 (1)-12

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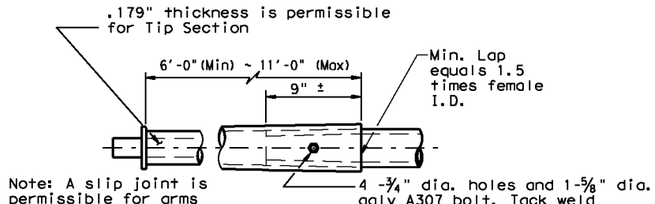
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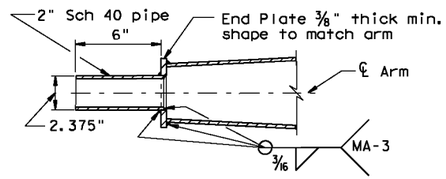
CONT	SECT	JOB	HIGHWAY
0921	06	399	VAR
DIST	COUNTY		SHEET NO.
PHR	CAMERON		240

125A

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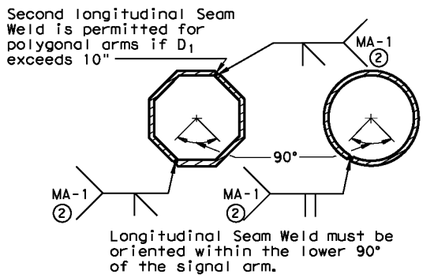
SLIP JOINT DETAIL



TENON DETAIL

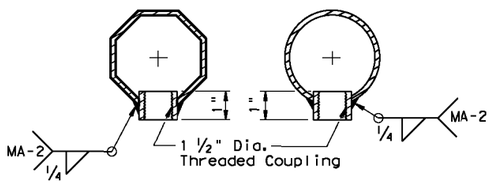
Stainless steel bands (or Cables) and cast bracket as in "Astro-Brac", "Sky Bracket" or "Easy Bracket" with 1 ½" Dia Threaded Coupling.

BRACKET ASSEMBLY



ARM WELD DETAIL

②60% Min. penetration
100% pemetration within 6" of circumferential base welds.



ARM COUPLING DETAILS

VIBRATION WARNING

Mast Arms of SMA and DMA structures and clamp-on Arms of LMA structures of approximately 40 ft or longer are subject to harmonic vertical vibrations in light wind conditions due to the aeroelastic characteristics of a few of the myriads of possible combinations of the following: signal numbers, weights and positions; existence/solidity of backplates; presence of additional attachments to the arm, such as signs and cameras; arm-wind orientation; and arm-pole stiffness.

Such vibrations may cause fatigue damage to the structure and may lead to galloping in moderate wind conditions which may further damage the structure and alarm the public. Tests have indicated that when wind is blowing toward the back side of signal heads having un-vented backplates attached the probability of unacceptable harmonic vibration and/or galloping is rather high.

If backplates are not required for improved visibility they should not be applied to the signal heads or, if they must be applied, they should be vented as a first and inexpensive measure to mitigate vibrations.

The traffic signal mast arms shall be visually inspected in 5 to 20 mph wind conditions after installation of signal heads and any attachments, including any required backpates. If vertical movements with a total excursion (maximum upward excursion to maximum downward excursion) of more than approximately 8" are observed at the arm tip, a damping plate shall be fitted to the arm. See "Damping Plate Mounting Details" on standard sheet, MA-DPD-10.

This visual inspection shall be repeated after each modification of the structure that could affect its aeroelastic response. Excessive vibrations shall not be allowed to continue for more than two days.

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Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
DUAL MAST ARM ASSEMBLY
(100 MPH WIND ZONE)
DMA-100 (2)-12

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1-12

CONT	SECT	JOB	HIGHWAY
0921	06	399	VAR
DIST	COUNTY		SHEET NO.
PHR	CAMERON		241

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SHIPPING PARTS LIST

Ship each pole with the following attached: enlarged hand hole, pole cap, fixed arm connection bolts and washers and any additional hardware listed in the table.

Nominal Arm Length		30' Poles With Luminaire		24' Poles With ILSN		19' Poles With no Luminaire and no ILSN	
		See note above plus: one (or two if ILSN attached) small hand hole, clamp-on simplex		See note above plus one small hand hole		See note above	
LF	Lc						
ft.	ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20	2020L-100		2020S-100		2020-100	
24	20	2420L-100		2420S-100		2420-100	
	24	2424L-100		2424S-100		2424-100	
28	20	2820L-100		2820S-100		2820-100	
	24	2824L-100		2824S-100		2824-100	
	28	2828L-100		2828S-100		2828-100	
32	20	3220L-100		3220S-100		3220-100	
	24	3224L-100		3224S-100		3224-100	
	28	3228L-100		3228S-100		3228-100	
	32	3232L-100		3232S-100		3232-100	
36	20	3620L-100		3620S-100		3620-100	
	24	3624L-100		3624S-100		3624-100	
	28	3628L-100		3628S-100		3628-100	
	32	3632L-100		3632S-100		3632-100	
	36	3636L-100		3636S-100		3636-100	
40	20	4020L-100		4020S-100		4020-100	
	24	4024L-100		4024S-100		4024-100	
	28	4028L-100		4028S-100		4028-100	
	32	4032L-100		4032S-100		4032-100	
	36	4036L-100		4036S-100		4036-100	
44	20	4420L-100		4420S-100		4420-100	
	24	4424L-100		4424S-100		4424-100	
	28	4428L-100		4428S-100		4428-100	
	32	4432L-100		4432S-100		4432-100	
	36	4436L-100		4436S-100		4436-100	

Traffic Signal Arms (Fixed Mount) (1 per pole) Ship each arm w/ the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal) 1 CGB connector		Type II Arm (2 Signals) 1 Bracket Assembly and 2 CGB Connectors		Type III Arm (3 Signals) 2 Bracket Assemblies and 3 CGB Connectors	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100			
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100		36III-100	
40					40III-100	
44					44III-100	

Traffic Signal Arms (Clamp-On Mount) (1 per pole) Ship each arm w/ the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal) 2 CGB connector and 1 clamp w/bolts and washers		Type II Arm (2 Signals) 1 Bracket Assembly, 3 CGB Connectors, and 1 clamp w/bolts and washers		Type III Arm (3 Signals) 2 Bracket Assembly, 4 CGB Connectors, and 1 clamp w/bolts and washers	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100			
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100		36III-100	

Luminaire Arms (1 per 30' pole)

Nominal Arm Length	Quantity
8' Arm	

ILSN Arm (1 or 2 per pole) ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7' Arm	
9' Arm	

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
1 3/4"	3'-10"	
2"	4'-3"	
2 1/4"	4'-9"	

Each anchor bolt assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Templates may be removed for shipment.

ARMS		ROUND POLES					POLYGONAL POLES					Foundation Type
LF	Lc	D_B	D_{19}	D_{24}	D_{30}	③ thk	D_B	D_{19}	D_{24}	D_{30}	③ thk	
ft.	ft.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
20	20	12.0	9.3	8.6	7.8	.239	13.5	10.5	9.7	8.8	.239	36-A
24	20	12.5	9.8	9.1	8.3	.239	13.5	10.5	9.7	8.8	.239	36-A
	24	12.5	9.8	9.1	8.3	.239	14.0	11.0	10.2	9.3	.239	36-A
28	20	13.0	10.3	9.6	8.8	.239	14.5	11.5	10.7	9.8	.239	36-A
	24	13.0	10.3	9.6	8.8	.239	15.0	12.0	11.2	10.3	.239	36-A
	28	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
32	20	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
	24	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
	28	14.0	11.3	10.6	9.8	.239	15.5	12.5	11.7	10.8	.239	36-B
	32	14.0	11.3	10.6	9.8	.239	15.5	12.5	11.7	10.8	.239	36-B
36	20	14.0	11.3	10.6	9.8	.239	15.5	12.5	11.7	10.8	.239	36-B
	24	14.0	11.3	10.6	9.8	.239	16.0	13.0	12.2	11.3	.239	36-B
	28	14.5	11.8	11.1	10.3	.239	16.0	13.0	12.2	11.3	.239	36-B
	32	14.5	11.8	11.1	10.3	.239	16.0	13.0	12.2	11.3	.239	36-B
	36	14.5	11.8	11.1	10.3	.239	16.5	13.5	12.7	11.8	.239	36-B
40	20	14.5	11.8	11.1	10.3	.239	16.5	13.5	12.7	11.8	.239	36-B
	24	15.0	12.3	11.6	10.8	.239	16.5	13.5	12.7	11.8	.239	36-B
	28	15.0	12.3	11.6	10.8	.239	17.0	14.0	13.2	12.3	.239	42-A
	32	15.0	12.3	11.6	10.8	.239	17.0	14.0	13.2	12.3	.239	42-A
	36	15.5	12.8	12.1	11.3	.239	17.5	14.5	13.7	12.8	.239	42-A
44	20	15.5	12.8	12.1	11.3	.239	17.5	14.5	13.7	12.8	.239	42-A
	24	15.5	12.8	12.1	11.3	.239	17.5	14.5	13.7	12.8	.239	42-A
	28	16.0	13.3	12.6	11.8	.239	18.0	15.0	14.2	13.3	.239	42-A
	32	16.0	13.3	12.6	11.8	.239	18.0	15.0	14.2	13.3	.239	42-A
	36	16.0	13.3	12.6	11.8	.239	18.0	15.0	14.2	13.3	.239	42-A

Arm L_F or L_C	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	③ thk	Rise	L_1	D_1	④ D_2	③ thk	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	8.0	5.3	.179	1'-8"	19.1	8.0	3.5	.179	1'-7"
24	23.1	9.0	5.8	.179	1'-9"	23.1	9.0	3.5	.179	1'-8"
28	27.1	9.5	5.7	.179	1'-10"	27.1	10.0	3.5	.179	1'-9"
32	31.0	9.5	5.2	.239	1'-11"	31.0	9.5	3.5	.239	1'-10"
36	35.0	10.0	5.1	.239	2'-0"	35.0	10.0	3.5	.239	1'-11"
40	39.0	10.5	5.1	.239	2'-3"	39.0	11.0	3.5	.239	2'-1"
44	43.0	11.0	5.1	.239	2'-8"	43.0	11.5	4.0	.239	2'-3"

D_B = Pole Base O.D.
D_{19} = Pole Top O.D. with no Luminaire and no ILSN
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L_F = Fixed Arm Length
L_C = Clamp-on Arm Length (36' Max)

③ Thickness shown are minimums, thicker materials may be used.

④ D_2 may be increased by up to 1.0" for polygonal arms.

Texas Department of Transportation
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TRAFFIC SIGNAL SUPPORT STRUCTURES
DUAL MAST ARM ASSEMBLY
(100 MPH WIND ZONE)
DMA-100 (3)-12

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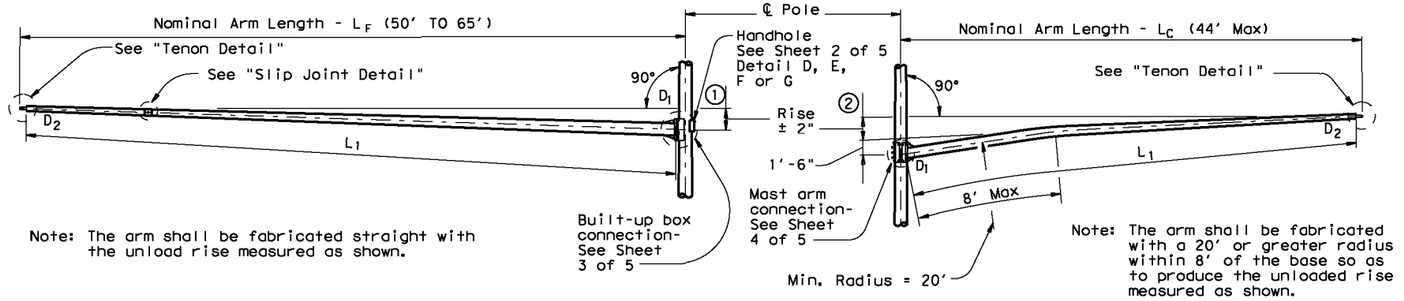
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REVISIONS
5-96
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0921	06	399	VAR
DIST	COUNTY		SHEET NO.
PHR	CAMERON		242

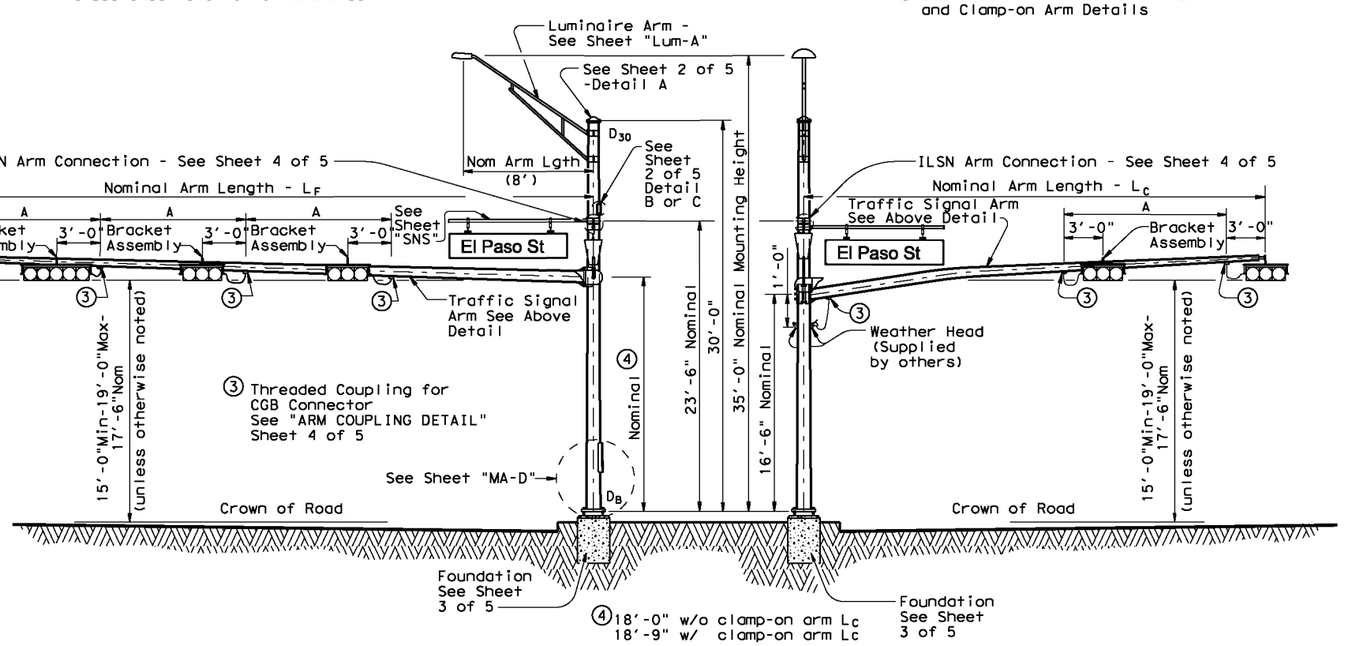
125C

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FIXED MOUNT TRAFFIC SIGNAL ARM

① See Sheet 3 of 5 for Arm Rise



CLAMP-ON TRAFFIC SIGNAL ARM (IF REQUIRED)

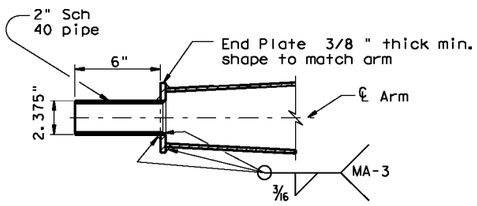
② See Sheet 4 of 5 for Arm Rise and Clamp-on Arm Details

ELEVATION
(Showing fixed mount arm)

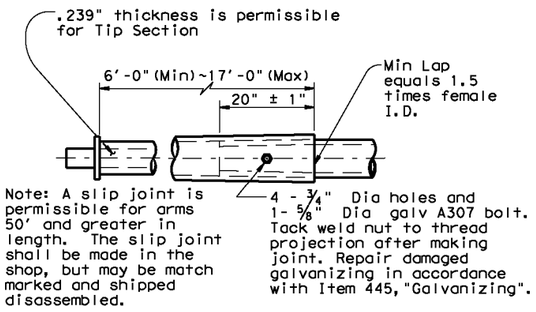
STRUCTURE ASSEMBLY

ELEVATION
(Showing clamp-on arm)

TABLE OF DIMENSIONS "A"										
Arm Length	24'	28'	32'	36'	40'	44'	50'	55'	60'	65'
Arm Type II	10'	11'	12'	13'						
Arm Type III			10'	11'	12'	12'				
Arm Type IV							12'	12'	12'	12'



TENON DETAIL



SLIP JOINT DETAIL (FIXED MOUNT ARM)

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed can be either 100 mph or 80 mph plus a 1.3 gust factor. If clamp-on traffic signal is required, designs are based on an arm included angle of 90 degrees or more. Angles of less than approximately 75 degrees will require a special design.

Poles are designed to support one 8'-0" luminaire arm, two 9'-0" internally lighted street name (ILSN) signs and two traffic signal arms with limited length combinations.

Each arm with its related attachment is shown below

Arm	Equivalent DL ⑤	WL EPA ⑤⑥
8' Luminaire Arm	Luminaire 60 lbs	1.6 sq ft
9' ILSN Arm	Sign 85 lbs	11.5 sq ft
50' to 65' Fixed Mount Arm	Signal Loads 310 lbs	52 sq ft
Up to 44' Clamp-on Arm	Signal Loads 180 lbs	32.4 sq ft

⑤ Equivalent dead load plus horizontal wind load applied at the end of arm except ILSN arm, which applied 4.5' from the centerline of the pole.

⑥ Effective projected area (actual area times drag coefficient) for the application of horizontal wind load.

Except as noted in Sheet 1 thru 5 of 5, other details not covered shall refer to Standard Sheet "MA-D" for pole details, "LUM-A" for luminaire arm and connection details, "SNS" for internally lighted street name sign details, and "TS-FD" for anchor bolt and foundation details.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Material, fabrication tolerances, and shipping practices shall also meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing" after fabrication.

Deviations from the details and dimensions shown herein require submission of shop drawings in accordance with the Item 441, "Steel Structures". Alternate designs are not acceptable.

Installation of damping plate for the long mast arm is not recommended.

Provision of the bracket assembly used to support the traffic signal heads shall be under the direction of the Engineer for approval.

Design also conforms to NCHRP Report 412 for fatigue resistance except that there are no stiffeners at the base plate. TxDOT is conducting tests to determine if stiffeners at the base plate will or will not result in optimal performance; depending upon the results of the tests, poles may need a retrofit to ensure optimal fatigue performance.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT) (80 AND 100 MPH WIND ZONE)
LMA(1)-12

Sheet 1 of 5

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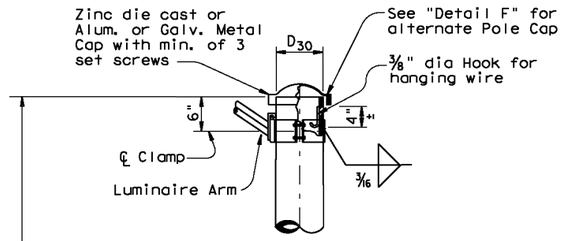
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DIST	COUNTY		SHEET NO.
PHR	CAMERON		243

131A

DATE:
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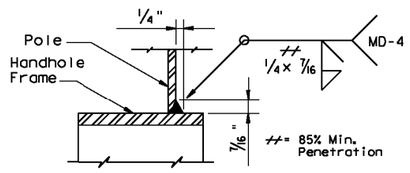
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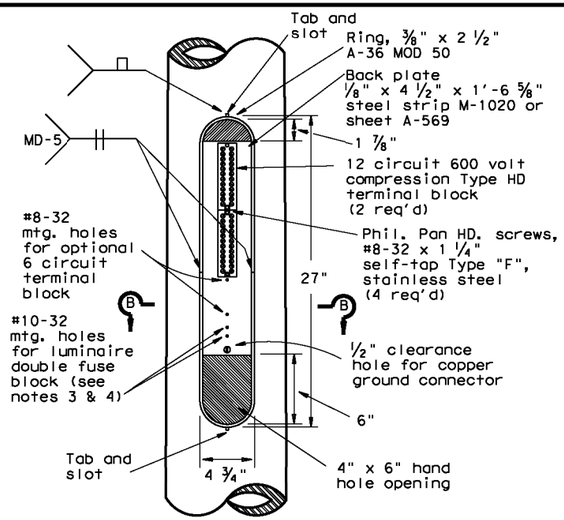


DETAIL A

(for pole with luminaire)



DETAIL H

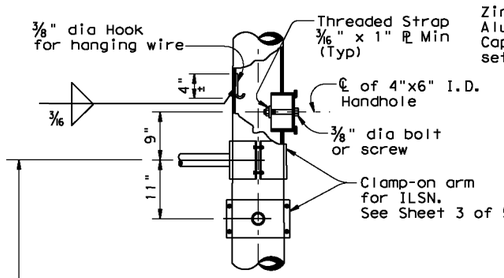


ACCESS COMPARTMENT

MATERIALS	
Round Shafts or Polygonal Shafts (7)	ASTM A595 Gr.A, A588, A1008 HSLAS Gr.50 Class 2, A1011 HSLAS Gr.50 Class 2, A572 Gr.50 or A1011 SS Gr.50 (8)
Plates (7)	ASTM A36, A588, or A572 Gr.50
Connection Bolts	ASTM A325, or A449 except where noted
Pin Bolts	ASTM A325
Pipe (7)	ASTM A53 Gr.B, A501, A1008 HSLAS-F Gr.50, A1011 HSLAS-F Gr.50
Misc. Hardware	Galvanized steel or stainless steel or as noted

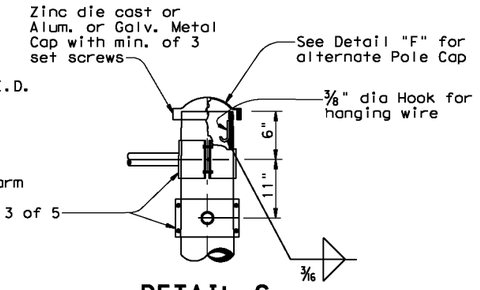
(7) ASTM A572, A1008 HSLAS, A1011 HSLAS, A1008 HSLAS-F, A1011 HSLAS-F, or A1011 SS may have higher yield strengths but shall not have less elongation than the grade indicated.

(8) ASTM A1011 SS Gr.50 shall also have a minimum elongation of 18 percent in 8 inches or 23 percent in 2 inches. Material thickness in excess of those stipulated under A1011 SS will be acceptable providing the material meets all other A1011 SS requirements and the requirements of this item.

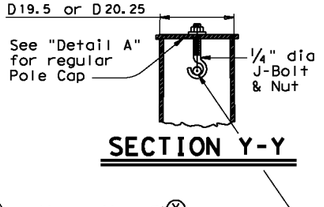


DETAIL B

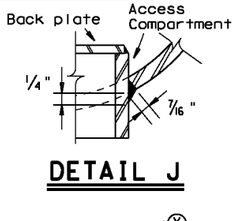
(If ILSN applied)



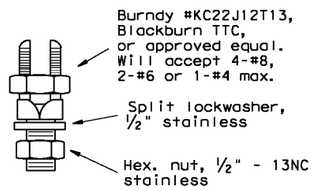
DETAIL C



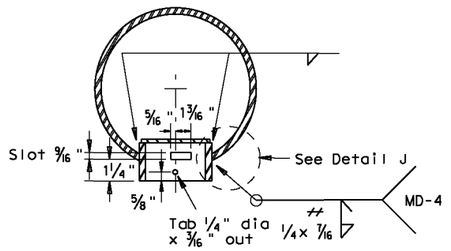
SECTION Y-Y



DETAIL J



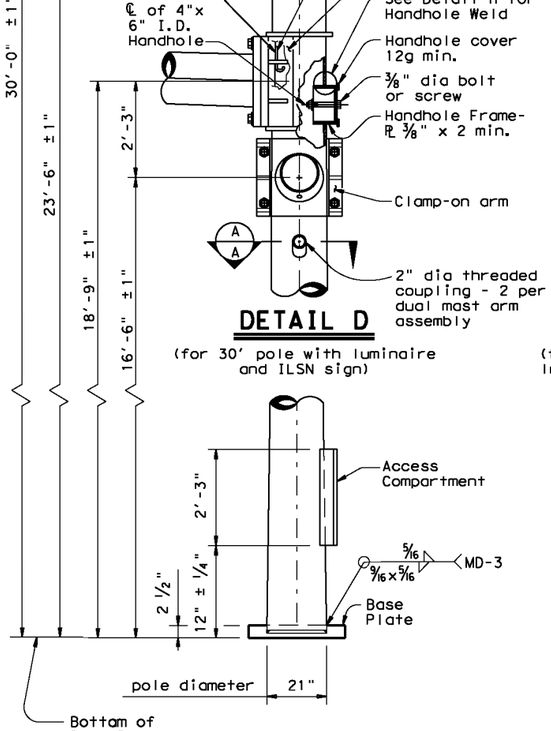
COPPER GROUND CONNECTOR



SECTION B-B

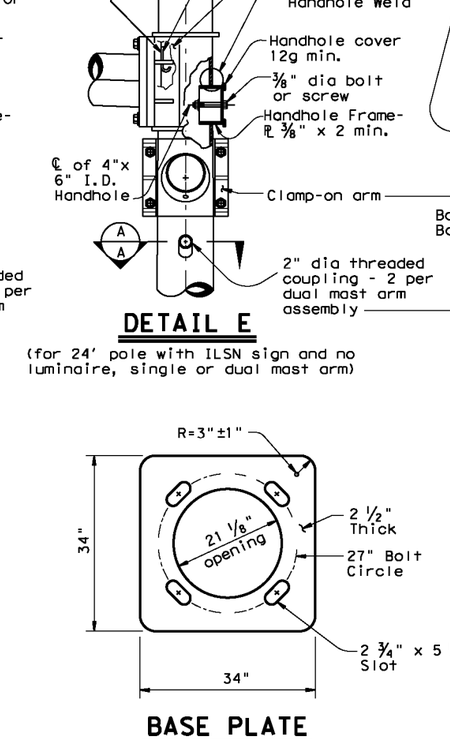
// = 85% Min. Penetration

Opening for access compartment shall be no more than 1⁄16 inch wider than the access compartment itself.



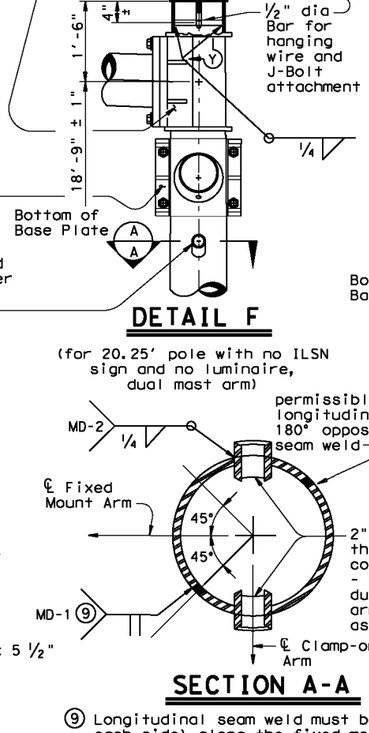
DETAIL D

(for 30' pole with luminaire and ILSN sign)



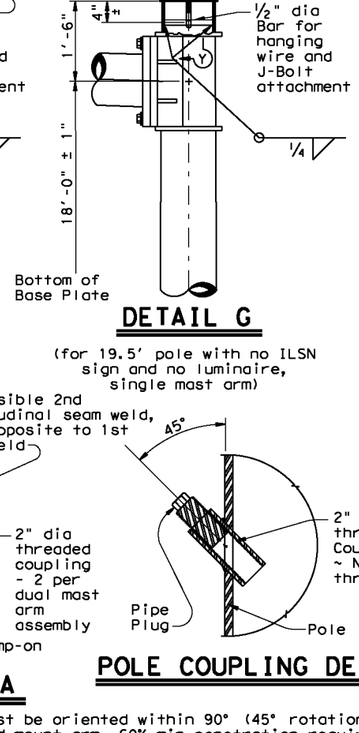
DETAIL E

(for 24' pole with ILSN sign and no luminaire, single or dual mast arm)



DETAIL F

(for 20.25' pole with no ILSN sign and no luminaire, dual mast arm)

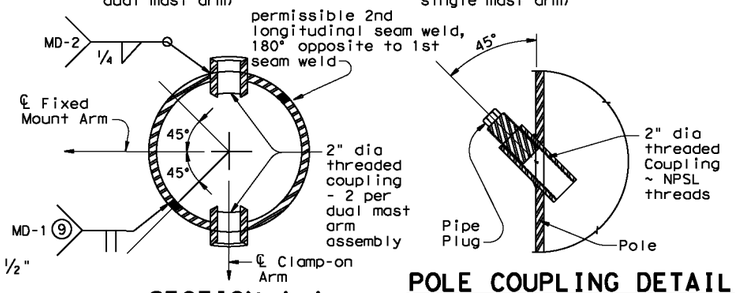


DETAIL G

(for 19.5' pole with no ILSN sign and no luminaire, single mast arm)

POLE ELEVATION

BASE PLATE



SECTION A-A

POLE COUPLING DETAIL

(9) Longitudinal seam weld must be oriented within 90° (45° rotation each side) along the fixed mount arm. 60% min penetration required, 100% penetration within 6" of circumferential base weld.

ACCESS COMPARTMENT NOTES:

1. The cover shall be one piece formed from ABS plastic, shall be a pearl gray color, and shall be suitable for exposure to harsh sunlight and extreme weather. Cover shall latch with two screw latches and shall fit tightly to the enclosure ring to create a rainproof seal. Latch screws shall be 1/4-20 stainless flat socket head screws with tamper proof feature.
2. The pole manufacturer shall provide with each pole a separate kit consisting of: one cover with two latching assemblies, two terminal strips (Marathon #985GP12CU or approved equal), four #8-32 x 1 ¼" self tapping type "F" stainless steel pan head screws, and one ground connector (Blackburn TTC, Burndy KC22J12T13, or Ilsco SSS-5). The traffic signal contractor shall install the kit items in the field.
3. The screw hole spacing on the enclosure back plate shall be for two Marathon #985GP12 terminal strips, one Marathon #985GP06CU terminal strip, and one Bussmann #BM6032B fuse block.
4. Install one Bussmann #BM6032B, Littelfuse #L60030M-2C, or Ferraz-Shawmut #30352 fuse block for poles where luminaires are to be installed.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT) (80 AND 100 MPH WIND ZONE)

Sheet 2 of 5

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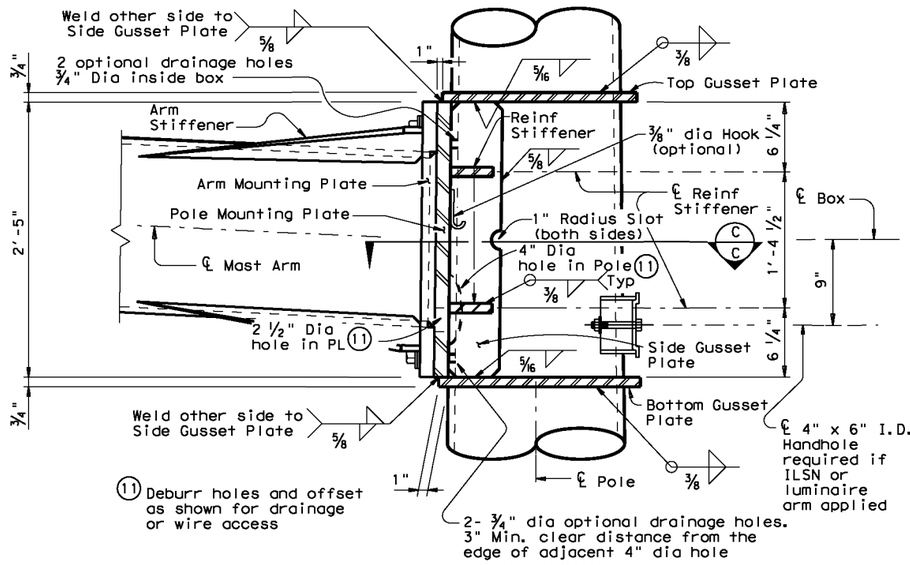
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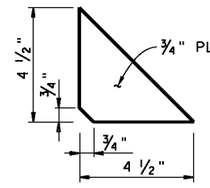
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DIST	COUNTY		SHEET NO.
PHR	CAMERON		244

131B

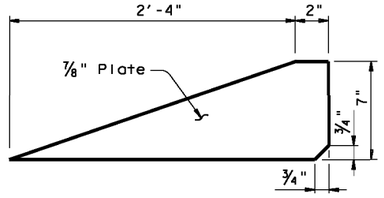
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BUILT-UP BOX CONNECTION

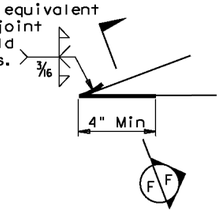


REINFORCING STIFFENER



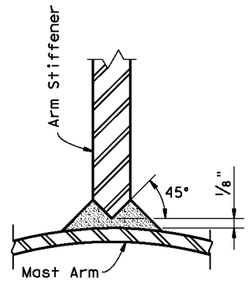
ARM STIFFENER
(Cut to match arm inclination and taper)

Provide Detail shown in SECTION F-F or equivalent 100% complete joint penetration weld from both sides.



Only 4" length at tip of Arm Stiffener requires a complete joint penetration weld. Smooth weld radius to connect Stiffener. Only a fillet weld is required for the remaining weld length.

DETAIL "K"



SECTION F-F

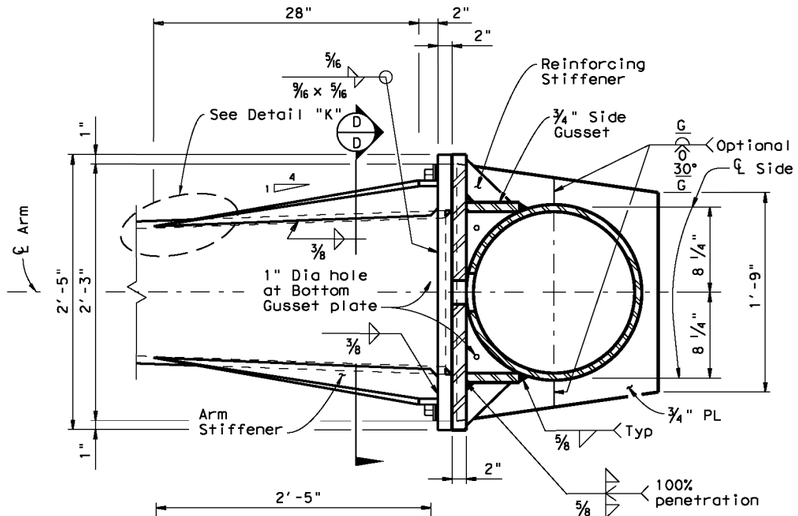
Fixed Mount Arm L_F	ROUND POLES (13)					Foundation Type
	D_B	$D_{19.5}$ or $D_{20.25}$	D_{24}	D_{30}	(12) thk	
ft.	in.	in.	in.	in.	in.	
50', 55' 60', 65'	21.0	18.2	17.6	16.8	.3125	48-A

Fixed Mount Arm L_F	ROUND ARMS (13)				
	L_1	D_1	D_2	(12) thk	Rise
ft.	ft.	in.	in.	in.	
50	49	18.5	11.7	.3125	3'- 3"
55	54	18.5	11.0	.3125	3'- 7"
60	59	18.5	10.3	.3125	3'-11"
65	64	18.5	9.6	.3125	4'- 4"

D_B = Pole Base O.D.
$D_{19.5}$ = Pole Top O.D. with no Luminaire and no ILSN (single mast arm)
$D_{20.25}$ = Pole Top O.D. with no Luminaire and no ILSN (dual mast arm)
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L_F = Fixed Arm Length

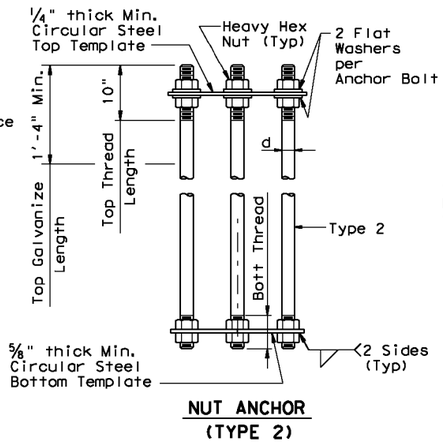
(12) Thickness shown is minimum, thicker materials may be used.

(13) Shaft profile 16-sided or 18-sided is considered to be equivalent to round section.

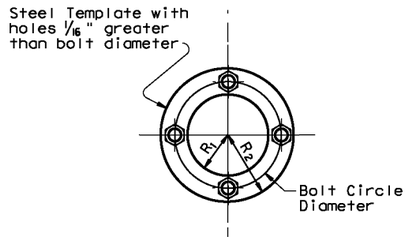


SECTION C-C

SECTION D-D



NUT ANCHOR
(TYPE 2)



TEMPLATE DETAIL

ANCHOR BOLT ASSEMBLY

ANCHOR BOLT & TEMPLATE SIZE						
Bolt Dia in.	Length ‡	Top Thread	Bottom Thread	Bolt Circle	R_2	R_1
2 1/2"	5'-2"	10"	6 1/2"	27"	16"	11"

‡ Min dimension given, longer bolts are acceptable.

FOUNDATION DESIGN TABLE

FDN TYPE	DRILLED SHAFT DIA	REINFORCING STEEL		DRILLED SHAFT LENGTH-ft (16), (17), (18)			ANCHOR BOLT DESIGN (14)				FOUNDATION DESIGN LOAD (15)		TYPICAL APPLICATION
		VERT BARS	SPIRAL & PITCH	TEXAS CONE PENETROMETER N blows/ft			ANCHOR BOLT DIA	Fy (ksi)	BOLT CIR DIA	ANCHOR TYPE	MOMENT K-ft	SHEAR Kips	
				10	15	40							
48-A	48"	20 #9	#4 at 6"	21.9	19.5	14.7	2 1/2"	55	27"	2	490	10	50' to 65' Mast arm assembly.

SEE SHEET "TS-FD" FOR ADDITIONAL DETAILS.

(14) Anchor bolt design develops the foundation capacity given under Foundation Design Loads.

(15) Foundation Design Loads are the allowable moments and shears at the base of the structure.

(16) Field Penetrometer readings at a depth of approximately 3 to 5 feet may be used to adjust shaft lengths.

(17) If rock is encountered, the Drilled Shaft shall extend a minimum of two diameters into solid rock.

(18) Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

GENERAL NOTES:

Built-up Box Connection: For the welded arm-to-pole connection as a build-up box configuration illustrated here is an example only, fabricators are required to submit a shop drawing of box connection for approval. The drawing shall specify the details of each box element, welds of arm-to-pole connection, arm-to-plate socket connection, and arm rise creation. Specify the proper location of drain holes along the pole. 2 1/2" dia hole in the pole mounting plate and 4" dia hole in the pole need to be aligned for wiring access or drainage. Arm stiffeners cut to match arm inclination and taper shall also be included.

The deviation from flat for either arm or pole mounting plate shall not exceed 3/32 in., which is measured along the center of mounting plate to a radial distance of 13.5 in. The deformed-from-flat connection between arm and pole mounting plates shall not be allowed if the center of both mounting plates cannot contact directly.

Fixed mount details are used for single mast arm assemblies and for the first arm on dual mast arm assemblies.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT) (80 AND 100 MPH WIND ZONE)

Sheet 3 of 5 — LMA(3)-12

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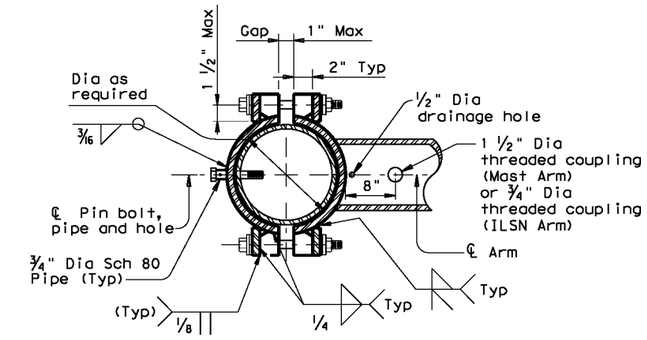
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DIST	COUNTY		SHEET NO.
PHR	CAMERON		245

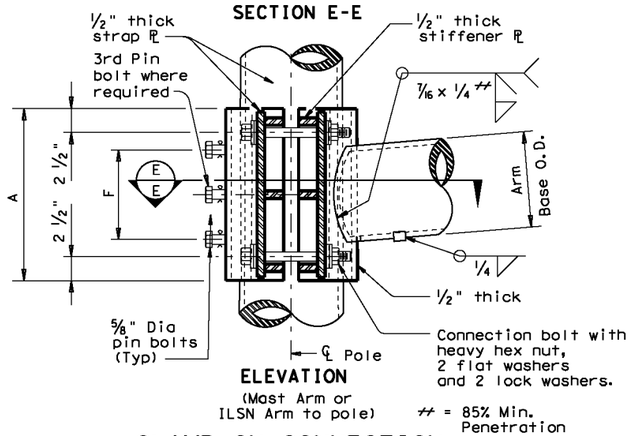
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SECTION E-E



ELEVATION
(Mast Arm or ILSN Arm to pole)

= 85% Min. Penetration

CLAMP-ON CONNECTION

80 MPH WIND

Clamp-on Arm Lc	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	thk (12)	Rise	L_1	D_1	D_2	thk (12)	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	6.5	3.8	.179	1'-9"	19.1	7.0	3.5	.179	1'-8"
24	23.1	7.5	4.3	.179	1'-10"	23.1	7.5	3.5	.179	1'-9"
28	27.1	8.0	4.2	.179	1'-11"	27.1	8.0	3.5	.179	1'-10"
32	31.0	9.0	4.7	.179	2'-1"	31.0	9.0	3.5	.179	2'-0"
36	35.0	9.5	4.6	.179	2'-4"	35.0	10.0	3.5	.179	2'-1"
40	39.0	9.5	4.1	.239	2'-8"	39.0	9.5	3.5	.239	2'-3"
44	43.0	10.0	4.1	.239	2'-11"	43.0	10.0	3.5	.239	2'-6"

100 MPH WIND

Clamp-on Arm Lc	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	thk (12)	Rise	L_1	D_1	D_2	thk (12)	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	8.0	5.3	.179	1'-8"	19.1	8.0	3.5	.179	1'-7"
24	23.1	9.0	5.8	.179	1'-9"	23.1	9.0	3.5	.179	1'-8"
28	27.1	9.5	5.7	.179	1'-10"	27.1	10.0	3.5	.179	1'-9"
32	31.0	9.5	5.2	.239	1'-11"	31.0	9.5	3.5	.239	1'-10"
36	35.0	10.0	5.1	.239	2'-0"	35.0	10.0	3.5	.239	1'-11"
40	39.0	10.5	5.1	.239	2'-3"	39.0	11.0	3.5	.239	2'-1"
44	43.0	11.0	5.1	.239	2'-8"	43.0	11.5	4.0	.239	2'-3"

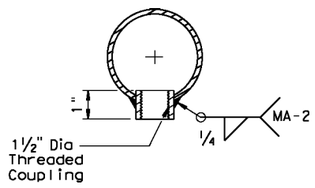
D1 = Arm Base O.D.
D2 = Arm End O.D.
L1 = Shaft Length
Lc = Clamp-on Arm Length

(12) Thickness shown is minimum, thicker materials may be used.

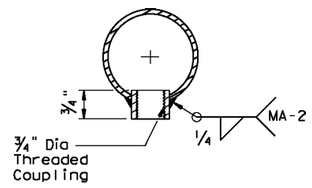
CLAMP-ON ARM CONNECTION

ILSN Arm Size		A	F	4 Conn. Bolts	⅝" Dia. Pin Bolts
Sch 40 pipe Dia	Thick			Dia	No.
in.	in.	in.	in.	in.	ea
3	.216	10	4	¾	2

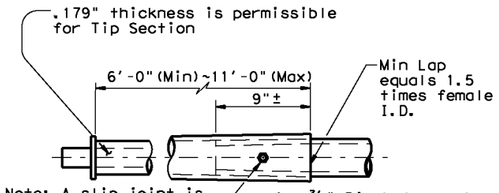
Mast Arm Size		A	F	4 Conn. Bolts	⅝" Dia. Pin Bolts
Base Dia	Thick			Dia	No.
in.	in.	in.	in.	in.	ea
6.5	.179	12	6	1	2
7.5	.179	14	8	1	2
8.0	.179	14	8	1	2
9.0	.179	16	10	1	2
9.5	.179	18	12	1 ¼	3
9.5	.239	18	12	1 ¼	3
10.0	.239	18	12	1 ¼	3
10.5	.239	18	12	1 ¼	3
11.0	.239	18	12	1 ¼	3
11.5	.239	18	12	1 ¼	3



ARM COUPLING DETAIL



ILSN ARM COUPLING DETAIL

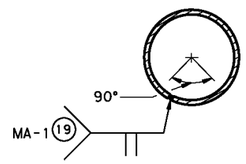


Note: A slip joint is permissible for arms 40' and greater in length. The slip joint shall be made in the shop, but may be match marked and shipped disassembled.

SLIP JOINT DETAIL (CLAMP-ON ARM)

Stainless steel bands (or Cables) and cast bracket as in "Astro-Brac", "Sky Bracket" or "Easy Bracket" with 1 ½" Dia Threaded Coupling.

BRACKET ASSEMBLY



ARM WELD DETAIL

(19) Longitudinal Seam Weld must be oriented within the lower 90° of the signal arm.
60% Min penetration
100% penetration within 6" of circumferential base welds.

GENERAL NOTES:

Clamp-on details are used for the second arm on dual mast arm assemblies or ILSN arm support. For a clamp-on mast arm, a maximum 1 ½" wide vertical slotted hole may be cut in the front clamp plate to facilitate drainage during galvanizing. The slot shall be centered behind the arm and shall be no longer than the arm diameter minus 1". For an ILSN arm, a 1 ½" diameter hole shall be cut in the front clamp plate for wire access. A matched hole shall be field drilled through the pole to provide wire access after arm is oriented. Deburr both holes.

Where duplicate parts occur on a detail, welds shown for part shall apply to all similar parts on the detail.

Pin bolts are required to prevent rotation of clamp-on arms under design wind forces. Pin bolts shall be ASTM A325 with threads excluded from the shear plane. Pin bolt and ¾" diameter pipe shall have 3/16" diameter holes for a ⅛" diameter galvanized cotter pin. Back clamp plate shall be furnished with a ¾" diameter hole for each pin bolt. An 11/16" diameter hole for each pin bolt shall be field drilled through the pole after arm orientations have been approved by the Engineer.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT)
(80 AND 100 MPH WIND ZONE)

Sheet 4 of 5 — LMA(4)-12

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CONT	SECT	JOB	HIGHWAY
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DIST	COUNTY	SHEET NO.
PHR	CAMERON	246

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Shipping Parts List

Ship each pole with the following attached: enlarged hand hole, pole cap, fixed arm connection bolts and washers, and any additional hardware listed in the table.

Nominal Arm Length	30' Poles with Luminaire: See note above plus: one (or two if ILSN attached) small hand hole, clamp-on simplex		24' Poles with ILSN: See note above plus one small hand hole		19.50' (Single Mast Arm) 20.25' (Dual Mast Arm) Poles with no Luminaire and no ILSN: See note above	
Single Mast Arm						
Lf ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
50	50L		50S		50	
55	55L		55S		55	
60	60L		60S		60	
65	65L		65S		65	
Dual Mast Arm						
Lf ft. / Lc ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
50 / 20	5020L		5020S		5020	
50 / 24	5024L		5024S		5024	
50 / 28	5028L		5028S		5028	
50 / 32	5032L		5032S		5032	
50 / 36	5036L		5036S		5036	
50 / 40	5040L		5040S		5040	
50 / 44	5044L		5044S		5044	
55 / 20	5520L		5520S		5520	
55 / 24	5524L		5524S		5524	
55 / 28	5528L		5528S		5528	
55 / 32	5532L		5532S		5532	
55 / 36	5536L		5536S		5536	
55 / 40	5540L		5540S		5540	
55 / 44	5544L		5544S		5544	
60 / 20	6020L		6020S		6020	
60 / 24	6024L		6024S		6024	
60 / 28	6028L		6028S		6028	
60 / 32	6032L		6032S		6032	
60 / 36	6036L		6036S		6036	
60 / 40	6040L		6040S		6040	
60 / 44	6044L		6044S		6044	
65 / 20	6520L		6520S		6520	
65 / 24	6524L		6524S		6524	
65 / 28	6528L		6528S		6528	
65 / 32	6532L		6532S		6532	
65 / 36	6536L		6536S		6536	
65 / 40	6540L		6540S		6540	
65 / 44	6544L		6544S		6544	

Foundation Summary Table **

Location Ident.	Avg. N Blow/ft.	No. Each	Drill Shaft *** Length (feet)
			48-A
Total Drill Shaft Length			

Shipping Parts List

Traffic Signal Arms (Fixed Mount) (1 per pole)
Ship each arm with listed equipment attached

Nominal Arm Length	Type IV Arm (4 Signals) 3 Bracket Assembly and 4 CGB Connectors	
ft.	Designation	Quantity
50	50IV	
55	55IV	
60	60IV	
65	65IV	

Luminaire Arms (1 per 30' pole)

Nominal Arm Length	Quantity
8' Arm	

ILSN Arm (Max. 2 per pole) Ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7' Arm	
9' Arm	

Traffic Signal Arms (80 MPH Clamp-On Mount) (1 per pole) Ship each arm with listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal) 2 CGB connector and 1 clamp w/bolts and washers		Type II Arm (2 Signals) 1 Bracket Assembly and 3 CGB connectors, and 1 clamp w/bolts and washers		Type III Arm (3 Signals) 2 Bracket Assembly and 4 CGB connectors, and 1 clamp w/bolts and washers	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-80					
24	24I-80		24II-80			
28	28I-80		28II-80			
32			32II-80		32III-80	
36			36II-80		36III-80	
40					40III-80	
44					44III-80	

Traffic Signal Arms (100 MPH Clamp-On Mount) (1 per pole) Ship each arm with listed equipment attached

Nominal Arm	Type I Arm (1 Signal) 2 CGB connector and 1 clamp w/bolts and washers		Type II Arm (2 Signals) 1 Bracket Assembly and 3 CGB connectors, and 1 clamp		Type III Arm (3 Signals) 2 Bracket Assembly and 4 CGB connectors, and 1 clamp	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100			
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100		36III-100	
40					40III-100	
44					44III-100	

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
2 1/2 "	5' - 3"	

Each anchor bolt assembly consists of the following: Top and bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers and 4 nut anchor devices (type 2) per Standard Drawing "TS-FD". Templates may be removed for shipment.

Notes

** Foundations may be listed separately or grouped according to similarity of location and type. Quantities are for the Contractor's information only.

*** Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

Abbreviations
Lf= Fixed Arm Length
Lc= Clamp-on Arm Length (44' Max.)

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LONG MAST ARM ASSEMBLY PARTS LIST

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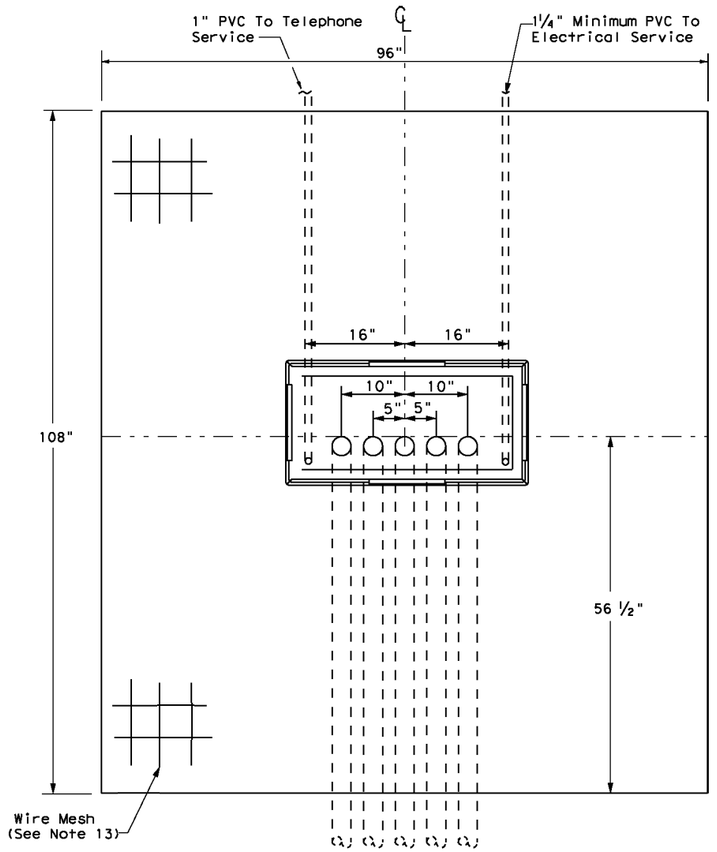
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DIST	COUNTY		SHEET NO.
PHR	CAMERON		247

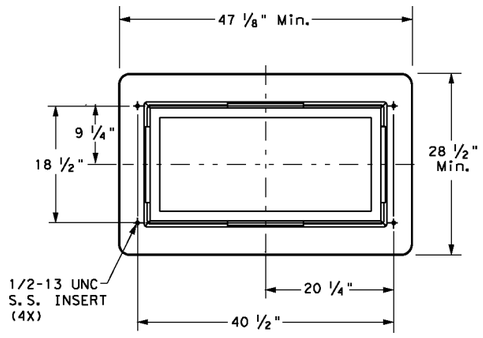
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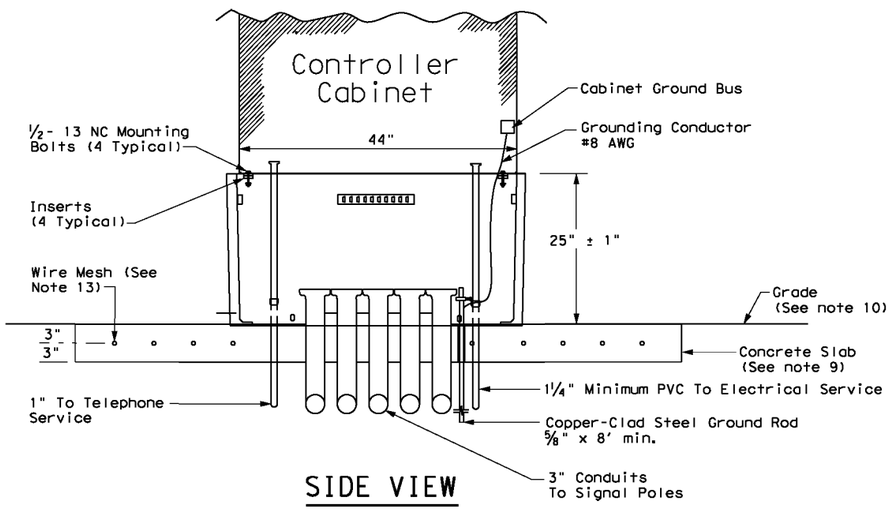
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TOP VIEW



CABINET BASE



SIDE VIEW

TRAFFIC SIGNAL CONTROLLER BASE:

1. Provide a traffic signal controller base (cabinet base) manufactured of polymer concrete material consisting of calcareous and siliceous stone; glass fibers and thermoset polyester resin. The polymer concrete cabinet base must be reinforced on the inside of the cabinet base with fiberglass matting. Provide one of the following bases: Armorcast Part # A6001848X24, Quazite Model # PG3048Z709, or other as approved by TxDOT Traffic Safety Division.
2. The polymer concrete material must have a minimum compressive strength of 10,300 pounds per square inch (psi), minimum flexural strength of 3600 psi, and minimum shear strength of 3600 psi.
3. The polymer concrete cabinet base must conform to the dimensions shown and must accommodate a standard TxDOT basemount cabinet.
4. Supply the cabinet base with four 1#2"-13 UNC stainless steel inserts for attachment of the cabinet to the base. Inserts must withstand a minimum torque of 50 ft-lb and a minimum straight pull out strength of 750 lbs.
5. Provide the cabinet base with 4 cable racks mounted one on each side of the base 2" to 7 " from the top edge of the base. Unless approved otherwise, cable racks must be 1-1/2 x 9#16x 3#16inch steel channel with eight T-slots spaced at 1-1/2 inches. The cable racks must easily accommodate the insertion of tie wraps to attach field wiring to the racks to serve as strain relief. Secure cable racks to the base using 1#2"-13 UNC stainless steel screws and inserts.
6. The cabinet base, when secured to the concrete slab with controller cabinet attached, must withstand a minimum wind load of 125 mph or a 850 lb force applied at 49" above the bottom of the base without causing the base or cabinet to come out of their anchored position or cause any permanent deformation. The manufacturer must supply certification by an independent testing laboratory or sealed by a Texas Licensed Professional Engineer. Provide the cabinet base with hardware for attachment to a concrete slab.
7. The traffic signal base must be permanently marked either by impress or by permanent ink with the manufacturer's model number and name or logo.
8. Seal the base to the concrete with a silicone caulk bead and fastened to the slab per manufacturer's instructions.

CONCRETE SLAB:

9. Traffic signal controller pad must be a portland cement concrete slab poured in place, must conform to the dimensions shown, and must be level.
10. Grade earthwork such that it is flush with the concrete pad on all four sides, unless otherwise shown on the plans. Subsidiary to ITEM 680, four inch rip rap may be used in lieu of earthwork. Slopes shall gradually contour to match plans.
11. Bond a #8 AWG copper ground wire and an 8 ft ground rod bonded to the reinforcing mesh by a suitable UL Listed clamp and terminated to the cabinet grounding bus for the purpose of providing a local ground for the electrical grounding conductor. The electrical grounding conductor specified in Item 680-3.A.4 is required and must be terminated to the cabinet ground bus.
12. Install a PVC sleeve to prevent the ground rod from direct embedment in the slab.
13. Provide welded wire mesh 6X6-W2.9 X W2.9 for reinforcement. Provide joints and splices in the mesh with a minimum 6-inch overlap. Center the mesh between top and bottom and provide a minimum 3 inch cover on the edges.
14. Provide Class B concrete minimum for the slab in accordance with Item 421. Construct the slab in accordance with Item 531.

CONDUITS:

15. Stub up and run 3-inch conduits through the slab to the various traffic signal poles and ground boxes as shown on the layouts. Install the number of conduits as shown on layouts plus two additional 3 inch conduits for future use. Terminate the conduits with a bushing between 2 and 4-inches above the slab.
16. Extend conduits for future use at least 18-inches from the edge of the slab, terminate underground with a coupling, and cap and seal so that the seal can be removed without damaging the coupling. This must also apply to unused telephone conduit.
17. Stub up two separate conduits through the slab from the electrical and telephone services. Run the conduit for the electrical feed directly to the electrical service enclosure. Run the conduit for the telephone line directly to the telephone service, usually located on the same pole as the electrical service. Telephone must not under any circumstance share a conduit with any other function.
18. Terminate electric and telephone conduits above the slab with a coupling. After the base is installed, extend the conduits above the top of the base and secure to the base using a steel one-hole strap or similar suitable substitute.

CONTROLLER CABINET:

19. Anchor the controller cabinet to the base using four stainless steel 1/2-13 NC bolts.
20. The silicone caulk bead specified in Item 680.3.B must be RTV 133.

PAYMENT:

21. Bid TS-CF as subsidiary to Item 680.

Texas Department of Transportation

Traffic Safety Division Standard

TRAFFIC SIGNAL CONTROLLER CABINET BASE AND PAD
TS-CF-21

FILE: ts-cf-21.dgn	DN:	CK:	DW:	CK:
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REVISIONS	0921	06	399	VAR
12-04	DIST	COUNTY		SHEET NO.
2-21	PHR	CAMERON		248

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I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

1. ☒ It is not anticipated that any erosion, sedimentation, or environmental control devices will be needed on this project. The Contractor must still implement appropriate practices to prevent pollution from construction activities from reaching waters of the state. If it becomes necessary to implement control devices, payment for that work must be in accordance with Item 506 Article 4.4, "Change in the Work".

2. ☐ The project will disturb less than 1 acre of soil and has EPICs that require the implementation of erosion, sedimentation, or environmental control devices. The SWP3 summary sheet and associated plan information has been developed and included in the plans. Additional documentation must be maintained during construction in accordance with Department policy.

3. ☐ The project will disturb 1 acres or more of soil therefore requires the implementation of erosion, sedimentation, or environmental control devices. The SWP3 summary sheet and associated plan information has been developed and included in the plans. Additional documentation must be maintained during construction in accordance with Department policy and Texas Commission on Environmental Quality Construction General Permit (TXR150000) requirements.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

1. ☒ No Permit Required

2. ☐ USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas. The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

   - ☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)
   - ☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)
   - ☐ Other Nationwide Permit Required: NWP#
   - ☐ Individual Standard Permit Required

The SWP3 describes the BMPs planned to control erosion, sedimentation and post-project TSS.

The following lists the impacted water, its stationing, planned disturbed acreage, and additional notes:

1.
2.
3.
4.
5.
6.
7.
8.
9.

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☐ Additional Required Actions:

1.
2.
3.
4.

IV. VEGETATION RESOURCES

The Contractor must preserve native vegetation to the extent practical. Follow vegetative buffers defined in the SWP3 for work adjacent to water bodies. Contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751, 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

☒ Additional Required Actions:

1. Preserve vegetation where possible throughout the project and minimize clearing, grubbing and excavation within stream banks, bed and approach sections.
2.
3.

V. PROTECTED SPECIES AND MIGRATORY BIRDS

The work must not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediate area, and contact the Engineer immediately. Do not disturb or handle bats found under bridges and other structures. Do not harm or kill wildlife that enters the project area, including rattlesnakes. Implement measures to avoid infesting water bodies with zebra mussels, including inspecting equipment prior to placing in water and clean, drain, dry practices.

If any listed species are observed, cease work in the immediate area, do not disturb the species or habitat, and contact the Engineer immediately.

☒ Additional Required Actions:

1. There is the potential for the presence of state-listed species & species of concern in the project area and state law prohibits the taking (incidental or otherwise) of state-listed species. Taing is deined as the collection, hooking, hunting, netting, shooting, or share by any means or devices. If any listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately.
2. Contractors are advised of potential occurence of the following species within the project area and to avoid harming if encountered: Indigo Snake (Drymarchon melanurus erebennus), Texas Horned Lizard (Phrynosoma cornutum), Texas Tortoise (Gopherus berlandieri)
3. See EPIC sheet supplemental for TPWD BMP's.
4.

DATE:
FILE:

LIST OF ABBREVIATIONS

BMP: Best Management Practice
CGP: Construction General Permit
DSHS: Texas Department of State Health Services
FHWA: Federal Highway Administration
MBTA: Migratory Bird Treaty Act
MOA: Memorandum of Agreement
MOU: Memorandum of Understanding
MS4: Municipal Separate Stormwater Sewer System
NOI: Notice of Intent
NOT: Notice of Termination
NWP: Nationwide Permit
OHWM: Ordinary High Water Mark
OSHA: Occupational Safety and Health Administration
PCN: Pre-Construction Notification
PSL: Project Specific Location
SDS: Safety Data Sheet
SPCC: Spill Prevention Control and Countermeasure
SW3P: Stormwater Pollution Prevention Plan
TCEQ: Texas Commission on Environmental Quality
TPDES: Texas Pollutant Discharge Elimination System
TPWD: Texas Parks and Wildlife Department
TxDOT: Texas Department of Transportation
TSS: Total Suspended Solids
USACE: U.S. Army Corps of Engineers
USFWS: U.S. Fish and Wildlife Service

Texas Department of Transportation

Design Division Standard

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

EPIC

REVISIONS	DN:	CK:	DW:	CK:
	CONT	SECT	JOB	HIGHWAY
	0921	06	399	Various
	DIST	COUNTY		SHEET NO.
	PHR	Cameron		249

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VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

For all projects the Contractor will comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Safety Data Sheets (SDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bareground and covered, for products which may be hazardous. Maintain product labelling as required by the Act. Pollutant housekeeping is also required in accordance with items listed in Section I of this EPIC sheet.

Maintain an adequate supply of on-site spill response materials, as indicated in the SDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Responsibility for Hazardous Materials: Except in cases where the generation of hazardous materials are introduced by the Contractor on any work done by the Contractor on State-owned or controlled sites, the Contractor is not the generator of hazardous materials indentified in the ROW as shown in the plans or as discovered during construction.

Contact the Engineer if any of the following are detected:

* Dead or distressed vegetation (not identified as normal)
* Trash piles, drums, canister, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of substances

The following list identifies non-asbestos/lead contamination or waste issues (location, contamination/waste type, if a soil and groundwater management plan applies, and any additional notes)

1. If potentially hazardous material and/or contaminated media (i.e., soil, groundwater, surface water, sediment, building materials) are unexpectedly encountered during construction, assure that such materials and contaminaiton are handled according to applicable federal and state regulations, cease work in the immediate area and contact the Engineer immediately.
2.
3.

Demolition Activities - Does the project involve the demolition of any bridge class structure (not including buried culverts) for the purpose of replacement or permanent removal?

1. ☒ No - no further action required for demolition activities
2. ☐ Yes - the Contractor must provide the dates for demolition to the Engineer at least 30 days in advance, to allow the Department sufficient time to prepare and submit the pre-demolition notification to the DSHS at least 10 working days prior to the scheduled demolition.

Asbestos Concerns:

1. ☒ The project does not involve any bridge rehabilitation or replacements. No further action required for bridge asbestos concerns.
2. ☐ The project involves bridge rehabilitation or replacements. The asbestos inspection results are negative. No abatement action is required.
3. ☐ The project involves bridge rehabilitation or replacements. The asbestos inspection results are positive and asbestos abatement is required.
   The asbestos is located at the following (structure ID and station):

   Location 1.

   Location 2.

   Location 3.

   For positive asbestos results, the following action will apply:

   ☐ The Department has retained a DSHS licensed asbestos abatement contractor under a separate contract to perform the abatement, provide DSHS abatement notification, and perform asbestos management activities. This work must occur prior to the Contractor commencing any work that might disturb asbestos.

   ☐ The Department has included the work to perform the abatement, provide DSHS abatement notification, and perform asbestos management activities in this contract under Item 6.10 and related Special Provision and Special Specification. The Contractor must perform abatement work prior to commencing any work that might disturb asbestos.

Lead Paint Concerns - The project involves demolition or repair work that could require cutting, torch cutting, welding, or abrasive blasting of painted steel.

1. ☒ No - no further action required for lead paint concerns
2. ☐ Yes - the lead paint inspection results are negative. No action required for lead paint concerns.
3. ☐ Yes - the lead paint inspection results are positive. Lead is at the following locations and concentrations:

   Location (location/structure ID) Concentration (ppm)

   Location 1.

   Location 2.

   Location 3.

   For positive lead results, the following action will apply:

   ☐ The work is under Item 446 (Field Cleaning & Painting Steel), management of hazardous materials is addressed in the specification and additional mitigation is not required.

   ☐ The lead concentration of the coating is known to be less than 90 ppm (Consumer Product Safety Commission threshold for paint to be designated as lead-containing), additional mitigation is not required.

   ☐ Mitigation for lead hazards is required in accordance with OSHA. The Contractor must provide mitigation as port of this contract. Mitigation may include stripping back of paint from steel at cut points or other areas where paint will be disturbed. The Contractor may select other OSHA-compliant controls or work practices instead of paint stripping to mitigate lead hazards. Manage painted steel in accordance with Standard Specification Item 6.10, Painted Steel Requirements.

   ☐ Mitigation for lead hazards is required in accordance with OSHA. The Department will provide lead paint removal. The Contractor must notify the Engineer of locations where paint-disturbing activities will occur at least 90 days prior to the work, to allow sufficient time for the Department to remove the paint. Manage painted steel in accordance with Standard Specification Item 6.10, Painted Steel Requirements.

VII. OTHER ENVIRONMENTAL ISSUES

(includes program areas such as Air, Noise, Edwards Aquifer Protection Program, etc.)

☒ Additional Required Actions:

1. Noise - Contractor shall make every reasonable effort to minimize construction noise through abatement measures such as work hour controls and property maintenance of equipment mufflers.
2. Air - Contractor shall practice common dust control techniques such as surface chemical treatment or waterinng of unpaved road surfaces and vehicle speed reduction shall be implemented to minimize and prevent airborne dust during construction.
3. Air - Contractor should minimize MSAT by using measures to encourage use of EPA required cleaner diesel fuels, limits on idling, increase use of cleaner burning diesel engines, and other emission limitation techniques, as appropriate.

LIST OF ABBREVIATIONS

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DATE:
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Texas Department of Transportation — Design Division Standard

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

EPIC

	DN:	CK:	DW:	CK:
	CONT	SECT	JOB	HIGHWAY
REVISIONS	0921	06	399	Various
	DIST	COUNTY		SHEET NO.
	PHR	Cameron		250

TPWD BMPs

Under Section 12.0011 of the Texas Parks and Wildlife Code, Texas Parks and Wildlife Department (TPWD) is charged with "providing recommendations that will protect fish and wildlife resources to local, state, and federal agencies that approve, permit, license, or construct developmental projects" and "providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources."

The purpose of this section is to provide beneficial management practices (BMP) that should be implemented during construction, and maintenance activities statewide for transportation projects with the goal of avoidance and minimization of impacts to natural resources. Statewide Standard BMP pertain to all fish and wildlife species, including state-listed species and other Species of Greatest Conservation Need (SGCN). Implementing the recommendations as outlined below will improve conservation of species and their habitat.

☐ **General Design/Construction BMPs**

- ☐ *Prior to start of construction, information will be provided to personnel of the potential for all state-listed threatened species or other SGCN to occur within the project area and should be advised of relevant rules and regulations to protect plants, fish, and wildlife.*
- ☒ *Contractor should avoid harming all wildlife species if encountered and allow them to safely leave the project site. Due diligence should be used to avoid killing or harming any wildlife species in the implementation of transportation projects.*
- ☐ *Contractors should install wildlife exclusion fencing and should examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities.*
- ☐ *Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas.*
- ☐ *Contractor should use woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.*
- ☐ *Project staging areas, stockpiles, temporary construction easements, and other project related sites should be situated in previously disturbed areas to avoid or minimize impacts to sensitive or unique habitats including intact native vegetation, floodplains, riparian corridors, wetlands, playa lakes, and habitat for wildlife species.*
- ☐ *When lighting is added, consider wildlife impacts from light pollution and incorporating dark-sky practices into design strategies. Minimize sky glow by focusing light downward, with full cutoff luminaries to avoid light emitting above the horizontal. The minimum amount of night-time lighting needed for safety and security should be used.*

☐ **Vegetation BMPs**

- ☒ *Minimize the amount of vegetation cleared. Removal of native vegetation, particularly mature native trees and shrubs should be avoided. Impacted vegetation should be replaced with in-kind on- site replacement/restoration of native vegetation.*
- ☐ *It is strongly recommended that trees greater than 12 inches in diameter at breast height (DBH) that are removed be replaced. TPWD's experience indicates that for ecologically effective replacement, a ratio of three trees for every one (3:1) lost should be provided to either on-site or off-site. Trees less than 12 inches DBH should be replaced at a 1:1 ratio.*
- ☐ *The use of any non-native vegetation in landscaping and revegetation is discouraged. Locally adapted native species should be used.*
- ☐ *The use of seed mix that contains seeds from only regional ecotype native species is recommended*

☐ **Invasive Species BMPs**

- ☐ *For all work in water bodies designated as "infested" or "positive" for invasive zebra (Dreissena polymorpha) OR quagga mussels (Dreissena bugensis) as well as waters downstream of these lakes, all machinery, equipment, vessels, or vehicles coming in contact with such waters should be cleaned prior to leaving the site to remove any mud, plants, organisms, or debris, water drained (if applicable), and dried completely before use in another water body to prevent the potential spread of invasive mussels.*
- ☐ *Care should be taken to prevent the spread of aquatic and terrestrial invasive plants during construction activities.*
- ☐ *Care should be taken to avoid the spread of aquatic invasive plants such as giant Salvinia (Salvinia molesta), common salvinia (Salvinia minima), hydrilla (Hydrilla verticillata), water hyacinth (Eichhornia spp.), Eurasian watermilfoil (Myriophyllum spicatum), water lettuce (Pistia stratiotes), and alligatorweed (Alternanthera philoxeroides) from infested water bodies into areas not currently infested. All machinery, equipment, vessels, boat trailers, or vehicles coming in contact with waters containing aquatic invasive plant species should be cleaned prior to leaving the site to remove all aquatic plant material and dried completely before use on another water body to prevent the potential spread of invasive plants. Removed plants should be transported for disposal in a secure manner to prevent dispersal.*
- ☐ *Only native or non-invasive plants should be planted. Care should be taken to avoid mowing invasive giant reed (Arundo donax), which spreads by fragmentation, and to clean equipment if inadvertently mowed to prevent spread. If using hay bales for sediment control, use locally grown weed-free hay to prevent the spread of invasive species. Leave the hay bales in place and allow them to break down, as this acts as mulch assisting in revegetation.*

☐ **Stream Crossings BMPs**

- ☐ *Riparian buffer zones should remain undisturbed.*

☐ **Dewatering BMPs**

- ☐ *Impact avoidance measures for aquatic organisms, including all native fish and freshwater mussel species, regardless of state-listing status, should be considered during project planning and construction activities.*

☐ **Wildlife Crossing BMPs**

- ☐ *Incorporate wildlife crossings with fencing, particularly in areas that bisect wildlife travel corridors or seasonal movement routes to avoid further habitat fragmentation and minimize wildlife-vehicle interactions.*

☐ **Rare Plant BMPs**

- ☐ *Avoid impacts and minimize unavoidable impacts. Plant locations should be protected with temporary barrier fencing and contractors should be instructed to avoid protected areas. Conducting construction outside of the growing season or after a plant has produced mature fruit is the preferred way to avoid/minimize impacts to SGCN plant populations. Staging areas, stockpiles, and other project related sites on TxDOT ROW should not impact SGCN plant populations. After construction begins, minimize herbicide use near SGCN plant populations (if possible, use hand-held spot sprayers, several meters from rare plants, on still or days with little wind).*

☐ **Rare Plants BMPs (Continued)**

- ☐ *If there are unintended impacts to SGCN populations, these impacts should be reported to TPWD Transportation Staff.*
- ☐ *During project period, conduct work during times of the year when plants are dormant and/or conditions minimize disturbance of the habitat.*

☐ **Bird BMPs**

- ☐ *Avoid vegetation clearing activities during the general bird nesting season, February 15th to October 1st to minimize adverse impacts to birds.*
- ☒ *Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.*
- ☐ *Minimize extended human presence near nesting birds during construction and maintenance activities. Protect sensitive habitat areas with temporary barriers or fencing to limit human foot- traffic and off-road vehicle use to alert and discourage contractors from causing any unintentional impacts.*
- ☐ *Minimize construction noise above ambient levels during general bird nesting season to minimize adverse impacts on birds.*
- ☐ *Minimize construction lighting during the general bird nesting season by scheduling work activities between dawn and dusk.*

☐ **Rookeries BMPs**

- ☐ *In general, nesting dates for herons and egrets range from early February to late August in Texas, depending on the species. Great blue herons (GBHE) (Ardea herodis) are usually the first to nest. When GBHE get disrupted from the nest and abandon nesting, then the other species of herons and egrets may not attempt to nest at the colony that year.*
- ☐ *If rookeries are encountered, avoid and minimize disturbance during nesting to protect rookery species and their habitat.*
- ☐ *Vegetation clearing in a primary buffer area of 300 meters (984 feet) from a rookery or heronry periphery should be avoided. Utilizing areas that have already been cleared within this buffer area may be acceptable depending on site-specific characteristics. Additionally, human foot-traffic or machinery use should not occur within this buffer area during the nesting season.*
- ☐ *Clearing activities or construction using heavy machinery in a secondary buffer area of 1000 meters (3281 feet) from the heronry periphery should be avoided during the breeding season (courting and nesting).*

Pharr District Contact No. 956-702-6100

Revised 09/18/2024

List of Abbreviations

BMP: Best Management Practice	*MSAT: Mobile Source Air Toxic*	*TCEQ: Texas Commission on Environmental Quality*
CGP: Construction General Permit	*MBTA: Migratory Bird Treaty Act*	*THC: Texas Historical Commission*
CRPe: Contractor Responsible Person Environmental	*NOI: Notice of Intent*	*TPDES:Texas Pollutant Discharge Elimination System*
DSHS: Texas Department of State Health Services	*NOT: Notice of Termination*	*TPWD: Texas Parks and Wildlife Department*
FEMA: Federal Emergency Management Agency	*NWP: Nationwide Permit*	*TxDOT:Texas Department of Transportation*
FHWA: Federal Highway Administration	*PCN: Pre-Construction Notification*	*T&E: Threatened and Endangered Species*
MOA: Memorandum of Agreement	*PSL: Project Specific Location*	*USACE:U.S. Army Corp of Engineers*
MOU: Memorandum of Understanding	*SPCC: Spill Prevention Control and Countermeasure*	*USFWS:U.S. Fish and Wildlife Service*
MS4: Municipal Separate Stormwater Sewer System	*SWP3: Storm Water Pollution Prevention Plan*	

Texas Department of Transportation
©$YEAR$
PHARR DISTRICT

EPIC SHEET SUPPLEMENTALS

TPWD BMPs

SHEET 1 OF 3

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
6			Various
STATE	DISTRICT	COUNTY	
TEXAS	PHR	Cameron	SHEET NO.
CONTROL	SECTION	JOB	
0921	06	399	251

DATE: $DATE$ $TIME$
FILE: $FILE$

☐ **Fish BMPs**

- ☐ *The following Fish BMP apply to projects for all fish species in waters of the state to minimize impacts to water quality and aquatic passage from transportation projects.*
- ☐ *For projects in waters of the state and work is adjacent to water: follow Water Quality and Stream Crossing BMPs.*
- ☐ *For projects in waters of the state and work is in the water: follow Water Quality, Stream Crossing, and Dewatering BMP.*

☐ **Aquatic Invertebrate BMPs**

- ☐ *For projects within the range of a SGCN or state-listed species and work is adjacent to water: Water Quality and Stream Crossing BMP*
- ☐ *For projects within the range of a SGCN or state-listed species and work is in the water: Water Quality, Stream Crossing, and Dewatering BMP.*
- ☐ *For spring-seep associated caddisflies (Cheumatopsyche morsei, Chimarra holzenthali, and Hydroptila ouachita): Avoid or minimize impacts to the natural riparian buffer along stream channel including native shrubs and trees.*

☐ **Crayfish BMP**

- ☐ *For projects within the range of a SGCN or state-listed species and work is adjacent to water: Water Quality and Stream Crossing BMP.*
- ☐ *For projects within the range of a SGCN or state-listed species and work is in the water: Water Quality, Stream Crossing, and Dewatering BMP.*
- ☐ *Avoid or minimize impacts to the natural riparian buffer that provides terrestrial and aquatic plant matter for the diet of most crayfish species.*

☐ **Freshwater Mussel BMP**

- ☐ *In addition to Water Quality and Stream Crossing BMP, follow the most recent, TPWD TxDOT Annual Work Plan for Pre-Construction Surveys, Aquatic Resources Relocations, and Other Best Management Practices to Avoid, Minimize, and Mitigate Impacts to Freshwater Resources.*
- ☐ *When work is adjacent to the water: Water Quality BMP implemented as part of the Texas Commission on Environmental Quality (TCEQ) Stormwater Pollution Prevention Plan (SWPPP) for a construction general permit or any conditions of the 401 Water Quality Certification for the project will be implemented.*

☐ **Insect Pollinator BMP**

- ☐ *Deep soil disturbances, such as, tilling or deep disking in areas that host aggregations of ground- nesting bees should be avoided. Tilling and disking also may promote the invasion or germination of non-native plants. Different species of native ground-nesting bees prefer different soil conditions, although research suggests that many ground nesting bees prefer sandy, loamy sand or sandy loam soils. In areas with these soil types consider leaving open patches of soil.*
- ☐ *Allow dead trees to stand (so long as they do not pose a risk to property or people) and protect shrubs and herbaceous plants with pithy or hollow stems (e.g., cane fruits, sumac, elderberry), as these provide nesting habitat for tunnel-nesting native bees.*
- ☐ *Retain dead or dying branches whenever it is safe and practical at the edges of the ROW. Wood- boring beetle larvae often fill dead trees and branches with narrow tunnels into which tunnel- nesting bees will establish nests. Additionally, bumble bees may choose to nest in wood piles.*
- ☐ *Retain rotting logs at edges of the ROW where some bee species may burrow tunnels in which to nest.*

☐ **Insect Pollinator BMP (Continued)**

- ☐ *Protect sloped or well-drained ground sites where plants are sparse and direct access to soil is available. These are the areas where ground-nesting bees may dig nests. Turning the soil destroys all ground nests that are present at that depth and hinders the emergence of bees that are nesting deeper in the ground.*
- ☐ *Protect grassy thickets, or other areas of dense, low cover from mowing or other disturbance. These are the sites where bumble bees might find the nest cavities they need, as well as annual and perennial wildflowers that can provide important food resources.*
- ☐ *Where available and economical, native plants and seed should be procured from local eco-type providers. Seed mixes should be diverse and include as many ecoregion natives as possible ensuring full season floral resources. Species by Texas ecoregion can be found in the Texas Management Recommendations for Native Insect Pollinators in Texas document: https://tpwd.texas.gov/publications/pwdpubs/media/pwd_bk_w7000_1813.pdf*
- ☐ *Planting at least three different native flowering plants within each of three blooming periods are recommended (spring, summer, early fall) in high rainfall regions of Texas. In drier regions of the state, a target of three native flowering plants within each of two blooming periods can be used.*

☐ **Small Mammal BMP**

For Coues' rice rat (Oryzomys couesi aquaticus):

- ☐ *Minimize impacts to wetland, resaca, oxbow Conversion of property containing cave or cliff features to transportation purposes should be avoided.lake, and marsh habitats Water Quality BMP*
- ☐

☐ **Fossorial Mammal BMP**

- ☐ *When a construction zone is adjacent to active BTPD burrows or pocket gopher mounds, erect barriers to discourage individuals moving through or into the construction area.*
- ☐ *When seeding or revegetation is planned in an area adjacent to BTPD burrows or pocket gopher mounds, a vegetative barrier should be considered in the planting to discourage dispersal into the ROW.*

☐ **Bat BMP**

- ☐ *For activities that have the potential to impact structures, cliffs or caves, or trees; a qualified biologist will perform a habitat assessment and occupancy survey of the feature(s) with roost potential as early in the planning process as possible or within one year before project letting.*
- ☐ *For roosts where occupancy is strongly suspected but unconfirmed during the initial survey, revisit feature(s) at most four weeks prior to scheduled disturbance to confirm absence of bats.*
- ☐ *If bats are present or recent signs of occupation (i.e., piles of guano, distinct musky odor, or staining and rub marks at potential entry points) are observed, take appropriate measures to ensure that bats are not harmed, such as implementing non-lethal exclusion activities or timing or phasing of construction.*
- ☐ *Exclusion devices can be installed by a qualified individual between September 1 and March 31. Exclusion devices should be used for a minimum of seven days when minimum nighttime temperatures are Prior to exclusion, ensure that alternate roosting habitat is available in the immediate area. If no suitable roosting habitat is available, F loss of an occupied roost. If alternate roost sites are not provided, bats may seek shelter in other inappropriate sites, such as buildings, in the surrounding area.*

☐ **Bat BMP (Continued)**

- ☐ *If feature(s) used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design or artificial roosts should be constructed to replace these features.*
- ☐ *Avoid unnecessary removal of dead fronds on native and ornamental palm trees in south Texas (Cameron, Hidalgo, Willacy, Kenedy, Brooks, Kleberg, Nueces, and San Patricio counties) from April 1 through October 31. If removal of dead fronds is necessary at other times of the year, limit frond removal to extended warms periods (nighttime temperatures so bats can move away from the disturbance and find new roosts.*
- ☐ *Large hollow trees, snags (dead standing trees), and trees with shaggy bark should be surveyed for colonies and, if found, should not be disturbed until the bats are no longer occupying these features. Post-occupancy surveys should be conducted by a qualified biologist prior to tree removal from the landscape.*
- ☐ *Retain mature, large diameter hardwood forest species and native/ornamental palm trees.*
- ☐ *In all instances, avoid harm or death to bats. Bats should only be handled as a last resort and after communication with TPWD.*

☐ **Aquatic Amphibian and Reptile BMP**

For projects within existing right-of-way (ROW) when work is in water or will permanently impact a water feature and potential habitat exists for the target species complete the following:

- ☐ *Minimize impacts to wetlands, temporary and permanent open water features, including depressions, and riverine habitats.*
- ☐ *Maintain the existing hydrologic regime and any connections between wetlands and other aquatic features.*
- ☐ *Use barrier fencing to direct animal movements away from construction activities and areas of potential wildlife-vehicle collisions in construction areas directly adjacent, or that may directly impact, potential habitat for the target species.*
- ☐ *Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas. If erosion control blankets or mats will be used, the product should not contain netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.*
- ☐ *Project specific locations (PSLs) proposed within state-owned ROW should be located in uplands away from aquatic features.*
- ☐ *When work is directly adjacent to the water, minimize impacts to shoreline basking sites (e.g., downed trees, sand bars, exposed bedrock) and refugia/overwinter sites (e.g., brush and debris piles, crayfish burrows, aquatic logjams, and leaf packs).*

Pharr District Contact No. 956-702-6100

Revised 09/18/2024

List of Abbreviations

BMP: Best Management Practice
CGP: Construction General Permit
CRPe: Contractor Responsible Person Environmental
DSHS: Texas Department of State Health Services
FEMA: Federal Emergency Management Agency
FHWA: Federal Highway Administration
MOA: Memorandum of Agreement
MOU: Memorandum of Understanding
MS4: Municipal Separate Stormwater Sewer System
MSAT: Mobile Source Air Toxic
MBTA: Migratory Bird Treaty Act
NOI: Notice of Intent
NOT: Notice of Termination
NWP: Nationwide Permit
PCN: Pre-Construction Notification
PSL: Project Specific Location
SPCC: Spill Prevention Control and Countermeasure
SWP3: Storm Water Pollution Prevention Plan
TCEQ: Texas Commission on Environmental Quality
THC: Texas Historical Commission
TPDES:Texas Pollutant Discharge Elimination System
TPWD: Texas Parks and Wildlife Department
TxDOT:Texas Department of Transportation
T&E: Threatened and Endangered Species
USACE:U.S. Army Corp of Engineers
USFWS:U.S. Fish and Wildlife Service

Texas Department of Transportation
©$YEAR$
PHARR DISTRICT

EPIC SHEET SUPPLEMENTALS

TPWD BMPs

SHEET 2 OF 3

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
6			Various
STATE	DISTRICT	COUNTY	
TEXAS	PHR	Cameron	SHEET NO.
CONTROL	SECTION	JOB	
0921	06	399	252

DATE: $DATE$ $TIME$
FILE: $FILE$

☐ ***Aquatic Amphibian and Reptile BMP (Continued)***

☐ *If gutters and curbs are part of the roadway design, install gutters that do not include the side box inlet and include sloped (i.e., mountable) curbs to allow small animals to leave roadway. If this modification to the entire curb system is not possible, install sections of sloped curb on either side of the storm water drain for several feet to allow small animals to leave the roadway. Priority areas for these design recommendations are those with nearby wetlands or other aquatic features.*

For projects that require acquisition of additional ROW and work within that new ROW is in water or will permanently impact a water feature, implement BMP for projects within existing ROW above plus those below:

☐ *For sections of roadway adjacent to wetlands or other aquatic features, install wildlife barriers that prevent climbing. Barriers should terminate at culvert openings in order to funnel animals under the road. The barriers should be of the same length as the adjacent feature or 80 feet long in each direction, or whichever is the lesser of the two.*

☐ *For culvert extensions and culvert replacement/installation, incorporate measures to funnel animals toward culverts such as concrete wingwalls and barrier walls with overhangs.*

☐ *When riprap or other bank stabilization devices are necessary, their placement should not impede the movement of terrestrial or aquatic wildlife through the water feature. Biotechnical streambank stabilization methods using live native vegetation, or a combination of vegetative and structural materials should be used.*

☒ ***Terrestrial Amphibian and Reptile BMP***

☐ *For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling*

☒ *Avoid or minimize disturbing or removing cover objects, such as downed trees, rotting stumps, brush piles, and leaf litter. If avoidance or minimization is not practicable, consider removing cover objects prior to the start of the project and replace them at project completion.*

☒ *Examine heavy equipment stored on site before use, particularly after rain events when reptile and amphibian movements occur more often, to ensure use will not harm individuals that might be seeking temporary refuge.*

☐ *Due to increased activity (mating) of reptiles and amphibian during the spring, construction activities like clearing or grading should attempt to be scheduled outside of the spring (March-May) season. Also, timing ground disturbing activities before October when reptiles and amphibians become less active and may be using burrows in the project area is also encouraged.*

☐ *If Texas tortoises (Gopherus berlandieri) or box turtles (Terrepene spp.) are present in a project area, they should be removed from the area and relocated between 100 and 200 meters from the project area. After removal of the individuals, the area that will be disturbed during active construction and project specific locations should be fenced off to exclude reentry by turtles, tortoises, and other reptiles. The exclusion fence should be constructed and maintained as follows:*

- *The exclusion fence should be constructed with metal flashing or drift fence material.*
- *Rolled erosion control mesh material should not be used.*
- *The exclusion fence should be buried at least 6 inches deep and be at least 24 inches high.*
- *The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated.*

☐ ***Terrestrial Amphibian and Reptile BMP (Continued)***

☐ *After project is complete, revegetate disturbed areas with an appropriate locally sourced native seed mix. If erosion control blankets or mats will be used, the product should not contain nylon netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.*

☐ ***Black-spotted newt/Mexican Burrowing toad/ Mexican treefrog/ Strecker's chorus frog/White-lipped frog/Woodhouse's toad***

- ☐ *Aquatic Amphibian and Reptile BMP*
- ☐ *Terrestrial Amphibian and Reptile BMP*
- ☐ *Water Quality BMP*
- ☐ *Vegetation BMP*

☐ ***Sheep Frog***

- ☐ *Minimize disturbance to burrows or downed woody debris*
- ☐ *Aquatic Amphibian and Reptile BMP*
- ☐ *Terrestrial Amphibian and Reptile BMP*
- ☐ *Water Quality BMP*
- ☐ *Vegetation BMP*

☐ ***South Texas Siren (Large Form)***

- ☐ *Minimize impacts to warm, shallow waters with vegetative cover such as ponds and ditches*
- ☐ *Aquatic Amphibian and Reptile BMP*
- ☐ *Water Quality BMP*

☒ ***Black-striped snake/ Eastern box turtle/Northern cat-eyed snake/Plateau spot-tailed earless lizard/ Reticulate collared lizard/ Slender glass lizard/ Speckler racer/Tamaulipan spot-tailed earless lizard/ Texas Indigo snake/ Western box turtle/Western hognose snake/Western massasauga***

- ☒ *Terrestrial Amphibian and Reptile BMP*
- ☐ *Vegetation BMP*

☐ ***Rio Grande River Cooter***

- ☐ *Aquatic Amphibian and Reptile BMP*
- ☐ *Water Quality BMP*

☒ ***Texas Horned Lizard***

- ☐ *Avoid harvester ant mounds in the selection of Project Specific Locations (PSLs).*
- ☐ *Terrestrial Amphibian and Reptile BMP*
- ☒ *Vegetation BMP*
- ☒

☒ ***Texas Tortoise***

- ☐ *Utility trenches should be covered overnight or visually inspected before filling to avoid burial of the species*
- ☒ *Terrestrial Amphibian and Reptile BMP*
- ☒ *Vegetation BMP*

OTHER PERTINENT INFORMATION

☐ ***Trifold Available***

- ☐ *Ocelot information*
- ☐ *Pelican information*
- ☐ *Ashy dogweed*

☐ ***Stockcards Available***

- ☐ *Mitigatory Bird Treaty Act*
- ☐ *Texas Tortoise*
- ☐ *Harvester Ants and Horn Lizards*

Pharr District Contact No. 956-702-6100

Revised 09/18/2024

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USACE:U.S. Army Corp of Engineers
USFWS:U.S. Fish and Wildlife Service

DATE: $DATE$ $TIME$
FILE: $FILE$

Texas Department of Transportation
©$YEAR$
PHARR DISTRICT

EPIC SHEET SUPPLEMENTALS

TPWD BMPs

SHEET 3 OF 3

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
6			Various
STATE	DISTRICT	COUNTY	
TEXAS	PHR	Cameron	SHEET NO.
CONTROL	SECTION	JOB	
0921	06	399	253

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with TxDOT policy for projects disturbing less than 1 acre of soil, and not part of a larger common plan of development.

For projects with less than one acre of soil disturbing activity and that have Environmental, Permits, Issues, and Commitments (EPICs) dependent on stormwater controls and water quality measures TxDOT will maintain a SWP3 with all pertinent records, correspondence, environmental documents, etc. at the project field office, Area Office, or electronically.

This SWP3 is consistent with requirements specified in applicable stormwater plans, and the project's environmental permits, issues, and commitments (EPICs).

1.0 SITE/PROJECT DESCRIPTION

1.1 PROJECT CONTROL SECTION JOB (CSJ):
0921-06-399

1.2 PROJECT LIMITS:
From: VARIES

To: VARIES

1.3 PROJECT COORDINATES:
BEGIN: (Lat) VARIES ,(Long) VARIES

END: (Lat) VARIES ,(Long) VARIES

1.4 TOTAL PROJECT AREA (Acres): <0.99

1.5 TOTAL AREA TO BE DISTURBED (Acres): 0.00

1.6 NATURE OF CONSTRUCTION ACTIVITY:
ADDING / REPLACING TRAFFIC SIGNAL EQUIPMENT
NO UNDERGROUND WORK IS EXPECTED
EXISTING CONDUIT AND GROUND BOXES TO BE USED

1.7 MAJOR SOIL TYPES:

Soil Type	Description
N/A - NO UNDERGROUND WORK IS EXPECTED	N/A - NO UNDERGROUND WORK IS EXPECTED

1.8 PROJECT SPECIFIC LOCATIONS (PSLs):

PSLs must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. PSLs may be identified during preconstruction meetings or during the construction process. Please choose from the options below:

☐ PSLs determined during preconstruction meeting
☐ PSLs determined during construction
☐ No PSLs planned for construction

Type	Sheet #s

All off-ROW PSLs required by the Contractor are the Contractor's responsibility. The Contractor shall secure all permits required by local, state, federal laws for off-ROW PSLs. The contractor shall provide diagrams, areas of disturbance, acreage, and BMPs for all off-ROW PSLs within one mile of the project.

1.9 CONSTRUCTION ACTIVITIES:

(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record in Attachment 2.3.)

☐ Mobilization
☐ Install sediment and erosion controls
☐ Blade existing topsoil into windrows, prep ROW, clear and grub
☐ Remove existing pavement
☐ Grading operations, excavation, and embankment
☐ Excavate and prepare subgrade for proposed pavement widening
☐ Remove existing culverts, safety end treatments (SETs)
☐ Remove existing metal beam guard fence (MBGF), bridge rail
☐ Install proposed pavement per plans
☐ Install culverts, culvert extensions, SETs
☐ Install mow strip, MBGF, bridge rail
☐ Place flex base
☐ Rework slopes, grade ditches
☐ Blade windrowed material back across slopes
☐ Revegetation of unpaved areas
☐ Achieve site stabilization and remove sediment and erosion control measures
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.10 POTENTIAL POLLUTANTS AND SOURCES:

☐ Sediment laden stormwater from stormwater conveyance over disturbed area
☐ Fuels, oils, and lubricants from construction vehicles, equipment, and storage
☐ Solvents, paints, adhesives, etc. from various construction activities
☐ Transported soils from offsite vehicle tracking
☐ Construction debris and waste from various construction activities
☐ Contaminated water from excavation or dewatering pump-out water
☐ Sanitary waste from onsite restroom facilities
☐ Trash from various construction activities/receptacles
☐ Long-term stockpiles of material and waste
☐ Discharges from concrete washout activities, runoff from concrete cutting activities, and other concrete related activities
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.11 RECEIVING WATERS:

Receiving waters must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. Include Segment # for receiving waters.

Tributaries	Classified Waterbody
N/A - NO UNDERGROUND WORK NOR DISTURBED AREA IS EXPECTED	N/A - NO UNDERGROUND WORK NOR DISTURBED AREA IS EXPECTED

* Add (*) for impaired waterbodies with pollutant in ().

1.12 ROLES AND RESPONSIBILITIES: TxDOT

☐ Development of plans and specifications
☐ Perform SWP3 inspections
☐ Maintain SWP3 records and update to reflect daily operations
☒ Other: N/A - NO UNDERGROUND WORK NOR DISTURBED AREA IS EXPECTED
☐ Other: _____

1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR

☒ Day To Day Operational Control
☐ Maintain schedule of major construction activities
☐ Install, maintain and modify BMPs
☒ Other: N/A - NO UNDERGROUND WORK NOR DISTURBED AREA IS EXPECTED
☐ Other: _____

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER

2/25/26

STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

© 2023

July 2023 Sheet 1 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			254
STATE	STATE DIST.	COUNTY	
TEXAS	PHR	CAMERON	
CONT.	SECT.	JOB	HIGHWAY NO.
0921	06	399	VARIES

STORMWATER POLLUTION PREVENTION PLAN (SWP3):

2.0 BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS, INSPECTION, AND MAINTENANCE

The Contractor shall be the responsible party for implementing the BMPs described herein and for complying with the SWP3 for control of erosion and sedimentation during day-to-day operations. The Contractor shall implement changes to this SWP3 approved by TxDOT within the times specified in this SWP3 or the CGP.

2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

T / P

- ☐ ☐ Protection of Existing Vegetation
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Soil Retention Blankets
- ☐ ☐ Geotextiles
- ☐ ☐ Mulching/ Hydromulching
- ☐ ☐ Soil Surface Treatments
- ☐ ☐ Temporary Seeding
- ☐ ☐ Permanent Planting, Sodding or Seeding
- ☐ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Vertical Tracking
- ☐ ☐ Interceptor Swale
- ☐ ☐ Riprap
- ☐ ☐ Diversion Dike
- ☐ ☐ Temporary Pipe Slope Drain
- ☐ ☐ Embankment for Erosion Control
- ☐ ☐ Paved Flumes
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

2.2 SEDIMENT CONTROL BMPs:

T / P

- ☐ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Dewatering Controls
- ☐ ☐ Inlet Protection
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Sandbag Berms
- ☐ ☐ Sediment Control Fence
- ☐ ☐ Stabilized Construction Exit
- ☐ ☐ Floating Turbidity Barrier
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Vegetated Filter Strips
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

Sediment control BMPs requiring design capacity calculations (See SWP3 Attachment 1.3.):

T / P

- ☐ ☐ Sediment Trap
  - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
  - ☐ 3,600 cubic feet of storage per acre drained
- ☐ ☐ Sedimentation Basin
  - ☐ Not required (<10 acres disturbed)
  - ☐ Required (>10 acres) and implemented.
    - ☐ Calculated volume runoff from 2-year, 24-hour storm for each acre of disturbed area
    - ☐ 3,600 cubic feet of storage per acre drained
  - ☐ Required (>10 acres), but not feasible due to:
    - ☐ Available area/Site geometry
    - ☐ Site slope/Drainage patterns
    - ☐ Site soils/Geotechnical factors
    - ☐ Public safety
    - ☐ Other: _____

2.3 PERMANENT CONTROLS:

(Coordinate post-construction BMPs with appropriate TxDOT maintenance sections.)

BMPs To Be Left In Place Post Construction:

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.4 OFFSITE VEHICLE TRACKING CONTROLS:

- ☐ Excess dirt/mud on road removed daily
- ☐ Haul roads dampened for dust control
- ☐ Loaded haul trucks to be covered with tarpaulin
- ☐ Stabilized construction exit
- ☐ Daily street sweeping
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.5 POLLUTION PREVENTION MEASURES:

- ☐ Chemical Management
- ☐ Concrete and Materials Waste Management
- ☐ Debris and Trash Management
- ☐ Dust Control
- ☐ Sanitary Facilities
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.6 VEGETATED BUFFER ZONES:

Natural vegetated buffers shall be maintained as feasible to protect adjacent surface waters. If vegetated natural buffer zones are not feasible due to site geometry, the appropriate additional sediment control measures have been incorporated into this SWP3.

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

- ☒ Fire hydrant flushings
- ☒ Irrigation drainage
- ☒ Pavement washwater (where spills or leaks have not occurred, and detergents are not used)
- ☒ Potable water sources
- ☒ Springs
- ☒ Uncontaminated groundwater
- ☒ Water used to wash vehicles or control dust
- ☒ Other allowable non-stormwater discharges as allowed by TPDES GP TXR150000.

2.8 DEWATERING:

Dewatering discharges of accumulated stormwater, groundwater, and surface water including discharges from dewatering of trenches, excavations, foundations, vaults, and other points of accumulation are prohibited unless managed by appropriate controls to prevent and minimize the offsite discharge of sediment and other pollutants.

2.9 INSPECTIONS:

All disturbed areas and erosion and sediment control devices shall be inspected at least once every seven (7) days. Inspections shall be performed by TxDOT as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.5 of this SWP3.

When dewatering activities are present, a daily inspection will be conducted once per day during those activities and documented in accordance with CGP and TxDOT requirements.

2.10 MAINTENANCE:

Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.5 of this SWP3.

STORMWATER POLLUTION PREVENTION PLAN (SWP3)

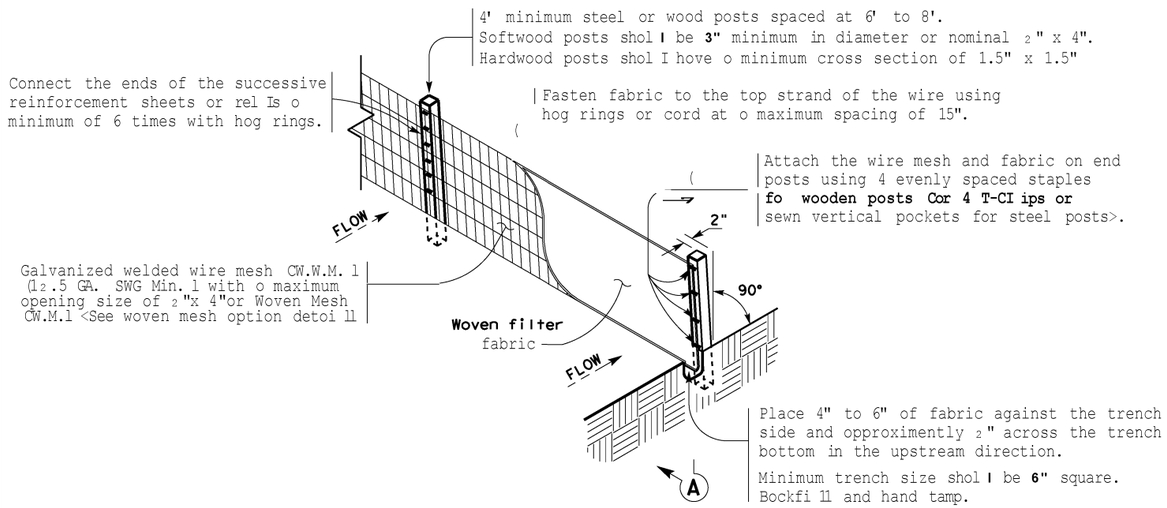
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July 2023 Sheet 2 of 2

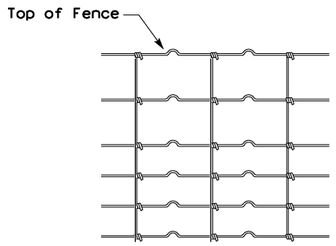
Texas Department of Transportation

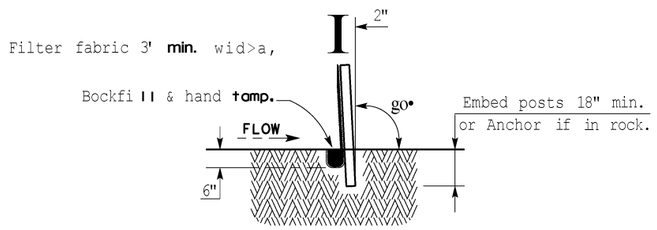
FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
			255
STATE	STATE DIST.	COUNTY	
TEXAS	PHR	CAMERON	
CONT.	SECT.	JOB	HIGHWAY NO.
0921	06	399	VAR

DISCLAIMER:
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.
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TEMPORARY SEDIMENT CONTROL FENCE





SECTION A-A

HINGE JOINT KNOT WOVEN MESH (OPTION> DETAIL

Galvanized hinge joint knot woven mesh 112.5 GA.SWG Min.) requires o minimum of five horizontal wires spaced at o maximum of 12 inches apart and 01 I vertical wires spaced at o maximum of 12 inches apart.

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of o disturbed area along o contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rote to be filtered.

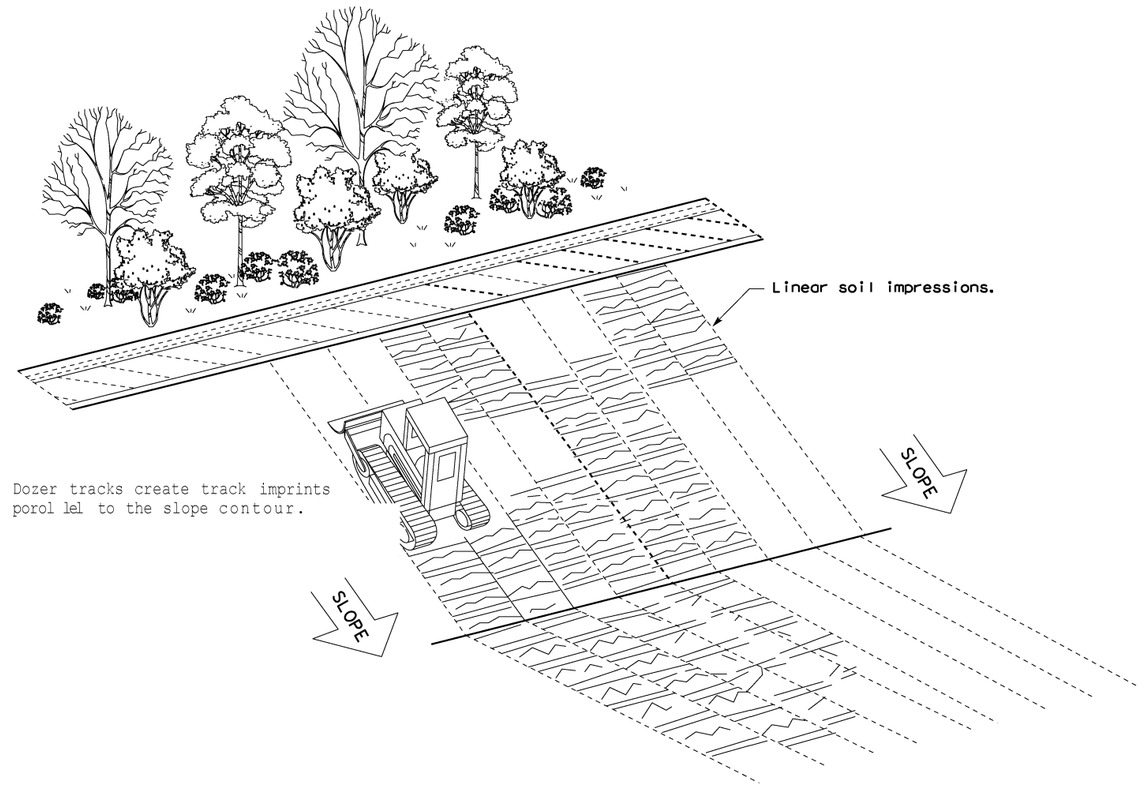
Sediment control fence should be sized to filter o maximum flow through rote of 100 GPM/FT². Sediment control fence is not recommended to control erosion from o drainage area larger than 2 acres.

LEGEND

Sediment Control Fence — SCF

GENERAL NOTES

1. Vertical tracking is required on projects where soi I distributing activities hove occurred unless otherwise approved.
2. Perform vertical tracking on slopes to temporori ly stobi I ize soi I.
3. Provide equipment with o track undercarriage capable of producing linear soi I impressions measuring o minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
4. Do not exceed 12" between track impressions.
5. Instol I continous linear track impressions where the minimum 12" length impressions ore perpendicular to the slope or direction of water flow.



Dozer tracks create track imprints porol lel to the slope contour.

VERTICAL TRACKING

Texas Department of Transportation — Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

FENCE & VERTICAL TRACKING

EC<1>-16

FILE: ec116	DW TxDOT		CK KM	CW VP	DW/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB		HIGHWAY
REVISIONS	0921	06	399		VAR
	DIST	COUNTY			SHEET NO.
	BHR	CAMERON			256

CITY OF BROWNSVILLE SPECIFICATIONS

Item 680-0001
Furnish and Install Field Monitoring Unit

1. DESCRIPTION

- **Installation**. Furnish and install field monitoring unit (FMU)

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** Field monitoring unit is required to meet the following requirements:

- Cell model
- Ethernet Port (10/100Base-T)
- 900 MHz Radio
- GPS
- Analog Inputs: 8 (4 as 120VAC/12-28VDC selectable, 4 as 12-28VDC only)
- Digital Inputs: 8 (4 as 120VAC/12-28VDC selectable, 4 as 12-28VDC only)
- Digital Outputs: 10 (2 as NO/NC Relay, 8 as 24VDC ground true)
- Outlets: NEMA 5-15 (4 x 120V, remotely switchable rated 15 amp total load)
- Operating Systems: pC/OS-II
- Manual Preempt Selector
- Operating Temperature: -40°C to 80°C
- Humidity: 5-95% non-condensing
- Dimensions: 17.5" W x 1.75" H x 7.5" D
- Mounting: 19 inch rack mount 1U
- Input Voltage: 120V AC
- Real Time Clock
- Flash Disk
- Battery backup
- Compatible with existing City traffic signal system
- Shall support 4G LTE communication over the cellular network
- Shall issue real-time alerts via SMS and/or email to the response personnel in real time, as soon as a fault is detected
- 10 years of standard connectivity
- 10 year support plan
- 10 year warranty

3. CONSTRUCTION

3.1. **Installation**. Install field monitoring unit as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning field monitoring unit.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Conduit**. Utilize existing traffic signal conduits.

3.1.1.2. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.3. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed field monitoring unit installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the field monitoring unit who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each field monitoring unit installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "field monitoring unit".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the field monitoring unit and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

Item 680-0002
Furnish and Install Roadside Unit

1. DESCRIPTION

- **Installation**. Furnish and install roadside unit (RSU)

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** Roadside unit is required to meet the following requirements:

- Connectivity
  - C-V2X Direct
  - 5.9 GHz Radio (Cellular, C-V2X Ready)
  - Ethernet Port (10/100 Base-T) - 4
  - GPS
  - SCMS Ready
- Power
  - Input Voltage 10-30 VDC
  - Power Consumption 5W
- Miscellaneous
  - Operating Systems: Linux
  - Operating Temperature: -37°C to 74°C
  - Humidity: 5-95% non-condensing
  - Dimensions: 12" W x 10" H x 5" D
  - Battery Backup
  - Pole-Mounted
  - Compatible with existing City traffic signal system
  - Shall support 4G LTE communication over the cellular network
  - Shall issue real-time alerts via SMS and/or email to the response personnel in real time, as soon as a fault is detected
  - The Connected Vehicle Traffic Signal System's RSU shall be equipped with C-V2X radio and be capable of sending messages over C-V2X (PC5) radio.
  - The RSU shall include a small internal battery for monitoring for power failure events to send out alerts via C-V2X direct radio.
  - The RSU shall support additional radio slots to support future radio types for expansion, for example 5G communication radios.
  - The RSU shall include digital inputs to monitor door status and other internal alerts.
  - The RSU's C-V2X antennas shall be separate from the RSU unit so that they can be placed high on the traffic signal poles.
  - The C-V2X radio shall be monitored and if faults are detected, an email/text message alert shall be sent to the appropriate personnel.

- The Connected Vehicle Traffic Signal System's RSU shall be maintainable without the use of a bucket truck.
- The RSU shall comply with the FCC (Federal Communications Commission) standards.
- Proposers shall work with the agency to get FCC licenses approved for the RSUs.
- The C-V2X RSU shall support SAE J2735 communications protocols.
- The RSU shall be pole mounted via bandit straps and accessible via a ladder for maintenance purposes.
- The RSU cabinet shall utilize the same locking mechanism used by the agency, either by physical key or digital lock.
- The RSU and intersection unit, together, shall be capable of abstracting the receipt of the SPaT message from the traffic controller. This means that the RSU shall receive the SPaT message from the traffic controller and send a processed J2735 SPaT message out the C-V2X radio.
- The RSU shall support multiple types of traffic controllers with different formats and multiple different radios.
- The RSU shall support J2735 compliant messages for the radio using either the 2009 or 2016 standard and use DER/UPR encoding schemes as appropriate.
- 10 years of standard connectivity
- 10 year support plan
- 10 year warranty

- C-V2X Applications Included
  - School Zones
  - Pedestrian Crossings
  - Work Zones
  - Slow Speed Zones
  - Intersections
  - Connected Vehicle Applications
- Supported Commiunications
  - J2735 MAP and SPaT (Intersection Applications)
  - J2735 SRM (Emergency Vehicle Preemption)
  - J2735 TIM (Zone or Curve Warning)
  - NTCIP 1218 RSU (RSU Management)

3. CONSTRUCTION

3.1. **Installation**. Install roadside unit as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning roadside unit.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Conduit**. Utilize existing traffic signal conduits.

3.1.1.2. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.3. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed roadside unit installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the roadside unit who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each roadside unit installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "roadside unit".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the roadside unit and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

Item 680-0004
Furnish and Install Ethernet Switch Power Supply

1. DESCRIPTION

- **Installation**. Furnish and install ethernet switch power supply

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** Ethernet switch and power supply is required to meet the following requirements:

- Specifications
  - 480W
  - USB, SD card
  - 2 alarms in, 1 alarm out
  - Console ports: 1 RS-232 (via RJ-45), 1 USB mini type B
  - Dual DC power input
  - 6 in. X 4.4 in. X 5.3 in.
  - 5.0 lbs
  - DIN rail mount
  - Number of queues: 8
  - Unicast MAC addresses: 16K
  - Internet Group Management Protocol: 1K
  - No. of VLANs: 256
  - IPv4 Indirect routes: 3000
  - IPv6 Indirect routes: 512
  - Spanning Tree Protocol (STP) instances: 128
  - Access Control Entries (PACL/VACL/RACL): 3K
  - DRAM: 4 GB
  - Flash [User Accessible]: 1.5 GB
  - SD card capacity: 4 GB, 16 GB
  - Jumbo Frames: 8996 bytes
  - Input current: Redundant DC input voltage 9.6 to 60VDC ; 48VDC is required for PoE and 54VDC is required for PoE+
  - Input current: 10.6A

3. CONSTRUCTION

3.1. **Installation**. Install ethernet switch and power supply as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning ethernet switch power supply.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.2. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed ethernet switch power supply installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the ethernet switch power supply who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each ethernet switch and power supply installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "ethernet switch power supply".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the ethernet switch and power supply and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

Item 680-0005
Furnish and Install P5G Gateway

1. DESCRIPTION

- **Installation**. Furnish and install P5G Gateway

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** P5G Gateway is required to meet the following requirements:

- Specifications
  - Modem: Embedded 5GB NR FR1 low—, mid—band, and 4G LTE Category 20 modem
    - 4 x SNA cellular antenna connectors
  - Ethernet: 4 x GbE (LAN/WAN switchable)
  - PoE: Optionol RX30 Managed Accessory PoE Switch
    - 4 x Po E 802.3bt Type 3 (up to 60 W per port)
    - 60 W total PoE power budget
  - Wi-Fi: Dual-rodio, dual-band, concurrent operation (2 4 GHz ond 5 GHz)
    - 2x2 MU—MIMO 802.11ax Wi-Fi 6 with DFS
    - 574 Mbps (2 4 GHz) & 1,200 Mbps (5 GHz)
    - 2 x RP—SMA Wi—Fi antenna connectors
    - Global Optimized Wi-Fi & International SDR
    - WPA/WPA2/WPA3 Personal, WPA2/W PA3 Enterprise, Open
    - 802.11k,802.11v
    - Wi-Fi Alliance Certified
  - Bluetooth
    - Max TX Power: 10dBM
    - 1 x RP-SMA Bluetooth antenna connector
  - Exponsion / Console
    - 1 x USB 2.0 Type A (Output: 5 V, 500 mA, 2.5 W
    - 1 x DB9 RS-232
    - 1 x 8-pin GPIO connector
    - 2x4 Molex micro—fit (3 mm locking type)
  - Optional Managed Accessories
    - RX30-POE 4-port GbE Po E switch
    - RX30-MC modular modem slot & 4-port GbE switch
  - GNSS / GPS
    - 1 x SMA GNSS antenna connector
  - Sensitivity
    - Acquisition: 147 dBm
    - Tracking: 165 dBm

- Reacquisition: 159dBm
- Frequencies
  - L1, L5 (1559-1606 MHz)
- Power
  - Voltage Supply: 3.1—3.8 V
  - Max Current. 30 mA
- Temperature
  - Operating. -30 °C to 75 °C (-22 °F to 167 °F)
  - Storage: -40 °C to 85 °C (-40 °F to 185 °F)
- Humidity
  - Operating: 5% to 95%
  - Storage: 5% to 95%
- Power
  - DC input steody state voltoqe ronge: 9—36 VDC
- Physical
  - Size: 172 x 14B x 41mm (6.77 x 5 82 x 161 in)
  - Weight: 0.98 kg (2.15 lb)

3. CONSTRUCTION

3.1. **Installation**. Install P5G Gateway as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning P5G Gateway.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.2. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed P5G Gateway installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the P5G Gateway who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each P5G Gateway installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "P5G Gateway".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the P5G Gateway and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

Item 6043-0001
Antenna (Omni Directional)

1. DESCRIPTION

- **Installation**. Furnish and install antenna (omni directional)

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** Antenna (omni directional) is required to meet the following requirements:

- Electrical Specifications
  - 4G/5G
    - Frequency Range: 600~6000 MHz
    - Peak Gain: 3-5 dBi frequency dependent
    - Radiation Pattern: Omni-Directional
    - VSWR: < 2.0:1 in band
    - Inter-Element Isolation: -8.5 dB min in band
    - Input Impedance: 50 Ohm
    - Polarization: Vertical
    - Max Input Power: 50 W
    - Not DC grounded
    - Ground plane: 8 inch (20 cm) diameter min
  - GNSS
    - Frequency Range: 1575.42 ~1602.00 MHz ± 1.023 MHz
    - Passive Gain (Zenith°): 2 dBic min
    - Low Noise Amplifier Gain (LNA): 27~29 ± 3.0dB typical
    - VSWR: ≤ 1.5:1
    - Noise Figure: 1.5 dB typical
    - Ex-Band Attenuation
      - f_o = 1575.42 MHz Dfgfd
      - f_o ± 20 MHz 7dB min
      - f_o ± 30 MHz 12dB min
      - f_o ± 50 MHz 20dB min
      - f_o ± 100 MHz 30dB min
    - Impedance: 50 Ohm
    - Polarization: RHCP
    - Max Input Power: 50 W
    - DC Operating Voltage: 2.3 - 5.0
    - DC Current: 6.6 - 22 mA
    - Not DC grounded

- Mechanical Specifications
  - Connector Type: 5x SMA Male (plug)
  - Cable Type:
    - 4G/5G:4x 2 ft (0.6 m) or 6 ft (1.8 m) Low-loss CFD195 coax
    - GPS: 1x 2 ft (0.6 m) or 6 ft (1.8 m) Low-loss RG174 coax
  - Height:
    - Radome: 2.4 inches (60 mm) above mounting surface
    - Overall: 3.4 inches (84 mm)
  - Diameter:
    - Radome: 2.2 inches (54.7 mm) at base
    - Mounting post: 7/8 inches (20 mm x 1.5 mm thread)
  - Weight: 17 oz (482 g)
  - Materials:
    - Radome: UV Stabilized Polycarbonate
    - Connectors: Gold-Plated Brass
    - Mounting Post & Hardware: Stainless Steel
    - Gasket: Rubber
    - RoHS Compliant
  - Antenna Color: Black or White (must gain City approval prior to ordering)
  - Operating Temperature: -30°C to +75°C
  - Environmental Rating: IP67 (waterproof)
  - Shock (Drop Test): 60 cm drop on concrete
  - Shock (Half Sine Wave): 10 msec

3. CONSTRUCTION

3.1. **Installation**. Install antenna (omni directional) as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning antenna (omni directional).

3.1.1. **Electrical Requirements**.

3.1.1.1. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.2. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed antenna (omni directional) installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the antenna (omni directional) who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment

fails during the 30-day test period, repair or replace that equipment. This repair or replacement will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each antenna (omni directional) installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "antenna (omni directional)".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the antenna (omni directional) and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

Foreword

OUTLINE OF SPECIFICATIONS

Each specification is outlined by articles and sections. The basic articles required for a specification are:

1. **DESCRIPTION**
2. **MATERIALS**
3. **EQUIPMENT**
4. **CONSTRUCTION OR WORK METHODS**
5. **MEASUREMENT**
6. **PAYMENT**

Some articles are not used in every item. Measurement and Payment articles are combined when the work described is subsidiary to bid items of the Contract.

HIERARCHY OF ORGANIZATIONAL ELEMENTS

Here "XXX" represents the item number. The hierarchy of organizational elements available below the item level is as follows:

XXX.1., Article
XXX.1.1., Section
XXX.1.1.1., Section
XXX.1.1.1.1., Section
XXX.1.1.1.1.1., Section
XXX.1.1.1.1.1.1., Section

The term section is used for all breaks below the article.

Items 1L–9L

Local Government General Requirements and Covenants

Item 1L
Abbreviations and Definitions

1. APPLICABILITY

Wherever the following terms are used in these specifications or other Contract documents, the intent and meaning will be interpreted as shown below.

2. ABBREVIATIONS

AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standard Committee, Inc.
AMPP	Association for Materials Protection and Performance
AMRL	AASHTO Materials Reference Laboratory
ANLA	American Nursery and Landscape Association
ANSI	American National Standards Institute
APA	The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREMA	American Railway Engineering and Maintenance-of-Way Association
ASBI	American Segmental Bridge Institute
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
AWC	American Wood Council
AWG	American Wire Gage
AWPA	American Wood Protection Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BMP	Best Management Practices
CFR	Code of Federal Regulations
CMP	Corrugated Metal Pipe
COE	U.S. Army Corps of Engineers
CRSI	Concrete Reinforcing Steel Institute
DBE	Disadvantaged Business Enterprise
DMS	Departmental Materials Specification
EIA	Electronic Industries Alliance
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration, U.S. Department of Transportation
FSS	Federal Specifications and Standards (General Services Administration)
GSA	General Services Administration
HUB	Historically Underutilized Business
ICEA	Insulated Cable Engineers Association

IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IMSA	International Municipal Signal Association
ISO	International Organization for Standardization
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation System
LG	Local Government
LRFD	Load and Resistance Factor Design
MASH	Manual for Assessing Safety Hardware
MPL	Material Producer List
NCHRP	National Cooperative Highway Research Program
NCR	Nonconformance Report
NEC	National Electrical Code (Published by NFPA)
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
NPCA	National Precast Concrete Association
NRM	Nonhazardous Recyclable Material
NRMCA	National Ready Mixed Concrete Association
NSBA	National Steel Bridge Alliance
OSHA	Occupational Safety and Health Administration, U.S. Department of Labor
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PPI	Plastics Pipe Institute
PS&E	Plans, Specifications, and Estimates
PSL	Project Specific Location
PTI	Post-Tension Institute
QA	Quality Assurance
QC	Quality Control
RCP	Reinforced Concrete Pipe
RPLS	Registered Public Land Surveyor
RRC	Railroad Commission of Texas
SBE	Small Business Enterprise
SFPA	Southern Forest Products Association
SI	International System of Units
SPIB	Southern Pine Inspection Bureau
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TDLR	Texas Department of Licensing and Regulation
TMUTCD	Texas Manual on Uniform Traffic Control Devices
UL	Underwriters Laboratory, Inc.
USC	United States Code
WRI	Wire Reinforcement Institute
WWPA	Western Wood Products Association

3. DEFINITIONS

3.1. **Abrasive Blasting**. Spraying blasts of pressurized air combined with abrasive media.

3.2. **Actual Cost**. Contractor's actual cost to provide labor, material, equipment, and project overhead necessary for the work.

3.3. **Addendum**. Change in proposal forms developed between advertising and bid submittal deadline.

3.4. **Additive Alternate**. A bid item contained in a proposal that is not a regular item or a replacement alternate bid item. The additive alternate item(s) include work that may be added to the base bid at the time of letting.

3.5. **Advertisement**. The public announcement required by law inviting bids for work to be performed or materials to be furnished.

3.6. **Affiliates**. Two or more Bidders are affiliated if they share common officers, directors, or stockholders; a family member of an officer, director, or stockholder of one Bidder serves in a similar capacity in another of the Bidders; an individual who has an interest in, or controls a part of, one Bidder either directly or indirectly also has an interest in, or controls a part of, another of the Bidders; the Bidders are so closely connected or associated that one of the Bidders, either directly or indirectly, controls or has the power to control another Bidder; one Bidder controls or has the power to control another Bidder; or the Bidders are closely allied through an established course of dealings, including, but not limited to, the lending of financial assistance. Refer to 43 TAC § 9.12(g), "Affiliated Entities."

3.7. **Air Blasting**. Spraying blasts of pressurized air free of oil and moisture.

3.8. **Air Temperature**. The temperature measured in degrees Fahrenheit (°F) in the shade, not in the direct rays of the sun, and away from artificial heat.

3.9. **Anticipated Profit**. Profit for work not performed.

3.10. **Apparent Low Bidder**. The Bidder determined to have the numerically lowest total bid as a result of the tabulation of bids by the Owner.

3.11. **Architect of Record**. A person registered as an architect or licensed as a landscape architect, in conformance with State law, exercising overall responsibility for the design or a significant portion of the design and performing certain Contract administration responsibilities as described in the Contract; or a firm employed by the Owner to provide professional architectural services.

3.12. **Arterial Highway**. A highway used primarily for through traffic and usually on a continuous route.

3.13. **Available Bidding Capacity**. Not applicable to Locally Let projects.

3.14. **Award**. The Owner's acceptance of a Contractor's bid for a proposed Contract that authorizes the Owner to enter into a Contract.

3.15. **Bid**. The offer from the Bidder for performing the work described in the proposal.

3.16. **Bid Bond**. The security executed by the Contractor and the Surety furnished to the Owner to guarantee payment of liquidated damages if the Contractor fails to enter into an awarded Contract.

3.17. **Bid Error**. A mathematical mistake made by a Bidder in the unit price entered into the proposal.

3.18. **Bidder**. An individual, partnership, limited liability company, corporation, or joint venture submitting a bid for a proposed Contract.

3.19. **Bidders Questionnaire**. A prequalification form that reflects detailed equipment and experience data but waives audited financial data.

3.20. **Bidding Capacity**. Not applicable to Locally Let projects.

3.21. **Blast Cleaning**. Using one of the blasting methods including, but not limited to water blasting, low-pressure water blasting, high-pressure water blasting, abrasive blasting, water-abrasive blasting, shot blasting, slurry blasting, water -injected abrasive blasting, and brush blasting.

3.22. **Bridge**. A structure, including supports, erected over a depression or an obstruction (e.g., water, a highway, or a railway) with a roadway or track for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 ft. between faces of abutments, spring lines of arches, or extreme ends of the openings for multiple box culverts.

3.23. **Brush Blasting**. Sweeping lightly with an abrasive blast to remove loose material.

3.24. **Building Contract**. Not applicable to Locally Let projects.

3.25. **Callout Work**. Contracts, or work items in Contracts, that require a Contractor's response on an as-needed basis (e.g., see Item 351, "Flexible Pavement Structure Repair").

3.26. **Certificate of Insurance**. A form approved by the Owner covering insurance requirements stated in the Contract.

3.27. **Change Order**. Written order to the Contractor detailing changes to the specified work, item quantities, or any other modification to the Contract.

3.28. **Commission**. The Texas Transportation Commission or authorized representative.

3.29. **Concrete Construction Joint**. A joint formed by placing plastic concrete in direct contact with concrete that has attained its initial set.

3.30. **Concrete Repair Manual**. TxDOT manual specifying methods and procedures for concrete repair as an extension of the standard specifications.

3.31. **ConcreteWorks©**. TxDOT-owned software for concrete heat analysis. Software is available on the TxDOT's website.

3.32. **Confidential Questionnaire**. A prequalification form that reflects detailed financial and experience data.

3.33. **Construction Contract**. A Contract entered under state law for the construction, reconstruction, repair, or maintenance of a segment of the Owner's or State transportation highway system.

3.34. **Consultant**. The licensed professional engineer or engineering firm, or the architect or architectural firm, registered in the State of Texas and under Contract to the Owner to perform professional services. The consultant may be the Engineer or architect of record or may provide services through and be subcontracted to the Engineer or architect of record.

3.35. **Contract**. The agreement between the Owner and the Contractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.

3.36. **Contract Documents**. Elements of the Contract including, but not limited to, the plans, specifications incorporated by reference, special provisions, special specifications, Contract bonds, change orders, and supplemental agreements.

3.37. **Contract Time**. The number of working days specified for completion of the work, including authorized additional working days.

3.38. **Contractor**. The individual, partnership, limited liability company, corporation, or joint venture and all principals and representatives with which the Contract is made by the Owner.

3.39. **Control of Access**. The condition in which the right to access of owners or occupants of abutting land or other persons in connection with a highway is fully or partially controlled by public authority.

3.40. **Control Point**. An established point shown on the plans to provide vertical and horizontal references for geometric control for construction.

3.41. **Controlled Access Highway**. Any highway to or from which access is denied or controlled, in whole or in part, from or to abutting land or intersecting streets, roads, highways, alleys, or other public or private ways.

3.42. **Cross-Sections**. Graphic representations of the original ground and the proposed facility, at right angles to the centerline or base line.

3.43. **Culvert**. Any buried structure providing an opening under a roadway for drainage or other purposes. Culverts may also be classified as bridges. (See Section 1.3.22., "Bridge.")

3.44. **Cycle**. The activity necessary for performing the specified work within the right of way project limits once.

3.45. **Daily Road-User Cost**. Damages based on the estimated daily cost of inconvenience to the traveling public resulting from the work.

3.46. **Debar (Debarment)**. Disqualification of an entity from bidding on or entering into a Contract with the Owner, from participating as a subcontractor under a Contract with the Owner, and from participating as a supplier of materials or equipment to be used under a Contract with the Owner.

3.47. **Department**. The Texas Department of Transportation (TxDOT).

3.48. **Departmental Materials Specifications**. Reference specifications for various materials published by the Materials and Tests Division.

3.49. **Detour**. A temporary traffic route around a closed portion of a road.

3.50. **Direct Traffic Culvert**. Concrete box culvert whose top slab is used as the final riding surface or is to have an overlay or other riding surface treatment.

3.51. **Disadvantaged Business Enterprise**. A for-profit small business certified through the Texas Unified Certification Program in accordance with 49 CFR Part 26, that is at least 51% owned by one or more socially and economically disadvantaged individuals, or in the case of a publicly owned business, in which at least 51% of the stock is owned by one or more socially and economically disadvantaged individuals, and whose management and daily business operations are controlled by one or more of the individuals who own it.

3.52. **Divided Highway**. A highway with separate roadways intended to move traffic in opposite directions.

3.53. **Easement**. A real property right acquired by one party to use land belonging to another party for a specified purpose.

3.54. **Electronic Vault**. The Owner's bidding system where electronic bids are stored before bid opening.

3.55. **Engineer**. The Chief Engineer of the Owner or the authorized representative of the Chief Engineer.

3.56. **Equipment Watch**. Publication containing equipment rental rates.

3.57. **Escalation Ladder**. A process to determine issue resolution during the course of the Contract.

3.58. **Expressway**. A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at intersections.

3.59. **Family Member**. A family member of an individual is the individual's parent, parent's spouse, stepparent, stepparent's spouse, sibling, sibling's spouse, spouse, child, child's spouse, spouse's child, spouse's child's

spouse, grandchild, grandparent, uncle, uncle's spouse, aunt, aunt's spouse, first cousin, or first cousin's spouse. Refer to 43 TAC § 9.12(g), "Affiliated Entities."

3.60. **Force Account**. Payment for directed work based on the actual cost of labor, equipment, and materials furnished with markups for project overhead and profit.

3.61. **Freeway**. An expressway with full control of access.

3.62. **Frontage Road**. A local street or road auxiliary to and located along an arterial highway for service to abutting property and adjacent areas and for control of access (sometimes known as a service road, access road, or insulator road).

3.63. **Hazardous Materials or Waste**. Hazardous materials or waste include, but are not limited to, explosives, compressed gas, flammable liquids, flammable solids, combustible liquids, oxidizers, poisons, radioactive materials, corrosives, etiologic agents, and other material classified as hazardous by 40 CFR 261, or applicable state and federal regulations.

3.64. **High-Pressure Water Blasting**. Water blasting with pressures between 5,000 and 10,000 psi.

3.65. **Highway, Street, or Road**. General terms denoting a public way for purposes of and related to vehicular, pedestrian, and bicycle travel, including the entire area within the right of way including Intersections and Easements; all related structures, improvements, and appurtenances, including but not limited to the roadside and roadside facilities, drainage systems, signal systems, and other traffic in formation and control systems; or other structures or improvements that directly or indirectly serve public travel. Recommended usage in urban areas is highway or street, and in rural areas, highway or road.

3.66. **Historically Underutilized Business (HUB)**. A corporation, sole proprietorship, partnership, or joint venture formed for the purpose of making a profit certified by the Texas Building and Procurement Commission, and 51% owned by one or more persons who are economically disadvantaged because of their identification as members of certain groups, including African Americans, Hispanic Americans, Asian-Pacific Americans, Native Americans, or women, and have a proportionate interest and demonstrate active participation in the control, operation, and management of the business' affairs. Individuals meeting the HUB definition are required to be residents of the State of Texas. Businesses that do not have their primary headquarters in the State of Texas are not eligible for HUB certification.

3.67. **In Writing**. Communication memorialized, including written or electronic documentation by email or letter only.

3.68. **Incentive and Disincentive Provisions**. An adjustment to the Contract price of a predetermined amount for each day the work is completed ahead of or behind the specified milestone, phase, or Contract completion dates. The amount of the incentive and disincentive is determined based on estimated costs for engineering, traffic control, delays to the motorists, and other items involved in the Contract.

3.69. **Independent Assurance Tests**. Tests used to evaluate the sampling and testing techniques and equipment used in the acceptance program. The tests are performed by the Owner and are not used for acceptance purposes.

3.70. **Inspector**. The person assigned by the Engineer to inspect for compliance with the Contract any or all parts of the work and the materials used.

3.71. **Intelligent Transportation System**. An integrated system that uses video and other electronic detection devices to monitor traffic flows.

3.72. **Intersection**. The general area where two or more highways, streets, or roads join or cross, including the roadway and roadside facilities for vehicular, pedestrian, and bicycle traffic movements within it.

3.73. **Island**. An area within a roadway from which vehicular traffic is intended to be excluded, together with any area at the approach occupied by protective deflecting or warning devices.

3.74. **Joint Venture**. Any combination of individuals, partnerships, limited liability companies, or corporations submitting a single bid proposal.

3.75. **Lane Rental**. A method to assess the Contractor daily or hourly rental fees for each lane, shoulder, or combination of lanes and shoulders taken out of service.

3.76. **Letting**. The receipt, opening, tabulation, and determination of the apparent low Bidder.

3.77. **Letting Official**. The employee empowered by the Owner to officially receive bids and close the receipt of bids at a letting.

3.78. **Licensed Professional Engineer**. A person who has been duly licensed by the Texas Board of Professional Engineers to engage in the practice of engineering in the State of Texas; also referred to as a Professional Engineer.

3.79. **Limits of Construction**. An area with established boundaries, identified within the highway right of way and easements, where the Contractor is permitted to perform the work.

3.80. **Local Street or Road**. A street or road primarily for access to residence, business, or other abutting property.

3.81. **Low-Pressure Water Blasting**. Water blasting with pressures between 3,000 and 5,000 psi.

3.82. **Major Item**. An item of work included in the Contract that has a total cost equal to or greater than 5% of the original Contract or $100,000 whichever is less. A major item at the time of bid will remain a major item. An item not originally a major item does not become one through the course of the Contract.

3.83. **Material Producer List**. TxDOT-maintained list of approved products, materials, laboratories, service providers, manufacturers, and producers.

3.84. **Materially Unbalanced Bid**. A bid that generates a reasonable doubt that award to the Bidder submitting a mathematically unbalanced bid will result in the lowest ultimate cost to the Owner.

3.85. **Materials Contract**. Not applicable to Locally Let projects.

3.86. **Materials Supplier's Questionnaire**. A prequalification form that reflects basic information, such as company contact, signature authority, and other requirements, but waives financial, equipment, and experience data.

3.87. **Mathematically Unbalanced Bid**. A bid containing bid prices that do not reflect reasonable actual costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs, and other indirect costs.

3.88. **Median**. The portion of a divided highway separating the traffic lanes in opposite directions.

3.89. **Milestone Date**. The date that a specific portion of the work is to be completed before the completion date for all work under the Contract.

3.90. **Monolithic Concrete Placement**. The placement of plastic concrete in such manner and sequence to prevent a construction joint.

3.91. **National Holidays**. January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, December 24, and December 25.

3.92. **Nonhazardous Recyclable Material**. A material recovered or diverted from the nonhazardous waste stream for the purposes of reuse or recycling in the manufacture of products that may otherwise be produced using raw or virgin materials.

3.93. **Nonresident Bidder**. A Bidder whose principal place of business is not in Texas. This includes a Bidder whose ultimate parent company or majority owner does not have its principal place of business in Texas.

3.94. **Nonresponsive Proposal**. A proposal that does not meet the criteria for acceptance contained in the proposal form.

3.95. **Non-Site-Specific Contracts**. Contracts where a geographic region is specified for the work and work orders, with or without plans, detail the limits and work to be performed.

3.96. **Notification**. Either written or oral instruction to the Contractor. Voice mail is oral notification.

3.97. **Pavement**. That part of the roadway with a constructed surface for the use of vehicular traffic.

3.98. **Pavement Structure**. Combination of surface course and base course placed on a subgrade to support the traffic load and distribute it to the roadbed.

3.98.1. **Base Course**. One or more layers of specified material thickness placed on a subgrade to support a surface course.

3.98.2. **Subgrade**. The top surface of a roadbed upon which the pavement structure, shoulders, and curbs are constructed.

3.98.3. **Subgrade Treatment**. Modifying or stabilizing material in the subgrade.

3.98.4. **Surface Course**. Pavement structure layers designed to accommodate the traffic load. The top layer resists skidding, traffic abrasion, and the disintegrating effects of climate and is sometimes called the wearing course.

3.99. **Payment Bond**. The security executed by the Contractor and the Surety, furnished to the Owner to guarantee payment of all legal debts of the Contractor pertaining to the Contract.

3.100. **Performance Bond**. The security executed by the Contractor and the Surety, furnished to the Owner to guarantee the completion of the work in accordance with the terms of the Contract.

3.101. **Plans**. The drawings approved by the Engineer, including true reproductions of the drawings that may show the location, character, dimensions, and details of the work and are a part of the Contract. Documents may include drawings or digital files.

3.102. **Power of Attorney for Surety Bonds**. An instrument under corporate seal appointing an attorney-in-fact to act on behalf of a Surety in signing bonds.

3.103. **Prequalification**. The process for determining a Contractor's eligibility to bid work.

3.104. **Prequalification Statement**. The forms on which required information is furnished concerning the Contractor's ability to perform and finance the work.

3.105. **Project-Specific Location**. A material source, plant, waste site, parking area, storage area, field office, staging area, haul road, or other similar location either outside the project limits or within the project limits but not specifically addressed in the Contract.

3.106. **Proposal**. The offer from the Bidder submitted on the prescribed form, including addenda issued, giving unit bid prices for performing the work described in the plans and specifications.

3.107. **Proposal Form**. The form printed and sent to the Bidder by the Owner or printed by the Bidder from the Owner's bidding system.

3.108. **Proposal Guaranty**. The security furnished by the Bidder as a guarantee that the Bidder will enter into a Contract if awarded the work.

3.109. **Quality Assurance (QA)**. Sampling, testing, inspection, and other activities conducted by the Engineer to determine payment and make acceptance decisions.

3.110. **Quality Control (QC)**. Sampling, testing, and other process control activities conducted by the Contractor to monitor production and placement operations.

3.111. **Ramp**. A section of highway for the primary purpose of making connections with other highways.

3.112. **Recurring Maintenance Work Contracts**. Contracts or work for which maintenance is needed at the same location on more than one occasion (e.g., mowing Contracts for which mowing cycles are requested on multiple occasions).

3.113. **Referee Tests**. Tests requested to resolve differences between Contractor and Engineer test results.

3.114. **Regular Item**. A bid item contained in a proposal and not designated as an additive alternate or replacement alternate bid item.

3.115. **Rental Rate Blue Book for Construction Equipment**. Publication containing equipment rental rates.

3.116. **Repair**. Performed under Transportation Code §223, Subchapter A for Highway Improvement Contracts and includes restoration of a Highway, Street, or Road by replacing or putting together, in whole or in part, what is torn, broken, or otherwise damaged. Repair denotes the process of restoring all or part of a Highway, Street, or Road that has been subjected to decay, waste, injury, partial destruction, erosion, dilapidation, degradation, etc.

3.117. **Replacement Alternate**. A bid item identified the proposal form that a Bidder may substitute for a specific regular item of work.

3.118. **Responsive Bid**. A proposal that meets all requirements of the proposal form for acceptance.

3.119. **Right of Way**. A general term denoting land or property devoted to transportation purposes.

3.120. **Roadbed**. The graded portion of a highway prepared as foundation for the pavement structure and shoulders. On divided highways, the depressed median type and the raised median type highways are considered to have two roadbeds. Highways with a flush median are considered to have one roadbed. Frontage roads are considered separate roadbeds.

3.121. **Road Master**. A railroad maintenance official in charge of a division of railway.

3.122. **Roadside**. The areas between the outside edges of the shoulders and the right of way boundaries. Unpaved median areas between inside shoulders of divided highways and areas within interchanges are included.

3.123. **Roadway**. The portion of the highway (including shoulders) used by the traveling public.

3.124. **Routine Maintenance Contract**. Not applicable to Locally Let projects.

3.125. **Sandblasting, Dry**. Spraying blasts of pressurized air combined with sand.

3.126. **Sandblasting, Wet**. Spraying blasts of pressurized water combined with sand.

3.127. **Shot Blasting**. Spraying blasts of pressurized air combined with metal shot.

3.128. **Shoulder**. That portion of the roadway contiguous with the traffic lanes for accommodation of stopped vehicles for emergency use or for lateral support of base and surface courses.

3.129. **Sidewalk**. Portion of the right of way constructed exclusively for pedestrian use.

3.130. **Slurry Blasting**. Spraying blasts of pressurized air combined with a mixture of water and abrasive media.

3.131. **Small Business Enterprise**. A firm (including affiliates) whose annual gross receipts do not exceed the U.S. Small Business Administration's size standards for 4 consecutive yr.

3.132. **Special Provisions**. Additions or revisions to these standard specifications or special specifications.

3.133. **Special Specifications**. Supplemental specifications applicable to the Contract not covered by these standard specifications.

3.134. **Specifications**. Directives or requirements issued or made pertaining to the method and manner of performing the work or to quantities and qualities of materials to be furnished under the Contract. References to DMSs, ASTM or AASHTO specifications imply the latest standard or tentative standard in effect on the date of the proposal. The Engineer will consider incorporation of subsequent changes to these documents in accordance with Item 4, "Scope of Work."

3.135. **State**. The State of Texas.

3.136. **State Holiday**. A holiday authorized by the State Legislature excluding optional State holidays and not listed in Section 1.3.91., "National Holidays." A list of State holidays can be found on the TxDOT's website.

3.137. **Station**. A unit of measurement consisting of 100 horizontal ft.

3.138. **Subcontract**. The agreement between the Contractor and subcontractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.

3.139. **Subcontractor**. An individual, partnership, limited liability company, corporation, or any combination thereof that the Contractor sublets, or proposes to sublet, any portion of a Contract, excluding a material supplier, a hauling firm hauling only from a commercial source to the project, a truck owner-operator, a wholly owned subsidiary, or specialty-type businesses such as security companies and rental companies.

3.140. **Subsidiary**. Materials, labor, or other elements that because of their nature or quantity have not been identified as a separate item and are included within the items on which they necessarily depend.

3.141. **Substantial Completion of Work**. The date (day) when all project work requiring lane or shoulder closures or obstructions is completed, and traffic is following the lane arrangement as shown on the plans for the finished roadway; all pavement construction and surfacing are complete; and traffic control devices and pavement markings are in their final position, unless otherwise shown on the plans. The Engineer may make an exception for permanent pavement markings provided the lack of markings does not cause a disruption to traffic flow or an unsafe condition for the traveling public, and work zone pavement markings are in place.

3.142. **Substructure**. The part of the structure below the bridge seats but not including bearings, drilled shafts, or piling. Parapets, back walls, wing walls of the abutments, and drainage structures are considered parts of the substructure.

3.143. **Superintendent**. The representative of the Contractor who is available at all times and able to receive instructions from the Engineer or authorized Owner representatives and to act for the Contractor.

3.144. **Superstructure**. The part of the structure above the bridge seats or above the springing lines of arches and including the bearings. Flatwork construction may be considered superstructure.

3.145. **Supplemental Agreement**. Written agreement entered into between the Contractor and the Owner and approved by the Surety, covering alterations and changes in the Contract. A supplemental agreement is used by the Owner whenever the modifications include assignment of the Contract from one entity to another or other cases as desired by the Owner.

3.146. **Surety**. The corporate body or bodies authorized to do business in Texas bound with and for the Contractor for the faithful performance of the work covered by the Contract and for the payment for all labor and material supplied in the prosecution of the work.

3.147. **Surplus Materials**. Any debris or material related to the Contract not incorporated into the work.

3.148. **Suspension**. Action taken by the Owner or federal government pursuant to regulation that prohibits a person or company from entering into a Contract, or from participating as a subcontractor, or supplier of materials or equipment used in a highway improvement Contract as defined in Transportation Code, Chapter 223, Subchapter A.

3.149. **Traffic Lane**. The strip of roadway intended to accommodate the forward movement of a single line of vehicles.

3.150. **Traveled Way**. The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

3.151. **Truck Owner-Operator**. An individual who owns and operates one truck for hire.

3.152. **UT-Bridge**. TxDOT-owned software for steel girder erection. Software is available on the TxDOT's website.

3.153. **UT-Lift**. TxDOT-owned software for steel girder erection. Software is available on the TxDOT's website.

3.154. **Utility**. Privately, publicly, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communications, power, heat, gas, oil, water, waste, or stormwater that are not connected with the highway drainage, signal systems, or other products that directly or indirectly serve the public; the utility company.

3.155. **Verification Tests**. Tests used to verify accuracy of QC and QA and mixture design testing.

3.156. **Water-Abrasive Blasting**. Spraying blasts of pressurized water combined with abrasive media.

3.157. **Water Blasting**. Spraying blasts of pressurized water of at least 3,000 psi.

3.158. **Water-Injected Abrasive Blasting**. Abrasive blasting with water injected into the abrasive and air stream at the nozzle.

3.159. **Wholly Owned Subsidiary**. A legal entity owned entirely by the Contractor or subcontractor.

3.160. **Work**. The furnishing of all labor, materials, equipment, and incidentals necessary for the successful completion of the Contract.

3.161. **Work Order**. Written notice to the Contractor to begin the work. The work order may include the date when work and time charges will begin, the allowable number of working days, and plan sheets providing details specific to a location or to an item of work for non-site-specific work. A work order is part of the Contract.

3.162. **Written Notice**. Written notice is considered to have been duly given if delivered in person to the individual or member to whom it is intended or if sent by regular, registered, or certified mail and delivered to the last

known business address; sent by facsimile to the last known phone number; or sent by email to the last known address. The date of the letter will serve as the beginning day of notice. Unclaimed mail or failure to provide current contact information will not be considered a failure to provide written notice.

Item 2L
Instructions to Bidders

1. INTRODUCTION

Instructions to the Contractor in these specifications are generally written in active voice, imperative mood. The subject of imperative sentences is understood to be "the Contractor." The Owner's responsibilities are generally written in passive voice, indicative mood. Phrases such as "as approved," "unless otherwise approved," "upon approval," "as directed," "as verified," "as ordered," and "as determined" refer to actions of the Engineer unless otherwise stated, and it is understood that the directions, orders, or instructions to which they relate are within the limitations of and authorized by the Contract.

2. ELIGIBILITY OF BIDDERS

Obtain a prequalification form from the Department's website. A Bidder must be prequalified by Confidential Questionnaire at the time of bid opening. Comply with all technical prequalification requirements in the proposal.

2.1. **Confidential Questionnaire (CQ)**. Submit a CQ and an audited financial statement for approval. Once prequalified, a Bidder's eligibility is valid for a period of 1 yr. from the balance sheet statement date.

2.2. **Bidder's Questionnaire (BQ)**. Bidders prequalified with a BQ are only eligible to bid on projects identified as being waived from the requirements of Section 2L.2.1., "Confidential Questionnaire (CQ)." These projects are designated with a "W" on the Proposal Request Form. Submit a BQ for approval. Once prequalified, a Bidder's eligibility is valid for a period of 1 yr. from the date the BQ was received by the Department.

3. ISSUING PROPOSAL FORMS

The Owner will issue a proposal form to a prequalified Bidder if the Engineer's estimate is within that Bidder's available bidding capacity. Request a proposal form electronically from the Owner's website. A proposal form printed directly from the Owner's website is for informational purposes only and will not be accepted as an official proposal form. In the case of a joint venture (JV), all JV participants must be prequalified. An equally divided portion of the Engineer's estimate must be within each participant's available bidding capacity.

The Owner will not issue a proposal form if one or more of the following apply:

- the Bidder is suspended or debarred by the Commission or TxDOT,
- the Bidder has not fulfilled the requirements for prequalification,
- the Bidder does not have the available bidding capacity,
- the Bidder is prohibited from rebidding a specific proposal form due to a bid error on the original proposal form,
- the Bidder failed to enter into a Contract on the original award,
- the Bidder was defaulted or terminated on the original Contract, unless the Owner terminated in the best interest of the State or the public,
- the Bidder or a subsidiary or affiliate of the Bidder has received compensation from the Owner to participate in the preparation of the plans or specifications on which the bid or Contract is based,
- the Bidder is ineligible to bid on any proposed Contract in accordance with Article 7L.15., "Responsibility for Damage Claims,"
- the Bidder failed to attend a mandatory pre-bid conference,

- the Bidder or affiliate of the Bidder that was originally determined as the apparent low Bidder on a project but was deemed nonresponsive for failure to register or participate in the Department of Homeland Security (DHS) E-Verify system as specified in Article 2.15., "Department of Homeland Security (DHS) E-Verify System," is prohibited from rebidding that specific project.

4. INTERPRETING ESTIMATED QUANTITIES

The quantities listed on the proposal form are approximate and will be used for the comparison of bids. Payments will be made for the work performed in accordance with the Contract.

5. EXAMINING DOCUMENTS AND WORK LOCATIONS

Examine the proposal form, plans, specifications, and specified work locations before submitting a bid for the work. Submitting a bid will be considered evidence that the Bidder has performed this examination. Borings, soil profiles, water elevations, and underground utilities shown on the plans were obtained for the Owner's use in the preparation of the plans. This information is provided for the Bidder's information only, and the Owner makes no representation as to the accuracy of the data. Be aware of the difficulty of accurately classifying all material encountered in making foundation investigations, the possible erosion of stream channels and banks after survey data have been obtained, and the unreliability of water elevations other than for the date recorded.

Oral explanations, instructions, or consideration for Contractor-proposed changes on the proposal form given during the bidding process are not binding. Only requirements included on the proposal form, associated specifications, plans, and Owner-issued addenda are binding. Request explanations of documents in adequate time to allow the Owner to reply before the bid opening.

Immediately notify the Owner of any error, omission, or ambiguity discovered in any part of the proposal form and Contract documents. The Owner will issue addenda when appropriate.

6. PREPARING THE BID

Prepare the bid on the proposal form furnished by the Owner. Informational proposal forms printed from the Owner's website will not be accepted.

Specify a unit price in dollars and cents for each regular item and additive alternate item, or replacement alternate item for which an estimated quantity is given.

When "Working Days" is an item, submit the number of working days to be used to complete the Contract or phases of the Contract shown on the plans.

The Owner will not accept an incomplete bid. A bid that has one or more of the deficiencies listed below is considered incomplete:

- certifications were not acknowledged,
- a regular item or the additive alternate item is left blank,
- a regular item and the corresponding replacement alternate item are left blank,
- the proposal form submitted had the incorrect number of items,
- the Bidder did not acknowledge all addenda, or
- additionally, for printed bids:

- the blank spaces for each item as required on the bid form are not filled in by writing in words in ink,
- the bid was not signed in ink in the complete and correct name of the bidder making the bid, and signed by the person or persons authorized to bind the bidder, or
- unit prices were not stated in dollars and cents for each bid item listed on the bid form, except in the case of a regular bid item that has an alternate bid item.

7. NONRESPONSIVE BID

The Owner will not accept a nonresponsive bid. A bid that has one or more of the deficiencies listed below is considered nonresponsive:

- the bid was not in the hands of the Letting Official at the time and location specified in the advertisement,
- a proposal form was submitted for the same project by a Bidder or Bidders and one or more of its partners or affiliates, the Bidder was not authorized to receive a proposal form under Article 2L.3., "Issuing Proposal Forms,"
- the Bidder failed to acknowledge receipt of all addenda issued,
- the proposal form was signed by a person who was not authorized to bind the Bidder or Bidders,
- the proposal guaranty did not comply with the requirements contained in this Item,
- the bid was in a form other than the official proposal form issued by the Owner,
- the Bidder modified the bid in a manner that altered the conditions or requirements for work as stated in the proposal form,
- the Bidder bid more than the maximum or less than the minimum number of allowable working days shown on the plans when working days was an item,
- a typed proposal form does not contain the information in the format shown on the "Example of Bid Prices Submitted by Computer Printout" on the proposal form,
- the Bidder did not meet the requirements of the technical qualification,
- the Bidder failed to participate in the DHS E-Verify system as specified in Article 2L.15., "Department of Homeland Security (DHS) E-Verify System." ■ The bidder is not prequalified by TxDOT

8. ELECTRONIC BID

The Bidder is responsible for taking the appropriate measures to submit a bid. These measures include, but are not limited to acquiring hardware, software, and Internet connectivity needed for submitting a bid via the Owner's bidding system.

8.1. **Proposal Form**. Use the electronic proposal form in the Owner's bidding system. When regular bid items have corresponding replacement alternate items, select the bid item or group of items to be used for the bid tabulation. Acknowledge all addenda listed in the Owner's bidding system.

The electronic proposal form does not contain the special provisions, special specifications, general notes, and other Contract documents. These documents are included by reference.

8.2. **Proposal Guaranty**. Provide a proposal guaranty in the amount indicated on the proposal form. Use an electronic bid bond. Guaranty checks or printed bid bonds will not be accepted.

For a JV, the bond must be in the name of all JV participants. Enter the bond authorization code into the Owner's bidding system.

It is the Bidder's responsibility to ensure the electronic bid bond is issued in the name or Owner vendor identification numbers of the Bidder or Bidders.

8.3. **Submittal of Bid**. Submit the bid to the vault using the Owner's bidding system.

8.4. **Revising the Proposal Form**. Make desired changes in the Owner's bidding system up until the time and date set for the opening of bids. The last bid submitted to the vault will be used for tabulation purposes.

8.5. **Withdrawing a Bid**. Submit an electronic or written request to withdraw a bid before the time and date set for the opening. The Owner will not accept oral requests. An electronic request must be made using the Owner's bidding system.

If a bidder is unable to withdraw an electronic bid using the Owner's bidding system, a written request may be submitted. A written request must be signed and submitted to the Letting Official conducting the letting, with proof of identification. The request must be made by a person authorized to bind the Bidder or Bidders. In the case of a JV, the Owner will accept a request from any person authorized to bind a party to the JV. The Owner may require written delegation of authority to withdraw a bid when the individual sent to withdraw the bid is not authorized to bind the Bidder or Bidders.

9. PRINTED BID

9.1. **Proposal Form**. Mark all entries in ink. As an alternative to hand writing the unit prices on the proposal form, submit a typed proposal form. A typed proposal form must contain the information in the format shown on the "Example of Bid Prices Submitted by Computer Printout" on the proposal form.

When regular bid items have corresponding replacement alternate items, select the bid item or group of items to be used for the bid tabulation. Acknowledge all addenda by checking the appropriate box on the addendum acknowledgement page. Provide the complete and correct name of the Bidder submitting the bid. A person authorized to bind the Bidder must sign the proposal form. In the case of a JV, provide the complete and correct name of all Bidders submitting the bid. In the case of a JV, the person signing the proposal form must be authorized to bind all JV participants.

9.2. **Proposal Guaranty**. Provide a proposal guaranty in the amount indicated on the proposal form. Use either a guaranty check or a printed bid bond. An electronic bid bond may be used as the guaranty. Ensure the electronic bid bond meets the requirements of Section 2L.8.2., "Proposal Guaranty," and submit the electronic bid bond with the printed bid.

9.2.1. **Guaranty Check**. When used, make the check payable to the Owner. The check must be a cashier's check, money order, or teller's check drawn by or on a state or national bank, or a state or federally chartered credit union (collectively referred to as "bank"). The check must be dated on or before the date of the bid opening. Postdated checks will not be accepted. The type of check or money order must be indicated on the face of the instrument, except in the case of a teller's check, and the instrument must be no more than 90 days old. A check must be made payable at or through the institution issuing the instrument, be drawn by a bank and on a bank, or be payable at or through a bank. The Owner will not accept personal checks, certified checks, or other types of money orders.

9.2.2. **Bid Bond**. When a bond is used, use the bid bond form provided by the Owner. Submit the bid bond in the amount specified with the powers of attorney dated and attached. The bond must be dated on or before the date of the bid opening, bear the impressed seal of the Surety, and be signed by the Bidder or Bidders and an authorized individual of the Surety. As an alternative for JV Bidders, each Bidder may submit a separate bid bond completed as outlined in this Section. Bid bonds will only be accepted from Sureties authorized to execute a bond under and in accordance with state law.

9.3. **Submittal of Bid**. Place the completed proposal form and the proposal guaranty in a sealed envelope marked to indicate the contents.

When submitting by mail or delivery service, place the envelope in another sealed envelope and address as indicated in the official advertisement. It is the Bidder's responsibility to ensure that the sealed bid arrives at the location described on or before the time and date set for the bid opening. To be accepted, the bid must be in the hands of the Letting Official by that time of opening regardless of the method chosen for delivery.

9.4. **Revising the Proposal Form**. Make desired changes to the proposal form in ink, initial each change made, and submit the proposal to the Letting Official. Correction fluid or tape will be considered a change to the bid and requires the initials of the Bidder. The Owner will not revise a bid on behalf of a Bidder.

9.5. **Withdrawing a Bid**. Submit to the Letting Official conducting the letting a written request to withdraw a bid before the time and date set for the opening. The Owner will not accept oral requests. A written request must be signed and submitted to the Letting Official conducting the letting, with proof of identification. The request must be made by a person authorized to bind the Bidder or Bidders. In the case of a JV, the Owner will accept a request from any person authorized to bind a party to the JV. The Owner may require written delegation of authority to withdraw a bid when the individual sent to withdraw the bid is not authorized to bind the Bidder or Bidders.

10. OPENING AND READING OF BIDS

At the time, date, and location specified in the official advertisement, the Letting Official will publicly open and read bids.

11. TABULATING BIDS

11.1. **Official Total Bid Amount**. The Owner will sum the products of the quantities and the unit prices bid on the proposal form to determine the official total bid amount, except as provided in Section 2L.11.5., "Consideration of Unit Prices." The official total bid amount is the basis for determining the apparent low Bidder. The total bid amounts will be compared and the results made public.

11.2. **Consideration of Bid Format**. When a Bidder submits both an electronic bid and a printed bid that are responsive, the unit bid prices in the electronic bid will be used to determine the total bid amount. If the electronic bid is incomplete or nonresponsive, the printed bid will be used in the tabulation of the total bid amount.

If a Bidder submits two or more printed bids, all responsive bids will be tabulated. The bid with the lowest tabulation will be used to determine the total bid amount.

11.3. **Rounding of Unit Prices**. The Owner will round off all unit bids involving fractional parts of a cent to the nearest one-tenth cent ($0.001) in determining the amount of the bid as well as computing the amount due for payment of each item under the Contract. For rounding purposes, entries that contain five-hundredths of a cent ($0.0005) or more will be rounded up to the next highest tenth of a cent, while entries that contain less than five-hundredths of a cent will be rounded down to the next lowest tenth of a cent and in accordance with Section 2L.11.5., "Consideration of Unit Prices." Bids less than one-tenth of a cent ($0.001) will be rounded to one-tenth of a cent ($0.001). When credit items are included (negative unit prices), rounding is performed on the absolute value.

11.4. **Interpretation of Unit Prices**. The Owner will make a documented determination of the unit bid price if a unit bid price is illegible or conflicting in the case of replacement alternate items. The Owner's determination will be final.

11.5. **Consideration of Unit Prices**. Unit bid price entries such as no dollars and no cents, zero dollars and zero cents, or numerical entries of less than $0.001 will be tabulated as one-tenth of a cent ($0.001). Proposals in which unit bid prices have been left blank are incomplete and nonresponsive.

11.5.1. **Alternate Items**. If a proposal has a regular and corresponding alternate item or group of items, the proposal will be considered complete if:

- the regular item or group of regular items has unit prices entered,
- the alternate item or group of alternate items has unit prices entered, or
- both regular item or group of regular items and alternate item or group of alternate items have unit prices entered. The Owner will use the price bid for the regular or the alternate item, or group of items, that will result in the lowest cost to the State.

The bid will be considered incomplete and nonresponsive if:

- a regular item or group of regular items is left blank, or
- a corresponding alternate item or group of alternate items is left blank.

11.5.2. **Additive Alternate Items**. The Owner will sum the products of the quantities and the unit prices bid for the regular items on the proposal form to determine the total bid amount for the base bid. The official total bid amount will be determined by the summation of the base bid plus a predetermined order of additive alternate items, not to exceed the Owner's budgeted amount for the Contract. An estimate of the budgeted amount may be shown on the plans.

The Contract will identify the base bid work and additive alternate work to be performed. The Owner makes no guarantee that the additive alternate work will be required.

11.5.3. **A + B Bidding**. The official total bid amount will be determined by the summation of the Contract amount and the time element. The Owner will use the following formula to make the calculation:

A + B1 + B2 + BX + … + BT

The Contract amount, equal to A in the formula, is determined by the summation of the products of the approximate quantities shown in the proposal and the unit bid prices bid, and the time element, equal to B1, B2, BX (when phases are included as bid components), and BT (substantial completion of the project when included as a bid component), of the bid is determined by multiplying the number of working days bid to substantially complete the project, or phases, by the daily road-user cost (RUC) shown on the plans. When partial days are bid, they will be rounded up to the nearest whole day.

The formula above determines the low Bidder and establishes the Contract time or time for specific phases of the Contract.

11.5.4. **Rubber Additives**. For proposed Contracts without federal funds, if an alternate item for "Hot Asphalt-Rubber Surface Treatments" or "Hot-Mix Asphalt Concrete Pavement" that contains ground tire rubber is shown on the proposal form and the Bidder bids that alternate item, the amounts bid for "Hot Asphalt-Rubber" and "Aggregate" or "Hot-Mix Asphalt Concrete" will be reduced to 85% of the amounts actually bid. This reduction will only be used for the purposes of determining the lowest Bidder. To qualify, the ground tire rubber used must be produced from scrap tire ground in a facility in Texas. Payment for "Hot Asphalt-Rubber" and "Aggregate" or "Hot-Mix Asphalt Concrete" will be at the actual unit prices bid.

11.5.5. **Home State Bidding Preference**. For the purpose of determining the apparent low Bidder on proposed Contracts without federal funds, the Owner will select the option that results in the greatest bidding preference to the resident Bidder.

11.5.5.1. **Reverse Application of Non-Resident Bidder's Home State Bidding Preference**. The total bid amount will be based upon the reverse application of the non-resident Bidder's home state bidding preference, if any. This will also apply to another state's preference for a Bidder that offers materials grown, produced, processed, or manufactured in that state.

Any reverse application of the home state bidding preference will be the greater of the following:

- the amount by which a resident Bidder would be required to underbid the non-resident Bidder to obtain a comparable contract in the state in which the non-resident's principal place of business is located; or

- the amount by which a resident Bidder would be required to underbid the non-resident Bidder to obtain a comparable contract in the state in which a majority of the manufacturing relating to the Contract will be performed.

11.5.5.2. **Texas Home State Bidding Preference**. A Bidder will be considered the apparent low Bidder if the Bidder's home office is located in this state and their bid does not exceed an amount equal to 105% of the apparent low bid received from a Bidder whose home office is not located in this state. This will not apply to a Bidder from a bordering state whose state does not give a preference to a Bidder in a manner similar to this Section.

12. CONSIDERATION OF BID ERRORS

The Owner will consider a claim of a bid error by the apparent low Bidder if the following requirements have been met:

- a written notification is submitted to the Owner within 5 business days after the date the bid is opened and
- the submittal identifies the items of work involved and includes bidding documentation. The Owner may request clarification of submitted documentation.

The Owner will evaluate the claim of a bid error by the apparent low Bidder by considering the following:

- the bid error relates to a material item of work,
- the bid error amount is a significant portion of the total bid,
- the bid error occurred despite the exercise of ordinary care, and
- the delay of the proposed work will not impact cost and safety to the public.

Acceptance of the bid error claim by the Owner will result in the rejection of all bids. The erring Contractor will not be allowed to bid the project when it is re-let. Rejection of bids due to the Contractor's bid error may result in the application of remedial actions by the Owner.

13. TIE BIDS

If the official total bid amount for two or more Bidders is equal and those bids are the lowest submitted, each tie Bidder will be given an opportunity to withdraw their bid. If two or more tie Bidders do not withdraw their bids, the low Bidder will be determined by a coin toss or a series of coin tosses when there are more than two Bidders. If all tie Bidders request to withdraw their bids, no withdrawals will be allowed and the low Bidder will be determined by a coin toss or a series of coin tosses when there are more than two Bidders. The Letting Official will preside over the proceedings.

14. DEPARTMENT OF HOMELAND SECURITY (DHS) E-VERIFY SYSTEM

The Owner will not award a Contract to a Contractor that is not registered in the DHS E-Verify system. Remain active in E-Verify throughout the life of the Contract. In addition, in accordance with Article 8L.2., "Subcontracting," sixth paragraph, include this requirement in all subcontracts and require that subcontractors remain active in E-Verify until their work is completed.

If the apparent low Bidder does not appear in the DHS E-Verify system before award, the Contractor must submit documentation showing that they are compliant within 5 calendar days after bid opening. A Contractor that fails to comply or respond within the deadline will be declared nonresponsive. The Bidder forfeiting the proposal guaranty will not be considered in future proposals for the same work unless there has been a substantial change in the scope of the work.

The Owner may recommend to:

- reject all bids or
- award the Contract to the new apparent low Bidder, if the Owner is able to verify the Bidder's participation in the DHS E-Verify system.

If the Owner is unable to verify the new apparent low Bidder's participation in the DHS E-Verify system:

- the new apparent low Bidder will not be deemed nonresponsive,
- the new apparent low Bidder's guaranty will not be forfeited,
- the Owner will reject all bids,
- the new apparent low Bidder will remain eligible to receive future proposals for the same project, and
- the proposal guaranty of the original low bidder will become the property of the Owner, not as a penalty, but as liquidated damages.

Item 3L
Award and Execution of Contract

1. AWARD OF CONTRACT

The Owner or original award authority will award, reject, or defer the Contract within 90 days after the opening of the proposal. The Owner reserves the right to reject any or all proposals and to waive technicalities in the best interest of the Owner.

1.1. **Award**. The Owner or original award authority will award the Contract to the low Bidder as determined in accordance with Article 2L.11., "Tabulating Bids." The Owner may award a Contract to the second lowest Bidder when the following requirements have been met:

- the low Bidder withdraws their bid or fails to enter into Contract,
- the second lowest Bidder agrees to perform the work at the unit bid prices of the low Bidder,
- the Owner recommends in writing the award of the Contract to the second lowest Bidder, and
- the Owner's governing body agrees with the Owner recommendation for award to the second lowest Bidder.

1.2. **Rejection**. The Owner or original award authority will reject the Contract if:

- collusion may have existed among the Bidders. Collusion participants will not be allowed to bid future proposals for the same Contract,
- the low bid is mathematically and materially unbalanced. The Bidder will not be allowed to bid future proposals for the same Contract,
- the lowest bid is higher than the Owner's estimate, and re-advertising for bids may result in a lower bid,
- the low bid contains a bid error that satisfies the requirements and criteria in Article 2L.12., "Consideration of Bid Errors," or
- rejection of the Contract is in the best interest of the Owner.

1.3. **Deferral**. The Owner may defer the award or rejection of the Contract when deferral is in the best interest of the Owner.

2. RESCINDING OF AWARD

The Owner or original award authority reserves the right to cancel the award of any Contract before Contract execution with no compensation due when the cancellation is in the best interest of the Owner. The Owner will return the proposal guaranty to the Contractor.

3. DISADVANTAGED BUSINESS ENTERPRISE (DBE) AND SMALL BUSINESS ENTERPRISE (SBE)

Submit all DBE and SBE information in the timeframe specified when required by the proposal.

4. EXECUTION OF CONTRACT

Provide the following within 15 days after written notification of award of the Contract.

4.1. **Contract**. Execute the Contract as prescribed by the Owner.

4.2. **Bonds**. Execute and date the performance and payment bond in the full amount of the Contract with the powers of attorney. Provide bonds in accordance with Table 1. Furnish the payment and performance bonds as a guaranty for the protection of the claimants and the Owner for labor and materials and the faithful performance of the work.

Table 1
Bonding Requirements

Contract Amount	Required Bonds
Less than $25,000	None
$25,000–$100,000	Payment
More than $100,000	Performance and payment

4.3. **Insurance**. For construction and building Contracts, submit a certificate of insurance showing coverages in accordance with the Contract requirements.

Insurances must cover the work for the duration of the Contract and must remain in effect until final acceptance. Provide project-specific insurance, not listed in Table 2, until acceptance of the work covered by the project-specific insurance or as approved by the Engineer. Failure to obtain and maintain insurance for the contracted work may result in suspension of work or default of the Contract. If the insurance expires and coverage lapses for any reason, stop all work until the Owner receives an acceptable certificate of insurance.

Provide the Owner with a certificate of insurance verifying the types and amounts of coverage shown in Table 2. The certificate of insurance must be in a form approved by the Texas Department of Insurance. Certificates of insurance for commercial general liability, auto liability, and workers' compensation must include the Contractor's prequalified name in the "Insured" field. Any certificate of insurance provided must be available for public inspection.

Table 2
Insurance Requirements

Type of Insurance	Amount of Coverage
Commercial general liability insurance	Not less than: $1,000,000 each occurrence
Business automobile policy	Not less than: $1,000,000combined single limit
Workers' compensation	Not less than: Statutory
All risk builder's risk insurance (for building-facilities contracts only)	100% of Contract price

By signing the Contract, the Contractor certifies compliance with all applicable laws, rules, and regulations pertaining to workers' compensation insurance. This certification includes all subcontractors. Pay all deductibles stated in the policy. Subcontractors must meet the requirements shown in Table 2, either through their own coverage or through the Contractor's coverage.

The workers' compensation policy must include a waiver of subrogation endorsement in favor of the Owner.

For building-facilities contracts, provide all risk builder's risk insurance to protect the Owner against loss by storm, fire, or extended coverage perils on work and materials intended for use on the project, including the adjacent structure. Name the Owner under the Lost Payable clause.

For contracts with railroad requirements, see project-specific details for additional insurance requirements.

Provide a substitute Surety on the Contract bonds in the original full Contract amount within 15 days of notification if the Surety is declared bankrupt or insolvent, the Surety's underwriting limitation drops below the Contract amount or the Surety's right to do business is terminated by the Owner. The substitute Surety must be authorized by the laws of the Owner and acceptable to the Owner. Work will be suspended until a substitute Surety is provided. Working day charges will be suspended for 15 days or until an acceptable Surety is provided, whichever is sooner.

The work performed under this Section will not be measured or paid for directly, but will be subsidiary to pertinent Items.

4.4. **Business Ownership Information**. Submit the names and Social Security numbers of all individuals owning 25% or more of the firm, or firms in the case of a joint venture, on the Owner's form.

4.5. **Railroad Documents**. Provide all required documents for satisfaction of railroad requirements for projects that have work involving railroad right of way. Comply with the requirements of Article 5L.8., "Cooperation with Railroads."

5. FAILURE TO ENTER CONTRACT

If the Contractor fails to comply with all the requirements in Article 3L.4., "Execution of Contract," the proposal guaranty will become the property of the Owner, not as a penalty, but as liquidated damages. The Contractor forfeiting the proposal guaranty will not be considered in future proposals for the same work unless there has been a substantial change in design of the work.

6. APPROVAL AND EXECUTION OF CONTRACT

The Contract will be approved and signed under authority of the Owner.

7. RETURN OF PROPOSAL GUARANTY

The proposal guaranty check of the low Bidder will be retained until after the Contract has been rejected or awarded and executed. Bid bonds will not be returned.

8. BEGINNING OF WORK

Do not begin work until authorized in writing by the Owner.

Verify all quantities of materials shown on the plans before ordering.

9. ASSIGNMENT OF CONTRACT

Do not assign, sell, transfer, or otherwise dispose of the Contract or any portion of the rights, title, or interest (including claims) without the approval of the Owner or original award authority. The Owner must deem any proposed assignment justified and legally acceptable before the assignment can take place.

10. EXCLUDED PARTIES

The Contractor certifies by signing the Contract that the Contractor will not enter into any subcontract with a subcontractor that is debarred or suspended by the Owner or any federal agency.

Item 4L
Scope of Work

1. CONTRACT INTENT

The intent of the Contract is to describe the completed work to be performed. Furnish materials, supplies, tools, equipment, labor, and other incidentals necessary for the proper prosecution and completion of the work in accordance with Contract documents.

2. PRECONSTRUCTION CONFERENCE

Before starting work, schedule and attend a preconstruction conference with the Engineer. Failure to schedule and attend a preconstruction conference is not grounds for delaying the beginning of working day charges. The preconstruction conference may be scheduled with the safety preconstruction meeting described in Section 7L 2.2., "Safety Preconstruction Meeting" and the railroad coordination meeting described in Article 5L 8., "Cooperation with Railroads." Work with the Engineer to resolve or escalate all issues. Execute the project pledge and establish an issue escalation ladder.

2.1. **Project Pledge**. Contractor representatives at the level of foreman and above will certify in writing they will approach the construction of this project in a manner consistent with delivering a high-quality project in a safe, cost-effective, and timely manner, and they will be committed to not allowing personality conflicts or personal interests to interfere with providing the public with a quality project. Failure to uphold this commitment may result in grounds for removal from the project.

2.2. **Issue Resolution Process**. An issue is any aspect of the Contract where parties of the Contract do not agree. The individuals identified at the lowest level of the issue escalation ladder will initiate the issue resolution process by escalating any issue that remains unresolved within the timeframe outlined in the issue escalation ladder.

Work with the Engineer to resolve all issues during the course of the Contract. Refer to Article 4L 7., "Dispute or Claims Procedure," for all unresolved issues.

3. PARTNERING – NOT APPLICABLE

The intent of this Article is to promote an environment of trust, mutual respect, integrity, and fair dealing between the Owner and the Contractor.

Informal partnering does not make use of a facilitator and is led by the Engineer in charge of the work and the Contractor's counterpart, while formal partnering uses the services of a facilitator (internal or external).

3.1. **Procedures for Partnering Meetings and Format**. Informal partnering is required, unless formal partnering is mutually agreed upon instead of the informal partnering.

3.2. **Facilitators**. The facilitator is to act as a neutral party seeking to initiate cooperative working relationships. This individual must have the technical knowledge and ability to lead and guide discussions. Choose either an internal or external facilitator. The facilitator must be acceptable to the Engineer.

3.2.1. **Internal Facilitators**. An Owner or Contractor staff member may be selected as the facilitator at no additional cost to either party.

3.2.2. **External Facilitators**. A private firm or individual that is independent of the Contractor and the Owner may be selected as the facilitator. Submit the facilitator's name and estimated fees for approval before contracting with the facilitator.

3.3. **Meetings and Arrangements**. Coordinate with the Engineer for meeting dates and times, locations including third party facilities, and other needs and appurtenances including but not limited to audio or visual equipment. Make all meeting arrangements for formal partnering. Use Owner facilities or facilities in the vicinity of the project if available. Submit the estimated meeting costs for approval before finalizing arrangements.

Coordinate facilitator discussions before the partnering meeting to allow the facilitator time to prepare an appropriate agenda. Prepare a list of attendees with job titles and include critical Contractor, subcontractor, and supplier staff on the list. Provide the facilitator with the list of attendees and invite the attendees listed.

The Owner will invite and provide a list of attendees that includes, but is not limited to Owner, TxDOT, other local governments, law enforcement, railroad, and utility representatives.

Participate in additional partnering meetings as mutually agreed upon.

3.4. **Payment**. Expenses for labor, Contractor equipment, or overhead will not be allowed. Markups as prescribed in Article 9L 7., "Payment for Extra Work and Force Account Method," will not be allowed.

Informal partnering will be conducted with each party responsible for their own costs.

For formal partnering using internal facilitators, the Contractor will be responsible for arrangements and for expenses incurred by their internal facilitator, including but not limited to meals, travel, and lodging. Owner facilitators may be used at no additional cost.

For formal partnering using external facilitators, submit an invoice to the Engineer for reimbursement. The Owner will reimburse the Contractor for half of the eligible expenses as approved. For external facilitators not approved by the Owner but used at the Contractor's option, the Contractor will be responsible for all costs of the external facilitator.

For meeting facilities and appurtenances, submit an invoice to the Engineer for reimbursement. The Owner will reimburse the Contractor for half of the eligible expenses as approved.

4. CHANGES IN THE WORK

The Engineer reserves the right to make changes in the work, including addition, reduction, or elimination of quantities and alterations needed to complete the Contract. Perform the work as altered. These changes will not invalidate the Contract nor release the Surety. The Contractor is responsible for notifying the sureties of any changes to the Contract.

If the changes in quantities or the alterations do not significantly change the character of the work under the Contract, the altered work will be paid for at the Contract unit price. If the changes in quantities or the alterations significantly change the character of the work, the Contract will be amended by a change order. If no unit prices exist, this will be considered extra work and the Contract will be amended by a change order. Provide cost justification as requested, in an acceptable format.

Payment will not be made for anticipated profits on work that is eliminated.

Agree on the scope of work and the basis of payment for the change order before beginning the work. If there is no agreement, the Engineer may order the work to proceed under Article 9L 7., "Payment for Extra Work and Force Account Method," or by making an interim adjustment to the Contract. In the case of an adjustment, the Engineer will consider modifying the compensation after the work is performed.

A significant change in the character of the work occurs when:

- the character of the work for any item as altered differs materially in kind or nature from that in the Contract, or
- a major item of work varies by more than 25% from the original Contract quantity,

When the quantity of work to be done under any major item of the Contract is more than 125% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price on the portion of the work that is above 125%.

When the quantity of work to be done under any major item of the Contract is less than 75% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price.

If the changes require additional working days to complete the Contract, Contract working days will be adjusted in accordance with Item 8L, "Prosecution and Progress."

5. DIFFERING SITE CONDITIONS

During the progress of the work, differing subsurface or latent physical conditions may be encountered at the site. The two types of differing site conditions are defined as:

- those that differ materially from those indicated in the Contract, and
- unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract.

Notify the Engineer in writing when differing site conditions are encountered. The Engineer will notify the Contractor in writing when the Owner discovers differing site conditions. Unless directed otherwise, suspend work on the affected items and leave the site undisturbed. The Engineer will investigate the conditions and determine whether differing site conditions exist. The Engineer will provide written notification of the determination whether or not an adjustment of the Contract is warranted. If the differing site conditions cause an increase or decrease in the cost or number of working days specified for the performance of the Contract, the Engineer will make adjustments, excluding the loss of anticipated profits, in accordance with the Contract. Additional compensation will be made only if the required written notice has been provided by either the Contractor or the Engineer.

6. REQUESTS FOR ADDITIONAL COMPENSATION AND DAMAGES

Notify the Engineer in writing of any intent to request additional compensation once there is knowledge of the basis for the request. An assessment of damages is not required to be part of this notice but is desirable. The intent of the written notice requirement is to provide the Engineer an opportunity to evaluate the request and to keep an accurate account of the actual costs that may arise. Minimize impacts and costs.

If written notice is not given, the Contractor waives the right to additional compensation unless the circumstances could have reasonably prevented the Contractor from knowing the cost impact before performing the work. Notice of the request and the documentation of the costs will not be construed as proof or substantiation of the validity of the request. Submit the request in enough detail to enable the Engineer to determine the basis for entitlement, adjustment in the number of working days specified in the Contract, and compensation.

Compensable damages occur when impacts that are the responsibility of the Owner result in additional costs to the Contractor that could not have been reasonably anticipated at the time of letting. Costs of performing additional work are not considered damages. Notify the Engineer in writing as soon as possible for Contractor damages. The intent is to reimburse the Contractor for actual expenses arising from a compensable impact. No profit or markups, other than labor burden, will be allowed. For damages, labor burden will be reimbursed at 35% unless the Contractor can justify higher actual cost. Justification for a higher percentage must be in conformance with the methodology provided by the Owner, submitted

separately for project overhead labor and direct labor, and determined and submitted by a Certified Public Accountant (CPA). Submit CPA-prepared labor burden rates directly to the Owner for approval.

The Owner will not consider fees and interest on requests for additional compensation and damages. Fees include, but are not limited to preparation, attorney, printing, shipping, and various other fees.

If the Contractor requests compensation for damages and the damages are determined to be compensable, then standby equipment costs and project overhead compensation will be based on the duration of the compensable damage and will be limited as follows.

6.1. **Standby Equipment Costs**. Payment will be made in accordance with Section 9L 7.1.4.3., "Standby Equipment Costs."

6.2. **Project Overhead**. Project overhead is defined as the administrative and supervisory expenses incurred at the work locations. When delay to project completion occurs, reimbursement for project overhead for the Contractor will be made using the following options at the Contractor's discretion:

- reimbursed at 6% (computed as daily cost by dividing 6% of the original Contract amount by the number of original Contract work days), or
- actual documented costs for the impacted period.

Project overhead for delays impacting subcontractors will be determined from actual documented costs submitted by the Contractor.

Time extensions and suspensions alone will not be justification for reimbursement for project overhead.

6.3. **Home Office Overhead**. The Owner will not compensate the Contractor for home office overhead.

7. DISPUTE OR CLAIMS PROCEDURE

The dispute resolution policy promotes a cooperative attitude between the Engineer, Contractor, and Contractor's subcontractors working through the Contractor. Emphasis is placed on resolving issues while they are still current, at the Owner's office, and in an informal manner. Open sharing of information is encouraged by all parties involved so the information provided completely and accurately reflects the issues and facts. If information is not shared, decisions may be limited to relying on the documentation that is available for review.

The Owner's goal is to have a dispute settled by the Engineer before elevating it as a claim to the Owner.

If a dispute cannot be resolved, initiate the Contract claim procedure by submitting a claim to the Owner.

The Contractor, or subcontractor through the Contractor, will file a Contract claim request and a detailed report that provides the basis for the claim. The detailed report will include relevant facts of the claim, cost or other data supporting the claim, a description of any additional compensation requested, and documents supporting the claim.

The claim must include the following certification: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Owner is liable; and that I am duly authorized to certify the claim on behalf of the Contractor."

File a claim after completion of the Contract or when required for orderly performance of the Contract. For a claim resulting from enforcement of a warranty period, file the claim no later than 1 yr. after expiration of the warranty period. For all other claims, file the claim no later than 1 yr. after the date the Owner issues notice to the Contractor that they are in default, the date the Owner terminates the Contract, or the date of final acceptance of the Contract. It is the Contractor's responsibility to submit requests in a timely manner.

Item 5L
Control of the Work

1. AUTHORITY OF ENGINEER

The Engineer has the authority to observe, test, inspect, approve, and accept the work (either in writing or orally). The Engineer decides all questions about the quality and acceptability of materials, work performed, work progress, Contract interpretations, applicability of standard details, and acceptable Contract fulfillment. The Engineer has the authority to enforce and make effective these decisions.

- Unless noted elsewhere in the Contract or by the Engineer, payment for Contractor work is in accordance with the Contract requirements at that time. This payment does not eliminate the Contractor's responsibilities for the work as defined in Article 7L.17., "Contractor's Responsibility for Work," or Article 5L.12., "Final Acceptance."
- The Engineer acts as a referee in all questions arising under the terms of the Contract.
- The Engineer's decisions are final and binding.

The Engineer will pursue and document actions against the Contractor as warranted to address Contract performance issues. Contract remedies include, but are not limited to, the following:

- requiring the Contractor to remove and replace defective work, or reducing payment for defective work,
- removing an individual from the project,
- suspending the work without suspending working day charges,
- assessing standard liquidated damages to recover the Owner's administrative costs, including additional project-specific liquidated damages when specified in the Contract withholding estimates, and
- declaring the Contractor to be in default of the Contract

The Engineer will consider and document any events outside the Contractor's control that contributed to the failure to meet performance standards, including consideration of sufficient time.

Follow the issue escalation ladder if there is disagreement regarding the application of Contract remedies.

2. PLANS AND WORKING DRAWINGS

When required, provide working drawings to supplement the plans with all necessary details not included on the Contract plans. Prepare and furnish working drawings in a timely manner and obtain approval, if required, before the beginning of the associated work. For all working drawing submittal requirements, the Engineer may allow electronic and other alternative submission procedures. Have a licensed professional engineer sign, seal, and date the working drawings as shown in Table 1.

Prepare working drawings using United States standard measures in the English language. The routing of submittals for review and approval will be established at the preconstruction conference. The Contractor is responsible for the accuracy, coordination, and conformity of the various components and details of the working drawings. Owner approval of the Contractor's working drawings will not relieve the Contractor of any responsibility under the Contract. The work performed in accordance with this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

Table 1
Signature and Approval Requirements for Working Drawings

Working Drawings For		Requires Licensed Professional Engineer's Signature, Seal, and Date	Requires Owner Approval
1. Alternate or optional designs submitted by Contractor		Yes	Yes
2. Supplementary shop and fabrication drawings for structural Items		No unless required on the plans	See applicable Item
3. Contractor-proposed temporary facilities that affect the public safety, not included on the plans		Yes	Yes
4. Form and falsework details	Bridges, retaining walls, and other major structures	Yes unless otherwise shown on the plans	No[1]
	Minor structures	No unless otherwise shown on the plans	No
5. Erection drawings		Yes	No[1,2]
6. Contractor-proposed major modifications to traffic control plan		Yes	Yes

1. The Engineer may require that the Contractor have a licensed professional engineer certify that the temporary works are constructed according to the sealed drawings.
2. Approval is required for items spanning over live traffic or where safety of the traveling public is affected, as determined by the Engineer.

Submit shop drawings electronically for the fabrication of structural items in accordance with the Owner's procedures and as directed for other items required by the Contract. References to 11 × 17-in. sheets in individual specifications for structural items imply electronic computer-aided design sheets.

3. CONFORMITY WITH PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

Furnish materials and perform work in reasonably close conformity with the lines, grades, cross-sections, dimensions, details, gradations, physical and chemical characteristics of materials, and other requirements shown in the Contract. Reasonably close conformity limits are defined in the respective Items of the Contract or, if not defined, as determined by the Engineer. Obtain approval before deviating from the plans and approved working drawings. Do not perform work beyond the lines and grades shown on the plans or any extra work without the Engineer's authority. Work performed beyond the lines and grades shown on the plans or any extra work performed without authority is considered unauthorized and excluded from pay consideration. The Owner will not pay for material rejected due to improper fabrication, excess quantity, or any other reasons within the Contractor's control.

3.1. **Acceptance of Defective or Unauthorized Work**. When work fails to meet Contract requirements, but is adequate to serve the design purpose, the Engineer will decide the extent to which the work will be accepted and remain in place. The Engineer will document the basis of acceptance by letter and may adjust the Contract price.

3.2. **Correction of Defective or Unauthorized Work**. When work fails to meet Contract requirements and is inadequate to serve the design purpose, it will be considered defective. Correct, or remove and replace, the work at the Contractor's expense, as directed.

The Owner has the authority to correct or to remove and replace defective or unauthorized work. The cost may be deducted from any money due or to become due to the Contractor.

4. COORDINATION OF PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

The specifications, accompanying plans, special provisions, change orders, and supplemental agreements are intended to work together and be interpreted as a whole.

Numerical dimensions govern over scaled dimensions. Special provisions govern over plans (including general notes), which govern over standard specifications and special specifications. Job-specific plan sheets govern over standard plan sheets.

However, in the case of conflict between plans (including general notes) and specifications regarding responsibilities for hazardous materials and traffic control in Items 1L–10L, "Local Government General Requirements and Covenants," and Item 502, "Barricades, Signs, and Traffic Handling," special provisions govern over standard specifications and special specifications, which govern over the plans.

Notify the Engineer promptly of any omissions, errors, or discrepancies upon discovery so necessary corrections and interpretations can be made. Failure to promptly notify the Engineer of discovered omissions, errors, or discrepancies will constitute a waiver of all Contract claims against the Owner for misunderstandings or ambiguities that result from the errors, omissions, or discrepancies.

5. COOPERATION OF CONTRACTOR

Cooperate with the Engineer. Respond promptly to instructions from the Engineer. Provide all information necessary for the successful completion of the Contract.

Designate in writing a competent, English-speaking Superintendent employed by the Contractor. The Superintendent must be experienced in the work being performed and capable of reading and understanding the Contract. Ensure the Superintendent is available at all times and able to receive instructions from the Engineer or authorized Owner representatives and to act for the Contractor. The Engineer may suspend work without suspending working day charges if a Superintendent is not available or does not meet the above criteria.

At the written request of the Engineer, immediately remove from the project any employee or representative of the Contractor or a subcontractor who, in the opinion of the Engineer, does not perform work in a proper and skillful manner or who is disrespectful, intemperate, disorderly, uncooperative, or otherwise objectionable. Do not reinstate these individuals without the written consent of the Engineer.

Furnish suitable machinery, equipment, and construction forces for the proper prosecution of the work.

Provide adequate lighting to address quality requirements and inspection of nighttime work.

6. COOPERATING WITH UTILITIES

Use established safety practices when working near utilities. Consult with the appropriate utilities before beginning work. Notify the Engineer immediately of utility conflicts. The Engineer will decide whether to adjust utilities or adjust the work to eliminate or lessen the conflict. Unless otherwise shown on the plans, the Engineer will make necessary arrangements with the utility owner when utility adjustments are required.

Use work procedures that protect utilities or appurtenances that remain in place during construction. Cooperate with utility companies to remove and rearrange utilities to avoid service interruption or duplicate work by the utility companies. Allow utilities access to the right of way.

Immediately notify the appropriate utility of service interruptions resulting from damage due to construction activities. Cooperate with utilities until service is restored. Maintain access to fire hydrants when necessary.

7. COOPERATION BETWEEN CONTRACTORS

Cooperate and coordinate with other Contractors working within the limits or adjacent to the limits.

8. COOPERATION WITH RAILROADS

Plan and prosecute portions of the work involving a railway to avoid interference with or hindrance to the railroad company.

If the work is on railroad right of way, do not interfere with the operation of the railroad company's trains or other property.

8.1. **Railroad Coordination Meeting**. When shown on the plans or directed by the Engineer, schedule and attend a railroad coordination meeting with the Engineer before beginning work or as agreed upon (may be a part of the preconstruction conference described in Article 4L.2., "Preconstruction Conference"). Prepare a list of attendees and invite personnel, including, but not limited to Owner, Contractor, subcontractor, and railroad representatives.

Provide the invitation to the railroad representatives at least 21 calendar days before the railroad coordination meeting.

8.2. **Project-Specific Information**. Refer to project-specific plan sheets in the Contract for specific information concerning the work to be completed by the Contractor and the railroad within railroad right of way; railroad right of way locations impacted by construction; percentage of Contract work at each location; train movements at each location; and requirements for railroad insurance, flagging, and Right of Entry (ROE) Agreements.

8.3. **Right of Entry Agreement by the Owner**. When shown on the plans, the process for obtaining a fully executed ROE Agreement is as follows.

- The Owner will send the unexecuted ROE Agreement to the Contractor with the unexecuted Contract.
- Partially execute the ROE Agreement and return it to the Owner with the partially executed Contract and required insurance.
- The Owner will coordinate with the railroad company regarding the further execution of the ROE Agreement and associated fees. The Owner will pay any ROE Agreement fees directly to the railroad company.
- Once the Owner has received the fully executed ROE Agreement from the railroad company, the Owner will forward the fully executed ROE Agreement to the Contractor.

8.4. **Right of Entry Agreement by the Contractor**. When shown on the plans, contact the railroad company to obtain the ROE Agreement before beginning work on the Contract.

Provide the required insurance to the Owner before beginning work on the Contract.

Execute the ROE Agreement and pay any associated fees to the railroad company. Provide a copy of the fully executed ROE Agreement to the Owner.

9. CONSTRUCTION SURVEYING

Use Method C unless otherwise specified in the Contract. Upon request, the Engineer will allow the Contractor to copy available earthwork cross-sections, computer printouts or data files, and other information necessary to establish and control work. Preserve all control points, stakes, marks, and right of way markers. Assume cost and responsibility of replacing disturbed control points, stakes, marks, and right of way markers damaged by the Contractor's or its subcontractor's operations. If the Owner repairs disturbed control points, stakes, marks, or right of way markers, the cost of repair may be deducted from money due or to become

due to the Contractor. Replace right of way markers under the direction of an RPLS. This work performed under this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

The Engineer reserves the right to make measurements and surveys to determine the accuracy of the work and determine pay quantities. The Engineer's measurements and surveys do not relieve the Contractor's responsibility for accuracy of work. Allow the Engineer adequate time to verify the surveying.

9.1. **Method A**. The Engineer will set control points for establishing lines, slopes, grades, and centerlines and for providing both vertical and horizontal control.

At minimum, provide a controlling pair of monument points at both the beginning and end of construction project for projects less than 2 mi. in length. For projects greater than 2 mi. in length, monuments will be set in pairs at a minimum of 2 mi. based on the overall length of the project. Use these control points as reference to perform the work.

Furnish materials, equipment, and qualified workforce necessary for the construction survey work. Place construction points, stakes, and marks at intervals sufficient to control work to established tolerances. Place construction stakes at intervals of no more than 100 ft., or as directed. Place stakes and marks so as not to interfere with normal maintenance operations.

9.2. **Method B**. The Engineer will set adequate control points, stakes, stationing, and marks to establish lines, slopes, grades, and centerlines. Furnish additional work, stakes, materials, and templates necessary for marking and maintaining points and lines.

9.3. **Method C**. Set adequate control points, stakes, and marks to establish lines, slopes, grades, and centerlines. Place construction points, stakes, and marks at intervals sufficient to control work to established tolerances. Place construction stakes at intervals of no more than 100 ft., or as directed. Place stakes and marks so as not to interfere with normal maintenance operations.

10. INSPECTION

Inspectors are authorized representatives of the Engineer. Inspectors are authorized to examine all work performed and materials furnished, including preparation, fabrication, and material manufacture. Inspectors inform the Contractor of failures to meet Contract requirements. Inspectors may reject work or materials and may suspend work until any issues can be referred to and decided by the Engineer. The Engineer may authorize Inspectors to adjust the traffic control. Inspectors cannot alter, add, or waive Contract provisions, issue instructions contrary to the Contract, act as foremen for the Contractor, or interfere with the management of the work. Inspection or lack of inspection will not relieve the Contractor from obligation to provide materials or perform the work in accordance with the Contract.

Provide safe access to all parts of the work and provide information and assistance to the Engineer to allow a complete and detailed inspection. Give the Engineer sufficient notice to inspect the work. Work performed without suitable inspection, as determined by the Engineer, may be ordered removed and replaced at Contractor's expense. Remove or uncover portions of finished work as directed. Once inspected, restore work to Contract requirements. If the uncovered work is acceptable, the costs to uncover, remove, and replace or make good the parts removed will be paid for in accordance with Article 4L.4., "Changes in the Work." If the work is unacceptable, assume all costs associated with repair or replacement, including the costs to uncover, remove, and replace or make good the parts removed.

When a government entity, utility, railroad company, or other entity accepts or pays a portion of the Contract, that organization's representatives may inspect the work but cannot direct the Contractor. The right of inspection does not make that entity a party to the Contract and does not interfere with the rights of the parties to the Contract.

11. FINAL CLEANUP

Upon completion of the work, remove construction project litter, debris, objectionable material, temporary structures, excess materials, and equipment from the work locations. Clean and restore property damaged by the Contractor's operations during the prosecution of the work. Leave the work locations in a neat and presentable condition.

Remove from the right of way cofferdams, construction buildings, material and fabrication plants, temporary structures, excess materials, and debris resulting from construction. Where work is in a stream, remove debris to the ground line of the bed of the stream. Leave stream channels and rights of way in a neat and presentable condition. Clean structures to the flow line or the elevation of the outfall channel, whichever is higher. Dispose of all excess material in accordance with federal, state, and local regulations.

The work performed under this Article will not be paid for directly, but will be subsidiary to Items of the Contract.

12. FINAL ACCEPTANCE

12.1. **Routine Maintenance Contracts**. Not applicable to Locally Let projects.

12.2. **Construction Contracts**. Final acceptance is made when all work is complete and the Engineer, in writing, accepts all work for the work locations in the Contract. Final acceptance relieves the Contractor from further Contract responsibilities.

12.2.1. **Work Completed**. Work completed must include work for vegetative establishment and maintenance, test and performance periods, and work to meet the requirements of Article 5L.11., "Final Cleanup."

12.2.2. **Final Inspection**. After all work is complete, the Engineer in charge of the work will request a final inspection by the Engineer authorized to accept the work.

The final inspection will be made as soon as possible and not later than 10 calendar days after the request. No working day charges will be made between the date of request and final inspection.

After the final inspection, if the work is satisfactory, the Engineer will notify the Contractor in writing of the final acceptance of the work. If the final inspection finds any work to be unsatisfactory, the Engineer will identify in writing all deficiencies in the work requiring correction. Correct the deficiencies identified. Working day charges will resume if these deficiencies are not corrected within 7 calendar days, unless otherwise authorized by the Engineer. Upon correction, the Engineer will inspect to verify that all deficiencies were corrected satisfactorily. The Engineer will provide written notice of the final acceptance.

12.2.3. **Final Measurement**. Final measurements and pay quantity adjustments may be made after final acceptance. Final acceptance will not be held for final measurements or pay quantity adjustments.

12.2.4. **Removal of Traffic Control Devices**. Remove any remaining construction traffic control devices and advance warning signs upon final acceptance or as directed.

12.3. **Multiple Work Orders**. Not applicable to Locally Let projects.

Item 6L
Control of Materials

1. SOURCE CONTROL

Use only materials that meet Contract requirements. Unless otherwise specified or approved, use new materials for the Work. Secure the Engineer's approval of the proposed source of materials to be used before their delivery. Materials can be approved at a supply source or staging area but may be inspected in accordance with Article 6L.4., "Sampling, Testing, and Inspection."

1.1. **Buy America**. Comply with the latest provisions of Buy America pertaining to steel and iron in accordance with 23 CFR § 635.410. Use steel or iron materials manufactured in the United States except when waived in accordance with Section 6L 1.2., "Buy America Exceptions."

Submit a notarized original of the TxDOT FORM D-9-USA-1 (Department Form 1818 or equivalent) with the proper attachments for verification of compliance.

Manufacturing includes any process that modifies the chemical content, physical shape or size, or final finish of a product. The manufacturing process begins with initial melting and mixing and continues through fabrication (e.g., cutting, drilling, welding, and bending) and coating (e.g., paint, galvanizing, and epoxy).

1.2. **Buy America Exceptions**. Use of iron and steel manufactured in the United States is required unless the material meets an exception below.

- A waiver exists exempting the material from Buy America compliance.
- The total value of foreign iron and steel products, including delivery, does not exceed 0.1% of the total Contract cost or $2,500, whichever is greater. The Contractor must provide documentation showing under threshold in advance for the Engineer's consideration.
- Foreign iron or steel may be allowed when the Contract contains an alternate item for a foreign source iron or steel product and the Contract is awarded based on the alternate item.
- The materials are temporarily installed or are supplies, tools, and equipment not incorporated into the project. Temporarily installed means the materials and products must be removed at the end of the project or may be removed at the Contractor's convenience with the Engineer's approval.

1.3. **Buy Texas**. For construction or maintenance Contracts without federal funds, buy materials produced in Texas when the materials are available at a comparable price and in a comparable period of time. Provide documentation of purchases or a description of good-faith efforts on request.

2. MATERIAL QUALITY

Correct or remove materials that fail to meet Contract requirements or that do not produce satisfactory results. Reimburse the Owner for cost incurred if additional sampling and testing are required by a change of source.

Materials not meeting Contract requirements will be rejected unless the Engineer approves corrective actions. Upon rejection, immediately remove and replace rejected materials.

If the Contractor does not comply with this Article, the Owner may remove and replace defective material. The cost of testing, removal, and replacement will be deducted from the payments due to the Contractor.

3. MANUFACTURER WARRANTIES

Transfer to the Owner warranties and guarantees required by the Contract or received as part of normal trade practice.

4. SAMPLING, TESTING, AND INSPECTION

Incorporate into the work only material that has been inspected, tested, and accepted by the Engineer. Remove, at the Contractor's expense, materials from the work locations that are used without prior testing and approval or written permission of the Engineer.

The material requirements and standard test methods in effect at the time the proposed Contract is advertised govern. Unless otherwise specified, the Engineer will perform testing at Owner's expense. In addition to facilities and equipment required by the Contract, furnish facilities and calibrated equipment required for tests to control the manufacture of construction items. If requested, provide a complete written statement of the origin, composition, and manufacture of materials.

All materials used are subject to inspection or testing at any time during preparation or use. Material that has been tested and approved at a supply source or staging area may be inspected or tested before or during incorporation into the work and rejected if it does not meet Contract requirements. Copies of test results are available upon request. Do not use material that, after approval, becomes unfit for use.

Unless otherwise specified in the Contract, all testing must be performed within the United States and witnessed by the Engineer. If materials or processes require testing outside the contiguous 48 United States, reimburse the Owner for inspection expenses.

5. PLANT INSPECTION AND TESTING

The Engineer may but is not obligated to inspect materials at the acquisition or manufacturing source. Material samples will be obtained and tested for compliance with quality requirements.

If inspection is at the plant, meet the following conditions unless otherwise specified:

- cooperate fully and assist the Engineer during the inspection,
- ensure the Engineer has full access to all parts of the plant used to manufacture or produce materials,
- in accordance with pertinent items and the Contract provide a facility at the plant for use by the Engineer as an office or laboratory
- provide and maintain adequate safety measures and restroom facilities, and
- furnish and calibrate scales, measuring devices, and other necessary equipment in accordance with the Contract.

The Engineer may provide inspection for periods other than daylight hours if:

- continuous production of materials for Owner's use is necessary due to the production volume being handled at the plant, and
- the lighting is adequate to allow satisfactory inspection.

6. STORAGE OF MATERIALS

Store and handle materials to preserve their quality and fitness for the work. Store materials so that they can be easily inspected and retested. Place materials under cover, on wooden platforms, or on other hard, clean surfaces as necessary or when directed.

Obtain approval to store materials on the right of way. Storage space off the right of way is at the Contractor's expense.

7. OWNER-FURNISHED MATERIAL

The Owner will supply materials as shown on the plans. The cost of handling and placing materials supplied by the Owner will not be paid for directly, but will be subsidiary to the Item in which they are used. Assume responsibility for materials upon receipt.

8. USE OF MATERIALS FOUND ON THE RIGHT OF WAY

Material found in the excavation areas and meeting the Owner's specifications may be used in the work. This material will be paid for at the Contract bid price for excavation and under the Item for which the material is used.

Do not excavate or remove any material from within the right of way that is not within the limits of the excavation without written permission. If excavation is allowed within a right of way project-specific location, replace the removed material with suitable material at no cost to the Owner as directed.

9. RECYCLED MATERIALS

The Owner will not allow hazardous wastes, as defined in 30 TAC § 335, proposed for recycling to be used on the project. Use nonhazardous recyclable materials (NRMs) only if the specification for the Item does not disallow or restrict use. Determine whether NRMs are regulated under 30 TAC §§ 312, 330, 332, 334, or 335, and comply with all general prohibitions and requirements. Use NRMs in accordance with DMS-11000, "Evaluating and Using Nonhazardous Recyclable Materials Guidelines," and furnish all documentation in the manner prescribed by the Owner.

10. HAZARDOUS MATERIALS

Comply with the requirements of Article 7L.12., "Responsibility for Hazardous Materials."

Notify the Engineer immediately when a visual observation or odor indicates that materials on sites owned or controlled by the Owner may contain hazardous materials. Except when the contract includes bid items for the Contractor to remove hazardous materials, the Owner is responsible for testing, removing, and disposing of hazardous materials not introduced by the Contractor. The Engineer may suspend work wholly or in part during the testing, removing, or disposing of hazardous materials, except in the case where hazardous materials are introduced by the Contractor.

Use materials that are free of hazardous materials. Notify the Engineer immediately if materials are suspected to contain hazardous materials. If materials delivered to the project by the Contractor are suspected to contain hazardous materials, have an approved commercial laboratory test the materials for the presence of hazardous materials as approved. Remove, remediate, and dispose of any of these materials found to contain hazardous materials. The work required to comply with this Section will be at the Contractor's expense if materials are found to contain hazardous materials. Working day charges will not be suspended and extensions of working days will not be granted for activities related to handling hazardous material introduced by the Contractor. If suspected materials are not found to contain hazardous materials, the Owner will reimburse the Contractor for hazardous materials testing and will adjust working day charges if the Contractor can show that this work impacted the critical path.

10.1. **Painted Steel Requirements**. Coatings on existing steel contain hazardous materials unless otherwise shown on the plans. Remove paint and dispose of steel coated with paint containing hazardous materials in accordance with the following.

Removing Paint from Steel. For contracts that are specifically for painting steel, include the cleaning and painting of steel under Item 446, "Field Cleaning and Painting Steel," as a pay item. Perform work in accordance with that Item.

For projects where paint must be removed to allow for the dismantling of steel or to perform other work, the Owner will provide for a separate contractor (third party) to remove paint containing hazardous materials before or during the Contract. Remove paint covering existing steel shown not to contain hazardous materials in accordance with Item 446.

10.1.1. **Removal and Disposal of Painted Steel**. For steel able to be dismantled by unbolting, paint removal will not be performed by the Owner. The Owner will remove paint, at locations shown on the plans or as agreed, for the Contractor's cutting and dismantling purposes. Use Owner-cleaned locations for dismantling when provided or provide own means of dismantling at other locations.

Painted steel to be retained by the Owner will be shown on the plans. For painted steel that contains hazardous materials, dispose of the painted steel at a steel recycling or smelting facility unless otherwise shown on the plans. Maintain and make available to the Engineer invoices and other records obtained from the facility showing the received weight of the steel and the facility name. Dispose of steel that does not contain hazardous material coatings in conformance with federal, state, and local regulations.

10.2. **Asbestos Requirements**. The plans will indicate locations or elements where asbestos-containing materials (ACMs) are known to be present. Where ACMs are known to exist or where previously unknown ACM has been found, the Owner will arrange for abatement by a separate contractor before or during the Contract. Notify the Engineer of proposed dates of demolition or removal of structural elements with ACM at least 60 days before beginning work to allow the Owner sufficient time for abatement.

The Texas Department of State Health Services (DSHS), Asbestos Programs Branch, is responsible for administering the requirements of the National Emissions Standards for Hazardous Air Pollutants, (NESHAP), in accordance with 40 CFR Part 61, Subpart M, and the Texas Asbestos Health Protection Rules (TAHPR). Based on EPA guidance and regulatory background information, bridges are considered to be a regulated "facility" under NESHAP; therefore, federal standards for demolition and renovation apply.

The Owner is required to notify DSHS at least 10 working days (by postmarked date) before initiating demolition or renovation of each structure shown on the plans. If the actual demolition, renovation, or removal date is changed or delayed, notify the Engineer in writing of the revised dates in sufficient time to allow for the Owner's notification to DSHS to be postmarked at least 10 days in advance of the actual work.

The Owner retains the right to determine the actual advance notice needed for the change in date to address post office business days and staff availability.

10.3. **Asbestos or Lead Abatement**. Provide traffic control as shown on the plans, and coordinate and cooperate with the third party and the Owner for managing or removing hazardous materials. Work for the traffic control shown on the plans and coordination work will not be paid for directly, but will be subsidiary to pertinent Items.

11. SURPLUS MATERIALS

Take ownership of surplus materials unless otherwise shown on the plans or directed. Remove and dispose of materials in conformance with federal, state, and local regulations. If requested, provide an appropriate level of documentation to verify proper disposal. When materials are disposed of on private property, provide written authorization from the property owner for the use of the property for this purpose upon request.

Item 7L
Legal Relations and Responsibilities

1. ETHICS – NOT APPLICABLE TO LOCALLY LET PROJECTS

2. SAFETY

2.1. **Safety Point of Contact**. Designate, in writing, a Contractor Safety Point of Contact (CSPOC). The Owner will assign an employee for their point of contact designated as Owner's Safety Point of Contact OSPOC. The Contract requires that the Contractor's and subcontractor's employees use the appropriate personal protective equipment (PPE) (e.g., hardhats, safety vests, and protective toe footwear) to meet regulations.

The Contractor will require that crew leaders and foremen (including subcontractors) have attended the required training.

2.2. **Safety Preconstruction Meeting**. In cooperation with the Engineer, schedule and attend a safety preconstruction meeting (may be a part of the preconstruction conference in accordance with Article 4L.2., "Preconstruction Conference"). Attendees for this safety preconstruction meeting will be:

- the Contractor,
- subcontractors,
- the Owner,
- local law enforcement, and
- other personnel who play an active role on the project.

2.3. **Safety Contingency**. To improve the effectiveness of traffic handling and enhance safety during the course of this project, a safety contingency fund may have been included in the project budget for traffic control plan adjustments and other safety-related improvements.

Costs associated with the adjustments or improvements will be paid for in accordance with Article 9L.7., "Payment for Extra Work and Force Account Method." Article 9L.7., "Payment for Extra Work and Force Account Method," is not intended to be used in lieu of bid items established by the Contract.

2.4. **Public Safety and Convenience**. In accordance with the Contract and as directed, provide for the safety and convenience of the public and property. Keep existing roadways open to traffic or construct and maintain detours and temporary structures for safe public travel. Manage construction to minimize disruption to traffic. Maintain the roadway in a good and passable condition, including proper drainage, and provide for ingress and egress to adjacent property.

If the construction of the project requires the closing of a roadway, as directed, coordinate the closure with the Engineer and work to ensure all lanes and ramps possible are available during peak traffic periods before, during, and after significant traffic generator events to avoid any adverse economic impact on the municipalities during:

- dates or events as shown on the plans, and
- other dates as directed.

Store all equipment not in use in a manner and at locations that will not interfere with the safe passage of traffic.

If the Engineer determines that any of the requirements of this Article have not been met, the Engineer may take corrective action. This will not change the legal responsibilities set forth in the Contract. The cost to the Owner for this work will be deducted from any money due or to become due to the Contractor.

2.5. **Use of Blue Warning Lights**. Texas Transportation Code § 547.105 authorizes the use of warning lights to promote safety and provides an effective means of gaining the traveling public's attention as they drive in areas where construction crews are present. To influence the public to move over when high-risk construction activities are taking place, minimize the use of blue warning lights. These lights must be used only while performing work on or near the travel lanes or shoulder where the traveling public encounters construction crews that are not protected by a standard work zone setup, such as a lane closure, a shoulder closure, or one-way traffic control. Refrain from leaving the warning lights engaged while traveling from one work location to another or while parked on the right of way away from the pavement or a work zone.

2.6. **Barricades, Signs, and Traffic Handling**. Comply with the requirements of Item 502 "Barricades, Signs, and Traffic Handling," and as directed. Provide traffic control devices as shown on the plans and in accordance with the TMUTCD. When authorized or directed, provide additional signs or traffic control devices not required by the plans.

If an unexpected situation arises that causes the Contractor to believe that the traffic control should be changed, make all reasonable efforts to promptly contact the Engineer. Take prudent actions until the Engineer can be contacted.

The Engineer will inspect the traffic control devices. Comply with the results of the inspection in the prescribed timeframe.

The work performed and materials furnished in accordance with this Section and Item 502 have no bearing on the prosecution of Items 1L–10L, "General Requirements and Covenants," of the Contract. This includes, but is not limited to installing, relocating, and removing project limit advance warning signs.

2.6.1. **Contractor Responsible Person and Alternate**. Designate in writing a Contractor's Responsible Person (CRP) and an alternate to be the representative of the Contractor who is responsible for taking or directing corrective measures regarding the traffic control. The CRP or alternate must be accessible by telephone 24 hr. per day and able to respond when notified. The CRP and alternate must comply with the requirements of Section 7L.2.6.5., "Training."

2.6.2. **Flaggers**. Designate, in writing, a flagger instructor who will serve as a flagging supervisor and is responsible for training and assuring that all flaggers are qualified to perform flagging duties. Certify to the Engineer that all flaggers will be trained and make available upon request a list of flaggers trained to perform flagging duties.

Provide flaggers as directed. Flaggers must be courteous and able to effectively communicate with the public. When directing traffic, flaggers must dress appropriately; wear high-visibility safety apparel; use flags, signs, stop-slow paddles, and other hand-signaling devices; and follow the flagging procedures in the TMUTCD. Comply with the requirements of Section 7L.2.6.5., "Training."

2.6.3. **Law Enforcement Personnel**. Provide uniformed law enforcement personnel with patrol vehicles as directed. Document the work zone traffic services provided in the manner prescribed by the Owner. Law enforcement personnel providing work zone traffic services must be trained for the service they perform. Comply with Section 7L.2.6.5., "Training."

2.6.4. **Other Work Zone Personnel**. Workers involved with traffic control, including the maintenance of the traffic control, must comply with the requirements of Section 7L.2.6.5., "Training."

2.6.5. **Training.** Train workers involved with the traffic control using Department-approved training as shown on the "Traffic Control Training" MPL.

Coordinate enrollment, pay associated fees, and successfully complete Department-approved training or Contractor-developed training. Training is valid for the period prescribed by the provider. Except for law enforcement personnel training, refresher training is required every 4 yr. from the date of completion unless otherwise specified by the course provider. The Engineer may require training at a specified frequency instead of the period prescribed based on the Owner's needs. Training and associated fees will not be measured or paid for directly, but will be subsidiary to pertinent Items.

Certify to the Engineer that workers involved in traffic control and other work zone personnel have been trained and make available upon request a copy of the certification of completion to the Engineer. The certification of completion includes:

- name of provider and course title,
- name of participant,
- date of completion, and
- date of expiration.

Where Contractor-developed training or a TxDOT-approved training course does not produce a certification, maintain a log of attendees. Make the log available upon request. Provide a log that is legible and includes:

- printed name and signature of participant,
- name and title of trainer, and
- date of training.

2.6.5.1. **Contractor-Developed Training**. Develop and deliver Contractor-developed training meeting the minimum requirements established by the Owner. The outline for this training must be submitted to the Engineer for approval at the preconstruction meeting. The CRP or designated alternate may deliver the training instead of the TxDOT-approved training. The work performed and materials furnished to develop and deliver the training will not be measured or paid for directly, but will be subsidiary to pertinent Items.

2.6.5.1.1. **Flagger Training Minimum Requirements**. A Contractor's certified flagging instructor is permitted to train other flaggers.

2.6.5.1.2. **Other Contractor-Developed Training for Other Work Zone Personnel**. For other work zone personnel, the Contractor may provide training meeting the curriculum described below instead of TxDOT-approved training.

Minimum curriculum for Contractor-provided training is as follows.

Contractor-developed training must provide information on the use of PPE, occupational hazards and health risks, and other pertinent topics related to traffic management. The type and amount of training will depend on the job duties and responsibilities. Develop training applicable to the work being performed. Develop training to include the following topics.

- Adopt a company safety motto: "The Life You Save May Be Your Own," or similar.
- Purpose of the training includes the following.
  - "It's the Law."
  - Make work zones safer for workers and motorists.
  - Understand what is needed for traffic control.
  - Save lives including your own.
- Personal and co-worker safety includes the following.
  - **High-Visibility Safety Apparel**. Discuss compliant requirements; inspect regularly for fading and reduced reflective properties; if night operations are required, discuss the additional and appropriate required apparel in addition to special night work risks; and if moving operations are underway, discuss appropriate safety measures specific to the situation and traffic control plan.

- **Blind Areas**. A blind area is the area around a vehicle or piece of construction equipment not visible to the operators, either by line of sight or indirectly by mirrors. Discuss the "Circle of Safety" around equipment and vehicles; use of spotters; maintaining eye contact with equipment operators; and use of hand signals.
- **Runovers and Backovers**. Remain alert at all times; keep a safe distance from traffic; avoid turning your back to traffic, and if you must, then use a spotter; and stay behind protective barriers, whenever possible. It is not safe to sit on or lean against a concrete barrier; these barriers can deflect 4 ft. or more when struck by a vehicle.
- Look out for each other and warn co-workers.
- Be courteous to motorists.
- Do not run across active roadways.
- Workers must obey traffic laws and drive courteously while operating vehicles in the work zones.
- Workers must be made aware of company distracted driving policies.

■ **Nighttime Operations**. Focus on projects with a nighttime element.

■ **Traffic Control Training**. Basics of traffic control include the following.

- Identify work zone traffic control supervisor and other appropriate persons to report issues to when they arise.
- Emphasize that work zone traffic control devices must be in clean and undamaged condition. If devices have been hit but not damaged, return them to their correct place and report to the traffic control supervisor. If devices have been damaged, replace with new devices and report to the traffic control supervisor. If devices are dirty, faded, or have missing or damaged reflective tape, clean or replace them and report to the traffic control supervisor. Show examples of unacceptable device conditions. Discuss various types of traffic control devices to be used and where spacing requirements can be found.
- **Channelizing Devices and Barricades with Slanted Stripes**. Stripes must slant in the direction in which you want traffic to stay or move; demonstrate this with a device.
- **Traffic Queuing**. Workers must be made aware of traffic queuing and the dangers created by it. Workers must be instructed to immediately notify the traffic control supervisor and other supervisory personnel if traffic is queuing beyond advance warning sign and devices or construction limits.
- **Signs**. Signs must be straight and not leaning. Report problems to the traffic control supervisor or other as designated for immediate repair. Covered signs must be fully covered. If covers are damaged or out of place, report to the traffic control supervisor or other as designated.

3. LAWS TO BE OBSERVED

Comply with all federal, state, and local laws, ordinances, and regulations that affect the performance of the work. The Contractor is not required to comply with city electrical ordinances not included in this Contract. Indemnify and save harmless the Owner and its representatives against any claim arising from violation by the Contractor of any law, ordinance, or regulation.

This Contract is between the Owner and the Contractor only. No person or entity may claim third-party beneficiary status under this Contract or any of its provisions, nor may any non-party sue for personal injuries or property damage under this Contract.

4. PERMITS, LICENSES, AND TAXES

Procure all permits and licenses; pay all charges, fees, and taxes; and give all notices necessary and incidental to the due and lawful prosecution of work, except for permits provided by the Owner and as specified in Article 7L.7., "Preservation of Cultural and Natural Resources and the Environment."

5. PATENTED DEVICES, MATERIAL, AND PROCESSES

Indemnify and save harmless the Owner from any claims for infringement from the Contractor's use of any patented design, device, material, process, trademark, or copyright selected by the Contractor and used in connection with the work. Indemnify and save harmless the Owner against any costs, expenses, or damages that it may be obliged to pay, by reason of this infringement, at any time during the prosecution or after the completion of the work.

6. PERSONAL LIABILITY OF PUBLIC OFFICIALS

Owner employees are agents and representatives of the Owner and will incur no liability, personal or otherwise, in carrying out the provisions of the Contract or in exercising any power or authority granted under the Contract.

7. PRESERVATION OF CULTURAL AND NATURAL RESOURCES AND THE ENVIRONMENT

Project-specific information pertinent to cultural and natural resources is included in the plan set in the General Notes and on the Environmental Permits, Issues, and Commitments (EPIC) sheet. Adhere to all guidance, Best Management Practices (BMPs), and permits shown on the plans. Signing the Contract certifies compliance with all applicable laws, rules, and regulations pertaining to the preservation of cultural resources, natural resources, and the environment as issued by the following or other agencies.

- OSHA
- TCEQ
- Texas Department of Transportation
- Texas Historical Commission
- Texas Parks and Wildlife Department
- Texas Railroad Commission
- U.S. Army Corps of Engineers (USACE)
- U.S. Department of Energy
- U.S. Department of Transportation
- EPA
- Federal Emergency Management Agency
- U.S. Fish and Wildlife Service

All subcontractors must also comply with applicable environmental laws, rules, regulations, and requirements in the Contract.

7.1. **Cultural Resources**. Cease all work immediately if a site, building, or location of historical, archeological, educational, or scientific interest is discovered within the right of way. The site, building, or location will be investigated and evaluated by the Owner.

7.2. **Protected and Imperiled Species and Wildlife**. Cease all work immediately and within 50 ft. if a protected or imperiled species, or any species assumed to be protected or imperiled, or wildlife is encountered onsite. Allow any animals to leave the area. Do not kill any wildlife. Contact Owner's environmental staff to investigate and evaluate any species or wildlife issues.

7.3. **Migratory Birds**. Bird and nest removal must not occur during vegetation clearing, construction, or maintenance activities on structures where birds or nests are present during the nesting season, as shown on the plans. If work will occur during the nesting season, measures to prevent nest establishment must be used before the start of nesting season or any activity. Contact Owner's environmental staff for assistance with birds and nests.

7.4. **Texas Pollutant Discharge Elimination System (TPDES) Permits and Stormwater Pollution Prevention Plans (SWP3s).**

7.4.1. Projects with Less than 1 Acre of Soil Disturbance Including Required Associated Project Specific Locations (PSLs) in Accordance with TPDES Construction General Permit (CGP) No. TXR150000. No construction site notice (CSN) posting will be required for soil disturbances within the right of way. Adhere to the requirements of the SWP3 and environmental layout as shown on the plans.

7.4.2. Projects with 1 Acre but Less than 5 Acres of Soil Disturbance Including Required Associated PSLs in Accordance with TPDES CGP No. TXR150000. The Owner and the Contractor will operate under a shared SWP3 for portions of the project in the right of way.

The Owner will be considered the primary operator with operational control over plans and specifications as defined in TPDES CGP No. TXR150000 for construction activity in the right of way. The Owner will post a small CSN and follow other requirements as defined in TPDES CGP No. TXR150000 as the entity having operational control over plans and specifications for work shown on the plans in the right of way.

The Contractor will be considered the primary operator with day-to-day operational control as defined in TPDES CGP No. TXR150000 for construction activity in the right of way. In addition to the Owner's actions, the Contractor will post a small CSN and follow other requirements as defined in TPDES CGP No. TXR150000 as the entity having day-to-day operational control of the work shown on the plans in the right of way. This is in addition to the Contractor being responsible for TPDES CGP No. TXR150000 requirements for on-right-of-way and off-right-of-way PSLs. The Contractor will adhere to all requirements of the SWP3 and environmental layout as shown on the plans. The Contractor will be responsible for implementing the SWP3 for the project site as shown on the plans, in conformance with specifications, in accordance with TPDES CGP No. TXR150000, and as directed. Notification to Municipal Separate Storm Sewer System (MS4) operators (when applicable) upon project initiation and completion must be provided in accordance with TPDES CGP No. TXR150000 requirements. A signed copy of the small CSN will be provided to MS4 operators (where applicable) at least 2 days before commencing construction.

With the Engineer's concurrence upon the completion of soil disturbing activities and achieving permanent stabilization of 70% native background vegetation cover, the CSN may be removed.

7.4.3. **Projects with 5 Acres or More of Soil Disturbance Including Required Associated PSLs in Accordance with TPDES CGP No. TXR150000**. The Owner and the Contractor will operate under a shared SWP3 for portions of the project in the right of way. The Owner will be considered the primary operator with operational control over plans and specifications as defined in TPDES CGP No. TXR150000 for construction activities in the right of way. The Owner will post a large CSN and file a Notice of Intent (NOI); Notice of Change (NOC), if applicable; and Notice of Termination (NOT), along with other requirements in accordance with TPDES CGP No. TXR150000, as the entity having operational control over plans and specifications for work shown on the plans in the right of way.

The Contractor will be considered the primary operator for day-to-day operational control as defined in TPDES CGP No. TXR150000 for construction activities in the right of way. In addition to the Owner's actions, the Contractor will file an NOI; NOC, if applicable; and NOT and post a large CSN along with other requirements as the entity having day-to-day operational control of the work shown on the plans in the right of way. This is in addition to the Contractor being responsible for TPDES CGP No. TXR150000 requirements for on-right-of-way and off-right-of way PSLs. Adhere to all requirements of the SWP3 and environmental layout as shown on the plans.

7.4.3.1. **Notice of Intent (NOI)**. Contractor will submit an NOI to TCEQ in accordance with TPDES CGP No. TXR150000 requirements. NOI must be submitted at least 7 days before commencement of construction activities at the project site. Contractor must file NOI under the same Regulated Entity Number (RN) as the Owner. Provide a signed copy to the Engineer and any other MS4 operators (where applicable) at the time of submittal. The Owner will submit their NOI before Contractor submission and will provide a copy for Contractor's use in completing the Contractor's NOI form.

7.4.3.2. **Notice of Change (NOC)**. Upon concurrence of the Engineer, submit an NOC to TCEQ within 14 days of discovery of a change or revision to the NOI as required by the CGP. Provide a signed copy of the NOC to the Engineer and any other MS4 operators (where applicable) at the time of submittal.

7.4.3.3. **Notice of Termination (NOT)**. Upon concurrence of the Engineer, submit an NOT to TCEQ within 30 days of the Engineer's approval that 70% native background vegetative cover is met or equivalent permanent stabilization has been employed in accordance with TPDES CGP No. TXR150000. Provide a signed copy of the NOT to the Engineer and any other MS4 operators (where applicable) at the time of submittal.

7.4.4. **Training**. Not applicable to Locally Let Projects.

7.5. **Work in Waters of the United States**. For work in the right of way, the Owner will obtain any required Section 404 permits from U.S. Army Corps of Engineers USACE before work begins. Adhere to all agreements, mitigation plans, and standard BMPs required by the permit. When Contractor-initiated changes in the construction method change the impacts on Waters of the United States, obtain new or revised Section 404 permits.

7.6. **Work in Navigable Waters of the United States**. For work in the right of way, the Owner will obtain any required Section 9 permits from the U.S. Coast Guard before work begins. Adhere to the stipulations of the permits and associated BMPs. When Contractor-initiated changes in the construction method change the impacts on Navigable Waters of the United States, obtain new or revised Section 9 permits.

7.7. **Work over Recharge or Contributing Zone of Protected Aquifers**. Make every reasonable effort to minimize the degradation of water quality resulting from impacts relating to work over the recharge or contributing zones of protected aquifers, as defined and delineated by TCEQ. Use BMPs and perform work in accordance with the Contract requirements.

7.8. **Project Specific Locations**. For all PSLs on or off the right of way (e.g., material sources, waste sites, parking areas, storage areas, field offices, staging areas, and haul roads), comply with all applicable laws, rules, and regulations pertaining to the preservation of cultural resources, natural resources, and the environment in accordance with Section 7L 7.1., "Cultural Resources." All subcontractors must also comply with applicable environmental laws, rules, regulations, and requirements in the Contract. Maintain documentation of environmental compliance activities, including environmental consultant reports and correspondence with the resource agencies. Provide documentation upon request. Obtain written approval from the Engineer for all PSLs in the right of way not specifically addressed on the plans. Prepare an SWP3 for all Contractor facilities, such as asphalt or concrete plants located within right of way. Comply with all TCEQ permit requirements for portable facilities, such as concrete batch plants, rock crushers, and asphalt plants. Ensure compliance with all environmental issues, such as Section 404 permits, wetland delineation, endangered species consultation requirements, or archeological and historic site impacts. Obtain all permits and clearances in advance.

7.9. **Contractor Responsibility**. If the Contractor initiates changes to the Contract and the Owner approves the changes, the Contractor is responsible for obtaining clearances and coordinating with the appropriate regulatory agencies.

8. AGRICULTURAL IRRIGATION

Regulate the sequence of work and make provisions as necessary to provide for agricultural irrigation or drainage during the work. Meet with the service provider or landowner to determine the proper time and sequence when irrigation demands will permit shutting off water flows to perform work.

Unless otherwise shown on the plans, the work performed in accordance with this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

9. SANITARY PROVISIONS

Provide and maintain adequate, neat, and sanitary toilet accommodations for employees, including State employees, in compliance with the requirements and regulations of the Texas Department of State Health Services or other authorities having jurisdiction.

10. ABATEMENT AND MITIGATION OF EXCESSIVE OR UNNECESSARY NOISE

Minimize noise throughout all phases of the Contract. Exercise particular and special efforts to avoid the creation of unnecessary noise impact on adjacent noise-sensitive receptors in the placement of non-mobile equipment, such as air compressors, generators, and pumps. Place mobile and stationary equipment to cause the least disruption to normal adjacent activities.

All equipment associated with the work must be equipped with components to suppress excessive noise, and these components must be maintained in their original operating condition considering normal depreciation. Noise attenuation devices installed by the manufacturer, such as mufflers, engine covers, and insulation, must not be removed or rendered ineffectual, or be permitted to remain off the equipment while the equipment is in use.

11. USING EXPLOSIVES

Do not endanger life or property. When required by the plans or requested, provide a written blasting plan. The Owner retains the right to reject the blasting plan. Store all explosives securely, and clearly mark all storage places with "DANGER—EXPLOSIVES." Store, handle, and use explosives and highly flammable material in compliance with federal, state, and local laws, ordinances, and regulations. Assume liability for property damage, injury, or death resulting from the use of explosives.

Give at least 48-hr. advance notice to the appropriate railroad representative before doing any blasting work involving the use of electric blasting caps within 200 ft. of any railroad track.

12. RESPONSIBILITY FOR HAZARDOUS MATERIALS

Comply with the requirements of Article 6L.10., "Hazardous Materials." Indemnify and save harmless the Owner and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property arising from the generation or disposition of hazardous materials introduced by the Contractor on any work done by the Contractor on Owner-owned or controlled sites. Indemnify and save harmless the Owner and its representatives from any liability or responsibility arising out of the Contractor's generation or disposition of any hazardous materials obtained, processed, stored, or shipped, on sites not owned or controlled by the Owner. Reimburse the Owner for all payments, fees, or restitution the Owner is required to make as a result of the Contractor's actions.

13. RESTORING SURFACES OPENED BY PERMISSION

Do not authorize anyone to make an opening in the highway for utilities, drainage, or any other reason without written permission from the Engineer. Repair all openings as directed. Payment for repair of surfaces opened by permission will be made in conformance with pertinent Items or in accordance with Article 4L.4., "Changes in the Work." Costs associated with openings made with Contractor authorization but without Owner approval will not be paid.

14. PROTECTING ADJACENT PROPERTY

Protect adjacent property from damage. If any damage results from an act or omission on the part of or on behalf of the Contractor, take corrective action to restore the damaged property to a condition similar or equal to that existing before the damage was done.

15. RESPONSIBILITY FOR DAMAGE CLAIMS

Indemnify and save harmless the Owner and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property due to the Contractor's negligence in the performance of the work and from any claims arising or amounts recovered under any laws, including workers' compensation and the Texas Tort Claims Act. Indemnify and save harmless the Owner and assume responsibility for all damages and injury to property of any character occurring during the prosecution of the work resulting from any act, omission, neglect, or misconduct on the Contractor's part in the manner or method of executing the work; from failure to properly execute the work; or from defective work or material.

Pipelines and other underground installations that may or may not be shown on the plans may be located within the right of way. Indemnify and save harmless the Owner from any suits or claims resulting from damage by the Contractor's operations to any pipeline or underground installation. Make available the scheduled sequence of work to the respective utility owners so that they may coordinate and schedule adjustments of their utilities that conflict with the proposed work.

16. HAULING AND LOADS ON ROADWAYS AND STRUCTURES

Comply with federal and state laws concerning legal gross and axle weights. Except for the designated Interstate system, vehicles with a valid yearly overweight tolerance permit may haul materials to the work locations at the permitted load. Provide copies of the yearly overweight tolerance permits to the Engineer upon request. Construction equipment is not exempt from oversize or overweight permitting requirements on roadways open to the traveling public.

Protect existing bridges and other structures that will remain in use by the traveling public during and after the completion of the Contract. Construction traffic on roadways, bridges, and culverts within the limits of the work, including any structures under construction that will remain in service during and after completion of the Contract, is subject to legal size and weight limitations.

Additional temporary fill may be required by the Engineer for hauling purposes for the protection of certain structures. This additional fill will not be paid for directly, but will be subsidiary to pertinent Items.

Replace or restore to original condition any structure damaged by the Contractor's operations.

The Engineer may allow equipment with oversize or non-divisible overweight loads to operate without a permit within the work locations on pavement structures not open to the traveling public. Submit Contractor-proposed changes to traffic control plans for approval, in accordance with Item 502. The following Sections further address overweight allowances. The Owner will make available to the Contractor any available plans and material reports for existing structures.

16.1. **Overweight Construction Traffic Crossing Structures**. The Engineer may allow crossing of a structure not open to the public within the work locations when divisible or non-divisible loads exceed legal weight limitations, including limits for load-posted bridges. Obtain written permission to make these crossings. Submit for approval a structural analysis by a licensed professional engineer indicating that the excessive loads should be allowed. Provide a manufacturer's certificate of equipment weight that includes the weight distribution on the various axles and any additional parts, such as counterweights, the configuration of the axles, or other information necessary for the analysis. Submit the structural analysis and supporting documentation sufficiently in advance of the move to allow for review by the Engineer. Permission may be granted if the Engineer finds that no damage or overstresses exceeding those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. Provide temporary matting or other protective measures as directed.

Schedule loads so that only one vehicle is on any span or continuous unit at any time. Use barricades, fences, or other positive methods to prevent other vehicular access to structures at any time the overweight load is on any span or continuous unit.

16.2. **Construction Equipment Operating on Structures**. Cranes and other construction equipment used to perform construction operations that exceed legal weight limits may be allowed on structures. Before any operation that may require placement of equipment on a structure, submit for approval a detailed structural analysis prepared by a licensed professional engineer.

Submit the structural analysis and supporting documentation sufficiently in advance of the use to allow for review by the Engineer. Include all axle loads and configurations, spacing of tracks or wheels, tire loads, outrigger placements, center of gravity, equipment weight, and predicted loads on tires and outriggers for all planned movements, swings, or boom reaches. The analysis must demonstrate that no overstresses exceeding those normally allowed for occasional overweight loads will occur.

16.3. **Loads on Structures**. Do not store or stockpile material on bridge structures without written permission. If required, submit a structural analysis and supporting documentation by a licensed professional engineer for review by the Engineer. Permission may be granted if the Engineer finds that no damage or overstresses exceeding those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. Provide temporary matting or other protective measures as directed.

16.4. **Hauling Divisible Overweight Loads on Pavement Within Work Locations**. The Engineer may allow divisible overweight loads on pavement structures within the work locations not open to the traveling public. Obtain written approval before hauling the overweight loads. Include calculations to demonstrate that there will be no damage or overstress to the pavement structure.

17. CONTRACTOR'S RESPONSIBILITY FOR WORK

Until final acceptance of the Contract, take every precaution against injury or damage to any part of the work by the action of the elements or by any other cause, whether arising from the execution or from the non-execution of the work. Protect all materials to be used in the work at all times, including periods of suspension.

When any roadway or portion of the roadway is in suitable condition for travel, it may be opened to traffic as directed. Opening of the roadway to traffic does not constitute final acceptance.

Repair damage to all work until final acceptance. Repair damage to existing facilities in accordance with the Contract or as directed by the Engineer. Repair damage to existing facilities or work caused by Contractor operations at the Contractor's expense. Repair work for damage that was not due to the Contractor's operations will not be paid for except as provided below.

17.1. **Reimbursable Repair**. Except for damage to appurtenances listed in Section 7L.17.2.1., "Unreimbursed Repair," the Contractor will be reimbursed for repair of damage caused by:

- motor vehicle, watercraft, aircraft, or railroad-train incident;
- vandalism; or
- Acts of God, such as earthquake, tidal wave, tornado, hurricane, or other cataclysmic phenomena of nature.

17.2. **Appurtenances**.

17.2.1. **Unreimbursed Repair**. Except for destruction (not reusable) due to Acts of God, reimbursement will not be made for repair of damage to the following temporary appurtenances, regardless of cause:

- signs,
- barricades, and
- other work zone traffic control devices.

Crash cushion attenuators and guardrail end treatments are reimbursed in accordance with Section 7L.17.2.2., "Reimbursed Repair." Truck-mounted attenuators, trailer attenuators, and portable changeable message signs are eligible for reimbursed repair in accordance with Section 7L.17.2.2.,

"Reimbursed Repair." Reimbursement will only be made when the Engineer directs the placement of the device in a location other than what is depicted in the Contract and the Contractor is unable to seek reimbursement from third-party insurance.

Where the Contractor retains replaced appurtenances after completion of the project, the Owner will limit the reimbursement to the cost that is above the salvage value at the end of the project.

17.2.2. **Reimbursed Repair**. Reimbursement will be made for repair of damage due to the causes listed in Section 7L.17.1, "Reimbursable Repair."

17.3. **Roadways and Structures**. Until final acceptance, the Contractor is responsible for all work constructed under the Contract. The Owner will not reimburse the Contractor for repair work to new construction, unless the failure or damage is due to one of the causes listed in Section 7L.17.1., "Reimbursable Repair."

The Owner will be responsible for the cost for repair of damage to existing roadways and structures not caused by the Contractor's operations.

17.4. **Detours**. The Contractor will be responsible for the cost of maintenance of detours constructed under the Contract, unless the failure or damage is due to one of the causes listed in Section 7L.17.1., "Reimbursable Repair." In addition, the Engineer will reimburse the Contractor for repairs to detours when failures occur for reasons beyond the Contractor's control. Reimbursement will be made for repairs to detours constructed unless the failure was due to materials and workmanship. The Owner will be responsible for the cost of maintenance of existing streets and roadways used for detours or handling traffic.

17.5. **Relief from Maintenance**. The Engineer may relieve the Contractor from responsibility of maintenance in accordance with this Section. This relief does not release the Contractor from responsibility for defective materials or work or constitute final acceptance. The Engineer will direct the Contractor to remove advance warning signs upon issuance of relief from maintenance.

17.5.1. **Isolated Work Locations**. For isolated work locations, when all work is completed, including work in accordance with Article 5L.11., "Final Cleanup," the Engineer may relieve the Contractor from responsibility for maintenance.

17.5.2. **Work Except for Vegetative Establishment and Test Periods**. When all work for all or isolated work locations has been completed, including work in accordance with Article 5L.11., "Final Cleanup," with the exception of vegetative establishment and maintenance periods and test and performance periods, the Engineer may relieve the Contractor from responsibility for maintenance of completed portions of work.

17.5.3. **Work Suspension**. When all work is suspended for an extended period of time, the Engineer may relieve the Contractor from responsibility for maintenance of completed portions of work during the period of suspension.

17.5.4. **When Directed by the Engineer**. The Engineer may relieve the Contractor from the responsibility for maintenance when directed.

17.6. **Basis of Payment**. When reimbursement for repair work is allowed and performed, payment will be made in conformance with pertinent Items or in accordance with Article 4L.4., "Changes in the Work."

18. ELECTRICAL REQUIREMENTS

18.1. **Definitions**.

18.1.1. **Electrical Work**. Electrical work is work performed for:

- Item 610, "Roadway Illumination Assemblies,"
- Item 614, "High Mast Illumination Assemblies,"
- Item 616, "Performance Testing of Lighting Systems,"

- Item 617, "Temporary Roadway Illumination,"
- Item 618, "Conduit,"
- Item 620, "Electrical Conductors,"
- Item 621, "Tray Cable,"
- Item 622, "Duct Cable,"
- Item 628, "Electrical Services,"
- Item 680, "Highway Traffic Signals,"
- Item 681, "Temporary Traffic Signals,"
- Item 684, "Traffic Signal Cables,"
- Item 685, "Roadside Flashing Beacon Assemblies,"
- other Items that involve either the distribution of electrical power greater than 50 volts or the installation of conduit and duct banks,
- the installation of conduit and wiring associated with Item 624, "Ground Boxes" and Item 656, "Foundations for Traffic Control Devices," and
- the installation of the conduit system for communication and fiber optic cable.

Electrical work does not include the installation of communications or fiber optic cable, or the connections for low-voltage and inherently power-limited circuits, such as electronic or communications equipment. Assembly and placement of poles, structures, cabinets, enclosures, manholes, or other hardware will not be considered electrical work if no wiring, wiring connection, or conduit work is done at the time of assembly and placement.

18.1.2. **Specialized Electrical Work**. Specialized electrical work is work that includes the electrical service and feeders, sub-feeders, branch circuits, controls, raceways, and enclosures for the following:

- pump stations,
- moveable bridges,
- ferry slips,
- motor control centers,
- facilities required in accordance with Item 504, "Field Office and Laboratory,"
- rest area or other public buildings,
- weigh-in-motion stations,
- electrical services larger than 200 amps,
- electrical services with main or branch circuit breaker sizes not shown in the Contract, and
- any three-phase electrical power.

18.1.3. **Certified Person**. A certified person is a person who has passed the test from TxDOT's course TRF450, "TxDOT Roadway Illuminations and Electrical Installations," or other courses as approved by the Traffic Safety Division. Submit a current and valid TRF certification upon request. Texas A&M Engineering Extension Service (TEEX) certifications for "TxDOT Electrical Systems" course will not be accepted.

18.1.4. **Licensed Electrician**. A licensed electrician is a person with a current and valid unrestricted master electrical license, or unrestricted journeyman electrical license, who is supervised or directed by an unrestricted master electrician. An unrestricted master electrician need not be on the work locations at all times while electrical work is being done, but the unrestricted master electrician must approve work performed by the unrestricted journeyman. Licensed electrician requirements by city ordinances do not apply to on State system work.

The unrestricted journeyman and unrestricted master electrician licenses must be issued by the Texas Department of Licensing and Regulation or by a city in Texas with a population of 50,000 or greater that issues licenses based on passing a written test and demonstrating experience.

The Engineer may accept other states' electrical licenses. Submit documentation of the requirements for obtaining that license. Acceptance of the license will be based on sufficient evidence that the license was issued based on:

- passing a test based on the NEC like that used by Texas licensing officials, and
- sufficient electrical experience commensurate with general standards for an unrestricted master and unrestricted journeyman electrician in the State of Texas.

18.2. **Work Requirements**. The qualifications required to perform electrical work and specialized electrical work are shown in Table 1.

Table 1
Work Requirements

Type of Work	Qualifications to Perform Work
Electrical work with plans	Licensed electrician, certified person, or workers directly supervised by a licensed electrician or certified person
Electrical work without plans	Licensed electrician or workers directly supervised by a licensed electrician
Specialized electrical work	Licensed electrician or workers directly supervised by a licensed electrician
Replace lamps, starting aids, and changing fixtures	Licensed electrician, certified person, or workers directly supervised by a licensed electrician or certified person
Conduit in precast section with approved working drawings	Inspection by licensed electrician or certified person
Conduit in cast-in-place section	Inspection by licensed electrician or certified person
All other electrical work (e.g., troubleshooting, repairs, and component replacement)	Licensed electrician or workers directly supervised by a licensed electrician

"Directly supervised by a licensed electrician" means that a licensed electrician is physically present during all electrical work. "Directly supervised by a licensed electrician or certified person" means that a licensed electrician or certified person is physically present during all electrical work.

A non-certified person may install conduit in cast-in-place concrete sections if the work is verified by a certified person before concrete placement.

When IMSA certification is specified on the plans, the requirements shown in Table 1 will still apply to the installation of the conduit, ground boxes, electrical services, pole grounding, and electrical conductors installed in accordance with Item 620.

19. PAYROLLS

Pay employees and contract labor no less than the predetermined wage rates shown in the Contract. Require that subcontractors pay no less than the predetermined wage rates shown in the Contract.

Payroll records must contain the information required by law. As an option, Form WH-347, "Payroll," is provided by the U.S. Department of Labor.

Maintain payroll and related records during the course of the Contract and preserve these records for 3 yr. following the completion of the Contract or as required by law.

19.1. **Minimum Wage Requirements for Federally Funded Contracts**. Comply with the requirements of FHWA-1273, "Required Contract Provisions Federal-Aid Construction Contracts."

For construction contracts, submit payroll records to the Engineer using the manner prescribed by the Owner.

19.2. **Minimum Wage Requirements for State-Funded Contracts**. Comply with the requirements of 29 USC § 206 unless otherwise shown in the Contract.

For construction contracts, submit payroll records to the Engineer in the manner prescribed.

20. SECURITY INCIDENTS – NOT APPLICABLE TO LOCALLY LET PROJECTS

Item 8L
Prosecution and Progress

1. PROSECUTION OF WORK

Begin work within 30 calendar days after the authorization date to begin work. Prosecute the work continuously to completion within the working days specified. Unless otherwise shown on the plans, work may be prosecuted in concurrent phases if no changes are required to the traffic control plan or if a revised traffic control plan is approved. Notify the Engineer at least 24 hr. before beginning work or before beginning any new operation. Do not start new operations to the detriment of work already begun. Minimize interference to traffic.

2. SUBCONTRACTING

Do not sublet any portion of a construction Contract without the Engineer's written approval. A subcontract does not relieve any responsibility under the Contract and bonds. Ensure that all subcontracted work complies with all governing labor provisions.

The Contractor certifies by signing the Contract that the Contractor will not enter into any subcontract with a subcontractor that is debarred or suspended by the Commission, Owner, or any federal agency.

For federally funded contracts, ensure the required federal documents are physically attached to each subcontract agreement, including all tiered subcontract agreements.

For all DBE subcontracts, including all tiered DBE subcontracts, submit a copy of the executed subcontract agreement.

Upon request, submit a copy of the executed non-DBE subcontracts, including all tiered non-DBE subcontracts.

2.1. **Construction Contracts and Federally Funded Maintenance Contracts**. Perform work with own organization on at least 30% of the total original Contract cost (25% if the Contractor is an SBE on a wholly State- or local-funded Contract), excluding any specialty items as determined by the Engineer. Specialty items are those that require highly specialized knowledge, abilities, or equipment not usually available in the contracting firm expected to bid on the proposed Contract as a whole.

Specialty items will be shown on the plans or as determined by the Engineer. Bid cost of specialty items performed by subcontractors will be deducted from the total original Contract cost before computing the required amount of work to be performed by the Contractor's own organization.

The term "perform work with own organization" includes only:

- workers employed and paid directly by the Contractor or wholly owned subsidiary;
- equipment owned by the Contractor or wholly owned subsidiary;
- rented or leased equipment operated by the Contractor's employees or wholly owned subsidiary's employees;
- materials incorporated into the work if the majority of the value of the work involved in incorporating the material is performed by the Contractor's own organization, including a wholly owned subsidiary's organization; and

- labor provided by staff leasing firms licensed under Chapter 91 of the Texas Labor Code for nonsupervisory personnel if the Contractor or wholly owned subsidiary maintains direct control over the activities of the leased employees and includes them in the weekly payrolls.

Mobilization is not included in calculation of 30%.

When staff leasing firms provide materials or equipment, they are considered subcontractors. In these instances, submit staff leasing firms for approval as a subcontractor.

Copies of canceled checks and certified statements may be required to verify compliance with the requirements of this Section.

2.2. **State-Funded Maintenance Contracts**. Not applicable to locally let projects.

2.3. **Payments to Subcontractors**. Report payments for DBE subcontracts, including tiered DBE subcontracts, in the manner as prescribed by the Owner by the 20th day of each month.

2.3.1. **Payment Records**. Make payment and related records, including but not limited to copies of canceled checks, available for inspection by the Owner. Retain payment records for a period of 3 yr. following the completion of the Contract.

2.4. **Payrolls**. Comply with Article 7L.19., "Payrolls."

3. COMPUTATION OF CONTRACT TIME FOR COMPLETION

The number of working days is established by the Contract. For Contracts with work orders, the number of working days is established in each work order. Working day charges will begin when work begins as prescribed in Article 8L.1., "Prosecution of Work." Working day charges will continue in accordance with the Contract.

The development of the conceptual time determination is intended to establish the number of working days on the Contract. Upon request, the Engineer will provide the conceptual time determination schedule to the Contractor for informational purposes only. The schedule assumes generic resources, production rates, sequences of construction and average weather conditions based on historic data. Schedule labor, equipment, procurement of materials, subcontractor work, and all other necessary means to prosecute the work within the number of working days specified by the Contract.

3.1. **Working Day Charges**. Working days will be charged in accordance with Section 8L.3.1.4., "Standard Workweek," unless otherwise shown on the plans. Working days will be computed and charged in accordance with one of the following:

3.1.1. **Five-Day Workweek**. Working days will be charged Monday–Friday, excluding national holidays, regardless of weather conditions or material availability. The Contractor has the option of working on Saturdays. Provide sufficient advance notice to the Engineer when scheduling work on Saturdays. Work on Sundays and national holidays will not be permitted without written permission of the Engineer. If work requiring an Inspector to be present or if critical path activities are performed on a Saturday, Sunday, or national holiday, and weather and other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.2. **Six-Day Workweek**. Working days will be charged Monday–Saturday, excluding national holidays, regardless of weather conditions or material availability. Work on Sundays and national holidays will not be permitted without written permission of the Engineer. If work requiring an Inspector to be present or if critical path activities are performed on a Sunday or a national holiday, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.3. **Seven-Day Workweek**. Working days will be charged Monday–Sunday, excluding national holidays, regardless of weather conditions or material availability. Work on national holidays will not be permitted without written permission of the Engineer. If work or critical path activities requiring an Inspector to be present are performed on any of these holidays, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.4. **Standard Workweek**. Working days will be charged Monday–Friday, excluding national or State holidays, if weather or other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. between 7:00 A.M. and 6:00 P.M., unless otherwise shown in the Contract. The Contractor has the option of working on Saturdays or State holidays. Provide sufficient advance notice to the Engineer when scheduling work on Saturdays. Work on Sundays and national holidays will not be permitted without written permission of the Engineer. If work requiring an Inspector to be present or critical path activities are performed on a Saturday, Sunday, or holiday, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.5. **Calendar Day**. Working days will be charged Sunday–Saturday, including all holidays, regardless of weather conditions, material availability, or other conditions not under the control of the Contractor.

3.1.6. **Other**. Working days will be charged as shown on the plans.

3.2. **Restricted Work Hours**. Restrictions on Contractor work hours and the related definition for working day charges are as prescribed in this Article unless otherwise shown on the plans.

3.3. **Nighttime Work**. Nighttime work is allowed only when shown on the plans or directed or allowed by the Engineer. Nighttime work is defined as work performed from 30 min. after sunset to 30 min. before sunrise.

3.3.1. **Five-, Six-, and Seven-Day Workweeks**. Nighttime work that extends past midnight will be assigned to the following day for the purposes of approval for allowing work on Sundays or national holidays.

3.3.2. **Standard Workweek**.

3.3.2.1. **Nighttime Work Only**. When nighttime work is allowed or required and daytime work is not allowed, working day charges will be made when weather and other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. for the nighttime period, as defined in Section 8L.3.3., "Nighttime Work," unless otherwise shown in the Contract.

3.3.2.2. **Nighttime Work and Daytime Work Requiring Inspector**. When nighttime work is performed or required and daytime work is allowed, working day charges will be made when weather and other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. for the nighttime period, as defined in Section 8L.3.3., "Nighttime Work," or for a continuous period of at least 7 hr. for the alternative daytime period unless otherwise shown in the Contract. Only one day will be charged for each 24hr. period. When the Engineer agrees to restrict work hours to the nighttime period only, working day charges will be in accordance with Section 8L.3.3.2.1., "Nighttime Work Only."

3.4. **Time Statements**. The Engineer will furnish the Contractor a monthly time statement. Review the monthly time statement for correctness. Report protests in writing, no later than 30 calendar days after receipt of the time statement, providing a detailed explanation for each day protested. Not filing a protest within 30 calendar days will indicate acceptance of the working day charges, and future consideration of that statement will not be permitted.

4. TEMPORARY SUSPENSION OF WORK OR WORKING DAY CHARGES

The Engineer may suspend the work, wholly or in part, and will provide notice and reasons for the suspension in writing. Suspend and resume work only as directed in writing.

When part of the work is suspended, the Engineer may suspend working day charges only when conditions not under the control of the Contractor prohibit the performance of critical path activities. When all of the work is suspended for reasons not under the control of the Contractor, the Engineer will suspend working day charges.

5. PROJECT SCHEDULES

Prepare, maintain, and submit project schedules for the work to be performed under this Contract. Project schedules are used to convey the Contractor's intended work plan to the Owner.

The work performed under this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

5.1. **Project Scheduler**. Designate an individual who will develop and maintain the progress schedule. The project scheduler will be prepared to discuss, in detail, the proposed sequence of work and methods of operation, and how that information will be communicated through the progress schedule at the preconstruction meeting. This individual will also attend the project meetings and make site visits to prepare, develop, and maintain the progress schedules.

5.2. **Progress Schedule**. Before starting work, prepare and submit a progress schedule based on the sequence of work and traffic control plan shown in the Contract. Prepare the progress schedule as a bar chart or critical path method (CPM) as shown on the plans. Include all planned work activities and sequences and show Contract completion within the number of working days specified. Incorporate major material procurements, known utility relocations, and other activities that may affect the completion of the Contract in the progress schedule. Show a beginning date, ending date, and duration in whole working days for each activity. Do not use activities exceeding 20 working days, unless agreed upon with the Engineer. Show an estimated production rate per working day for each work activity, unless otherwise agreed upon with the Engineer.

5.3. **Schedule Format**. Format all project schedules in accordance with the following.

- Begin the project schedule on the date of the start of Contract time or start of activities affecting work on the project.
- Show the sequence and interdependence of activities required for complete performance of the work. If using a CPM schedule, show a predecessor and a successor for each activity.
- Ensure all work sequences are logical and show a coordinated plan of the work.

CPM schedules must also:

- clearly and accurately identify the critical path as the longest continuous path;
- provide a legend for all abbreviations, run date, data date, project start date, and project completion date in the title block of each schedule submittal; and
- using calendars, incorporate seasonal weather conditions into the schedule for work (e.g., earthwork, concrete paving, structures, asphalt, and drainage) that may be influenced by temperature or precipitation. Also, incorporate non-work periods such as holidays, weekends, or other non-work days as identified in the Contract.

5.4. **Activity Format**. For each activity on the project schedule, provide:

- a concise description of the work represented by the activity,
- an activity duration in whole working days, and
- code activities so that organized plots of the schedule may be produced.

CPM schedules must also include the quantity of work and estimated production rate for major items of work. Provide enough information for review of the work being performed.

Total float is defined as the amount of time (in whole days) that an activity can be delayed before impacting the project's completion date. Total float is a shared commodity between the Owner and the Contractor.

5.5. **Schedule Types and Schedule Impacts**.

5.5.1. **Bar Chart**. Seven calendar days before the preconstruction meeting, prepare and submit a hard or electronic copy of the schedule using the bar chart method.

5.5.1.1. **Progress Schedule Reviews**. Update the project schedule and submit a hard or electronic copy when changes to the schedule occur or when requested.

5.5.2. **Critical Path Method**. Prepare and submit the schedule using the CPM. Submit an electronic copy to the Engineer within the timeframes specified. An electronic copy is defined as the scheduling software's native file, saved in a format acceptable to the Engineer. In all cases, an electronic format (.xer) of Primavera Project Planner and Enterprise Project Portfolio Management (P6) will be acceptable.

5.5.2.1. **Preliminary Schedule**. Unless otherwise agreed for a later submission, 7 calendar days before the preconstruction meeting, submit an electronic copy of the project schedule showing activities beginning with the authorization date to begin work and including activities to be performed within the first 90 calendar days from the work start date.

5.5.2.2. **Baseline Schedule**. The baseline schedule will be considered the Contractor's plan to successfully construct the project within the timeframe and construction sequencing indicated in the Contract. Submit electronic copies of the baseline schedule. When requested, submit two plots of the schedule: one organized with the activities logically grouped using the activity coding, and the other plot showing only the critical path determined by the longest path, not based on critical float.

Develop and submit the baseline schedule for review within the first 45 calendar days from the work start date unless the time for submission is extended by the Engineer.

5.5.2.2.1. **Review**. Within 15 calendar days of receipt of the schedule, the Engineer will evaluate and inform the Contractor if the schedule has been accepted. If the schedule is not accepted, the Engineer will provide comments to the Contractor for incorporation. Provide a revised schedule based on the Engineer's comments, or reasons for not doing so, within 10 calendar days. The Engineer's review and acceptance of the project schedule is for conformance to the requirements of the Contract documents only and does not relieve the Contractor of any responsibility for meeting the interim milestone dates (if specified) or the Contract completion date. Review and acceptance does not expressly or by implication warrant, acknowledge, or admit the reasonableness of the logic or durations of the project schedule. If the Contractor fails to define any element of work, activity, or logic and the Engineer's review does not detect this omission or error, the Contractor is responsible for correcting the error or omission.

Submit an acceptable baseline schedule before the 90th calendar day from the work start date unless the time for submission is extended by the Engineer.

5.5.2.3. **Progress Schedule**. Maintain and submit the progress schedule monthly for use by the Contractor and the Engineer. Submit an electronic copy as it will become an as-built record of the daily progress achieved on the project. If continuous progress of an activity is interrupted for any reason except non-work periods (e.g., holidays, weekend, or interference from temperature or precipitation), then the activity will show the actual finish date as that date of the start of the interruption and the activity will be broken into a subsequent activity (or activities, based on the number of interruptions) similarly numbered with successive alpha character as necessary. The original duration of the subsequent activity will be that of the remaining duration of the original activity. Relationships of the subsequent activity will match those of the original activity so that the integrity of the project schedule logic is maintained. Once established, the original durations and actual dates of all activities must remain unchanged. Revisions to the schedule may be made as necessary.

The project schedule must be revised when changes in construction phasing and sequencing occur or other changes that cause deviation from the original project schedule occur. Any revisions to the schedule must be

listed in the monthly update narrative with the purpose of the revision and description of the impact on the project schedule's critical path and project completion date. Create the schedule revision using the latest update before the start of the revision.

Monthly updating of the project schedule will include updating of:

- the actual start dates for activities started,
- the actual finish dates for activities completed,
- the percentage of work completed and remaining duration for each activity started but not yet completed, and
- the calendars to show days actual work was performed on the various work activities.

The cutoff day for recording monthly progress will be the last day of each month. Submit the updated project schedule no later than the 20th calendar day of the following month. The Engineer will evaluate the updated schedule within 5 calendar days of receipt and inform the Contractor if it has or has not been accepted. If the schedule is not accepted, the Engineer will provide comments to the Contractor for incorporation. Provide a revised schedule based on the Engineer's comments, or reasons for not doing so, within 5 calendar days.

Provide a brief narrative in a bulleted statement format for major items that have impacted the schedule. Notify the Engineer if resource-leveling is being used.

5.5.2.3.1. **Project Schedule Summary Report (PSSR)**. When shown on the plans, provide the PSSR instead of the narrative required in Section 8L.5.5.2.3., "Progress Schedule." The PSSR includes a listing of major items that have impacted the schedule and a summary of progress in days ahead or behind schedule. Include an explanation of the project progress for the period represented on the form provided by the Owner.

5.5.3. **Notice of Potential Time Impact**. Submit a notice of potential time impact when a Contract time extension or adjustment of milestone dates may be justified or when directed.

Failure to provide this notice in the timeframes specified above will compromise the Owner's ability to mitigate the impacts, and the Contractor forfeits the right to request a time extension or adjustment of milestone dates unless the circumstances are such that the Contractor could not reasonably have had knowledge of the impact at the time.

5.5.4. **Time Impact Analysis**. When directed, provide a time impact analysis. A time impact analysis is an evaluation of the effects of impacts on the project. A time impact analysis consists of the following steps.

- **Step 1**. Establish the status of the project immediately before the impact.
- **Step 2**. Predict the effect of the impact on the schedule update used in Step 1.
- **Step 3**. Track the effects of the impact on the schedule during its occurrence.
- **Step 4**. Establish the status of the project after the impact's effect has ended and provide details identifying any mitigating actions or circumstances used to keep the project ongoing during the impact period.

Determine the time impact by comparing the status of the work before the impact (Step 1) to the prediction of the effect of the impact (Step 2), if requested, and to actual effects of the impact once it is complete (Step 4). Unless otherwise approved by the Engineer, Steps 1, 3, and 4 must be completed before consideration of a Contract time extension or adjustment of a milestone date will be provided. Time extensions will be considered only when delays that affect milestone dates or the Contract completion date are beyond the Contractor's control. Submit Step 4 no later than 15 calendar days after the impact's effects have ended or when all the information on the effect has been realized.

Submit one electronic backup copy of the complete time impact analysis and a copy of the full project schedule incorporating the time impact analysis. If the project schedule is revised after the submittal of a time impact analysis, but before its approval, indicate in writing the need for any modification to the time impact analysis.

The Engineer will review the time impact analysis upon completion of Step 4. If this review detects revisions or changes to the schedule that had not been performed and identified in a narrative, the Engineer may reject the time impact analysis. If the Engineer is in agreement with the time impact analysis, a change order may be issued to grant additional working days, or to adjust interim milestones. Once a change order has been executed, incorporate the time impact analysis into the project schedule. The time impact analysis may also be used to support the settlement of disputes and claims. Compensation related to the time impact analysis may be provided at the completion of the analysis or the completion of the project to determine the true role the impact played on the final completion.

6. FAILURE TO COMPLETE WORK ON TIME

The time established for the completion of the work is an essential element of the Contract. If the Contractor fails to complete the work within the number of working days specified, working days will continue to be charged. Failure to complete the Contract, callout work, or a work order within the number of working days specified, including any approved additional working days, will result in liquidated damages for each working day charged over the number of working days specified. The dollar amount specified in the Contract will be deducted from any money due or to become due the Contractor for each working day the Contract, callout work, or work order remains incomplete. This amount will be assessed not as a penalty but as liquidated damages. The amount assessed for non-site-specific Contracts will be based on the estimated amount for each work order unless otherwise shown in the Contract. The amount assessed for each callout will be as specified in the Contract.

7. DEFAULT OF CONTRACT

7.1. **Declaration of Default**. The Engineer may declare the Contractor to be in default of the Contract if the Contractor:

- fails to begin the work within the number of days specified;
- fails to prosecute the work to assure completion within the number of days specified;
- is uncooperative, disruptive, or threatening;
- fails to perform the work in accordance with the Contract requirements;
- neglects or refuses to remove and replace rejected materials or unacceptable work;
- discontinues the prosecution of the work without the Engineer's approval;
- makes an unauthorized assignment;
- fails to resume work that has been discontinued within a reasonable number of days after notice to do so;
- fails to conduct the work in an acceptable manner; or
- commits fraud or other unfixable conduct as determined by the Owner.

If any of these conditions occur, the Engineer will give notice in writing to the Contractor and the Surety of the intent to declare the Contractor in default. If the Contractor does not proceed as directed within 10 days after the notice, the Owner will provide written notice to the Contractor and the Surety to declare the Contractor to be in default of the Contract. If the Contractor provides the Owner written notice of voluntary default of the Contract, the Owner may waive the 10-day notice of intent to declare the Contractor in default and immediately provide written notice of default to the Contractor and the Surety. Calendar day charges will continue until completion of the Contract. The Owner may suspend work in accordance with Article 8L.4., "Temporary Suspension of Work or Working Day Charges," to investigate apparent fraud or other unfixable conduct before defaulting the Contractor. The Contractor may be subject to sanctions under the state and/or federal laws and regulations. A default may result in the application of remedial action by the Owner.

The Owner will determine the method used for the completion of the remaining work as follows.

- For Contracts without performance bonds, the Owner will determine the most expeditious and efficient way to complete the work and recover damages from the Contractor.
- For Contracts with performance bonds, the Owner will require the Contractor's Surety to complete the remaining work in accordance with the terms of the original Contract. A completing Contractor will be

considered a subcontractor of the Surety. The Owner reserves the right to approve or reject proposed subcontractors. Work may resume after the Owner receives and approves Certificates of Insurance as required in Section 3.4.3., "Insurance." Certificates of Insurance may be issued in the name of the completing Contractor. The Surety is responsible for making every effort to expedite the resumption of work and completion of the Contract. The Owner may complete the work using any or all materials at the work locations that it deems suitable and acceptable. Any costs incurred by the Owner for the completion of the work under the Contract will be the responsibility of the Surety.

From the time of notification of the default until work resumes (either by the Surety or the Owner), the Owner will maintain traffic control devices and will do any other work it deems necessary, unless otherwise agreed upon by the Owner and the Surety. All costs associated with this work will be deducted from money due to the Surety.

The Owner will hold all money earned but not disbursed by the date of default. Upon resumption of the work after the default, all payments will be made to the Surety. All costs and charges incurred by the Owner resulting from the default, including the cost of completing the work under the Contract, costs of maintaining traffic control devices, costs for other work deemed necessary, and any applicable liquidated damages or disincentives will be deducted from money due the Contractor for completed work. If these costs exceed the sum that would have been payable under the Contract, the Surety will be liable and pay the Owner the balance of these costs in excess of the Contract price. In case the costs incurred by the Owner are less than the amount that would have been payable under the Contract if the work had been completed by the Contractor, the Owner will be entitled to retain the difference.

Comply with Article 8L.2., "Subcontracting," and abide by the DBE commitments previously approved by the Owner. Section 8L.2.1., "Construction Contracts and Federally Funded Maintenance Contracts," is waived.

No markups as defined in Article 9L.7., "Payment for Extra Work and Force Account Method," will be allowed for the Surety.

7.2. **Wrongful Default**. If it is determined after the Contractor is declared in default, that the Contractor was not in default, the rights and obligations of all parties will be the same as if termination had been issued for the convenience of the public as provided in Article 8L.8., "Termination of Contract."

8. TERMINATION OF CONTRACT

The Owner may terminate the Contract in whole or in part whenever:

- the Contractor is prevented from proceeding with the work as a direct result of an executive order of the President of the United States or the Governor of the State;
- the Contractor is prevented from proceeding with the work due to a national emergency, or when the work to be performed under the Contract is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment, or labor as the result of an order or a proclamation of the President of the United States;
- the Contractor is prevented from proceeding with the work due to an order of any federal authority;
- the Contractor is prevented from proceeding with the work by reason of a preliminary, special, or permanent restraining court order where the issuance of the restraining order is primarily caused by acts or omissions of persons or agencies other than the Contractor; or
- the Owner determines that termination of the Contract is in the best interest of the State or the public. This includes, but is not limited to, the discovery of significant hazardous material problems, right of way acquisition problems, or utility conflicts that would cause substantial delays or expense to the Contract.

8.1. **Procedures and Submittals**. The Owner will provide written notice to the Contractor of termination specifying the extent of the termination and the effective date. Upon notice, immediately proceed in accordance with the following:

- stop work as specified in the notice,
- place no further subcontracts or orders for materials, services, or facilities, except as necessary to complete a critical portion of the Contract, as approved by the Engineer,
- terminate all subcontracts to the extent they relate to the work terminated,
- complete performance of the work not terminated,
- settle all outstanding liabilities and termination settlement proposals resulting from the termination of the Contract,
- create an inventory report, including all acceptable materials and products obtained for the Contract that have not been incorporated in the work that was terminated (include in the inventory report a description, quantity, location, source, cost, and payment status for each of the acceptable materials and products), and
- take any action necessary, or that the Engineer may direct, for the protection and preservation of the materials and products related to the Contract that are in the possession of the Contractor and in which the Owner has or may acquire an interest.

8.2. **Settlement Provisions**. Within 60 calendar days of the date of the notice of termination, submit a final termination settlement proposal, unless otherwise approved. The Engineer will prepare a change order that reduces the affected quantities of work and adds acceptable costs for termination. No claim for loss of anticipated profits will be considered. The Owner will pay reasonable and verifiable termination costs, including:

- all work completed at the unit bid price and partial payment for incomplete work,
- the percentage of Item 500, “Mobilization,” equivalent to the percentage of work complete or actual cost that can be supported by cost records, whichever is greater,
- expenses necessary for the preparation of termination settlement proposals and support data;
- the termination and settlement of subcontracts,
- storage, transportation, restocking, and other costs incurred necessary for the preservation, protection, or disposition of the termination inventory, and
- other expenses acceptable to the Owner.

Item 9L
Measurement and Payment

1. MEASUREMENT OF QUANTITIES

The Engineer will measure all completed work using United States standard measures, unless otherwise specified.

1.1. **Linear Measurement**. Unless otherwise specified, all longitudinal measurements for surface areas will be made along the actual surface of the roadway and not horizontally. No deduction will be made for structures in the roadway with an area of 9 sq. ft. or less. For all transverse measurements for areas of base courses, surface courses, and pavements, the dimensions to be used in calculating the pay areas will be the neat dimensions and will not exceed those shown on the plans, unless otherwise directed.

1.2. **Volume Measurement**. Transport materials measured for payment by volume in approved hauling vehicles. Display a unique identification mark on each vehicle. Furnish information necessary to calculate the volume capacity of each vehicle. The Engineer may require verification of volume through weight measurement. Use body shapes that allow the capacity to be verified. Load and level the load to the equipment's approved capacity. Loads not hauled in approved vehicles may be rejected.

1.3. **Weight Measurement**. Transport materials measured for payment by weight or truck measure in approved hauling vehicles. Furnish certified measurements, tare weights, and legal gross weight calculations for all haul units. Affix a permanent, legible number on the truck and on the trailer to correspond with the certified information. Furnish certified weights of loaded haul units transporting material if requested.

The material will be measured at the point of delivery. The cost of supplying these volume and weight capacities is subsidiary to the pertinent Item. For measurement by the ton, in the field, provide measurements in accordance with Item 520, "Weighing and Measuring Equipment," except for Items where ton measurements are measured by standard tables.

The Engineer may reject loads and suspend hauling operations for overloading.

1.3.1. **Hauling on Routes Accessible to the Traveling Public**. For payment purposes on haul routes accessible to the traveling public:

- If the gross vehicle weight is less than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
- If the gross vehicle weight is more than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.

1.3.2. **Hauling on Routes Not Accessible to the Traveling Public**. For payment purposes on haul routes that are not accessible to the traveling public where advance permission is obtained in writing from the Engineer:

- If the gross vehicle weight is less than the maximum allowed by the Engineer, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
- If the gross vehicle weight is more than the maximum allowed by the Engineer, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.

2. PLANS QUANTITY MEASUREMENT

Plans quantities may or may not represent the exact quantity of work performed or material moved, handled, or placed during the execution of the Contract. The estimated bid quantities are designated as final payment quantities, unless revised by the governing specifications or this Article.

If the quantity measured as outlined under "Measurement" varies by more than 5% (or as stipulated under "Measurement" for specific Items) from the total estimated quantity for an individual Item originally shown in the Contract, an adjustment may be made to the quantity of authorized work done for payment purposes.

When quantities are revised by a change in design approved by the Owner, by change order, or to correct an error on the plans, the plans quantity will be increased or decreased by the amount involved in the change, and the 5% variance will apply to the new plans quantity.

If the total Contract quantity multiplied by the unit bid price for an individual Item is less than $250 and the Item is not originally a plans quantity Item, then the Item may be paid as a plans quantity Item if the Engineer and Contractor agree in writing to fix the final quantity as a plans quantity.

For Contracts with callout work and work orders, plans quantity measurement requirements are not applicable.

3. ADJUSTMENT OF QUANTITIES

The party to the Contract requesting the adjustment will provide field measurements and calculations showing the revised quantity. When approved, this revised quantity will constitute the final quantity for which payment will be made. Payment for revised quantity will be made at the unit price bid for that Item, except as provided for in Article 4L.4., "Changes in the Work."

4. SCOPE OF PAYMENT

Payment of the Contract unit price is full compensation for all materials, equipment, labor, tools, and supplies necessary to complete the Item of work under the Contract. Until final acceptance in accordance with Article 5L.12., "Final Acceptance," assume liability for completing the work according to the plans and specifications and any loss or damage arising from the performance of the work or from the action of the elements, infringement of patent, trademark, or copyright, except as provided elsewhere in the Contract.

The Owner will only pay for material incorporated into the work in accordance with the Contract. Payment of progress estimates will in no way affect the Contractor's obligation under the Contract to repair or replace any defective parts in the construction or to replace any defective materials used in the construction and to be responsible for all damages due to defects if the defects and damages are discovered on or before final inspection and acceptance of the work.

5. PROGRESS PAYMENTS

The Engineer will prepare a monthly estimate of the amount of work performed, including materials in place. Incomplete items of work may be paid at an agreed upon percentage approved by the Engineer. Payment of the monthly estimate is determined at the Contract item prices less any withholdings or deductions in accordance with the Contract. Progress payments may be withheld for failure to comply with the Contract.

It is the Owner's intent to pay a Contractor for work through the last working day of the month; however, the use of early cut-off dates for monthly estimates and MOH is a project management practice to manage workload at the local level. Approval for using early cut-off dates is at the Owner's discretion. The earliest cut-off date for pay applications is the 25th of the month.

6. PAYMENT FOR MATERIAL ON HAND (MOH)

If payment for MOH is desired, request compensation for the invoice cost of acceptable nonperishable materials that have not been used in the work before the request, and that have been delivered to the work location or are in acceptable storage places. Nonperishable materials are those that do not have a shelf life or whose characteristics do not materially change when exposed to the elements. Include only materials that have been sampled, tested, approved, or certified, and are ready for incorporation into the work. Only materials that are completely constructed or fabricated on the Contractor's order for a specific Contract and are so marked and on which an approved test report has been issued are eligible. Payment for MOH may include the following types of items: concrete traffic barrier, precast concrete box culverts, concrete piling, reinforced concrete pipe, and illumination poles. Any repairs required after fabricated materials have been approved for storage will require the Engineer's approval before being made and will be made at the Contractor's expense. Include only those materials and products, when cumulated under an individual item or similar bid items, that have an invoice cost of at least $1,000 in the request for MOH payment. (E.g., for MOH eligibility, various sizes of conductor are considered similar bid items and may be cumulated to meet the threshold; for small roadside signs, the sign supports, mounting bolts, and the sign face are considered one bid item or similar bid items for more than one pay item for sign supports.) Requests for MOH are to be submitted at least 2 days before but not later than the estimate cut-off date unless otherwise agreed. If there is a need to request MOH after the established cut-off date, the Owner can make accommodation as the need arises. This needed accommodation is to be the exception, though, and not the rule.

For Contracts with callout work and work orders, payment for MOH will only be made for materials authorized for purchase by the work order or by written approval of the Engineer.

If the request is acceptable, the Engineer will include payment for MOH in a progress payment. Payment for MOH does not constitute acceptance of the materials. Payment will not exceed the actual cost of the material as established by invoice, or the total cost for the associated item less reasonable placement costs, whichever is less. Materials for which the Contractor does not have a paid invoice within 60 days will not be eligible for payment and will be removed from the estimate. Payment may be limited to a portion of the invoice cost or unit price if shown elsewhere in the Contract. Payment for precast products fabricated or constructed by the Contractor for which invoices or freight bills are not available may be made based on statements of actual cost.

Submit the request on forms provided by the Owner. These forms may be electronically reproduced, provided they are in the same format and contain all the required information and certifications. Continue to submit monthly MOH forms until the total value of MOH is $0.

By submitting a request for MOH payment, the Contractor expressly authorizes the Owner to audit MOH records and to perform process reviews of the record-keeping system. If the Owner determines noncompliance with any of the requirements of this provision, the Owner may exclude payment for any or all MOH for the duration of the Contract.

Maintain all records relating to MOH payment until final acceptance. Provide these records to the Engineer upon request.

7. PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT METHOD

Payment for extra work directed, performed, and accepted will be made in accordance with Article 4L.4., "Changes in the Work." Payment for extra work may be established by agreed unit prices or by Force Account Method.

Agreed unit prices are unit prices that include markups and are comparable to recent bid prices for the same character of work. These unit prices may be established without additional breakdown justification.

When using Force Account Method, determine an estimated cost for the proposed work and establish labor and equipment rates and material costs. Maintain daily records of extra work and provide copies of these

records daily, signed by the Contractor's representative, for the Owner's verification. Request payment for the extra work no later than the 10th day of the month following the month in which the work was performed. Include copies of all applicable invoices. If the extra work to be performed has an estimated cost of less than $10,000, submit for approval and payment an invoice of actual cost for materials, equipment, labor, tools, and incidentals necessary to complete the extra work. When added work requires mobilization that is exclusive to the added work, mobilization may be added to the force account invoice for payment.

7.1. **Markups**. Payment for extra work may include markups as compensation for the use of small tools, overhead expense, and profit.

7.1.1. **Labor**. Compensation will be made for payroll rates for each hour that the labor and foremen or others approved by the Engineer are actually engaged in the work. In no case will the rate of wages be less than the minimum shown in the Contract for a particular category. An additional 25% of this sum will be paid as compensation for overhead, superintendence, profit, and small tools.

7.1.2. **Insurance and Taxes**. An additional 55% of the labor cost, excluding the 25% compensation provided in Section 9L.7.1.1., "Labor," will be paid as compensation for labor insurance and labor taxes including the cost of premiums on non-project-specific liability (excluding vehicular) insurance, workers compensation insurance, Social Security, unemployment insurance taxes, and fringe benefits.

7.1.3. **Materials**. Compensation will be made for materials associated with the work based on actual delivered invoice costs, less any discount. An additional 25% of this sum will be paid as compensation for overhead and profit.

7.1.4. **Equipment**. Payment will be made for the established equipment hourly rates for each hour that the equipment is involved in the work. An additional 15% of this sum will be paid as compensation for overhead and profit not included in the rates.

Transportation cost for mobilizing equipment will be included if the equipment is mobilized from an offsite location.

7.1.4.1. **Contractor-Owned Equipment**. For Contractor-owned machinery, trucks, power tools, or other equipment, use the FHWA rental rates found in Equipment Watch multiplied by the regional adjustment factor and the rate adjustment factor to establish hourly rates. Use the rates in effect for each section of Equipment Watch at the time of use.

If a rate has not been established for a particular piece of equipment in Equipment Watch, the Engineer will allow a reasonable hourly rate. This price will include operating costs.

Payment for equipment will be made for the actual hours used in the work. The Owner reserves the right to withhold payment for low production or lack of progress. Payment will not be made for time lost for equipment breakdowns, time spent to repair equipment, or time after equipment is no longer needed.

If equipment is used intermittently while dedicated solely to the work, payment will be made for the duration the equipment is assigned to the work but no more than 8 hr. will be paid during a 24-hr. day, nor more than 40 hr. per week, nor more than 176 hr. per month, except when time is computed using a 6-day or 7-day workweek. When using a 6-day workweek, no more than 8 hr. will be paid during a 24-hr. day, nor more than 48 hr. per week, nor more than 211 hr. per month. When using a 7-day workweek, no more than 8 hr. will be paid during a 24-hr. day, nor more than 56 hr. per week, nor more than 246 hr. per month.

7.1.4.2. **Equipment Not Owned by the Contractor**. For equipment rented from a third party not owned by the Contractor, payment will be made at the invoice daily rental rate for each day the equipment is needed for the work. The Owner reserves the right to limit the daily rate to comparable FHWA rental rates found in Equipment Watch multiplied by the regional adjustment factor and the rate adjustment factor. When the invoice specifies that the rental rate does not include fuel, lubricants, repairs, and servicing, the Equipment Watch hourly operating cost for each hour the equipment is operated will be added.

When the invoice specifies equipment operators as a component of the equipment rental, payment will be made at the invoice rate for each operator for each day the equipment is needed for the work.

7.1.4.3. **Standby Equipment Costs**. Payment for standby equipment will be made in accordance with Section 9L.7.1.4., "Equipment." The 15% markup will be paid when standby is associated with extra work but will not be paid when standby is associated with damages.

7.1.4.3.1. **Contractor-Owned Equipment**. For Contractor-owned equipment:

- Standby will be paid at 50% of the monthly Equipment Watch rate after the regional and age adjustment factors have been applied. Operating costs will not be allowed. Calculate the standby rate as follows.

  Standby rate = (FHWA hourly rate - operating costs) × 50%

- If an hourly rate is needed, divide the monthly Equipment Watch rate by 176.
- No more than 8 hr. of standby will be paid during a 24-hr. day period, nor more than 40 hr. per week.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

7.1.4.3.2. **Equipment Not Owned by the Contractor**. For equipment rented from a third party not owned by the Contractor:

- Standby will be paid at the invoice daily rental rate, excluding operating cost, which includes fuel, lubricants, repairs, and servicing. The Owner reserves the right to limit the daily standby rate to comparable FHWA rental rates found in Equipment Watch multiplied by the regional adjustment factor and the rate adjustment factor.
- Standby will be paid for equipment operators when included on the invoice and equipment operators are actually on standby.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

7.1.5. **Subcontracting**. An additional 5% of the actual invoice cost will be paid to the Contractor as compensation for administrative cost and profit.

7.1.6. **Law Enforcement Personnel**. An additional 5% of the actual invoice cost will be paid as compensation for administrative costs and profit.

7.1.7. **Railroad Flaggers**. An additional 5% of the actual invoice cost will be paid as compensation for administrative cost and profit.

7.1.8. **Bond Cost**. An additional 1% of the total compensation provided in Article 9.7., "Payment for Extra Work and Force Account Method," will be paid for the increase in bond.

8. RETAINAGE

The Owner will not withhold retainage on the Contractor. The Contractor may withhold retainage on subcontractors in accordance with state and federal regulations.

9. PAYMENT PROVISIONS FOR SUBCONTRACTORS

For the purposes of this Article only, the term subcontractor includes suppliers, and the term work includes materials provided by suppliers at a location approved by the Engineer.

These requirements apply to all tiers of subcontractors. Incorporate the provisions of this Article into all subcontract or material purchase agreements.

Pay subcontractors for work performed within 10 days after receiving payment from the Owner.

Pay any retainage on a subcontractor's work within 10 days after satisfactory completion of all the subcontractor's work. Completed subcontractor work includes vegetative establishment, test, maintenance, performance, and other similar periods that are the responsibility of the subcontractor.

For the purpose of this Section, satisfactory completion is accomplished when:

- the subcontractor has fulfilled the Contract requirements of both the Owner and the subcontract for the subcontracted work, including the submittal of all information required by the Contract and the Owner, and
- the work done by the subcontractor has been inspected, approved, and paid by the Owner.

Provide a certification of prompt payment to certify that all subcontractors and suppliers were paid from the previous month's payments and retainage was released for those whose work is complete. Submit the certification in the manner prescribed by the Owner each month and the month following the month when final acceptance occurred.

The inspection and approval of a subcontractor's work does not eliminate the Contractor's responsibilities for the work as defined in Article 7L.17., "Contractor's Responsibility for Work."

10. FINAL PAYMENT

When the Contract has been completed, all work has been approved, final acceptance has been made in accordance with Article 5L.12., "Final Acceptance," and Contractor submittals have been received, the Engineer will prepare a final estimate for payment showing the total quantity of work completed and the money owed the Contractor. The final payment will reflect the entire sum due, less any sums previously paid.

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

> "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a **wage determination may contain, pursuant to § 1.3(f), wage** and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in **§ 5.28, that the applicable standards of the Davis**-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that **is held by the same prime contractor (as defined in § 5.2). The** necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of **any of the applicable statutes referenced by § 5.1, available for** inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be **grounds for debarment action pursuant to § 5.12. In addition,** any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) **or § 5.12(a).**

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) **or § 5.12(a).**

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same **prime contractor (as defined in § 5.2). The** necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B) This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

CONTRACTOR'S ASSURANCE

(Subcontracts-Federal Aid Projects)

By signing this proposal, the contractor is giving assurances that all subcontract agreements will incorporate the Standard Specification and Special Provisions to Section 9.9., Payment Provisions for Subcontractors, all subcontract agreements exceeding $2,000 will incorporate the applicable Wage Determination Decision, and all subcontract agreements will incorporate the following:

Special Provision	Certification of Nondiscrimination in Employment
Special Provision	Standard Federal Equal Employment Opportunity
Form FHWA 1273	Required Contract Provisions Federal-aid Construction Contracts (Form FHWA 1273 must also be physically attached to subcontracts and all lower-tier subcontracts)
Special Provision	Nondiscrimination (Include provisions of Sections 3.1 – 3.6 in all subcontracts and agreements for materials)
Special Provision	Cargo Preference Act Requirements in Federal-Aid Contracts

CERTIFICATION TO NOT BOYCOTT ENERGY COMPANIES

Pursuant to Texas Government Code §809.051, the Department must include a provision requiring a written verification affirming that the Contractor does not boycott energy companies, as defined in Government Code §809.001, and will not boycott energy companies during the term of the contract. This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not boycott energy companies and will not boycott energy companies during the term of this contract. “Boycott” means taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (1) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (2) does business with a company described by (1).

Violation of this certification may result in action by the Department.

CERTIFICATION TO NOT BOYCOTT ISRAEL

Pursuant to Texas Government Code §2271.002, the Department must include a provision requiring a written verification affirming that the Contractor does not boycott Israel, as defined in Government Code §808.001, and will not boycott Israel during the term of the contract. This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not boycott Israel and will not boycott Israel during the term of this contract. “Boycott” means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

Violation of this certification may result in action by the Department.

CERTIFICATION REGARDING DISCLOSURE OF PUBLIC INFORMATION

Pursuant to Subchapter J, Chapter 552, Texas Government Code, contractors executing a contract with a governmental body that results in the expenditure of at least $1 million in public funds must:

1) preserve all contracting information* as provided by the records retention requirements applicable to Texas Department of Transportation (TxDOT) for the duration of the contract,
2) on request of TxDOT, promptly provide any contracting information related to the contract that is in the custody or possession of the entity, and
3) on completion of the contract, either:
    a. provide, at no cost to TxDOT, all contracting information related to the contract that is in the custody or possession of the entity, or
    b. preserve the contracting information related to the contract as provided by the records retention requirements applicable to TxDOT

The requirements of Subchapter J, Chapter 552, Government Code, may apply to this contract, and the contractor or vendor agrees that the contract can be terminated if the contractor or vendor knowingly or intentionally fails to comply with a requirement of that subchapter.

By entering into Contract, the Contractor agrees to:

- provide, or make available, to TxDOT and any authorized governmental investigating or auditing agency all records, including electronic and payment records related to the contract, for the same period provided by the records retention schedule applicable to TxDOT, and
- ensure that all subcontracts include a clause requiring the same.

* As defined in Government Code §552.003, "Contracting information" means the following information maintained by a governmental body or sent between a governmental body and a vendor, contractor, potential vendor, or potential contractor:

1) information in a voucher or contract relating to the receipt or expenditure of public funds by a governmental body;
2) solicitation or bid documents relating to a contract with a governmental body;
3) communications sent between a governmental body and a vendor, contractor, potential vendor, or potential contractor during the solicitation, evaluation, or negotiation of a contract;
4) documents, including bid tabulations, showing the criteria by which a governmental body evaluates each vendor, contractor, potential vendor, or potential contractor responding to a solicitation and, if applicable, an explanation of why the vendor or contractor was selected; and
5) communications and other information sent between a governmental body and a vendor or contractor related to the performance of a final contract with the governmental body or work performed on behalf of the governmental body.

CERTIFICATION TO NOT DISCRIMINATE AGAINST FIREARM ENTITIES OR FIREARM TRADE ASSOCIATIONS

Pursuant to Texas Government Code §2274.002, the Department must include a provision requiring a written verification affirming that the Contractor:

1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association, as defined in Government Code §2274.001, and
2) will not discriminate against a firearm entity or firearm trade association during the term of the contract.

This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not discriminate against a firearm entity or firearm trade association as described and will not do so during the term of this contract. "Discriminate against a firearm entity or firearm trade association" means, with respect to the entity or association, to: (1) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (2) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (3) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association. "Discriminate against a firearm entity or firearm trade association" does not include: (1) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories; (2) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency, or for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity's or association's status as a firearm entity or firearm trade association.

Violation of this certification may result in action by the Department.

Texas Department of Transportation

Wages by Classification for Proposal

The wage rates listed herein are those predetermined by the Secretary of Labor and State Statute and listed in the United States Department of Labor's (USDOL) General Decisions dated 01-02-2026 and are the minimum wages to be paid accordingly for each specified classification. To determine the applicable wage rate zone, a list entitled "TEXAS COUNTIES IDENTIFIED BY WAGE RATE ZONES" is provided in the contract. Any wage rate that is not listed in the USDOL's general decision, must be requested by the contractor through the completion of an Additional Classification and Wage Rate Request and be submitted for approval. A blank cell indicates that the classification and wage rate are not listed on the USDOL's general decision and therefore must be requested by the contractor through the completion of an Additional Classification and Wage Rate Request. IMPORTANT NOTICE FOR STATE PROJECTS: only the controlling wage rate zone applies to the contract. Effective 01-02-2026.

Table 1 - Wage Rates.

CLASS. #	CLASSIFICATION DESCRIPTION	ZONE TX46 *(TX20250046)	ZONE TX51 *(TX20250051)	ZONE TX55 *(TX20250055)	ZONE TX291 *(TX20250291)	ZONE TX292 *(TX20250292)	ZONE TX293 *(TX20250293)	ZONE TX294 *(TX20250294)	ZONE TX295 *(TX20250295)	ZONE TX296 *(TX20250296)	ZONE TX297 *(TX20250297)	ZONE TX298 *(TX20250298)	ZONE TX299 *(TX20250299)	ZONE TX300 *(TX20250300)
1106	Asphalt Raker	$18.97	$15.02	$18.76	$19.40	$18.20	$16.28	$19.87	$19.53	$17.40	$15.22	$19.58	$20.41	$19.02
1124	Concrete Finisher, Paving and Structures	$20.92	$19.13	$21.11	$20.61	$18.72	$17.99	$22.48	$20.66	$21.16	$18.15	$20.77	$20.79	$20.04
1139	Electrician	$23.70			$30.54		$25.73	$36.10	$32.38				$31.46	
1143	Telecommunication Technician							$23.14						
1145	Traffic Signal/Light Pole Worker	$25.43			$21.99									
1150	Flagger	$13.50	$14.56	$15.30	$15.52	$15.00		$14.80	$13.99	$14.59	$15.81	$14.82	$16.63	$15.16
1151	Form Builder/Setter, Structures	$21.78	$18.59	$19.31	$20.63	$20.18	$19.37	$22.50	$20.05	$19.82	$18.26	$22.09	$19.93	$19.89
1160	Form Setter, Paving & Curb	$20.39	$17.31	$18.50	$19.18			$20.89	$18.25	$18.16	$17.56	$19.44	$19.32	$20.25
1172	Laborer, Common	$17.76	$14.88	$16.80	$17.52	$17.12	$15.16	$18.01	$16.72	$16.63	$15.22	$18.10	$17.12	$16.69
1175	Laborer, Utility	$18.51	$16.79	$17.91	$19.05	$17.46	$16.73	$19.32	$18.80	$18.42	$16.75	$18.10	$19.11	$18.40
1187	Mechanic	$27.08	$23.80	$25.11	$26.15	$28.00	$23.84	$27.44	$24.13	$25.51	$22.98	$25.47	$23.38	$23.35
1194	Servicer	$21.29	$20.03		$23.75	$21.51	$17.87	$24.86	$20.94		$19.11	$21.31	$20.33	$20.75
1196	Painter, Structures				$23.76					$27.93			$26.40	
1202	Piledriver												$21.48	
1205	Pipelayer	$17.76	$15.48		$19.23		$17.11	$22.46	$19.97	$19.40	$15.22	$18.10	$20.03	$17.56
1300	Asphalt Distributor Operator	$22.68	$19.62	$23.09	$24.07	$23.76	$21.93	$24.40	$22.69	$23.20	$24.54	$23.46	$23.26	$23.99
1303	Asphalt Paving Machine Operator	$20.34	$15.99	$20.95	$22.12	$22.45	$19.02	$22.52	$21.26	$19.14	$17.58	$21.32	$22.67	$20.70
1305	Broom or Sweeper Operator	$17.76	$15.22	$17.75	$18.09	$17.12		$18.01	$17.58	$16.63	$16.92	$18.10	$17.63	$17.30
1306	Crawler Tractor Operator	$20.95	$20.27	$20.00	$20.92				$19.82	$23.23		$22.51	$20.33	$20.83
1315	Concrete Paving, Curing, Float, Texturing Machine Operator								$23.12				$22.62	
1318	Concrete Pavement Finishing Machine Operator	$20.00		$24.85	$22.81			$24.07	$23.11				$22.18	
1329	Joint Sealer						$15.16							
1333	Concrete Saw Operator	$25.25		$20.69	$25.97			$20.34	$25.50				$21.57	$22.93
1341	Small Slipform Machine Operator							$25.09						
1342	Crane Operator, Lattice Boom 80 Tons or Less	$24.25	$29.80	$25.57	$26.47			$29.90	$24.33			$24.40	$25.74	$26.15
1343	Crane Operator, Lattice Boom Over 80 Tons				$28.87			$33.55	$23.75	$34.20			$23.85	$31.28
1344	Crane Operator, Hydraulic 80 Tons or less				$29.24		$23.37	$31.32	$27.22	$27.88	$28.75	$27.09	$24.75	$23.89
1345	Crane Operator, Hydraulic Over 80 Tons									$30.25				$31.44
1346	Loader/Backhoe Operator	$20.99	$16.37	$20.20	$20.32	$18.00	$17.92	$23.22	$20.42	$19.01	$16.93	$21.03	$21.37	$19.94
1347	Excavator Operator, 50,000 pounds or less	$25.59	$18.99		$22.93	$22.91	$19.70	$25.08	$21.05	$19.69	$21.86	$24.67	$21.53	$22.25
1348	Excavator Operator, Over 50,000 pounds		$19.29	$20.36	$22.90			$25.34	$22.80	$22.05	$25.35		$22.24	$22.47
1360	Foundation Drill Operator, Crawler Mounted							$29.25					$22.25	
1363	Foundation Drill Operator, Truck Mounted				$24.28			$29.86	$25.95		$27.81	$32.17	$26.04	$24.05
1369	Front End Loader Operator, 3 CY or Less	$19.42	$15.59	$18.40	$20.33	$18.28	$17.42	$20.93	$18.58	$18.80	$17.47	$19.06	$19.72	$19.34
1372	Front End Loader Operator,Over 3 CY	$19.52	$16.41	$17.25	$20.20	$19.83	$18.26	$22.56	$19.55	$18.71	$18.12	$20.11	$20.34	$20.00
1380	Milling Machine Operator	$20.98	$18.47	$19.48	$21.73	$18.49	$23.02	$20.94	$19.99	$22.53	$19.21	$20.37	$21.65	$19.88
1384	Reclaimer/Pulverizer Operator	$21.17			$19.05	$23.25		$22.17	$18.15	$18.83				$19.67
1390	Motor Grader Operator, Fine Grade	$27.00	$21.55	$23.01	$26.56	$26.38	$20.04	$27.09	$24.43	$26.88	$22.98	$26.74	$23.91	$24.96
1393	Motor Grader Operator, Rough	$23.50	$18.78	$19.00	$22.95	$23.69		$24.90	$21.43	$23.06	$19.60	$23.08	$21.20	$21.04
1396	Pavement Marking MachineOperator	$20.62		$16.80	$22.00	$18.99		$22.35	$22.96		$19.26	$23.48	$17.12	$17.50
1402	Roller Operator, Asphalt	$17.76	$14.88	$18.35	$20.24	$17.12		$20.35	$18.34	$17.27	$16.83	$18.76	$19.79	$18.13
1405	Roller Operator, Other	$17.76	$14.88	$16.80	$17.52	$17.12		$18.60	$17.09	$16.90	$15.38	$18.10	$18.93	$16.94
1411	Scraper Operator	$20.00	$14.88		$17.52		$18.33	$21.54	$17.71		$15.33	$19.49		$17.21
1413	Off Road Hauler				$17.52			$23.70	$16.90			$18.10	$17.12	
1428	Agricultural Tractor Operator				$19.14				$19.97			$23.21		
1445	Directional Drilling Operator				$25.19									
1446	Directional Drilling Locator				$21.39		$16.50							
1500	Reinforcing Steel Worker	$22.94	$19.62	$24.99	$22.46		$20.57	$23.50	$22.24	$22.76	$20.91	$25.70	$22.34	$23.47
1509	Structural Steel Worker												$22.64	
1513	Sign Erector				$17.52			$18.01						

CLASS. #	CLASSIFICATION DESCRIPTION	ZONE TX46 *(TX20250046)	ZONE TX51 *(TX20250051)	ZONE TX55 *(TX20250055)	ZONE TX291 *(TX20250291)	ZONE TX292 *(TX20250292)	ZONE TX293 *(TX20250293)	ZONE TX294 *(TX20250294)	ZONE TX295 *(TX20250295)	ZONE TX296 *(TX20250296)	ZONE TX297 *(TX20250297)	ZONE TX298 *(TX20250298)	ZONE TX299 *(TX20250299)	ZONE TX300 *(TX20250300)
1515	Spreader Box Operator	$18.50		$19.28	$19.31			$23.59	$18.52	$20.63	$23.00	$18.31	$17.84	$19.96
1520	Work Zone Barricade Servicer	$17.76	$15.81	$16.80	$17.75	$17.12		$18.01	$16.89	$17.52	$16.49	$18.10	$17.37	$17.66
1600	Truck Driver, Single Axle	$21.59	$17.93	$19.19	$19.70	$18.24	$15.16	$20.60	$19.22	$17.99	$19.02	$22.02	$21.93	$19.20
1606	Truck Driver, Single or Tandem Axle Dump Truck	$20.87	$18.50	$21.94	$20.91	$21.14	$16.58	$22.64	$20.30	$20.30	$18.63	$21.04	$18.60	$19.19
1607	Truck Driver, Tandem Axle Tractor with Semi-Trailer	$21.52	$19.81	$20.66	$21.71	$21.97		$23.22	$20.32	$22.08	$23.00	$21.91	$20.17	$19.52
1609	Truck Driver Lowboy-Float	$23.01	$27.10	$23.18	$25.96			$25.57	$23.97	$22.90	$25.75	$23.22	$25.94	$22.60
1612	Truck Driver Transit-Mix		$18.00					$21.97						
1615	Boom Truck Operator				$27.82									
1706	Welder		$21.35		$23.38		$17.34	$23.72				$22.00	$20.97	

Notes:
*Represents the USDOL wage decision.
Any worker employed on this project shall be paid at the rate of one and one half (1-1/2) times the regular rate for every hour worked in excess of forty (40) hours per week.

For reference, the titles and descriptions for the classifications listed here are detailed further in the Associated General Contractors (AGC) of Texas' Standard Job Classifications and Descriptions for Highway, Heavy, Utilities, and Industrial Construction in Texas posted on the AGC's Web site for any contractor.

Texas Counties Identified By
Wage Rate Zones: 46, 51, 55, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300

Table 2 - Counties by Zone.

County Name	Zone	County Name	Zone	County Name	Zone	County Name	Zone
Anderson	295	Donley	298	Karnes	300	Reagan	298
Andrews	298	Duval	297	Kaufman	294	Real	298
Angelina	295	Eastland	298	Kendall	291	Red River	295
Aransas	296	Ector	46	Kenedy	297	Reeves	292
Archer	46	Edwards	292	Kent	298	Refugio	300
Armstrong	46	El Paso	293	Kerr	300	Roberts	298
Atascosa	291	Ellis	294	Kimble	298	Robertson	291
Austin	299	Erath	295	King	298	Rockwall	294
Bailey	298	Falls	295	Kinney	292	Runnels	298
Bandera	291	Fannin	295	Kleberg	300	Rusk	55
Bastrop	291	Fayette	300	Knox	298	Sabine	295
Baylor	298	Fisher	298	Lamar	295	San Augustine	295
Bee	300	Floyd	298	Lamb	298	San Jacinto	299
Bell	291	Foard	298	Lampasas	291	San Patricio	296
Bexar	291	Fort Bend	299	LaSalle	297	San Saba	298
Blanco	300	Franklin	295	Lavaca	300	Schleicher	298
Borden	298	Freestone	295	Lee	300	Scurry	298
Bosque	295	Frio	297	Leon	295	Shackelford	298
Bowie	55	Gaines	298	Liberty	299	Shelby	295
Brazoria	299	Galveston	299	Limestone	295	Sherman	298
Brazos	291	Garza	298	Lipscomb	298	Smith	55
Brewster	292	Gillespie	300	Live Oak	300	Somervell	295
Briscoe	298	Glasscock	298	Llano	300	Starr	297
Brooks	297	Goliad	296	Loving	298	Stephens	298
Brown	298	Gonzales	300	Lubbock	46	Sterling	298
Burleson	291	Gray	298	Lynn	298	Stonewall	298
Burnet	300	Grayson	294	Madison	295	Sutton	292
Caldwell	291	Gregg	55	Marion	295	Swisher	298
Calhoun	296	Grimes	295	Martin	298	Tarrant	294
Callahan	46	Guadalupe	291	Mason	300	Taylor	46
Cameron	51	Hale	298	Matagorda	300	Terrell	292
Camp	295	Hall	298	Maverick	297	Terry	298
Carson	46	Hamilton	295	McCulloch	298	Throckmorton	298
Cass	295	Hansford	298	McLennan	291	Titus	295
Castro	298	Hardeman	298	McMullen	297	Tom Green	46
Chambers	299	Hardin	299	Medina	291	Travis	291
Cherokee	295	Harris	299	Menard	298	Trinity	295
Childress	298	Harrison	55	Midland	46	Tyler	295
Clay	46	Hartley	298	Milam	295	Upshur	55
Cochran	298	Haskell	298	Mills	298	Upton	298
Coke	298	Hays	291	Mitchell	298	Uvalde	297
Coleman	298	Hemphill	298	Montague	298	Val Verde	292
Collin	294	Henderson	295	Montgomery	299	Van Zandt	295
Collingsworth	298	Hidalgo	51	Moore	298	Victoria	296
Colorado	300	Hill	295	Morris	295	Walker	295
Comal	291	Hockley	298	Motley	298	Waller	299
Comanche	298	Hood	295	Nacogdoches	295	Ward	298
Concho	298	Hopkins	295	Navarro	295	Washington	295
Cooke	298	Houston	295	Newton	295	Webb	51
Coryell	291	Howard	298	Nolan	298	Wharton	300
Cottle	298	Hudspeth	292	Nueces	296	Wheeler	298
Crane	298	Hunt	294	Ochiltree	298	Wichita	46
Crockett	292	Hutchinson	298	Oldham	298	Wilbarger	298
Crosby	46	Irion	46	Orange	299	Willacy	297
Culberson	292	Jack	295	Palo Pinto	295	Williamson	291
Dallam	298	Jackson	300	Panola	295	Wilson	291
Dallas	294	Jasper	295	Parker	294	Winkler	298
Dawson	298	Jeff Davis	292	Parmer	298	Wise	294
Deaf Smith	298	Jefferson	299	Pecos	292	Wood	295
Delta	294	Jim Hogg	297	Polk	295	Yoakum	298
Denton	294	Jim Wells	300	Potter	46	Young	298
DeWitt	300	Johnson	294	Presidio	292	Zapata	297
Dickens	298	Jones	46	Rains	295	Zavala	297
Dimmit	297			Randall	46		

01/02/2026

CHILD SUPPORT STATEMENT

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

State of Texas Child Support Business Ownership Form

County: _____ Project Name: _____

TxDOT CSJ: _____ LG Project Number: _____

Business Entity Submitting Bid:_____

Section 231.006, Family Code, requires a bid for a contract paid from state funds to include the names and social security number of individuals owning 25% or more of the business entity submitting the bid.

1. In the spaces below please provide the names and social security number of individuals owning 25% or more of the business.

Name	Social Security Number
_____	_____
_____	_____
_____	_____
_____	_____

2. Please check the box below if no individual owns 25% or more of the business.

( ) No individual own 25% or more of the business.

Except as provided by Section 231.302(d), Family Code, a social security number is confidential and may be disclosed only for the purpose of responding to a request for information from an agency operating under the provisions of Part A and D to Title IV of the Federal Social Security Act (42 USC Section 601-617 and 651-699).

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

The information collected on this form will be maintained by Enter Local Government Name. With few exceptions, you are entitled on request to be informed about the information collected about you. Under Sections 552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under Section 559.004 of the Government Code, you are also entitled to have information about you corrected that you believe is incorrect.

_____ _____

Signature Date

_____

Printed Name

IF THIS PROJECT IS A JOINT VENTURE,

ALL PARTIES TO THE JOINT VENTURE MUST PROVIDE A COMPLETED FORM.

Prohibition on Certain Telecommunications Equipment or Services

The Federal Register Notice issued the Final Rule and states that the amendment to 2 CFR 200.216 is effective on August 13, 2020. The new 2 CFR 200.471 regulation provides clarity that the telecommunications and video surveillance costs associated with 2 CFR 200.216 are unallowable for services and equipment from these specific providers. OMB's Federal Register Notice includes the new 2 CFR 200.216 and 2 CFR 200.471 regulations.

Per the Federal Law referenced above, use of services, systems, or services or systems that contain components produced by any of the following manufacturers is strictly prohibited for use on this project. Therefore, for any telecommunications, CCTV, or video surveillance equipment, services or systems cannot be manufactured by, or have components manufactured by:

- Huawei Technologies Company,
- ZTE Corporation (any subsidiary and affiliate of such entities),
- Hyatera Communications Corporation,
- Hangzhou Hikvision Digital Technology Company,
- Dahua Technology Company (any subsidiary and affiliate of such entities).

Violation of this requirement will require replacement of the equipment at the contractor's expense.

Special Provision to Item 000
Nondiscrimination

1. DESCRIPTION

All recipients of federal financial assistance are required to comply with various nondiscrimination laws, including Title VI of the Civil Rights Act of 1964, as amended (Title VI). Title VI forbids discrimination against anyone in the United States on the grounds of race, color, or national origin by any agency receiving federal funds.

The Owner, as a recipient of federal financial assistance, and under Title VI and related statutes, ensures that no person will on the grounds of race, religion (where the primary objective of the financial assistance is to provide employment in accordance with 42 USC 2000d-3), color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any of Owner's programs or activities.

2. DEFINITION OF TERMS

Where the term "Contractor" appears in the following six nondiscrimination clauses, the term "Contractor" is understood to include all parties to Contracts or agreements with the Owner.

3. NONDISCRIMINATION PROVISIONS

During the performance of this Contract, the Contractor agrees as follows.

3.1. **Compliance with Regulations**. The Contractor must comply with the Regulations pertinent to nondiscrimination in federally assisted programs of the United States Department of Transportation 49 CFR 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

3.2. **Nondiscrimination**. The Contractor, regarding the work performed during the Contract, must not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor must not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

3.3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment**. In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, the Contractor must notify each potential subcontractor or supplier of the Contractor's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

3.4. **Information and Reports**. The Contractor must provide all information and reports required by the Regulations or directives issued pursuant thereto, and must permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the Recipient or the Owner to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor must so certify to the Owner, or the Texas Department of Transportation as appropriate, and must set forth what efforts it has made to obtain the information.

3.5. **Sanctions for Noncompliance**. In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the Owner must impose such Contract sanctions as it or the Owner may

determine to be appropriate, including, but not limited to actions defined in Article 5.1., "Authority of Engineer."

3.6. **Incorporation of Provisions**. The Contractor must include the provisions of Sections 3.1–3.6 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Contractor must take such action with respect to any subcontract or procurement as the Owner may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that, in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the Owner to enter into such litigation to protect the interests of the Owner, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Special Provision to Item 000
Certification of Nondiscrimination in Employment

1. GENERAL

By signing this proposal, the Bidder certifies that it has participated in a previous Contract or subcontract subject to the equal opportunity clause, as required by Executive Order (EO) 10925, 11114, or 11246, or if it has not participated in a previous Contract of this type, or if it has had previous Contracts or subcontracts and has not filed, it will file with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity (EEO), all reports due under the applicable filing requirements.

Note—The above certification is required by the EEO Regulations of the Secretary of Labor [41 CFR 60-1.7(b)(1)], and must be submitted by Bidders and proposed subcontractors only in connection with Contracts and subcontracts that are subject to the equal opportunity clause. Contracts and subcontracts that are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only Contracts or subcontracts of $10,000 or less are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the EOs or their implementing regulations.

Proposed prime Contractors and subcontractors that have participated in a previous Contract or subcontract subject to the EO and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of Contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by FHWA or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

Special Provision 000

Cargo Preference Act Requirements in Federal Aid Contracts

1. DESCRIPTION

All recipients of federal financial assistance are required to comply with the U.S. Department of Transportation's Cargo Preference Act requirements, 46 CFR 381, "Use of United States-Flag Vessels."

This requirement applies to material or equipment that is acquired specifically for a federal-aid highway project. It is not applicable to goods or materials that come into inventories independent of an FHWA-funded Contract.

When oceanic shipments are necessary for materials or equipment acquired for a specific federal-aid construction project, the Contractor agrees to:

- use privately owned United States-flag commercial vessels to ship at least 50% of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this Contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels;

- furnish a legible copy of a rated, onboard commercial ocean bill of lading in English for each shipment of cargo described in Paragraph (b)(1) of 46 CFR 381, Section 7, "Federal Grant, Guaranty, Loan and Advance of Funds Agreements," within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, to both the Engineer (through the prime Contractor in the case of subcontractor bills of lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590; and

- insert the substance of the provisions of this clause in all subcontracts issued pursuant to this Contract.

Special Provision to Item 000
Schedule of Liquidated Damages

The dollar amount of daily contract administration Liquidated Damages per Working Day is $1000

In addition to the amount shown above, the Liquidated Damages will be increased by the amount shown in Item 8 of the General Notes for Road User Cost (RUC), when applicable.

Special Provision to Item 2L
Instructions to Bidders

Item 2, "Instructions to Bidders" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 7., "Nonresponsive Bid," is voided and replaced by the following.

The Owner will not accept a nonresponsive bid. A bid that has one or more of the deficiencies listed below is considered nonresponsive:

- the bid was not in the hands of the Letting Official at the time and location specified in the advertisement,
- a proposal form was submitted for the same project by a Bidder or Bidders and one or more of its partners or affiliates
- the Bidder was not authorized to receive a proposal form under Article 2.3., "Issuing Proposal Forms,"
- the Bidder failed to acknowledge receipt of all addenda issued,
- the proposal form was signed by a person who was not authorized to bind the Bidder or Bidders,
- the proposal guaranty did not comply with the requirements contained in this Item,
- the bid was in a form other than the official proposal form issued by the Owner,
- the Bidder modified the bid in a manner that altered the conditions or requirements for work as stated in the proposal form,
- the Bidder bid more than the maximum or less than the minimum number of allowable working days shown on the plans when working days was an item,
- a typed proposal form does not contain the information in the format shown on the "Example of Bid Prices Submitted by Computer Printout" on the proposal form,
- the Bidder did not meet the requirements of the technical qualification,
- the Bidder failed to submit a DBE commitment as specified in Article 2.14., "Disadvantaged Business Enterprise (DBE),"
- the Bidder failed to participate in the DHS E-Verify system as specified in Article 2.15., "Department of Homeland Security (DHS) E-Verify System," or
- the apparent low bid is mathematically and materially unbalanced.
- The bidder is not prequalified by TxDOT

Special Provision to Item 3L
Award and Execution of Contract

Item 3L, "Award and Execution of Contract," of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Section 1.2., "Rejection," is voided and replaced by the following.

1.2. **Rejection**. The Owner will reject the Contract if:

- collusion may have existed among the Bidders. Collusion participants will not be allowed to bid future proposals for the same Contract,
- the lowest bid is higher than the Owner's estimate, and re-advertising for bids may result in a lower bid,
- the low bid contains a bid error that satisfies the requirements and criteria in Article 2.12., "Consideration of Bid Errors," or
- rejection of the Contract is in the best interest of the Owner.

Special Provision to Item 6L
Control of Materials

Item 6L, "Control of Materials" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Section 1.1. "Buy America," and Section 1.2., "Buy America Exceptions," are voided and replaced by the following.

1.1. **Buy America**. Comply with the latest provisions of Build America, Buy America Act (BABA Act) and applicable CFR, which restrict funds being made available from Federal financial assistance programs unless all the iron products, steel products, manufactured products, and construction materials used in the project are manufactured in the United States. Use iron or steel products, manufactured products, or construction materials manufactured in the United States for all permanently installed materials and products except when defined in Section 1.1.5., "Buy America Exceptions."

A material is solely classified based on its status at the time it is brought to the work site as either an iron or steel product, construction material, manufactured product, or excluded material. Refer to the Buy America Material Classification Sheet found at https://www.txdot.gov/business/resources/materials/buy-america/buy-america-material-classification-sheet.html for additional clarification on material classification.

Texas Department of Transportation's MPLs include Gold Star listings for certain manufacturers, construction materials, or products. Gold Star items are manufacturers, materials, or products that have submitted a Buy America certification (as listed on an MPL) to be in compliance with the Buy America requirements. For items identified as a Gold Star manufacturer, material, or product; the only Material Sourcing documentation as stated in Table 1 BABA Submissions is required.

Table1
BABA Submission Requirements

Classification	Form 1818 [2 & 3] (notarized original Form D-9 USA-1)	Material Sourcing Documentation [4]	Form 2806 [5 & 6]	De Minimis Tracking Log [7]
Iron or Steel Products	✓	✓		✓
Construction Material		✓	✓	✓
Manufactured Product [1]		✓	✓	✓

1. For ITS enclosures and precast concrete products as stated under Manufactured Products, submission requirements for Iron and Steel Products and Manufactured Products apply. Reinforcing Steel or items covered by TxDOT's Gold Star Program do not require a Form 1818 submission.
2. For miscellaneous steel exceptions may be allowed to submit a notarized certification letter in lieu of submitting Form 1818, as approved by the Owner. There are no exceptions for iron or steel products required to be furnished in accordance with item 441, "Steel Structures", or requested otherwise. Items covered by TxDOT's Gold Star Program do not require a Form 1818.
3. Item 450 aluminum metal railing and Item 610 aluminum roadway illumination poles, will require Form 1818 to be submitted when requested by the Owner.
4. For materials that are BABA compliant and are on TxDOT's Material Producer List (MPL). Material Sourcing Documentation is documentation, along with any necessary attachments, that connects the Material's source to project. Provide additional documentation at the request of the Owner.
5. Form 2806 is required to be submitted for products and materials to certify BABA compliance when an MPL does not exist for the corresponding material.
6. Form 2806 is required for materials that are not listed as BABA compliant on the associated MPL.
7. De Minimis Tracking Log is required for materials that are not BABA compliant and must be submitted in advance when de minimis waiver is being pursued. De Minimis Tracking Log must track non-compliant iron or steel products separately from non-compliant construction materials and manufactured products. Contact the Owner when either thresholds in 6.1.1.5, "Buy America Exceptions" is reached. Non-compliant items above the de minimis threshold will require removal and replacement with BABA compliant item, or not paid for as determined by the Engineer.

1.1.1. **Materials Excluded from Buy America.** Excluded Materials mean cement and cementitious material; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. Excluded Materials do not require domestic sourcing or Buy America certification.

Materials combined as an unsettled mixture delivered to a work site without final form, for incorporation into a project, such as hot mix asphalt, or wet concrete mixtures, are not a manufactured product and are considered excluded from Buy America.

1.1.2. **Iron or Steel Product**. Iron or steel products means articles, materials, or supplies that consist wholly or predominantly of iron or steel or a combination of both.

Predominantly of iron or steel or a combination of both means the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

For iron or steel products, manufacturing includes any process that modifies the chemical content, physical shape or size, or final finish of a product. The manufacturing process begins with initial melting and mixing and continues through fabrication (e.g., cutting, drilling, welding, bending.) and coating (e.g., paint, galvanizing, epoxy).

1.1.3. **Construction Materials**. Construction materials are classified as articles, materials, or supplies that consist of only one of the items listed in bullets below. Minor additions of articles, materials, supplies, or binding agents (as determined by the plans or the Engineer) to any of the items listed does not change the classification of a construction material.

- non-ferrous metals,
- plastic and polymer-based products (including polyvinyl chloride, composite building materials, and polymers used in fiber optic cables),
- glass (including optic glass),
- fiber optic cable (including drop cable),
- optical fiber,
- lumber,
- engineered wood, or
- drywall.

Each construction material has specific certification requirements stated below which constitute Buy America Compliance. Provide additional documentation as requested.

For non-ferrous metals, certification requires all manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.

For plastic and polymer-based products (including polyvinyl chloride, composite building materials, and polymers used in fiber optic cables), certification requires all manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.

For glass (including optic glass), certification requires all manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.

For fiber optic cable (including drop cable), certification requires all manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.

For optical fiber, certification requires all manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.

For lumber, certification requires all manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.

For engineered wood, certification requires all manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

For drywall, certification requires all manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.

1.1.4. **Manufactured Product** means articles, materials, or supplies that have been processed into a specific form and shape, or combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. Manufactured products may include components that are iron or steel products, excluded materials, or construction materials. Any product classified as an iron or steel product, excluded material, or construction material is not a manufactured product. In addition, mixtures of excluded materials, such as asphalt or concrete mixtures, delivered to a work site without final form for incorporation into a project are not a manufactured product and are considered excluded.

Manufactured products are required to be Manufactured in the United States. For manufactured products, submit per submission table above.

Manufactured in the United States (for Manufactured Products) means the final assembly occurred in the United States of America.

Precast Concrete products classified as a manufactured product (not predominantly of iron and steel) are to be Manufactured in the United States and require iron or steel components to comply with manufacturing requirements for Iron or Steel Products stated in Section 6.1.1.2.

Intelligent Transportation Systems and other electronic hardware systems classified as a manufactured product are to be Manufactured in the United States and must require iron or steel cabinets or other enclosures of such systems to comply with manufacturing requirements for Iron or Steel Products stated in Section 6.1.1.2

Component means an article, material, or supply, whether manufactured or unmanufactured, incorporated directly into a manufactured product or where applicable, an iron or steel product.

1.1.5. **Buy America Exceptions**. Use of iron or steel products, construction materials, and manufactured products manufactured in the United States is required unless the material meets an exception below.

- A waiver exists exempting the material from Buy America compliance.
- The total value of the non-compliant products (other than iron or steel products) is no more than the lesser of $1,000,000 or 5% of Total Applicable Costs for the project. Total Applicable Cost means the actual cost of all materials requiring Buy America compliance including iron, steel, or other materials that are within the scope of existing waivers. Contractor must provide documentation showing under threshold in advance for Engineer's consideration.
- The total value of foreign iron or steel products, including delivery, does not exceed 0.1% of the total Contract cost or $2,500, whichever is greater. The Contractor must provide documentation showing under threshold in advance for the Engineer's consideration.
- Foreign iron or steel products may be allowed when the Contract contains an alternate item for a foreign source iron or steel product and the Contract is awarded based on the alternate item.
- The materials are temporarily installed or are supplies, tools, and equipment not incorporated into the project. Temporarily installed means the materials and products must be removed at the end of the project or may be removed at the Contractor's convenience with the Engineer's approval.

Special Provision to Item 506
Temporary Erosion, Sedimentation, and Environmental Controls

For this project, item 506, "Temporary Erosion, Sedimentation, and Environmental Controls," of the standard specifications, is hereby voided and replaced with the following.

1. DESCRIPTION

Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants in accordance with the Storm Water Pollution Prevention Plan (SWP3) in the plans and the Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR150000.

2. MATERIALS

Furnish materials in accordance with the following:

- Item 161, "Compost"
- Item 432, "Riprap"
- Item 556, "Pipe Underdrains"

2.1. **Rock Filter Dams**.

2.1.1. **Aggregate**. Furnish aggregate with hardness, durability, cleanliness, and resistance to crumbling, flaking, and eroding acceptable to the Owner. Provide the following:

- Types 1, 2, and 4 Rock Filter Dams. Use 3 to 6 in. aggregate.
- Type 3 Rock Filter Dams. Use 4 to 8 in. aggregate.

2.1.2. **Wire**. Provide minimum 20 gauge galvanized wire for the steel wire mesh and tie wires for Types 2 and 3 rock filter dams. Type 4 dams require:

- a double-twisted, hexagonal weave with a nominal mesh opening of 2-1/2 in. × 3-1/4 in.;
- minimum 0.0866 in. steel wire for netting;
- minimum 0.1063 in. steel wire for selvages and corners; and
- minimum 0.0866 in. for binding or tie wire.

2.1.3. **Sandbag Material**. Furnish sandbags meeting Section 506.2.8., "Sandbags," except that any gradation of aggregate may be used to fill the sandbags.

2.2. **Temporary Pipe Slope Drains**. Provide corrugated metal pipe, polyvinyl chloride (PVC) pipe, flexible tubing, watertight connection bands, grommet materials, prefabricated fittings, and flared entrance sections that conform to the plans. Recycled and other materials meeting these requirements are allowed if approved.

Furnish concrete in accordance with Item 432, "Riprap."

2.3. **Temporary Paved Flumes**. Furnish asphalt concrete, hydraulic cement concrete, or other comparable non-erodible material that conforms to the plans. Provide rock or rubble with a minimum diameter of 6 in. and a maximum volume of 1/2 cu. ft. for the construction of energy dissipaters.

2.4. **Construction Exits**. Provide materials that meet the details shown on the plans and this Section.

2.4.1. **Rock Construction Exit**. Provide crushed aggregate for long- and short-term construction exits. Furnish aggregates that are clean, hard, durable, and free from adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials, and organic and injurious matter. Use 4- to 8-in. aggregate for Type 1. Use 2- to 4-in. aggregate for Type 3.

2.4.2. **Timber Construction Exit**. Furnish No. 2 quality or better railroad ties and timbers for long-term construction exits, free of large and loose knots and treated to control rot. Fasten timbers with nuts and bolts or lag bolts, of at least 1/2 in. diameter, unless otherwise shown on the plans or allowed. Provide plywood or pressed wafer board at least 1/2 in. thick for short-term exits.

2.4.3. **Foundation Course**. Provide a foundation course consisting of flexible base, bituminous concrete, hydraulic cement concrete, or other materials as shown on the plans or directed.

2.5. **Embankment for Erosion Control**. Provide rock, loam, clay, topsoil, or other earth materials that will form a stable embankment to meet the intended use.

2.6. **Pipe**. Provide pipe outlet material in accordance with Item 556, “Pipe Underdrains,” and details shown on the plans.

2.7. **Construction Perimeter Fence**.

2.7.1. **Posts**. Provide essentially straight wood or steel posts that are at least 60 in. long. Furnish soft wood posts with a minimum diameter of 3 in., or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/5 in. Furnish T- or L-shaped steel posts with a minimum weight of 0.5 lb. per foot.

2.7.2. **Fence**. Provide orange construction fencing as approved.

2.7.3. **Fence Wire**. Provide 11 gauge or larger galvanized smooth or twisted wire. Provide 16 gauge or larger tie wire.

2.7.4. **Flagging**. Provide brightly-colored flagging that is fade-resistant and at least 3/4 in. wide to provide maximum visibility both day and night.

2.7.5. **Staples**. Provide staples with a crown at least 1/2 in. wide and legs at least 1/2 in. long.

2.7.6. **Used Materials**. Previously used materials meeting the applicable requirements may be used if approved.

2.8. **Sandbags**. Provide sandbag material of polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 oz. per square yard, a Mullen burst-strength exceeding 300 psi, and an ultraviolet stability exceeding 70%.

Use natural coarse sand or manufactured sand meeting the gradation given in Table 1 to fill sandbags. Filled sandbags must be 24 to 30 in. long, 16 to 18 in. wide, and 6 to 8 in. thick.

Table 1
Sand Gradation

Sieve #	Retained (% by Weight)
4	Maximum 3%
100	Minimum 80%
200	Minimum 95%

Aggregate may be used instead of sand for situations where sandbags are not adjacent to traffic. The aggregate size shall not exceed 3/8 in.

2.9. **Temporary Sediment Control Fence**. Provide a net-reinforced fence using woven geo-textile fabric. Logos visible to the traveling public will not be allowed.

2.9.1. **Fabric**. Provide fabric materials in accordance with DMS-6230, "Temporary Sediment Control Fence Fabric."

2.9.2. **Posts**. Provide essentially straight wood or steel posts with a minimum length of 48 in., unless otherwise shown on the plans. Furnish soft wood posts at least 3 in. in diameter, or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/2 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.3 lb. per foot.

2.9.3. **Net Reinforcement**. Provide net reinforcement of at least 12-1/2 gauge galvanized welded wire mesh, with a maximum opening size of 2 × 4 in., at least 24 in. wide, unless otherwise shown on the plans.

2.9.4. **Staples**. Provide staples with a crown at least 3/4 in. wide and legs 1/2 in. long.

2.9.5. **Used Materials**. Use recycled material meeting the applicable requirements if approved.

2.10. **Biodegradable Erosion Control Logs**.

2.10.1. **Core Material**. Furnish core material that is biodegradable or recyclable. Use compost, mulch, aspen excelsior wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or any other acceptable material unless specifically called out on the plans. Permit no more than 5% of the material to escape from the containment mesh. Furnish compost meeting the requirements of Item 161, "Compost."

2.10.2. **Containment Mesh**. Furnish containment mesh that is 100% biodegradable, photodegradable, or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or any other acceptable material.

Furnish biodegradable or photodegradable containment mesh when log will remain in place as part of a vegetative system.

Furnish recyclable containment mesh for temporary installations.

2.10.3. **Size**. Furnish biodegradable erosion control logs with diameters shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

3. CONSTRUCTION

3.1. **Contractor Responsibilities**. Implement the Owner's Storm Water Pollution Prevention Plan (SWP3) for the project in accordance with the plans and specifications, TPDES General Permit TXR150000, and as directed by the Owner. Develop and implement an SWP3 for project-specific material supply plants within and outside of the Owner's right of way in accordance with the specific or general storm water permit requirements. Prevent water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site.

3.2. **General.**

3.2.1. **Phasing**. Implement control measures in the area to be disturbed before beginning construction, or as directed. Limit the disturbance to the area shown on the plans or as directed. If, in the opinion of the Owner, the Contractor cannot control soil erosion and sedimentation resulting from construction operations, the Owner will limit the disturbed area to that which the Contractor is able to control. Minimize disturbance to vegetation.

3.2.2. **Maintenance**. Immediately correct ineffective control measures. Implement additional controls as directed. Remove excavated material within the time requirements specified in the applicable storm water permit.

3.2.3. **Stabilization**. Stabilize disturbed areas where construction activities will be temporarily stopped in accordance with the applicable storm water permit. Establish a uniform vegetative cover. The project will not be accepted until a 70% density of existing adjacent undisturbed areas is obtained, unless otherwise shown on the plans. When shown on the plans, the Owner may accept the project when adequate controls are in place that will control erosion, sedimentation, and water pollution until sufficient vegetative cover can be established.

3.2.4. **Finished Work**. Upon acceptance of vegetative cover, remove and dispose of all temporary control measures, temporary embankments, bridges, matting, falsework, piling, debris, or other obstructions placed during construction that are not a part of the finished work, or as directed.

3.2.5. **Restricted Activities and Required Precautions**. Do not discharge onto the ground or surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment on-site to prevent actual or potential water pollution. Manage, control, and dispose of litter on-site such that no adverse impacts to water quality occur. Prevent dust from creating a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Wash out concrete trucks only as described in the TPDES General Permit TXR150000. Utilize appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water (i.e. dewatering). Prevent discharges that would contribute to a violation of Edwards Aquifer Rules, water quality standards, the impairment of a listed water body, or other state or federal law.

3.3. **Installation, Maintenance, and Removal Work**. Perform work in accordance with the SWP3, according to manufacturers' guidelines, and in accordance with the TPDES General Permit TXR150000. Install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until soil disturbing activities are completed and permanent erosion control features are in place or the disturbed area has been adequately stabilized as determined by the Owner. . If a device ceases to function as intended, repair or replace the device or portions thereof as necessary. Remove sediment, debris, and litter. When approved, sediments may be disposed of within embankments, or in the right of way in areas where the material will not contribute to further siltation. Dispose of removed material in accordance with federal, state, and local regulations.

Remove devices upon approval or as directed. Finish-grade and dress the area upon removal. Stabilize disturbed areas in accordance with the permit, and as shown on the plans or directed. Materials removed are considered consumed by the project. Retain ownership of stockpiled material and remove it from the project when new installations or replacements are no longer required.

3.3.1. **Rock Filter Dams for Erosion Control.** Remove trees, brush, stumps, and other objectionable material that may interfere with the construction of rock filter dams. Place sandbags as a foundation when required or at the Contractor's option.

Place the aggregate to the lines, height, and slopes specified, without undue voids for Types 1, 2, 3, and 5. Place the aggregate on the mesh and then fold the mesh at the upstream side over the aggregate and secure it to itself on the downstream side with wire ties, or hog rings for Types 2 and 3, or as directed. Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams according to the following criteria unless otherwise shown on the plans:

3.3.1.1. **Type 1 (Non-reinforced)**.

3.3.1.1.1. **Height**. At least 18 in. measured vertically from existing ground to top of filter dam.

3.3.1.1.2. **Top Width**. At least 2 ft.

3.3.1.1.3. **Slopes**. No steeper than 2:1.

3.3.1.2. **Type 2 (Reinforced)**.

3.3.1.2.1. **Height**. At least 18 in. measured vertically from existing ground to top of filter dam.

3.3.1.2.2. **Top Width**. At least 2 ft.

3.3.1.2.3. **Slopes**. No steeper than 2:1.

3.3.1.3. **Type 3 (Reinforced)**.

3.3.1.3.1. **Height**. At least 36 in. measured vertically from existing ground to top of filter dam.

3.3.1.3.2. **Top Width**. At least 2 ft.

3.3.1.3.3. **Slopes**. No steeper than 2:1.

3.3.1.4. **Type 4 (Sack Gabions)**. Unfold sack gabions and smooth out kinks and bends. Connect the sides by lacing in a single loop–double loop pattern on 4- to 5-in. spacing for vertical filling. Pull the end lacing rod at one end until tight, wrap around the end, and twist 4 times. Fill with stone at the filling end, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires 4 times.

Place the sack flat in a filling trough, fill with stone, connect sides, and secure ends as described above for horizontal filling.

Lift and place without damaging the gabion. Shape sack gabions to existing contours.

3.3.1.5. **Type 5**. Provide rock filter dams as shown on the plans.

3.3.2. **Temporary Pipe Slope Drains**. Install pipe with a slope as shown on the plans or as directed. Construct embankment for the drainage system in 8-in. lifts to the required elevations. Hand-tamp the soil around and under the entrance section to the top of the embankment as shown on the plans or as directed. Form the top of the embankment or earth dike over the pipe slope drain at least 1 ft. higher than the top of the inlet pipe at all points. Secure the pipe with hold-downs or hold-down grommets spaced a maximum of 10 ft. on center. Construct the energy dissipaters or sediment traps as shown on the plans or as directed. Construct the sediment trap using concrete or rubble riprap in accordance with Item 432, “Riprap,” when designated on the plans.

3.3.3. **Temporary Paved Flumes**. Construct paved flumes as shown on the plans or as directed. Provide excavation and embankment (including compaction of the subgrade) of material to the dimensions shown on the plans unless otherwise indicated. Install a rock or rubble riprap energy dissipater, constructed from the materials specified above, to a minimum depth of 9 in. at the flume outlet to the limits shown on the plans or as directed.

3.3.4. **Construction Exits**. Prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits when tracking conditions exist. Construct exits for either long- or short-term use.

3.3.4.1. **Long-Term**. Place the exit over a foundation course as required. Grade the foundation course or compacted subgrade to direct runoff from the construction exits to a sediment trap as shown on the plans or as directed. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed.

3.3.4.1.1. **Type 1**. Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.

3.3.4.1.2. **Type 2**. Construct using railroad ties and timbers as shown on the plans or as directed.

3.3.4.2. **Short-Term**.

3.3.4.2.1. **Type 3**. Construct using crushed aggregate, plywood, or wafer board. This type of exit may be used for daily operations where long-term exits are not practical.

3.3.4.2.2. **Type 4**. Construct as shown on the plans or as directed.

3.3.5. **Earthwork for Erosion Control**. Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.

3.3.5.1. **Excavation and Embankment for Erosion Control Features**. Place earth dikes, swales, or combinations of both along the low crown of daily lift placement, or as directed, to prevent runoff spillover. Place swales and dikes at other locations as shown on the plans or as directed to prevent runoff spillover or to divert runoff. Construct cuts with the low end blocked with undisturbed earth to prevent erosion of hillsides. Construct sediment traps at drainage structures in conjunction with other erosion control measures as shown on the plans or as directed.

Create a sediment basin, where required, providing 3,600 cu. ft. of storage per acre drained, or equivalent control measures for drainage locations that serve an area with 10 or more disturbed acres at one time, not including offsite areas.

3.3.5.2. **Excavation of Sediment and Debris**. Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.

3.3.6. **Construction Perimeter Fence**. Construct, align, and locate fencing as shown on the plans or as directed.

3.3.6.1. **Installation of Posts**. Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8 to 10 ft.

3.3.6.2. **Wire Attachment**. Attach the top wire to the posts at least 3 ft. from the ground. Attach the lower wire midway between the ground and the top wire.

3.3.6.3. **Flag Attachment**. Attach flagging to both wire strands midway between each post. Use flagging at least 18 in. long. Tie flagging to the wire using a square knot.

3.3.7. **Sandbags for Erosion Control**. Construct a berm or dam of sandbags that will intercept sediment-laden storm water runoff from disturbed areas, create a retention pond, detain sediment, and release water in sheet flow. Fill each bag with sand so that at least the top 6 in. of the bag is unfilled to allow for proper tying of the open end. Place the sandbags with their tied ends in the same direction. Offset subsequent rows of sandbags 1/2 the length of the preceding row. Place a single layer of sandbags downstream as a secondary debris trap. Place additional sandbags as necessary or as directed for supplementary support to berms or dams of sandbags or earth.

3.3.8. **Temporary Sediment-Control Fence**. Provide temporary sediment-control fence near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the fence into erosion-control measures used to control sediment in areas of higher flow. Install the fence as shown on the plans, as specified in this Section, or as directed.

3.3.8.1. **Installation of Posts**. Embed posts at least 18 in. deep, or adequately anchor, if in rock, with a spacing of 6 to 8 ft. and install on a slight angle toward the runoff source.

3.3.8.2. **Fabric Anchoring**. Dig trenches along the uphill side of the fence to anchor 6 to 8 in. of fabric. Provide a minimum trench cross-section of 6 × 6 in. Place the fabric against the side of the trench and align approximately 2 in. of fabric along the bottom in the upstream direction. Backfill the trench, then hand-tamp.

3.3.8.3. **Fabric and Net Reinforcement Attachment**. Attach the reinforcement to wooden posts with staples, or to steel posts with T-clips, in at least 4 places equally spaced unless otherwise shown on the plans. Sewn vertical pockets may be used to attach reinforcement to end posts. Fasten the fabric to the top strand of reinforcement by hog rings or cord every 15 in. or less.

3.3.8.4. **Fabric and Net Splices**. Locate splices at a fence post with a minimum lap of 6 in. attached in at least 6 places equally spaced unless otherwise shown on the plans. Do not locate splices in concentrated flow areas.

Requirements for installation of used temporary sediment-control fence include the following:

- fabric with minimal or no visible signs of biodegradation (weak fibers),
- fabric without excessive patching (more than 1 patch every 15 to 20 ft.),
- posts without bends, and
- backing without holes.

3.3.9. **Biodegradable Erosion Control Logs**. Install biodegradable erosion control logs near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the biodegradable erosion control logs into the erosion measures used to control sediment in areas of higher flow. Install, align, and locate the biodegradable erosion control logs as specified below, as shown in plans or as directed.

Secure biodegradable erosion control logs in a method adequate to prevent displacement as a result of normal rain events, prevent damage to the logs, and to the satisfaction of the Owner such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs as to facilitate daily work is allowed at the Contractor's expense.

3.3.10. **Vertical Tracking**. Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring a minimum of 12 in. long × 2 to 4 in. wide × 1/2 to 2 in. deep. Do not exceed 12 in. between track impressions. Install continuous linear track impressions where the 12 in. length impressions are perpendicular to the slope. Vertical tracking is required on projects where soil disturbing activities have occurred unless otherwise approved.

4. MEASUREMENT

4.1. **Rock Filter Dams**. Installation or removal of rock filter dams will be measured by the foot or by the cubic yard. The measured volume will include sandbags, when used.

4.1.1. **Linear Measurement**. When rock filter dams are measured by the foot, measurement will be along the centerline of the top of the dam.

4.1.2. **Volume Measurement**. When rock filter dams are measured by the cubic yard, measurement will be based on the volume of rock computed by the method of average end areas.

4.1.2.1. **Installation**. Measurement will be made in final position.

4.1.2.2. **Removal**. Measurement will be made at the point of removal.

4.2. **Temporary Pipe Slope Drains**. Temporary pipe slope drains will be measured by the foot.

4.3. **Temporary Paved Flumes**. Temporary paved flumes will be measured by the square yard of surface area. The measured area will include the energy dissipater at the flume outlet.

4.4. **Construction Exits**. Construction exits will be measured by the square yard of surface area.

4.5. **Earthwork for Erosion and Sediment Control**.

4.5.1. **Equipment and Labor Measurement**. Equipment and labor used will be measured by the actual number of hours the equipment is operated and the labor is engaged in the work.

4.5.2. **Volume Measurement**.

4.5.2.1. **In Place**.

4.5.2.1.1. **Excavation**. Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.

4.5.2.1.2. **Embankment**. Embankment will be measured by the cubic yard in its final position by the method of average end areas. The volume of embankment will be determined between:

- the original ground surfaces or the surface upon that the embankment is to be constructed for the feature and
- the lines, grades and slopes of the accepted embankment for the feature.

4.5.2.2. **In Vehicles**. Excavation and embankment quantities will be combined and paid for under "Earthwork (Erosion and Sediment Control, In Vehicle)." Excavation will be measured by the cubic yard in vehicles at the point of removal. Embankment will be measured by the cubic yard in vehicles measured at the point of delivery. Shrinkage or swelling factors will not be considered in determining the calculated quantities.

4.6. **Construction Perimeter Fence**. Construction perimeter fence will be measured by the foot.

4.7. **Sandbags for Erosion Control**. Sandbags will be measured as each sandbag or by the foot along the top of sandbag berms or dams.

4.8. **Temporary Sediment-Control Fence**. Installation or removal of temporary sediment-control fence will be measured by the foot.

4.9. **Biodegradable Erosion Control Logs**. Installation or removal of biodegradable erosion control logs will be measured by the foot along the centerline of the top of the control logs.

4.10. **Vertical Tracking**. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

5. PAYMENT

The following will not be paid for directly but are subsidiary to pertinent Items:

- erosion-control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (such as construction and haul roads, field offices, equipment and supply areas, plants, and material sources);
- removal of litter, unless a separate pay item is shown on the plans;
- repair to devices and features damaged by Contractor operations;
- added measures and maintenance needed due to negligence, carelessness, lack of maintenance, and failure to install permanent controls;
- removal and reinstallation of devices and features needed for the convenience of the Contractor;
- finish grading and dressing upon removal of the device; and
- minor adjustments including but not limited to plumbing posts, reattaching fabric, minor grading to maintain slopes on an erosion embankment feature, or moving small numbers of sandbags.

Stabilization of disturbed areas will be paid for under pertinent Items.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly but is subsidiary to the excavation and embankment under this Item.

5.1. **Rock Filter Dams**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

5.1.1. **Installation**. Installation will be paid for as "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

5.1.2. **Removal**. Removal will be paid for as "Rock Filter Dams (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

When the Owner directs that the rock filter dam installation or portions thereof be replaced, payment will be made at the unit price bid for "Rock Filter Dams (Remove)" and for "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

5.2. **Temporary Pipe Slope Drains**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Pipe Slope Drains" of the size specified. This price is full compensation for furnishing materials, removal and disposal, furnishing and operating equipment, labor, tools, and incidentals.

Removal of temporary pipe slope drains will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the pipe slope drain installation or portions thereof be replaced, payment will be made at the unit price bid for "Temporary Pipe Slope Drains" of the size specified, which is full compensation for the removal and reinstallation of the pipe drain.

Earthwork required for the pipe slope drain installation, including construction of the sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

Riprap concrete or stone, when used as an energy dissipater or as a stabilized sediment trap, will be measured and paid for in accordance with Item 432, "Riprap."

5.3. **Temporary Paved Flumes**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Paved Flume (Install)" or "Temporary Paved Flume (Remove)." This price is full compensation for furnishing and placing materials, removal and disposal, equipment, labor, tools, and incidentals.

When the Owner directs that the paved flume installation or portions thereof be replaced, payment will be made at the unit prices bid for "Temporary Paved Flume (Remove)" and "Temporary Paved Flume (Install)." These prices are full compensation for the removal and replacement of the paved flume and for equipment, labor, tools, and incidentals.

Earthwork required for the paved flume installation, including construction of a sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

5.4. **Construction Exits**. Contractor-required construction exits from off right of way locations or on-right of way PSLs will not be paid for directly but are subsidiary to pertinent Items.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for construction exits needed on right of way access to work areas required by the Owner will be paid for at the unit price bid for "Construction Exits (Install)" of the type specified or "Construction Exits (Remove)." This price is full compensation for furnishing and placing materials, excavating, removal and disposal, cleaning vehicles, labor, tools, and incidentals.

When the Owner directs that a construction exit or portion thereof be removed and replaced, payment will be made at the unit prices bid for "Construction Exit (Remove)" and "Construction Exit (Install)" of the type specified. These prices are full compensation for the removal and replacement of the construction exit and for equipment, labor, tools, and incidentals.

Construction of sediment traps used in conjunction with the construction exit will be measured and paid for under "Earthwork for Erosion and Sediment Control."

5.5. **Earthwork for Erosion and Sediment Control**.

5.5.1. **Initial Earthwork for Erosion and Sediment Control**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Erosion and Sediment Control, In Place)," "Embankment (Erosion and Sediment Control, In Place)," "Excavation (Erosion and Sediment Control, In Vehicle)," "Embankment (Erosion and Sediment Control, (In Vehicle)," or "Earthwork (Erosion and Sediment Control, In Vehicle)."

This price is full compensation for excavation and embankment including hauling, disposal of material not used elsewhere on the project; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

5.5.2. **Maintenance Earthwork for Erosion and Sediment Control for Cleaning and Restoring Control Measures**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid under a Contractor Force Account Item from invoice provided to the Owner.

This price is full compensation for excavation, embankment, and re-grading including removal of accumulated sediment in various erosion control installations as directed, hauling, and disposal of material not used elsewhere on the project; excavation for construction of erosion-control features; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Earthwork needed to remove and obliterate erosion-control features will not be paid for directly but is subsidiary to pertinent Items unless otherwise shown on the plans.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

5.6. **Construction Perimeter Fence**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Construction Perimeter Fence." This price is full compensation for furnishing and placing the fence; digging, fence posts, wire, and flagging; removal and disposal; and materials, equipment, labor, tools, and incidentals.

Removal of construction perimeter fence will be not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the perimeter fence installation or portions thereof be removed and replaced, payment will be made at the unit price bid for "Construction Perimeter Fence," which is full compensation for the removal and reinstallation of the construction perimeter fence.

5.7. **Sandbags for Erosion Control**. Sandbags will be paid for at the unit price bid for "Sandbags for Erosion Control" (of the height specified when measurement is by the foot). This price is full compensation for materials, placing sandbags, removal and disposal, equipment, labor, tools, and incidentals.

Removal of sandbags will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the sandbag installation or portions thereof be replaced, payment will be made at the unit price bid for "Sandbags for Erosion Control," which is full compensation for the reinstallation of the sandbags.

5.8. **Temporary Sediment-Control Fence**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

5.8.1. **Installation**. Installation will be paid for as "Temporary Sediment-Control Fence (Install)." This price is full compensation for furnishing and operating equipment finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

5.8.2. **Removal**. Removal will be paid for as "Temporary Sediment-Control Fence (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

5.9. **Biodegradable Erosion Control Logs**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

5.9.1. **Installation**. Installation will be paid for as "Biodegradable Erosion Control Logs (Install)" of the size specified. This price is full compensation for furnishing and operating equipment finish backfill and grading, staking, proper disposal, labor, materials, tools, and incidentals.

5.9.2. **Removal**. Removal will be paid for as "Biodegradable Erosion Control Logs (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

5.10. **Vertical Tracking**. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

Item 500
Mobilization

1. DESCRIPTION

Establish and remove offices, plants, and facilities. Move personnel, equipment, and supplies to and from the project or the vicinity of the project site to begin work or complete work on Contract Items. Bonds and insurance are required for performing mobilization.

For Contracts with emergency mobilization, provide a person and method of contact available 24 hr. per day, 7 days per week, unless otherwise shown on the plans. The time of notice will be the transmission time of the written notice or notice provided orally by the Department's representative.

2. MEASUREMENT

This Item will be measured by the lump sum or each as the work progresses. Mobilization is calculated on the base bid only and will not be paid for separately on any additive alternate items added to the Contract.

3. PAYMENT

For this Item, the adjusted Contract amount will be calculated as the total Contract amount less the lump sum for mobilization. Material on hand will not be considered as a construction item earned when calculating mobilization payment. Except for Contracts with callout or emergency work, mobilization will be paid in partial payments as follows.

- Payment will be made upon presentation of a paid invoice for the payment or performance bonds and required insurance.
- Payment will be made upon verification of documented expenditures for plant and facility setup. The combined amount for all these facilities will be no more than 10% of the mobilization lump sum or 1% of the total Contract amount, whichever is less.
- When 1% of the adjusted Contract amount for construction Items is earned, 50% of the mobilization lump sum bid or 5% of the total Contract amount, whichever is less, will be paid. Previous payments under this Item will be deducted from this amount.
- When 5% of the adjusted Contract amount for construction Items is earned, 75% of the mobilization lump sum bid or 10% of the total Contract amount, whichever is less, will be paid. Previous payments under the Item will be deducted from this amount.
- When 10% of the adjusted Contract amount for construction Items is earned, 90% of the mobilization lump sum bid or 10% of the total Contract amount, whichever is less, will be paid. Previous payments under this Item will be deducted from this amount.
- Upon final acceptance, 97% of the mobilization lump sum bid will be paid. Previous payments under this Item will be deducted from this amount.
- Payment for the remainder of the lump sum bid for "Mobilization" will be made after all submittals are received, after final quantities have been determined, and when any separate vegetative establishment and maintenance, test, and performance periods provided for in the Contract have been successfully completed.

For projects with extended maintenance or performance periods, payment for the remainder of the lump sum bid for "Mobilization" will be made 6 mo. after final acceptance.

For Contracts with callout or emergency work, "Mobilization" will be paid as follows.

- Payment will be made upon presentation of a paid invoice for the payment of performance bonds and required insurance.
- Mobilization for callout work will be paid for each callout work request.
- Mobilization for emergency work will be paid for each emergency work request.

Item 502
Barricades, Signs, and Traffic Handling

1. DESCRIPTION

Provide, install, move, replace, maintain, clean, and remove all traffic control devices shown on the plans and as directed.

Temporary work zone (TWZ) traffic control devices manufactured after December 31, 2019, must have been successfully tested to the crashworthiness requirements of the 2016 edition of the AASHTO *Manual for Assessing Safety Hardware* (MASH). An exception to the manufacture date applies when, based on the project's date of letting, a category of MASH-2016 compliant TWZ traffic control devices was not approved, or was not self-certified. In such case, devices that meet NCHRP-350 or MASH-2009 may be used.

Temporary work zone (TWZ) traffic control devices manufactured on or before December 31, 2019, must at a minimum have been successfully tested to the crashworthiness requirements of NCHRP-350 or MASH-2009. These devices may continue to be used throughout their normal service lives.

Such TWZ traffic control devices include:

- portable sign supports,
- barricades,
- portable traffic barriers designated exclusively for use in TWZs,
- crash cushions designated exclusively for use in TWZs,
- longitudinal channelizers, and
- truck-mounted attenuators (TMAs) and trailer attenuators (TAs).

Category I devices (i.e., lightweight devices), such as cones, tubular markers, and drums without lights or signs attached, may be self-certified by the vendor or provider, with documentation provided to the Department, or as shown on Department's Compliant Work Zone Traffic Control Device List.

2. CONSTRUCTION

Comply with the requirements of Article 7.2., "Safety."

Implement the traffic control plan (TCP) shown on the plans.

Install traffic control devices straight and plumb. Make changes to the TCP only as approved. Minor adjustments to meet field conditions are allowed.

Submit Contractor-proposed TCP changes, signed and sealed by a licensed professional engineer, for approval. The Engineer may develop, sign, and seal Contractor-proposed changes. Changes must conform to guidelines established in the TMUTCD using approved products from the Department's Compliant Work Zone Traffic Control Device List.

Maintain traffic control devices by taking corrective action when notified. Corrective actions include, but are not limited to, cleaning, replacing, straightening, covering, and removing devices. Maintain the devices such that they are properly positioned and spaced, are legible, and have retroreflective characteristics that meet requirements day or night and in all weather conditions.

The Engineer may authorize or direct in writing the removal or relocation of project limit advance warning signs. When project limit advance warning signs are removed before final acceptance, provide traffic control in accordance with the TMUTCD for minor operations as approved.

Remove all traffic control devices upon completion of the work as shown on the plans or as directed.

3. MEASUREMENT

"Barricades, Signs, and Traffic Handling" will be measured by the month. Law enforcement personnel with patrol vehicles will be measured by the hour for each person.

4. PAYMENT

4.1. **Barricades, Signs, and Traffic Handling.** Except for Contracts with callout work and work orders, the work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Barricades, Signs, and Traffic Handling." This price is full compensation for installation, maintenance, adjustments, replacements, removal, materials, equipment, labor, tools, and incidentals.

When the plans establish pay items for particular work in the TCP, that work will be measured and paid for under pertinent Items.

TMAs and TAs will be paid for under Item 505, "Truck-Mounted Attenuator (TMA) and Trailer Attenuator (TA)." Portable changeable message signs will be paid for under Item 503, "Portable Changeable Message Sign." Portable traffic signals will be paid for under Item 510, "One-Way Traffic Control," unless otherwise shown on the plans.

In accordance with Section 7.2.3., "Safety Contingency," funds have been included in the project budget to improve the effectiveness of traffic handling and enhance safety during the course of this project.

4.1.1. **Initiation of Payment.** Payment for this Item will begin on the first estimate after barricades, signs, and traffic handling devices have been installed in accordance with the TCP.

4.1.2. **Paid Months.** Monthly payment will be made each succeeding month for this Item provided the barricades, signs, and traffic handling devices have been installed and maintained in accordance with the TCP until the Contract amount has been paid.

If, within the timeframe established by the Engineer, the Contractor fails to provide or properly maintain signs and barricades in compliance with the Contract requirements, as determined by the Engineer, the Contractor will be considered in noncompliance with this Item. No payment will be made for the months in question, and the total final payment quantity will be reduced by the number of months the Contractor was in noncompliance.

4.1.3. **Maximum Total Payment Before Acceptance.** The total payment for this Item will not exceed 10% of the total Contract amount before final acceptance in accordance with Article 5.12., "Final Acceptance." The remaining balance will be paid in accordance with Section 502.4.1.5., "Balance Due."

4.1.4. **Total Payment Quantity**. The quantity paid under this Item will not exceed the total quantity shown on the plans, except as modified by change order and as adjusted in accordance with Section 502.4.1.2., "Paid Months." An overrun of the plans quantity for this Item will not be allowed for approving designs; testing; material shortages; closed construction seasons; curing periods; establishment, performance, test, and maintenance periods; failure to complete the work in the number of months allotted; or delays caused directly or indirectly by Contract requirements.

4.1.5. **Balance Due.** The remaining unpaid months of barricades less non-compliance months will be paid on final acceptance of the project, if all work is complete and accepted in accordance with Article 5.12., "Final Acceptance."

4.1.6. **Contracts with Callout Work and Work Orders.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be subsidiary to pertinent Items, except for federally funded Contracts.

4.2. **Law Enforcement Personnel**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid by Contractor force account for "Law Enforcement Personnel." This price is full compensation for furnishing all labor, materials, supplies, equipment, patrol vehicles, fees, and incidentals necessary to complete the work as directed.

Item 505

Truck-Mounted Attenuator (TMA) and Trailer Attenuator (TA)

1. DESCRIPTION

Furnish, operate, maintain, and remove upon completion of work, a truck-mounted attenuator (TMA) or trailer attenuator (TA).

2. MATERIALS

Furnish, operate, and maintain new or used TMAs or TAs. Assure used attenuators are in good working condition and are approved for use. A list of approved TMA and TA units can be found on the Department's Compliant Work Zone Traffic Control Devices List. The host vehicle for the TMA and TA must weigh at least 19,000 lb. Host vehicles may be ballasted to achieve the required weight. Any weight added to the host vehicle must be properly attached to or contained within the vehicle so that the weight does not present a hazard and that proper energy dissipation occurs if the attenuator is impacted from behind. The weight of a TA will not be considered in the weight of the host vehicle, but the weight of a TMA may be included in the weight of the host vehicle. Upon request, provide either a manufacturer's curb weight or a certified scale weight ticket to the Engineer.

3. CONSTRUCTION

Place or relocate TMAs or TAs as shown on the plans or as directed. The plans show the number of TMAs or TAs required, the number of days or hours, and for which construction phases.

4. MEASUREMENT

4.1. **Truck-Mounted Attenuator or Trailer Attenuator (Stationary)**. This Item will be measured by the day. TMAs or TAs must be set up in a work area and operational before a calendar day can be considered measurable. A day will be measured for each TMA or TA set up and operational on the worksite.

4.2. **Truck-Mounted Attenuator or Trailer Attenuator (Mobile Operation)**. This Item will be measured by the hour or by the day. The time begins once the TMA or TA is ready for operation at the predetermined site and stops when notified by the Engineer. When measurement by the hour is specified, at least 4 hr. will be paid each day for each operating TMA or TA used in a mobile operation. When measurement by the day is specified, a day will be measured for each TMA or TA set up and operational on the worksite.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Truck-Mounted Attenuators/Trailer Attenuators (Stationary)" or "Truck-Mounted Attenuators/Trailer Attenuators (Mobile Operation)." This price is full compensation for furnishing TMA or TA; setup; relocating; removing; operating; fuel; and equipment, materials, tools, labor, and incidentals. Reimbursement for the repair of damaged devices will be in accordance with Section 7.17.1., "Reimbursable Repair."

Item 506

Temporary Erosion, Sedimentation, and Environmental Controls

1. DESCRIPTION

Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants and protect environmental resources in accordance with the Stormwater Pollution Prevention Plan (SWP3) and environmental layout shown on the plans. Comply with Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit (CGP) TXR150000 requirements. Control measures are defined as Best Management Practices (BMPs) used to prevent or reduce the discharge of pollutants and measures to protect environmental resources. Control measures include, but are not limited to, rock filter dams, temporary pipe slope drains, temporary paved flumes, construction exits, earthwork for erosion control, pipe, construction perimeter fence, sandbags, temporary sediment control fence, biodegradable erosion control logs, vertical tracking, temporary or permanent seeding, and other measures. Erosion and sediment control devices must be selected from the Erosion Control Approved Products List. Perform work in a manner to prevent degradation of receiving waters, protect environmental resources, facilitate project construction, and comply with applicable federal, state, and local regulations. Ensure the installation and maintenance of control measures are performed in conformance with the manufacturer's or designer's specifications.

2. MATERIALS

Furnish materials in accordance with the following.

- Item 161, "Compost"
- Item 432, "Riprap"
- Item 556, "Pipe Underdrains"

2.1. **Rock Filter Dams.**

2.1.1. **Aggregate.** Furnish aggregate with approved hardness, durability, cleanliness, and resistance to crumbling, flaking, and eroding. Provide the following.

- **Types 1, 2, and 4 Rock Filter Dams**. Use 3–6-in. aggregate.
- **Type 3 Rock Filter Dams.** Use 4–8-in. aggregate.

2.1.2. **Wire.** Provide minimum 20-gauge galvanized wire for the steel wire mesh and tie wires for Types 2 and 3 rock filter dams. Type 4 dams require:

- a double-twisted, hexagonal weave with a nominal mesh opening of 2-1/2 × 3-1/4 in.,
- minimum 0.0866-in. steel wire for netting,
- minimum 0.1063-in. steel wire for selvages and corners, and
- minimum 0.0866 in. for binding or tie wire.

2.1.3. **Sandbag Material.** Furnish sandbags meeting Section 506.2.8., "Sandbags," except that any gradation of aggregate may be used to fill the sandbags.

2.2. **Temporary Pipe Slope Drains.** Provide corrugated metal pipe, polyvinyl chloride (PVC) pipe, flexible tubing, watertight connection bands, grommet materials, prefabricated fittings, and flared entrance sections as shown on the plans. Recycled and other materials meeting these requirements are allowed if approved.

Furnish concrete in accordance with Item 432.

2.3. **Temporary Paved Flumes.** Furnish asphalt concrete, hydraulic cement concrete, or other comparable non-erodible material as shown on the plans. Provide rock or rubble with a minimum diameter of 6 in. and a maximum volume of 1/2 cu. ft. for the construction of energy dissipaters.

2.4. **Construction Exits.** Provide materials as shown on the plans and in accordance with this Section.

2.4.1. **Rock Construction Exit.** Provide crushed aggregate for long- and short-term construction exits. Furnish aggregates that are clean, hard, durable, and free of adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials, and organic and injurious matter. Use 4–8-in. aggregate for Type 1. Use 2–4-in. aggregate for Type 3.

2.4.2. **Timber Construction Exit.** Furnish No. 2 quality or better railroad ties and timbers for long-term construction exits, free of large and loose knots and treated to control rot. Fasten timbers using nuts and bolts or lag bolts, of at least 1/2 in. diameter, unless otherwise shown on the plans or allowed. Provide plywood or pressed wafer board at least 1/2 in. thick for short-term exits.

2.4.3. **Foundation Course.** Provide a foundation course consisting of flexible base, bituminous concrete, hydraulic cement concrete, or other materials as shown on the plans or directed.

2.5. **Embankment for Erosion Control.** Provide rock, loam, clay, topsoil, or other earth materials that will form a stable embankment to meet the intended use.

2.6. **Pipe.** Provide pipe outlet material in accordance with Item 556 and as shown on the plans.

2.7. **Construction Perimeter Fence.**

2.7.1. **Posts.** Provide essentially straight wood or steel posts that are at least 60 in. long. Furnish soft wood posts with a minimum diameter of 3 in. or use nominal 2 × 4-in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/5 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.25 lb. per foot.

2.7.2. **Fence.** Provide orange construction fencing as approved.

2.7.3. **Fence Wire.** Provide 14-gauge or larger galvanized smooth or twisted wire. Provide 16-gauge or larger tie wire.

2.7.4. **Flagging.** Provide brightly colored flagging that is fade-resistant and at least 3/4 in. wide to provide maximum visibility both day and night.

2.7.5. **Staples.** Provide staples with a crown at least 1/2 in. wide and legs at least 1/2 in. long.

2.7.6. **Used Materials.** Previously used materials meeting the applicable requirements may be used if approved.

2.8. **Sandbags.** Provide sandbag material of polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 oz. per square yard, a Mullen burst-strength exceeding 300 psi, and an ultraviolet (UV) stability exceeding 70%.

Use natural coarse sand or manufactured sand meeting the gradation shown in Table 1 to fill sandbags. Filled sandbags must be 24–30 in. long, 16–18 in. wide, and 6–8 in. thick.

Table 1
Sand Gradation

Sieve Size	Retained (% by Weight)
#4	Maximum 3%
#100	Minimum 80%
#200	Minimum 95%

Aggregate may be used instead of sand for situations where sandbags are not adjacent to traffic. The aggregate size must not exceed 3/8 in.

2.9. **Temporary Sediment Control Fence**. Provide a net-reinforced fence using woven geotextile fabric. Logos visible to the traveling public will not be allowed.

2.9.1. **Fabric**. Provide fabric materials in accordance with DMS-6230, "Temporary Sediment Control Fence Fabric."

2.9.2. **Posts**. Provide essentially straight wood or steel posts with a minimum length of 48 in., unless otherwise shown on the plans. Furnish soft wood posts at least 3 in. in diameter or use nominal 2 × 4-in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/2 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.25 lb. per foot.

2.9.3. **Net Reinforcement**. Provide net reinforcement of at least 12.5-gauge (Standard Wire Gauge) galvanized welded wire mesh, with a maximum opening size of 2 × 4 in., at least 24 in. wide, unless otherwise shown on the plans.

2.9.4. **Staples**. Provide staples with a crown at least 3/4 in. wide and legs 1/2 in. long.

2.9.5. **Used Materials**. Use recycled material meeting the applicable requirements if approved.

2.10. **Biodegradable Erosion Control Logs**.

2.10.1. **Core Material**. Furnish core material that is biodegradable or recyclable. Use compost, mulch, aspen excelsior wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or any other acceptable material unless specifically shown on the plans. Permit no more than 5% of the material to escape from the containment mesh. Furnish compost in accordance with Item 161.

2.10.2. **Containment Mesh**. Furnish containment mesh that is 100% biodegradable, photodegradable, or recyclable, such as burlap, twine, UV photodegradable plastic, polyester, or any other acceptable material.

Furnish biodegradable or photodegradable containment mesh when log will remain in place as part of a vegetative system.

Furnish recyclable containment mesh for temporary installations.

2.10.3. **Size**. Furnish biodegradable erosion control logs with diameters as shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

3. QUALIFICATIONS, TRAINING, AND EMPLOYEE REQUIREMENTS

3.1. **Contractor Responsible Person Environmental (CRPE) Qualifications and Responsibilities**. Provide and designate in writing at the preconstruction conference a CRPE and alternate CRPE who have overall responsibility for managing environmental compliance. The CRPE will implement stormwater and erosion control practices, oversee and observe stormwater control measure monitoring and management, oversee environmental compliance requirements, and monitor the project site daily and produce daily monitoring reports as long as there are BMPs in place or soil disturbing activities are evident to ensure compliance with the SWP3 and TPDES CGP TXR150000. Take required training in accordance with Section 7.7.4.4, "Training."

Maintain daily monitor reports and make them available within 24 hr. upon request. During time suspensions when work is not occurring or on Contract non-work days, daily inspections are not required unless a rain event has occurred. The CRPE will provide recommendations on how to improve the effectiveness of control measures. Attend the Department's preconstruction conference for the project.

Ensure training is completed in accordance with Section 7.7.4.4., "Training," by all applicable personnel before employees work on the project. Document, maintain, and make available within 24 hr. of a request, a list, signed by the CRPE, of all applicable Contractor and subcontractor employees who have completed the training. Include the employee's name, the training course name, and the date the employee completed the training.

3.2. **Contractor Superintendent Qualifications and Responsibilities.** Provide a superintendent who is competent, has experience with and knowledge of stormwater management, and is knowledgeable of the requirements and the conditions of the TPDES CGP TXR150000. The superintendent will manage and oversee the day-to-day operations and activities at the project site, work with the CRPE to provide effective stormwater management at the project site, represent and act on behalf of the Contractor, and attend the Department's preconstruction conference for the project. Take training as required in Section 7.7.4.4., "Training."

4. CONSTRUCTION

4.1. **Contractor Responsibilities**. Implement the SWP3 for the project site in accordance with the plans and specifications, TPDES CGP TXR150000, and as directed. Coordinate stormwater management with all other work on the project. Develop and implement an SWP3 for project-specific material supply plants within and outside the Department's right of way in conformance with the specific or general stormwater permit requirements. Prevent water pollution from stormwater associated with construction activity from entering any surface water or private property on or adjacent to the project site.

4.2. **Implementation.** The CRPE, or alternate CRPE, must be accessible by telephone and able to respond to project-related stormwater management or other environmental emergencies 24 hr. per day.

4.2.1. **Commencement**. Implement the SWP3 as shown on the plans and as directed. Contractor-proposed recommendations for changes will be allowed as approved. Conform to the established guidelines in the TPDES CGP TXR150000 to make changes. Do not implement changes until approval has been received and changes have been incorporated into the plans. Minor adjustments to meet field conditions are allowed and will be recorded in the SWP3.

4.2.2. **Phasing**. Implement control measures before the commencement of activities that result in soil disturbance. Phase and minimize the soil disturbance to the areas shown on the plans. Coordinate temporary control measures with permanent control measures and all other work activities on the project to assure economical, effective, safe, and continuous water pollution prevention. Provide control measures that are appropriate to the construction means, methods, and sequencing allowed by the Contract. Exercise precaution throughout the life of the project to prevent pollution of ground waters and surface waters. Schedule and perform clearing and grubbing operations so that stabilization measures will follow immediately thereafter if project conditions permit. Bring all grading sections to final grade as soon as possible and implement temporary and permanent control measures at the earliest time possible. Implement temporary control measures when required by TPDES CGP TXR150000 or otherwise necessitated by project conditions.

Do not prolong final grading and shaping. Preserve vegetation where possible throughout the project, and minimize clearing, grubbing, and excavation within stream banks, bed, and approach sections.

4.3. **General.**

4.3.1. **Temporary Alterations or Control Measure Removal.** Altering or removal of control measures is allowed when control measures are restored within the same working day.

4.3.2. **Stabilization**. Initiate stabilization for disturbed areas no more than 14 days after the construction activities in that portion of the site have temporarily or permanently ceased. Establish a uniform vegetative cover or use another stabilization practice in accordance with TPDES CGP TXR150000.

4.3.3. **Finished Work.** Remove and dispose of all temporary control measures upon acceptance of vegetative cover or other stabilization practice unless otherwise directed. Complete soil disturbing activities and establish a uniform perennial vegetative cover. A project will not be considered for acceptance until a vegetative cover of 70% density of existing adjacent undisturbed areas is obtained or equivalent permanent stabilization is obtained in accordance with TPDES CGP TXR150000. The Engineer may accept the work before vegetative cover of 70% density of existing adjacent undisturbed areas. An exception will be allowed in arid areas as defined in TPDES CGP TXR150000.

4.3.4. **Restricted Activities and Required Precautions.** Do not discharge onto the ground or into surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment onsite to prevent actual or potential water pollution. Manage, control, and dispose of litter onsite such that no adverse impacts to water quality occur. Prevent dust from creating a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Wash out concrete trucks only as described in TPDES CGP TXR150000. Use appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water (i.e., dewatering). Immediately address chemical and hydrocarbon spills caused by the Contractor. Keep a spill kit onsite. Prevent discharges that would contribute to a violation of Edwards Aquifer Rules, water quality standards, the impairment of a listed water body, or other state or federal law.

4.4. **Installation, Maintenance, and Removal Work.** Perform work in accordance with the SWP3, in conformance with manufacturers' guidelines, and in accordance with TPDES CGP TXR150000. Install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until soil disturbing activities are completed and permanent erosion control features are in place, or the disturbed area has been adequately stabilized as approved.

The Department will inspect and document the condition of the control measures at the frequency shown on the plans and will provide the Construction SWP3 Field Inspection and Maintenance Reports to the Contractor. Make corrections as soon as possible before the next anticipated rain event or within 7 calendar days after being able to enter the worksite for each control measure. The only acceptable reason for not accomplishing the corrections within the timeframe specified is when site conditions are considered "too wet to work." Take immediate action if a correction is deemed critical as directed. When corrections are not made within the established timeframe, all work will cease on the project and time charges will continue while the control measures are brought into compliance. Commence work once the Engineer reviews and documents the project is in compliance. Commencing work does not release the Contractor of the liability for noncompliance with the SWP3, the plans, or TPDES CGP TXR150000.

The Engineer may limit the disturbed area if the Contractor cannot control soil erosion and sedimentation resulting from the Contractor's operations. Implement additional controls as directed.

Remove devices upon approval or as directed. Finish-grade and dress the area upon removal. Stabilize disturbed areas in accordance with TPDES CGP TXR150000, and as shown on the plans or directed. Materials removed are considered consumed by the project. Retain ownership of stockpiled material and remove it from the project when new installations or replacements are no longer required.

4.4.1. **Rock Filter Dams for Erosion Control**. Remove trees, brush, stumps, and other objectionable material that may interfere with the construction of rock filter dams. Place sandbags as a foundation when required or at the Contractor's option.

Place the aggregate to the lines, height, and slopes specified, without undue voids for Types 1, 2, 3, and 5. Place the aggregate on the mesh and then fold the mesh at the upstream side over the aggregate and secure it to itself on the downstream side using wire ties, or hog rings for Type 2 and Type 3, or as directed.

Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams in accordance with the following criteria unless otherwise shown on the plans.

4.4.1.1. **Type 1 (Non-Reinforced).**

- **Height.** At least 18 in. measured vertically from existing ground to top of filter dam.
- **Top Width.** At least 2 ft.
- **Slopes.** No steeper than 2:1.

4.4.1.2. **Type 2 (Reinforced).**

- **Height.** At least 18 in. measured vertically from existing ground to top of filter dam.
- **Top Width.** At least 2 ft.
- **Slopes.** No steeper than 2:1.

4.4.1.3. **Type 3 (Reinforced).**

- **Height.** At least 36 in. measured vertically from existing ground to top of filter dam.
- **Top Width.** At least 2 ft.
- **Slopes.** No steeper than 2:1.

4.4.1.4. **Type 4 (Sack Gabions).** Unfold sack gabions and smooth out kinks and bends. Connect the sides by lacing in a single-loop-double-loop pattern on 4–5-in. spacing for vertical filling. Pull the end lacing rod at one end until tight, wrap around the end, and twist four times. Fill with stone at the filling end, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires four times.

Place the sack flat in a filling trough, fill with stone, connect sides, and secure ends as described above for horizontal filling.

Lift and place without damaging the gabion. Shape sack gabions to existing contours.

4.4.1.5. **Type 5.** Provide rock filter dams as shown on the plans.

4.4.2. **Temporary Pipe Slope Drains.** Install pipe with a slope as shown on the plans or as directed. Construct embankment for the drainage system in 8-in. lifts to the required elevations. Hand-tamp the soil around and under the entrance section to the top of the embankment as shown on the plans or as directed. Form the top of the embankment or earth dike over the pipe slope drain at least 1 ft. higher than the top of the inlet pipe at all points. Secure the pipe with hold-downs or hold-down grommets spaced at most 10 ft. on center. Construct the energy dissipaters or sediment traps as shown on the plans or as directed. Construct the sediment trap using concrete or rubble riprap in accordance with Item 432, when shown on the plans.

4.4.3. **Temporary Paved Flumes.** Construct paved flumes as shown on the plans or as directed. Provide excavation and embankment (including compaction of the subgrade) of material to the dimensions shown on the plans unless otherwise indicated. Install a rock or rubble riprap energy dissipater, constructed from the materials specified above, to a minimum depth of 9 in. at the flume outlet to the limits shown on the plans or as directed.

4.4.4. **Construction Exits.** Prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits when tracking conditions exist. Construct exits for either long- or short-term use.

4.4.4.1. **Long-Term.** Place the exit over a foundation course as required. Grade the foundation course or compacted subgrade to direct runoff from the construction exits to a sediment trap as shown on the plans or as directed. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed.

4.4.4.1.1. **Type 1.** Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.

4.4.4.1.2. **Type 2.** Construct using railroad ties and timbers as shown on the plans or as directed.

4.4.4.2. **Short-Term.**

4.4.4.2.1. **Type 3**. Construct using crushed aggregate, plywood, or wafer board. This type of exit may be used for daily operations where long-term exits are not practical.

4.4.4.2.2. **Type 4.** Construct as shown on the plans or as directed.

4.4.5. **Earthwork for Erosion Control.** Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.

4.4.5.1. **Excavation and Embankment for Erosion Control Features.** Place earth dikes, swales, or combinations of both along the low crown of daily lift placement, or as directed, to prevent runoff spillover. Place swales and dikes at other locations as shown on the plans or as directed to prevent runoff spillover or to divert runoff. Construct cuts with the low end blocked with undisturbed earth to prevent erosion of hillsides. Construct sediment traps at drainage structures in conjunction with other erosion control measures as shown on the plans or as directed.

Create a sediment basin, where required, providing 3,600 cu. ft. of storage per acre drained, or equivalent control measures for drainage locations that serve an area with 10 or more disturbed acres at one time, not including offsite areas.

4.4.5.2. **Excavation of Sediment and Debris.** Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.

4.4.6. **Construction Perimeter Fence.** Construct, align, and locate fencing as shown on the plans or as directed.

4.4.6.1. **Installation of Posts**. Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8–10 ft.

4.4.6.2. **Wire Attachment.** Attach the top wire to the posts at least 3 ft. from the ground. Attach the lower wire midway between the ground and the top wire.

4.4.6.3. **Flag Attachment.** Attach flagging to both wire strands midway between each post. Use flagging at least 18 in. long. Tie flagging to the wire using a square knot.

4.4.7. **Sandbags for Erosion Control**. Construct a berm or dam of sandbags that will intercept sediment-laden stormwater runoff from disturbed areas, create a retention pond, detain sediment, and release water in sheet flow. Fill each bag with sand so that at least the top 6 in. of the bag is unfilled to allow for proper tying of the open end. Place the sandbags with their tied ends in the same direction. Offset subsequent rows of sandbags 1/2 the length of the preceding row. Place a single layer of sandbags downstream as a secondary debris trap. Place additional sandbags as necessary or as directed for supplementary support to berms or dams of sandbags or earth.

4.4.8. **Temporary Sediment Control Fence.** Provide temporary sediment control fence near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the fence into erosion control measures used to control sediment in areas of higher flow. Install the fence as shown on the plans, in accordance with this Section, or as directed.

4.4.8.1. **Installation of Posts**. Embed posts at least 18 in. deep or adequately anchor, if in rock, with a spacing of 6–8 ft., and install on a slight angle toward the runoff source.

4.4.8.2. **Fabric Anchoring.** Dig trenches along the uphill side of the fence to anchor 6–8 in. of fabric. Provide a minimum trench cross-section of 6 × 6 in. Place the fabric against the side of the trench and align approximately 2 in. of fabric along the bottom in the upstream direction. Backfill the trench, then hand-tamp.

4.4.8.3. **Fabric and Net Reinforcement Attachment.** Attach the reinforcement to wooden posts using staples, or to steel posts using T-clips, in at least four places equally spaced unless otherwise shown on the plans. Sewn vertical pockets may be used to attach reinforcement to end posts. Fasten the fabric to the top strand of reinforcement using hog rings or cord every 15 in. or less.

4.4.8.4. **Fabric and Net Splices.** Locate splices at a fence post with a minimum lap of 6 in. attached in at least six places equally spaced unless otherwise shown on the plans. Do not locate splices in concentrated flow areas.

Requirements for installation of used temporary sediment control fence include the following:

- fabric with minimal or no visible signs of biodegradation (weak fibers),
- fabric without excessive patching (more than one patch every 15–20 ft.),
- posts without bends, and
- backing without holes.

4.4.9. **Biodegradable Erosion Control Logs.** Install biodegradable erosion control logs near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the biodegradable erosion control logs into the erosion measures used to control sediment in areas of higher flow. Install, align, and locate the biodegradable erosion control logs as specified below, as shown on the plans, or as directed.

Secure biodegradable erosion control logs in a method adequate to prevent displacement resulting from normal rain events, to prevent damage to the logs, and as approved, such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs to facilitate daily work is allowed at the Contractor's expense.

4.4.10. **Vertical Tracking.** Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring at least 12 in. long × 2–4 in. wide × 1/2–2 in. deep. Do not exceed 12 in. between track impressions. Install continuous linear track impressions where the 12-in. length impressions are perpendicular to the slope. Vertical tracking is required on projects where soil disturbing activities have occurred, unless otherwise approved.

4.5. **Monitoring and Documentation.** Monitor the control measures daily as long as there are BMPs in place or soil disturbing activities are evident to ensure compliance with the SWP3 and TPDES CGP TXR150000. During time suspensions when work is not occurring or contract non-work days, daily inspections are not required unless a rain event has occurred. Monitoring will consist of, but is not limited to, observing, inspecting, and documenting site locations with control measures and discharge points to provide maintenance and inspection of controls in accordance with the SWP3. Keep written records of daily monitoring. Document in the daily monitoring report the control measure condition, the date of inspection, required corrective actions, the responsible person for making the corrections, and the date corrective actions were completed. Maintain records of all monitoring reports at the project site or at an approved place. Provide copies within 7 days. Together, the CRPE and an Engineer's representative will complete the Construction Stage Gate Checklist periodically as directed.

5. MEASUREMENT

5.1. **Rock Filter Dams.** Installation or removal of rock filter dams will be measured by the foot or by the cubic yard. The measured volume will include sandbags, when used.

5.1.1. **Linear Measurement.** When rock filter dams are measured by the foot, measurement will be along the centerline of the top of the dam.

5.1.2. **Volume Measurement.** When rock filter dams are measured by the cubic yard, measurement will be based on the volume of rock computed by the method of average end areas.

5.1.2.1. **Installation.** Measurement will be made in final position.

5.1.2.2. **Removal**. Measurement will be made at the point of removal.

5.2. **Temporary Pipe Slope Drains.** Temporary pipe slope drains will be measured by the foot.

5.3. **Temporary Paved Flumes**. Temporary paved flumes will be measured by the square yard of surface area. The measured area will include the energy dissipater at the flume outlet.

5.4. **Construction Exits.** Construction exits will be measured by the square yard of surface area.

5.5. **Earthwork for Erosion and Sediment Control**.

5.5.1. **Equipment and Labor Measurement.** Equipment and labor used will be measured by the actual number of hours the equipment is operated and the labor is engaged in the work.

5.5.2. **Volume Measurement**.

5.5.2.1. **In Place**.

5.5.2.1.1. **Excavation.** Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.

5.5.2.1.2. **Embankment**. Embankment will be measured by the cubic yard in its final position by the method of average end areas. The volume of embankment will be determined between:

- the original ground surfaces or the surface upon which the embankment is to be constructed for the feature and
- the lines, grades, and slopes of the accepted embankment for the feature.

5.5.2.2. **In Vehicles.** Excavation and embankment quantities will be combined and paid for under "Earthwork (Erosion and Sediment Control, In Vehicle)." Excavation will be measured by the cubic yard in vehicles at the point of removal. Embankment will be measured by the cubic yard in vehicles measured at the point of delivery. Shrinkage or swelling factors will not be considered in determining the calculated quantities.

5.6. **Construction Perimeter Fence.** Construction perimeter fence will be measured by the foot.

5.7. **Sandbags for Erosion Control**. Sandbags will be measured as each sandbag or by the foot along the top of sandbag berms or dams.

5.8. **Temporary Sediment Control Fence**. Installation or removal of temporary sediment control fence will be measured by the foot.

5.9. **Biodegradable Erosion Control Logs.** Installation or removal of biodegradable erosion control logs will be measured by the foot along the centerline of the top of the control logs.

5.10. **Vertical Tracking.** Vertical tracking will not be measured or paid for directly, but will be subsidiary to this Item.

6. PAYMENT

The following will not be paid for directly, but will be subsidiary to pertinent Items:

- erosion control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (e.g., construction and haul roads, field offices, equipment and supply areas, plants, and material sources);
- removal of litter, unless a separate pay item is shown on the plans;
- repair to devices and features damaged by Contractor operations;

- added measures and maintenance needed due to negligence, carelessness, lack of maintenance, and failure to install permanent controls;
- removal and reinstallation of devices and features needed for the convenience of the Contractor;
- finish grading and dressing upon removal of the device; and
- minor adjustments including but not limited to plumbing posts, reattaching fabric, minor grading to maintain slopes on an erosion embankment feature, or moving small numbers of sandbags.

Stabilization of disturbed areas will be paid for under pertinent Items except vertical tacking, which will be subsidiary.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly, but will be subsidiary to the excavation and embankment under this Item.

6.1. **Rock Filter Dams**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows.

6.1.1. **Installation**. Installation will be paid for as "Rock Filter Dams (Install)" of the type and slope as specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

6.1.2. **Removal**. Removal will be paid for as "Rock Filter Dams (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

When the Engineer directs that the rock filter dam installation or portions thereof be replaced, payment will be made at the unit price bid for "Rock Filter Dams (Remove)" and for "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

6.2. **Temporary Pipe Slope Drains**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Pipe Slope Drains" of the size specified. This price is full compensation for furnishing materials, removal and disposal, furnishing and operating equipment, labor, tools, and incidentals.

Removal of temporary pipe slope drains will not be paid for directly, but will be subsidiary to the installation Item. When the Engineer directs that the pipe slope drain installation or portions thereof be replaced, payment will be made at the unit price bid for "Temporary Pipe Slope Drains" of the size specified, which is full compensation for the removal and reinstallation of the pipe drain.

Earthwork required for the pipe slope drain installation, including construction of the sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

Riprap concrete or stone, when used as an energy dissipater or as a stabilized sediment trap, will be measured and paid for in accordance with Item 432.

6.3. **Temporary Paved Flumes**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Paved Flume (Install)" or "Temporary Paved Flume (Remove)." This price is full compensation for furnishing and placing materials, removal and disposal, equipment, labor, tools, and incidentals.

When the Engineer directs that the paved flume installation or portions thereof be replaced, payment will be made at the unit prices bid for "Temporary Paved Flume (Remove)" and "Temporary Paved Flume (Install)." These prices are full compensation for the removal and replacement of the paved flume and for equipment, labor, tools, and incidentals.

Earthwork required for the paved flume installation, including construction of a sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

6.4. **Construction Exits.** Contractor-required construction exits from off right of way locations or on right of way PSLs will not be paid for directly, but will be subsidiary to pertinent Items.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for construction exits needed on right of way access to work areas required by the Department will be paid for at the unit price bid for "Construction Exits (Install)" of the type specified or "Construction Exits (Remove)." This price is full compensation for furnishing and placing materials, excavating, removal and disposal, cleaning vehicles, labor, tools, and incidentals.

When the Engineer directs that a construction exit or portion thereof be removed and replaced, payment will be made at the unit prices bid for "Construction Exit (Remove)" and "Construction Exit (Install)" of the type specified. These prices are full compensation for the removal and replacement of the construction exit and for equipment, labor, tools, and incidentals.

Construction of sediment traps used in conjunction with the construction exit will be measured and paid for under "Earthwork for Erosion and Sediment Control."

6.5. **Earthwork for Erosion and Sediment Control**.

6.5.1. **Initial Earthwork for Erosion and Sediment Control.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Erosion and Sediment Control, In Place)," "Embankment (Erosion and Sediment Control, In Place)," "Excavation (Erosion and Sediment Control, In Vehicle)," "Embankment (Erosion and Sediment Control, (In Vehicle)," or "Earthwork (Erosion and Sediment Control, In Vehicle)."

This price is full compensation for excavation and embankment, including hauling; disposal of material not used elsewhere on the project; embankments including furnishing material from approved sources and construction of erosion control features; and equipment, labor, tools, and incidentals.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

6.5.2. **Maintenance Earthwork for Erosion and Sediment Control for Cleaning and Restoring Control Measures.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid under a Contractor Force Account Item from invoice provided to the Engineer.

This price is full compensation for excavation, embankment, and re-grading, including dewatering for removal of accumulated sediment, and the removal of accumulated sediment in various erosion control installations as directed, hauling, and disposal of material not used elsewhere on the project; excavation for construction of erosion control features; embankments, including furnishing material from approved sources and construction of erosion control features; and equipment, labor, tools, and incidentals.

Earthwork needed to remove and obliterate erosion control features will not be paid for directly, but will be subsidiary to pertinent Items unless otherwise shown on the plans.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

6.6. **Construction Perimeter Fence.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Construction Perimeter Fence." This price is full compensation for furnishing and placing the fence; digging, fence posts, wire, and flagging; removal and disposal; and materials, equipment, labor, tools, and incidentals.

Removal of construction perimeter fence will not be paid for directly, but will be subsidiary to the installation Item. When the Engineer directs that the perimeter fence installation or portions thereof be removed and replaced, payment will be made at the unit price bid for "Construction Perimeter Fence," which is full compensation for the removal and reinstallation of the construction perimeter fence.

6.7. **Sandbags for Erosion Control**. Sandbags will be paid for at the unit price bid for "Sandbags for Erosion Control" (of the height specified when measurement is by the foot). This price is full compensation for materials, placing sandbags, removal and disposal, equipment, labor, tools, and incidentals.

Removal of sandbags will not be paid for directly, but will be subsidiary to the installation Item. When the Engineer directs that the sandbag installation or portions thereof be replaced, payment will be made at the unit price bid for "Sandbags for Erosion Control," which is full compensation for the reinstallation of the sandbags.

6.8. **Temporary Sediment Control Fence.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows.

6.8.1. **Installation**. Installation will be paid for as "Temporary Sediment-Control Fence (Install)." This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

6.8.2. **Removal**. Removal will be paid for as "Temporary Sediment-Control Fence (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

6.9. **Biodegradable Erosion Control Logs**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows.

6.9.1. **Installation**. Installation will be paid for as "Biodegradable Erosion Control Logs (Install)" of the size specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, staking, proper disposal, labor, materials, tools, and incidentals.

6.9.2. **Removal.** Removal will be paid for as "Biodegradable Erosion Control Logs (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

6.10. **Vertical Tracking.** Vertical tracking will not be measured or paid for directly, but will be subsidiary to this Item.

Item 618
Conduit

1. DESCRIPTION

Furnish and install conduit; prepare existing conduit.

2. MATERIALS

Provide new materials that comply with the details shown on the plans, the requirements of this Item, and the pertinent requirements of the following Items.

- Item 400, "Excavation and Backfill for Structures"
- Item 476, "Jacking, Boring, or Tunneling Pipe or Box"

When specified on the plans, provide:

- rigid metal conduit (RMC),
- polyvinyl chloride (PVC) conduit,
- high density polyethylene (HDPE) conduit,
- liquid-tight flexible metal conduit (LFMC), or
- liquid-tight flexible nonmetallic conduit (LFNC).

Furnish conduit from new materials in accordance with DMS-11030, "Conduit."

Provide prequalified conduit from the Department's MPL. When required by the Engineer, notify the Department in writing of selected materials from the MPL intended for use on each project.

Provide other types of conduit not on the MPL that comply with the details shown on the plans and the NEC. Fabricate fittings such as junction boxes and expansion joints from a material like the connecting conduit, unless otherwise shown on the plans. Use watertight fittings. Do not use set screw fittings. Steel compression fittings are permissible. When using HDPE conduit, provide fittings that are UL-listed as electrical conduit connectors, or connect conduit by thermal fusing with an electrically heated welding method.

Use red 3-in. 4-mil polyethylene underground warning tape that continuously states, "Caution Buried Electrical Line Below."

3. CONSTRUCTION

Perform work as shown on the plans and in accordance with this Item.

Use established industry and utility safety practices when installing conduit located near underground utilities. Consult with the appropriate utility company before beginning work.

3.1. **Installation of Conduit**. Install conduit at least 18 in. deep below finished grade to top of conduit unless otherwise shown on the plans. Meet the requirements of the NEC when installing conduit. Secure and support conduit placed for concrete encasement such that the alignment will not be disturbed during placement of the concrete. Cap ends of conduit and close box openings before concrete is placed.

Ream conduit to remove burrs and sharp edges. Use a standard conduit cutting die with a 3/4-in. taper per foot when conduit is threaded in the field. Galvanize or paint threads in accordance with Item 445, "Galvanizing." Fasten conduit placed on structures with conduit straps or hangers as shown on the plans or

as directed. Fasten conduit within 3 ft. of each box or fitting and at other locations shown on the plans or as directed. Use two-hole type clamps for 2-in. diameter or larger conduit.

Fit PVC and HDPE conduit terminations with bushings or bell ends. Fit metal conduit terminations with a grounding type bushing, except conduit used for duct cable casing that does not terminate in a ground box and is not exposed at any point. Conduit terminating in threaded bossed fittings does not need a bushing. Before installation of conductors or final acceptance, pull a properly sized mandrel or piston through the conduit to ensure that it is free of obstruction. Cap or plug empty conduit placed for future use.

Perform trench excavation and backfilling as shown on the plans or as directed, and in accordance with Item 400. Excavation and backfilling will be subsidiary to the installation of the conduit.

Jack and bore as shown on the plans or as directed, and in accordance with Item 476.

Place warning tape approximately 10 in. above trenched conduit. Where existing surfacing is removed for placing conduit, repair by backfilling with material equal in composition and density to the surrounding areas and by replacing any removed surfacing, such as asphalt pavement or concrete riprap, with like material to equivalent condition. Mark conduit locations as directed.

3.2. **Preparation of Conduit.** Pull a mandrel through empty conduits. Use a mandrel with a diameter greater than 70% of the inside diameter of the conduit and 2-in. length. Repair or replace conduit runs that will not allow passage of the mandrel. Replace conduit deemed impractical to repair or that remains unsuitable in accordance with Item 618, "Conduit." Clean the conduit by pulling a rubber swab slightly larger in diameter than the conduit.

Blow compressed air through conduits that contain wires. Remove debris from the conduit by pushing a fish tape through the conduit. Do not use water to clear debris. Retest the conduit by blowing compressed air.

Install one pull cord in each conduit for use in installing the conductors, cables, or innerduct.

4. MEASUREMENT

This Item will be measured by the foot of conduit installed, or by the foot of conduit cleared, tested, replaced, and repaired.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

5.1. **Installation of Conduit.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Conduit" of the type and size specified and the installation method specified as applicable, or for "Conduit (Prepare)." This price is full compensation for furnishing and installing conduit; cleaning and testing conduit; hanging, strapping, jacking, boring, tunneling, trenching, and furnishing and placing backfill; encasing in steel or concrete; replacing pavement structure, sod, riprap, curbs, or other surface; marking location of conduit (when required); furnishing and installing fittings, junction boxes, and expansion joints; and materials, equipment, labor, tools, and incidentals.

Flexible conduit will not be paid for directly, but will be subsidiary to pertinent Items. Unless otherwise shown on the plans, no payment will be allowed under this Item for conduit used on electrical services or in foundations.

Repair of existing conduit will be paid for by the Department in accordance with Article 9.7., "Payment for Extra Work and Force Account Method."

Item 620
Electrical Conductors

1. DESCRIPTION

Furnish and install electrical conductors, except conductors specifically covered by other Items.

2. MATERIALS

Provide new materials that comply with the details shown on the plans and the requirements of this Item. Use stranded insulated conductors that are rated for 600V, approved for wet locations, and marked in conformance with UL, NEC, and Canadian Standards Association (CSA) requirements. Furnish electrical conductors in accordance with DMS-11040, "Electrical Conductors."

Provide pre-qualified electrical conductors from the Department's MPL. When required by the Engineer, notify the Department in writing of selected materials from the MPL intended for use on each project.

Ensure all grounding conductors Size 8 AWG and larger are stranded, except for the grounding electrode conductor at the electrical service, which will be a 6-AWG solid conductor.

Use white insulation for grounded (neutral) conductors, except grounded conductors Size 4 AWG and larger may be black with white tape marking at every accessible location. Do not use white insulation or marking for any other conductor except control wiring specifically shown on the plans.

Ensure insulated grounding conductors are green, except insulated grounding conductors Size 4 AWG and larger may be black with green tape marking at every accessible location. Do not use green insulation or marking for any other conductor except control wiring specifically shown on the plans.

3. CONSTRUCTION

Perform work as shown on the plans and in accordance with this Item.

Splice conductors only in junction boxes, ground boxes, and transformer bases, and in poles and structures at the handholes. Splice as shown on the plans. Do not exceed the manufacturer's recommended pulling tension. Use lubricant as recommended by the manufacturer. Install conductors in accordance with the NEC.

Test insulation resistance on the conductors before making final connections and ensure each continuous run of insulated conductor has a minimum direct-current (DC) resistance of 5 megohms (MΩ) when tested at 1,000V DC. The Engineer may require verification testing of all or part of the conductor system. The Engineer will witness these verification tests. Replace conductors exhibiting an insulation resistance of less than 5 MΩ at no additional cost to the Department.

4. MEASUREMENT

This Item will be measured by the foot of each single conductor.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Electrical Conductors" of the types and sizes specified. This price is full compensation for furnishing, installing, and testing electrical conductors; furnishing and installing breakaway connectors; and materials, equipment, labor, tools, and incidentals, with the following exceptions:

- conductors used in connecting the components of electrical services will be paid for under Item 628, "Electrical Services";
- conductors inside roadway illumination assemblies will be paid for under Item 610, "Roadway Illumination Assemblies";
- conductors inside traffic signal pole assemblies will be paid for under this Item; and
- conductors used for internal wiring of equipment will not be paid for directly, but will be subsidiary to pertinent Items.

Item 624
Ground Boxes

1. DESCRIPTION

1.1. **Installation.** Construct, furnish, and install ground boxes complete with lids.

1.2. **Removal.** Remove existing ground boxes.

2. MATERIALS

Provide new materials that comply with the details shown on the plans, the requirements of this Item, and the pertinent requirements of the following Items.

- Item 420, "Concrete Substructures"
- Item 421, "Hydraulic Cement Concrete"
- Item 432, "Riprap"
- Item 440, "Reinforcement for Concrete"
- Item 618, "Conduit"
- Item 620, "Electrical Conductors"

Provide fabricated precast polymer concrete ground boxes in accordance with DMS-11070, "Ground Boxes." Provide pre-qualified ground boxes from the Department's MPL. When required by the Engineer, notify the Department in writing of selected materials from the MPL intended for use on each project.

Provide other precast or cast-in-place ground boxes that comply with the details shown on the plans.

3. CONSTRUCTION

Perform work as shown on the plans and in accordance with this Item.

Use established industry and utility safety practices when installing or removing ground boxes located near underground utilities. Consult with the appropriate utility company before beginning work.

3.1. **Installation.** Fabricate and install ground boxes as shown on the plans. Install ground box to approved line and grade.

Construct precast and cast-in-place concrete ground boxes in accordance with Item 420 and Item 440.

Construct concrete aprons as shown on the plans and in accordance with Item 432 and Item 440.

3.2. **Removal.** Remove existing ground boxes and concrete aprons to at least 6 in. below the conduit level. Uncover conduit to a sufficient distance so that 90° bends can be removed and conduit reconnected. Clean the conduit in accordance with Item 618. Replace conduit within 5 ft. of the ground box. Remove old conductors and install new conductors as shown on the plans. Backfill area with material equal in composition and density to the surrounding area. Replace surfacing material with similar material to an equivalent condition.

4. MEASUREMENT

This Item will be measured by each ground box installed complete in place or each ground box removed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Ground Box" of the types and sizes specified and for "Remove Ground Box."

5.1. **Installation.** This price is full compensation for excavating, backfilling, and aggregate; constructing, furnishing, and installing ground boxes and concrete aprons; and material, equipment, labor, tools, and incidentals. All wiring connections required inside the ground box will be subsidiary to this Item. Conduit will be paid for under Item 618. Electrical conductors will be paid for under Item 620.

5.2. **Removal.** This price is full compensation for removing and disassembling ground boxes and concrete aprons; excavating, backfilling, and surface placement; removing old conductors; disposal of unsalvageable materials; and materials, equipment, labor, tools, and incidentals. Cleaning of conduit will be subsidiary to this Item. Conduit replaced within 5 ft. of the ground box will be subsidiary to this Item. Additional conduit will be paid for under Item 618. Installation of conductors will be paid for under Item 620.

Item 628
Electrical Services

1. DESCRIPTION

- **Installation.** Furnish and install electrical services.
- **Relocation**. Relocate existing electrical services.
- **Removal**. Remove existing electrical services.

2. MATERIALS

Provide materials that comply with the details shown on the plans, the requirements of this Item, and the pertinent requirements of the following Items.

- Item 441, "Steel Structures"
- Item 445, "Galvanizing"
- Item 449, "Anchor Bolts"
- Item 618, "Conduit"
- Item 620, "Electrical Conductors"
- Item 627, "Treated Timber Poles"
- Item 656, "Foundations for Traffic Control Devices"

For the installation of electrical services, use new materials that meet the requirements of the NEC, UL, the Canadian Standards Association (CSA), and NEMA, and are in accordance with DMS-11080, "Electrical Services."

Provide pre-qualified electrical services from the Department's MPL. When required, notify the Department in writing of selected materials from the MPL intended for use on each project.

3. CONSTRUCTION

Perform work as shown on the plans and in accordance with this Item. Use established industry and utility safety practices when installing, relocating, or removing electrical services located near overhead or underground utilities. Consult with the appropriate utility company before beginning work.

3.1. **Installation.** Furnish and install electrical service equipment. Ensure components of the electrical service meet the requirements of the Electrical Detail Standards. Install the electrical equipment in accordance with the NEC and in conformance with local utility company requirements. Coordinate the utility companies' work for providing service.

3.2. **Relocation**. Coordinate relocation with the appropriate utility company before beginning work. Remove existing electrical service in accordance with Section 628.3.3., "Removal." Reinstall existing electrical service in accordance with Section 628.3.1., "Installation." Replace or add circuit breakers as shown on the plans.

3.3. **Removal**. Coordinate removal with the appropriate utility company before beginning work. Before the removal of the electrical service, disconnect and isolate any existing electrical service equipment in conformance with the utility company's requirements.

Remove existing electrical service support at least 2 ft. below finished grade unless otherwise shown on the plans. Repair the remaining hole by backfilling with material equal in composition and density to the surrounding area. Replace any surfacing, such as asphalt pavement or concrete riprap, with like material to equivalent condition.

Disconnect and remove conductors from the conduit. Cut off and cap all protruding conduit 6 in. below finished grade. Abandoned conduit need not be removed unless otherwise shown on the plans.

Reconnect conductors and conduit to be reused when shown on the plans. Make all splices in ground boxes unless otherwise shown on the plans.

Accept ownership and dispose of unsalvageable materials in conformance with federal, state, and local regulations.

4. MEASUREMENT

This Item will be measured by each electrical service installed, relocated, or removed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Electrical Services" of the types specified, "Relocate Electrical Services," or "Remove Electrical Services."

Costs for utility-owned power line extensions, connection charges, meter charges, consumption charges, and other charges will be paid for by the Department. The Department will reimburse the Contractor the amount billed by the utility, plus an additional 5% of the invoice cost will be paid for labor, equipment, administrative costs, superintendence, and profit.

Applications for a permanent utility service will designate the Department as the service owner unless otherwise shown in the plans.

5.1. **Installation**. This price is full compensation for paying all fees, testing, permits, utility company inspections, connection or meter charges, and other costs; making arrangements with the utility company for all work and materials provided by the utility company; furnishing, installing, and connecting all components, including poles, service supports, foundations, anchor bolts, riprap, enclosures, switches, breakers, service conduit (from the service equipment, including the elbow below ground), fittings, service conductors (from the service equipment, including the elbow below ground), brackets, bolts, hangers, and hardware; and materials, equipment, labor, tools, and incidentals.

5.2. **Relocation**. This price is full compensation for disconnecting and isolating the existing electrical service; relocating the service supports; new service support foundation; backfilling holes; paying all fees, testing, permits, utility company inspections, connection or meter charges, and other costs; making arrangements with the utility company for all work and materials provided by the utility company; removing, disconnecting, installing, and connecting all components, including poles, service supports, foundations, anchor bolts, riprap, enclosures, switches, breakers, service conduit (from the service equipment, including the elbow below ground), fittings, service conductors (from the service equipment, including the elbow below ground), brackets, bolts, hangers, and hardware; and materials, equipment, labor, tools, and incidentals.

5.3. **Removal**. This price is full compensation for coordinating with the utility company to disconnect and isolate the electrical service; removing the service supports; backfilling holes; and materials, equipment, labor, tools, and incidentals.

"EXHIBIT I"

GENERAL CONDITIONS

ARTICLE 1- DEFINITIONS
Wherever used in these General Conditions or in the other CONTRACT DOCUMENTS the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

ADDENDA- Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents or the CONTRACT DOCUMENTS.

AGREEMENT- The written Agreement between OWNER and CONTRACTOR covering the Work to be performed; other CONTRACT DOCUMENTS are attached to the Agreement and made a part thereof as provided therein.

APPLICATION FOR PAYMENT- The form accepted by the ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the CONTRACT DOCUMENTS.

BID- The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BONDS- Bid, performance and payment bonds and other instruments of security.

CHANGE ORDER- A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revisions in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

CONTRACT DOCUMENTS- The Agreement, Addenda (which pertain to the CONTRACT DOCUMENTS), CONTRACTOR'S Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements issued pursuant to paragraphs 3.4 and 3.5 on or after the Effective Date of the Agreement.

CONTRACT PRICE- The moneys payable by OWNER to CONTRACTOR under the CONTRACT DOCUMENTS as stated in the Agreement.

CONTRACT TIME- The number of days (computed as provided in paragraph 17.2) or the date

stated in the Agreement for the completion of the Work.
CONTRACTOR- The person, firm or corporation with whom OWNER has entered into the Agreement.

DEFECTIVE- An adjective which when modifying the word Work refers to work that is unsatisfactory, faulty or deficient, or does not conform to the CONTRACT DOCUMENTS, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the CONTRACT DOCUMENTS, or has been damaged prior to ENGINEER'S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

DRAWING- The drawings which show the character and Scope of Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the CONTRACT DOCUMENTS.

EFFECTIVE DATE OF THE AGREEMENT- The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

ENGINEER- The person, firm or corporation named as such in the Agreement.

FIELD ORDER- A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Time.

GENERAL REQUIREMENTS- Those described in Pages TS-1 through TS-7 of the Specifications.

LAW AND REGULATIONS; LAW OR REGULATIONS- Laws, rules, regulations, ordinances, codes and/or orders.

NOTICE OF AWARD- The written notice by OWNER or ENGINEER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

NOTICE TO PROCEED- A written notice given by OWNER or ENGINEER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which the CONTRACTOR shall start to perform CONTRACTOR'S obligations under the CONTRACT DOCUMENTS.

OWNER- The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.
PARTIAL UTILIZATION- Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

PROJECT- The total construction of which the Work to be provided under the CONTRACT DOCUMENTS may be the whole, or a part as indicated elsewhere in the CONTRACT DOCUMENTS.

RESIDENT PROJECT REPRESENTATIVE- The authorized representative of ENGINEER, who is assigned to the site or any part thereof.

SHOP DRAWINGS- All drawings, diagrams, illustrations, schedules and other date which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

SPECIFICATIONS- The portions of the CONTRACT DOCUMENTS consisting of written technical description of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

SUB-CONTRACTOR- An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Sub-Contractor for the performance of a part of the Work at the site.

SUBSTANTIAL COMPLETION- The Work (or a specified part thereof) which has progressed to the point where, in the opinion of ENGINEER as evidence by ENGINEER'S definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the CONTRACT DOCUMENTS, so that the Work, (or specified part) can be utilized for the purpose for which it is intended; or if there by no such certificate issued, when final payment is due in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

SUPPLEMENTAL GENERAL CONDITIONS- The part of the CONTRACT DOCUMENTS which amends or supplements these General Conditions.

SUPPLIER- A manufacturer, fabricator, supplier, distributor, material-man or vendor.

UNDERGROUND FACILITIES- All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing

such facilities which have been installed underground to furnish any of the following service or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

UNIT PRICE WORK- Work to be paid for on the basis of unit prices.

WORK- The entire completed construction or the various separately identifiable parts thereof required to be furnished under the CONTRACT DOCUMENTS. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the CONTRACT DOCUMENTS.

WORK DIRECTIVE CHANGE- A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraphs 4.2 and 4.3 or to emergencies under

paragraph 6.22. A Work Directive Change may not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or documented by a Work Directive Change will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time as provided in paragraph 10.2.

WRITTEN AMENDMENT- A written amendment of the CONTRACT DOCUMENTS, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly Work-related aspects of the CONTRACT DOCUMENTS.

ARTICLE 2- PRELIMINARY MATTERS DELIVERY OF BONDS:
2.1. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as Contract may be required to furnish in accordance with paragraph 5.1.

COPIES OF DOCUMENTS:

2.2. OWNER shall furnish to CONTRACTOR up to five copies (unless otherwise specified in the Supplementary Conditions) of the CONTRACT DOCUMENTS as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

COMMENCEMENT OF CONTRACT TIME; NOTICE TO PROCEED:
2.3. The Contract Time will commence to run on the thirtieth day after the Effective Date of the Agreement, or if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Day of the Agreement. In no event will the Contract Time commence to run later than the seventy-fifth day after the day of Bid Opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

STARTING THE PROJECT:

2.4 CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract Time commences to run.

BEFORE STARTING CONSTRUCTION:

2.5 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the CONTRACT DOCUMENTS, unless CONTRACTOR has actual knowledge thereof or should reasonably have known thereof.

2.6 Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER FOR review:

2.6.1 An estimated progress schedule indicating the starting and completion dates of the various stages of the Work;

2.6.2 A preliminary schedule of Shop Drawings submissions; and

2.6.3 A preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis of progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

2.7 Before any Work at the site is started, CONTRACTOR shall deliver to OWNER, with a copy to ENGINEER, certificates (and other evidence of insurance requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with paragraphs 5.3 and 5.4.

PRE-CONSTRUCTION CONFERENCE:

2.8 Within twenty days after the Effective Date of the Agreement, but before CONTRACTOR starts the Work at the site, a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to discuss the schedules referred to in paragraph 2.6, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

FINALIZING SCHEDULES:

2.9 At least ten days before submission of the First Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility therefore. The finalized schedule of Shop Drawing submissions will be acceptable to ENGINEER as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to ENGINEER as to form and substance.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE INTENT:
3.1. The CONTRACT DOCUMENTS comprise the entire Agreement between OWNER and CONTRACTOR concerning the WORK. The CONTRACT DOCUMENTS are complementary; what is called for by one is as binding as if called for by all. The CONTRACT DOCUMENTS will be construed in accordance with the law of the place of the Project.

3.2 It is the intent of the CONTRACT DOCUMENTS to describe a functionally complete Project (or part thereof) to be constructed in accordance with the CONTRACT DOCUMENTS. Any Work,

materials or equipment that may reasonably be inferred from the CONTRACT DOCUMENTS as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment such works shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specifications, manual or code (whether or not specifically incorporated by reference in the CONTRACT DOCUMENTS) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the CONTRACT DOCUMENTS, nor shall it be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 9.15 or 9.16. Clarifications and interpretations of the CONTRACT DOCUMENTS shall be issued by ENGINEER as provided in paragraph 9.4.

3.3 If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the CONTRACT DOCUMENTS, CONTRACTOR shall so report to ENGINEER in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from ENGINEER; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy on the CONTRACT DOCUMENTS unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS:

3.4 The CONTRACT DOCUMENTS may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

3.4.1. A formal Written Amendment,

3.4.2. A Change Order (Pursuant to paragraph 10.4), or

3.4.3. A Work Directive Change (Pursuant to paragraph 10.1).

As indicated in paragraphs 11.2 and 12.1, Contract Price and Contract Time may only be changed by a Change Order or Written Amendment.

3.5. In addition, the requirements of the CONTRACT DOCUMENTS may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

3.5.1. A Field Order (Pursuant to paragraph 9.5),

3.5.2. ENGINEER'S approval of a Shop Drawing or sample (pursuant to paragraphs 6.26 and 6.27), or

3.5.3. ENGINEER'S written interpretation or clarification (pursuant to paragraph 9.4).

REUSE OF DOCUMENTS:

3.6 Neither CONTRACTOR nor any Sub-Contractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project of any other project without written consent of the OWNER.

ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

AVAILABILITY OF LANDS:

4.1 OWNER shall furnish, as indicated in the CONTRACT DOCUMENTS, the lands upon which the Work is to be performed, Rights-of-Way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the CONTRACT DOCUMENTS. If CONTRACTOR believes that any delay in OWNER'S furnishing these lands, Rights-of-Way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefore as provided in Article 12. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.
PHYSICAL CONDITIONS:

4.2.1. Explorations and Reports: Reference is made to the Supplementary conditions for identification of those reports of explorations and tests of sub-surface conditions at the site that have been utilized by ENGINEER in preparation of the CONTRACT DOCUMENTS. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon non-technical data, interpretations for opinions contained therein or for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to sub-surface conditions at the site.

4.2.2. Existing Structures: Reference is made to the Supplementary Conditions for identification of those drawings of physical conditions in or relating to existing surface and sub- surface structures (except Underground Facilities referred to in paragraph 4.3) which are at or contiguous to the site that have been utilized by ENGINEER in preparation of the CONTRACT DOCUMENTS. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.
4.2.3. Report to Differing Conditions: If CONTRACTOR believes that:

4.2.3.1 Any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1

and 4.2.2 is inaccurate, or

4.2.3.2. Any physical condition uncovered or revealed at the site differ materially from that indicated, reflected or referred to in the CONTRACT DOCUMENTS,

CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.22), notify OWNER and ENGINEER in writing about the inaccuracy or difference.

4.2.4. ENGINEER'S Review: ENGINEER will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER'S findings and conclusions.

4.2.5. Possible Document Change: If ENGINEER concludes that there is a material error in the CONTRACT DOCUMENTS or that because of newly discovered conditions a change in the CONTRACT DOCUMENTS is required, a Work directive Change or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the inaccuracy or difference.

4.2.6. Possible Price and Time Adjustments: In each such case, an increase or decrease in the Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extend that they are attributable to any such inaccuracy or difference.

If OWNER and CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made thereof, as provided in Articles 11 and 12.

PHYSICAL CONDITIONS - UNDERGROUND FACILITIES:

4.3.1. Shown or Indicated: The information and data shown or indicated in the CONTRACT DOCUMENTS with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.3.1.1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and,

4.3.1.2. CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the CONTRACT DOCUMENTS, for coordination of the Work with the owners of such Underground Facilities during construction, for safety and protection thereof as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2. Not Shown or Indicated: If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the CONTRACT DOCUMENTS and which CONTRACTOR could not reasonable have been expected to be aware of, CONTRACTOR shall,

promptly after becoming aware thereof and before performing and Work affected thereby (except in an emergency as permitted by paragraph 6.22), identify the owner of such Underground Facility and give written notice thereof to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility to determine the extent to which the CONTRACT DOCUMENTS should be modified to reflect and document the consequences of the existence of the Underground Facility, and the CONTRACT DOCUMENTS will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the CONTRACT DOCUMENTS and which CONTRACTOR could not reasonably have been expected to be aware of. If the parties are unable to agree as to the amount or length thereof, CONTRACTOR may make a claim thereof as provided in Articles 11 and 12.

REFERENCE POINTS:

4.4. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER'S judgement are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without written approval of OWNER.

CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

ARTICLE 5 - BOND AND INSURANCE PERFORMANCE AND OTHER BONDS:
5.1. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to Contract Price as security for the faithful performance and payment of all CONTRACTOR'S obligations under the CONTRACT DOCUMENTS. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as otherwise provided by Law or Regulations or by the CONTRACT DOCUMENTS. CONTRACTOR shall also furnish such other Bond as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by law or Regulation or by the Contract Documents and be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

5.2 If the surety on any Bond furnished CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within five days thereafter substitute another Bond and Surety, both of which must be acceptable to OWNER.

CONTRACTOR'S LIABILITY INSURANCE:

5.3. CONTRACTOR shall purchase and maintain such comprehensive general liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result form CONTRACTOR'S performance and furnishing of the Work and CONTRACTOR'S other obligations under the CONTRACT DOCUMENTS, whether it is to be performed or furnished by CONTRACTOR, by any Sub-Contractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

5.3.1. Claims under worker's or workmen's compensation, disability benefits and other similar employee benefit acts;

5.3.2. Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR'S employees;

5.3.3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR'S employees;

5.3.4. Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, (b) by any other person for any other reason;

5.3.5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting there from;

5.3.6. Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and

5.3.7. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of motor vehicle.

The insurance required by this paragraph 5.3 shall include the specific coverages and be written for not less than the limits of liability and coverages provided in the Supplemental General Conditions, or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days' prior to a written notice been given to OWNER and ENGINEER by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective work in accordance with paragraph 13.12. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two years after final payment and furnish OWNER with evidence of continuation of such insurance at final payment and one year thereafter.

CONTRACTUAL LIABILITY INSURANCE:

5.4. The comprehensive general liability insurance required by paragraph 5.3 will include contractual

liability insurance applicable to CONTRACTOR'S obligations under paragraphs 6.30 and 6.31.

OWNER'S LIABILITY INSURANCE:

5.5. (Deleted) PROPERTY INSURANCE:
5.6. – 5.10 (Deleted)

WAIVER OF RIGHTS:
5.11.1. CONTRACTOR waives all rights against OWNER for all losses and damages caused by any of the perils covered by the policies of insurance provided under the Supplemental General Conditions and any other property insurance applicable to the Work, and also waives all such rights against the Sub-Contractors, ENGINEER, ENGINEER'S Consultants and all other parties named as insured in such policies for losses and damages so caused. As required by paragraph 6.11, each sub-contract between CONTRACTOR, and a Sub-Contractor will
contain similar waiver provisions by the Sub-Contractor in favor of OWNER, CONTRACTOR, ENGINEER, ENGINEER'S Consultants and all other parties named as insured. None of the above waivers shall extend to the rights that any of the insured parties may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

5.11.2. CONTRACTOR intends that any policies provided under the Supplemental General Conditions shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights or recovery against any of the parties named as insured or additional insured and if the insurers require separate waiver forms to be signed by ENGINEER or ENGINEER'S consultant or any Sub- Contractor, CONTRACTOR will obtain the same.

RECEIPT AND APPLICATION OF PROCEEDS:

5.12. (Delete)

5.13. (Delete)

ACCEPTANCE OF INSURANCE:

5.14. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 5.3 and 5.4 on the basis of its not complying with the CONTRACT DOCUMENTS, OWNER shall notify CONTRACTOR in writing thereof within ten days of the date or delivery of such certificates to OWNER in accordance with paragraph 2.7. CONTRACTOR shall each provide to OWNER, such additional information in respect of insurance provided by each as the OWNER may reasonably request. Failure by OWNER to give such notice of objection within the time provided shall constitute acceptance of such insurance purchased by the CONTRACTOR as complying with the CONTRACT DOCUMENTS.

PARTIAL UTILIZATION- PROPERTY INSURANCE:

5.15 If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10. The insurers of CONTRACTORS providing the property insurance shall consent to such use or occupancy by endorsement on the policy or policies, but the property insurance shall not be canceled or lapse on account of any such partial use or occupancy.

ARTICLE 6- CONTRACTOR'S RESPONSIBILITIES SUPERVISION AND SUPERINTENDENCE:

6.1. CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skill and expertise as may be necessary to perform the Work in accordance with the CONTRACT DOCUMENTS. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection or a specific means, method, technique, sequence or procedure or construction which is indicated in and required by the CONTRACT DOCUMENTS. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the CONTRACT DOCUMENTS.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

LABOR, MATERIALS AND EQUIPMENT:

6.3. CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the CONTRACT DOCUMENTS. CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons of the Work or property at the site or adjacent thereto, and except as otherwise indicated in the CONTRACT DOCUMENTS, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER'S written consent after prior written notice to ENGINEER.

6.4. Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing start-up, and completion of Work.

6.5. All materials and equipment shall be of good quality and new, except, as otherwise provided in the CONTRACT DOCUMENTS. If required by ENGINEER, CONTRACTOR shall furnish satisfactory

evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable
Supplier, except as otherwise provided in the CONTRACT DOCUMENTS; but no provision of any such instructions will be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.15 or 6.16.

ADJUSTING PROGRESS SCHEDULE:

6.6 CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.9) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

SUBSTITUTES OR "OR-EQUAL" ITEMS:

6.7.1. Whenever materials or equipment are specified or described in the CONTRACT DOCUMENTS by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by ENGINEER if sufficient information is submitted by CONTRACTOR to allow ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by ENGINEER will include the following as supplemented in the General Requirements. Requests for review of substitute items of material and equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of Substantial Completion on time, whether or not acceptance of the substitutes for use in the Work will require a change in any of the CONTRACT DOCUMENTS (or in the provisions of any other direct contract with OWNER for Work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment or any license fee of royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including cost of redesign and claims or other contractors affected by the resulting change, all of which shall be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

6.7.2. If a specific means, method, technique, sequence or procedure of construction is indicated in or

required by the CONTRACT DOCUMENTS, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to ENGINEER, if CONTRACTOR submits sufficient information to allow ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the CONTRACT DOCUMENTS. The procedure for review by ENGINEER will be similar to that provided in paragraph 6.7.1, as applied by ENGINEER and as may be supplemented in the General Requirements.

6.7.3. ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. ENGINEER will be sole judge of acceptability, and no substitute will be ordered, installed or utilized without ENGINEER'S prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute. ENGINEER will record time required by ENGINEER and ENGINEER'S consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the CONTRACT DOCUMENTS occasioned thereby. Whether or not ENGINEER accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER'S consultants for evaluating each proposed substitute.

CONCERNING SUB-CONTRACTORS, SUPPLIERS AND OTHER:

6.8.1. CONTRACTOR shall not employ any Sub-Contractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Sub- Contractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

If the Supplementary Conditions require the identity of certain Sub-Contractors, Suppliers or other persons or organizations (including those who are to furnish the principal items or materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER'S or ENGINEER'S acceptance either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in bidding documents or the CONTRACT DOCUMENTS) of any such Sub-Contractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price will be increased by the difference in the cost occasioned by such substitution and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER or ENGINEER of any such Sub-Contractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject
defective Work.

6.9. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Sub-Contractor's, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct and indirect contract with CONTRACTOR just as

CONTRACTOR is responsible for CONTRACTOR'S own acts and omissions. Nothing in the CONTRACT DOCUMENT shall create any contractual relationship between OWNER or ENGINEER and any such Sub-Contractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Sub-Contractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.10. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Sub-Contractors or Suppliers or delineating the Work to be performed by any specified trade.

6.11 All Work performed for CONTRACTOR by a Sub-Contractor will be pursuant to an appropriate agreement between CONTRACTOR and Sub-Contractor which specifically binds the Sub-Contractor to the applicable terms and conditions of the CONTRACT DOCUMENTS for the benefit of OWNER and ENGINEER and contains waiver provisions as required by paragraph 5.11.

PATENT FEES AND ROYALTIES:

6.12. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the CONTRACT DOCUMENTS for use in the performance of the Work and if to the actual knowledge of OWNER and ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the CONTRACT DOCUMENTS. CONTRACTOR shall indemnify, hold harmless and defend at its cost, OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees and court and arbitration costs) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the CONTRACT DOCUMENTS, and shall defend all such claims in connection with any alleged infringement of such rights.

6.13. Unless otherwise provided in the Supplemental General Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR
shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are not Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

LAWS AND REGULATIONS:

6.14.1. CONTRACTOR shall give all notices and comply with all laws and Regulations applicable to

furnishing and performing of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR'S compliance with any Law or Regulations.

6.14.2 If CONTRACTOR observes that the Specification of Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof, any necessary changes will be authorized by one of the methods indicated in paragraph 3.4.

If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR'S primary responsibility to made certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

6.15. CONTRACTOR shall pay all sales, consumer use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

USE OF PREMISES:

6.16. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the CONTRACT DOCUMENTS and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ENGINEER by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by at law. CONTRACTOR shall, to the fullest extend permitted by Law and Regulations, indemnify and hold OWNER and ENGINEER harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of Engineers, Architects, Attorneys and other professional and court and arbitration costs) arising directly, indirectly or consequently out of any action, legal or equitable, brought by any such other party against OWNER or ENGINEER to the extent based on a claim arising out of work done by CONTRACTOR under the CONTRACT DOCUMENTS. It is the expressed intention of the parties hereto, both OWNER and CONTRACTOR, that the indemnity provided for in this paragraph is indemnity by CONTRACTOR to indemnify and protect OWNER from the consequences of OWNER'S own negligence, whether that negligence is the sole or a concurring cause of the injury, death or damage.

6.17. During the progress of the Work, CONTRACTOR shall keep the premises free from such accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for alteration by the CONTRACT DOCUMENTS.

6.18. CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

DOCUMENTS:

6.19. CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Directive Changes, Field Orders and Written Interpretations and Clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these Record Documents, Samples and Shop Drawings will be delivered to ENGINEER for OWNER.

SAFETY AND PROTECTION:

6.20. CONTRACTOR shall be responsible for initiation, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1. All employees on the Work and other persons and organizations who may be affected thereby;

6.20.2 All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site.

6.20.3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damages, injury or loss to any property referred to in paragraphs 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, and Sub-Contractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omission of OWNER or ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR). CONTRACTOR'S duties and

responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion.

6.21. CONTRACTOR shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR'S superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

EMERGENCIES:

6.22. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER or OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the CONTRACT DOCUMENTS have been caused thereby. If ENGINEER determines that a change in the CONTRACT DOCUMENTS is required because of the action taken in response to any emergency, a Work Directive Change or Change Order will be issued to document the consequences of the changes or variations.

SHOP DRAWINGS AND SAMPLES:

6.23. After checking and verifying all field measurements and complying with applicable procedures specified in the General Requirements, CONTRACTOR shall submit to ENGINEER for review an approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.9), or for other appropriate action if so indicated in the Supplementary Conditions, five copies (unless otherwise specified in General Requirements) of all Shop Drawings, which bear a stamp written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the CONTRACT DOCUMENTS with respect to the review of the submission. All submissions will be identified as ENGINEER may require. The data shown on the Shop Drawings will be completed with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to enable ENGINEER to review the information as required.

6.24. CONTRACTOR shall also submit to ENGINEER for review and approval with such promptness as to cause no delay in Work, all samples required by the CONTRACT DOCUMENTS. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the CONTRACT DOCUMENTS with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

6.25.1. Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the CONTRACT DOCUMENTS.

6.25.2. At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the CONTRACT DOCUMENTS, and in addition, shall cause a specific notation to be made on each Shop Drawing submitted to ENGINEER for review and approval of each such variation.

ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, ENGINEER'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the CONTRACT DOCUMENTS and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the CONTRACT DOCUMENTS) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called by ENGINEER or previous submittals.

6.27. ENGINEER'S review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the CONTRACT DOCUMENTS unless CONTRACTOR has in writing called ENGINEER'S attention to each such variation at the time of submission as required by paragraph 6.25.2 and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.25.1.

6.28. Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to ENGINEER'S review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

CONTINUING THE WORK:

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

INDEMNIFICATION:

6.30. To the fullest extent permitted by Laws and Regulations CONTRACTOR shall indemnify and hold harmless OWNER and ENGINEER and their consultants, agents and employees from and against all claims, damages, losses and expense, direct, indirect or consequential (including but not limited to fees and charges of Engineers, Architects, Attorneys and other professional and court and arbitration

costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting there from and (b) is caused in whole or in part by any negligent act or omission of OWNER, CONTRACTOR, and Sub-Contractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a partly indemnified hereunder or arises by or is imposed by Law and Regulations regardless of the negligence of any such party. It is the expressed intention of the parties hereto, both OWNER and CONTRACTOR, that the indemnity provided for in this paragraph is indemnity by CONTRACTOR to indemnify and protect OWNER from the consequences of OWNER'S own negligence, whether that negligence is the sole or concurring cause of the injury, death or damage.

6.31. In any and all claims against OWNER or ENGINEER or any of their consultants, agents or employees by any employee or Contractor, any Sub-Contractor, and person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.30 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any Sub-Contractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.32. The obligations of CONTRACTOR under paragraph 6.30 shall not exceed to the liability of ENGINEER, ENGINEER'S consultants, agents or employees arising out of the preparation or approval or maps, drawings, opinions, reports, surveys, Change Orders, designs or Specifications.

ARTICLE 7-OTHER WORK RELATED WORK AT SITE:

7.1. OWNER may perform other work related to the Project at the site by OWNER'S own forces, have other work performed by utility owners or let other direct contracts therefore which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the CONTRACT DOCUMENTS, written notice thereof will be given to CONTRACTOR prior to starting any such other work; and if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the extent thereof, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

7.2. CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and

other contractors.

7.3. If any part of CONTRACTOR'S Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR'S failure to report will constitute and acceptance of the other work as fit and
proper for integration with CONTRACTOR'S work except for latent or non-apparent defects in the other work.

COORDINATION:

7.4. If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Supplementary Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Supplementary Conditions. Unless otherwise provided in the Supplementary Conditions, neither OWNER nor ENGINEER shall have any authority or responsibility in respect of such coordination.

ARTICLE 8-OWNER'S RESPONSIBILITIES

8.1. OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2. In case of termination of the employment or ENGINEER, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under the CONTRACT DOCUMENTS shall be that of the former ENGINEER. Any dispute in connection with such appointment shall be subject to arbitration.

OWNER shall furnish the data required of OWNER under the CONTRACT DOCUMENTS promptly and shall make payments to CONTRACTOR promptly after they are due as provided in paragraphs 14.4 and 14.14.

8.4. OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of sub-surface conditions at the site and existing structures which have been utilized by ENGINEER in preparing the Drawings and Specifications.

8.5. (Delete)

8.6 OWNER is obliged to execute Change Orders as indicated in paragraph 10.4.

8.7. OWNER'S responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8. In connection with OWNER'S right to stop Work or suspend Work, see paragraph 13.10 and 15.1. Paragraph 15.2 deals with OWNER'S right to terminate services on CONTRACTOR under certain circumstances

ARTICLE 9-ENGINEER'S STATUS DURING CONSTRUCTION OWNER'S REPRESENTATIVE:
9.1. ENGINEER will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER'S representative during construction are set forth in the CONTRACT DOCUMENTS and shall not be extended without written consent of OWNER and ENGINEER.

VISITS TO SITE:

9.2. ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the CONTRACT DOCUMENTS. ENGINEER will not be required to made exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the complete Work will conform to the CONTRACT DOCUMENTS. On the basis of such visits and on-site observations as an experienced and qualified design professional, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

PROJECT REPRESENTATION:

9.3. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in observing the performance of the Work. The duties, responsibilities and limitations of authority of any such Resident Project Representative and assistants will be as provided in the Supplemental Conditions. If OWNER designates another agent to represent OWNER at the site who is not the ENGINEER'S agent or employee, the duties, responsibilities and limitations of authority of such other person will be provided in Supplemental Conditions.

CLARIFICATIONS AND INTERPRETATIONS:

9.4. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the CONTRACT DOCUMENTS (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the CONTRACT DOCUMENTS. If CONTRACTOR believes that a written clarification or interpretation justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the
amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Article 11 or Article 12.

AUTHORIZED VARIATIONS IN WORK:

9.5. ENGINEER may authorize minor variations in the Work from the requirements of the CONTRACT DOCUMENTS which do not involve an adjustment in the Contract Price of the Contract Time and are consistent with the overall intent of the CONTRACT DOCUMENTS. These may be accomplished by a Field Order and will be binding on OWNER, and also on CONTRACTOR who shall perform the Work involved promptly. If CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree as to the amount thereof, CONTRACTOR may make a claim therefor as provided in Article 11 or 12.

REJECTING DEFECTIVE WORK:

9.6. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or complete.

SHOP DRAWINGS, CHANGE ORDERS AND PAYMENTS:

9.7. In connection with ENGINEER'S responsibility for Shop Drawings and samples, see paragraphs 6.23 through 6.29 inclusive.

9.8. In connection with ENGINEER'S responsibility as to Change Orders, see Articles 10,11, and 12.

9.9. In connection with ENGINEER'S responsibility in respect of Applications for Payment, etc, see Article 14.

DETERMINATIONS FOR UNIT PRICES:

9.10. (Delete)

DECISIONS ON DISPUTES:

9.11. ENGINEER will be the initial interpreter of the requirements of the CONTRACT DOCUMENTS and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the CONTRACT DOCUMENTS pertaining to the performance and furnishing of the Work and claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered by the claimant to ENGINEER and the other party to the Agreement promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within sixty days after such occurrence unless ENGINEER allows and additional period of time to ascertain more accurate data in support of the claim.

9.12. When functioning as interpreter and judge under paragraphs 9.10 and 9.11, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any

interpretation or decision rendered in good faith in such capacity. Then rendering of a decision by ENGINEER pursuant to paragraphs 9.10 and 9.11 with respect to any such claim, dispute or other matter (except and which have been waived by the making or acceptance of final payments as provided in paragraph 14.16) will be a condition precedent to any exercise by OWNER or CONTRACTOR or such rights or remedies as either may otherwise have under the CONTRACT DOCUMENTS or by Laws or Regulations in respect of any such claim, dispute or other matter.

LIMITATIONS ON ENGINEER'S RESPONSIBILITIES:

9.13 Neither ENGINEER'S authority to act under this Article 9 or elsewhere in the CONTRACT DOCUMENTS nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Sub-Contractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

9.14. Whenever in the CONTRACT DOCUMENTS the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives of the effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction review or judgment will be solely to evaluate the Work for compliance with the CONTRACT DOCUMENTS (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 9.15 and 6.16.

9.15. ENGINEER will not be responsible for CONTRACTOR'S means, methods, technique, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR'S failure to perform or furnish the Work in accordance with the CONTRACT DOCUMENTS.

9.16. ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR or of any Sub-Contractor, any Supplier or any other person or organization performing or furnishing any of the Work.

ARTICLE 10-CHANGES IN THE WORK

Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized, be a written amendment, a Change Order or a Work Directive Change. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the CONTRACT DOCUMENTS (except as otherwise specifically indicated).

10.2. If OWNER and CONTRACTOR are unable to agree as to the extent if any of an increase or decrease in the Contract Price or an extension of shortening of the Contract Time that should be allowed

as a result of a work directive change, a claim may be made therefore as provided in Article 11 or Article 12.

10.3. CONTRACTOR shall not be entitled to any increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the CONTRACT DOCUMENTS as amended modified and supplemented as provided in paragraphs 3.4 and 3.5, except in the case of any emergency as provided in paragraph 6.22 and except in the case of uncovering Work as provided in paragraph 13.9.

10.4. OWNER and CONTRACTOR shall execute appropriate Change Orders (or Written Amendments) covering:

10.4.1. Changes in the Work that are ordered by OWNER pursuant to paragraph 10.1, are required because of acceptance of defective Work under paragraph 13.13 or correcting defective Work under paragraph 13.14, or are agreed to by the parties;

10.4.2. Changes in the Contract Price or Contract Time which are agreed to by the parties; and

10.4.3. Changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11, provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the CONTRACT DOCUMENTS and applicable laws and regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5. If notice of any change affecting the general scope of the Work of the provisions of the CONTRACT DOCUMENTS (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 11-CHANGE OR CONTRACT PRICE

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount

claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3. The value of any Work covered by a Change Order of any claim for an increase or decrease in the Contract Price shall be determined in of the following ways:

11.3.1. (Delete)

11.3.2. By mutual acceptance of a lump sum, which at the discretion of OWNER may be based in whole or in part on the same unit costs outlined in the Bid included in the CONTRACT DOCUMENTS which may include an allowance for overhead and profit.

ARTICLE 12-CHANGE OF CONTRACT TIME

12.1. The Contract Time may only be changed by a Change Order or a Written Amendment. Any Claim for an extension or shortening of the Contract Time shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire
adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event.

All claims for adjustment in the Contract Time shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2. The Contract Time will be extended in an amount to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefore as provided in paragraph 1.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 7, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

12.3. All time limits stated in the CONTRACT DOCUMENTS are of the essence of the Agreement. The provisions of this Article 12 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) for delay by either party.

ARTICLE 13 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTIONS, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

WARRANTY AND GUARANTEE:

13.1. CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all Work will be in accordance with the CONTRACT DOCUMENTS and will not be defective. Prompt notice of all defects shall be given to CONTRACTOR. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 13.

ACCESS TO WORK:

13.2. ENGINEER and ENGINEER'S representatives, other representatives of OWNER, testing agencies an governmental agencies with jurisdictional interests will have access to the work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

TESTS AND INSPECTION:

13.3. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

13.4. If laws and Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefore, pay all costs in connection therewith and furnish ENGINEER the required certificates of inspection, testing or approval.

CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with OWNER'S or ENGINEER'S acceptance of a supplier or materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to CONTRACTOR'S purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals other than those which are required by the CONTRACT DOCUMENTS shall be paid by OWNER (unless otherwise specified).

13.5. All inspections, tests or approvals other than those required by Laws or regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR (or by ENGINEER if so specified).

13.6. If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR'S expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR'S intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.7. Neither observations by ENGINEER nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR'S obligations to perform the Work in accordance with the CONTRACT DOCUMENTS.

UNCOVERING WORK:

13.8. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER'S observation and replaced at CONTRACTOR'S EXPENSE.

13.9. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, a ENGINEER'S request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals), and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim thereof, may make a claim therefore as provided in Article
11. If, however, such work is not found to be defective, CONTRACTOR shall be allowed to increase in the Contract Price or an extension of the contract time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

OWNER MAY STOP THE WORK:

13.10. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the CONTRACT DOCUMENTS, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this rights for the benefit of CONTRACTOR or any other party.

CORRECTION OR REMOVAL OF DEFECTIVE WORK:

13.11. If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct al defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by Engineer, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

ONE-YEAR CORRECTION PERIOD:

13.12. If within one year after the date of issue of the Certificate of Acceptance or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the CONTRACT DOCUMENTS or by any specific provision of the CONTRACT

DOCUMENTS, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected pr the rejected work removed and replaced, and all direct, indirect and consequential costs and replacement (including but not limited to fees and charges of engineers, architect, attorneys, and other professionals) will be paid by CONTRACTOR.

ACCEPTANCE OF DEFECTIVE WORK:

13.13. If, instead of requiring correction of removal and replacement of defective Work, OWNER (and, prior to ENGINEER'S recommendation of final payment, also ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER's evaluation of and determination to accept such defective Work (such cost to be approved by ENGINEER as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals).

If any such acceptance occurs prior to ENGINEER'S recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the CONTRACT DOCUMENTS with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

OWNER MAY CORRECT DEFECTIVE WORK:

13.14. If COCNTRACTOR fails within a reasonable time after written notice of ENGINEER to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11, or if CONTRACTOR fails to perform the Work in accordance with the CONTRACT DOCUMENTS, or if CONTRACTOR fails to comply with any other provision of the CONTRACT DOCUMENTS, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR'S services related thereto, take possession of CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER'S representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in Exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and a Change Order will be issued incorporating the necessary revisions in the CONTRACT DOCUMENTS with respect to the Work; and OWNER shall be

entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. Such direct, indirect and OWNER consequential costs will include but not be limited to fees and charges of engineers, architects, and other professionals, all court and arbitration costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR'S defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies hereunder.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION SCHEDULE OF VALUES:

14.1 The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and will be incorporated into a form of Application of Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

APPLICATION FOR PROGRESS PAYMENT:

14.2 At least twenty days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the CONTRACT DOCUMENTS. If Payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be 10% (ten percent). The retainage shall be held by the owner until all the work has been satisfactorily completed and accepted in writing. At that time the retainage may be released and included in the Final Payment.

CONTRACTOR'S WARRANTY OF TITLE:

14.3. CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT:

14.4 ENGINEER will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing ENGINEER'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and re-submit the Application twenty (20) days after the presentation of the Application for Payment with ENGINEER'S recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due

and when due will be paid by
OWNER to CONTRACTOR.

14.5 ENGINEER'S recommendation of any payment requested in an application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional and on ENGINEER'S review of the Application for Payment and the accompanying data and schedules that the work has progressed to the point indicated that to the best of the ENGINEER'S knowledge, information and belief, the quality of the Work is in accordance with the CONTRACT DOCUMENTS (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent test called for in the CONTRACT DOCUMENTS, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10, and to any other qualifications stated the recommendation); and that CONTRACTOR is entitled to payment of the amount recommended.

However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that exhaustive or continuous on-site inspection have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to ENGINEER in the CONTRACT DOCUMENTS or that there may be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or OWNER to withhold payment to CONTRACTOR.

14.6 ENGINEER'S recommendation of final payment will constitute an additional representation by ENGINEER to OWNER that the conditions precedent to CONTRACTOR'S being entitled to final payment as set forth in paragraph 14.13 have been fulfilled.

14.7. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER'S opinion, it would be incorrect to make such representation to OWNER. ENGINEER may also refuse to recommend any such payment, or because of tests, nullify any such payments previously recommended, to such extent as may be necessary in ENGINEER'S opinion to protect OWNER from loss because:

14.7.1 The Work is defective, or completed Work has been damaged requiring correction or replacement;

14.7.2. The Contract Price has been reduced by Written Amendment or Change Order,

14.7.3. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.14.

14.7.4. ENGINEER'S actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.9 inclusive.

OWNER may refuse to make payment of the full amount recommended by ENGINEER because claims have been made against OWNER on account of CONTRACTOR'S performance of furnishing of the Work or Liens have been filed in connection with the Work or there are other items

entitling OWNER to a set-off against the amount recommended, but OWNER must give CONTRACTOR immediate written Notice (with a copy to ENGINEER) stating the reasons for such action.

SUBSTANTIAL COMPLETION:

14.8 When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER considers The Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion.

There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If, after consideration of OWNER'S objections, ENGINEER considers the Work substantially complete, ENGINEER will within said fourteen days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties. Unless OWNER and CONTRACTOR agree otherwise in writing and to inform ENGINEER prior to ENGINEER'S issuing the definitive certificate of Substantial completion, ENGINEER'S aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

PARTIAL UTILIZATION:

14.10. Use by OWNER of any finished part of the Work, which has specifically been identified in the

CONTRACT DOCUMENTS, or which OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER without significant interference with CONTRACTOR'S performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER and ENGINEER that said part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.10.2 OWNER at any time may request CONTRACTOR in writing to permit OWNER to take over operation of any such part of the Work although it is not substantially complete. A copy of such request will be sent to ENGINEER and within a reasonable time thereafter OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If CONTRACTOR does not object in writing to OWNER and ENGINEER that such part of the Work is not ready for separate operation by OWNER, ENGINEER will finalize the list of items to be completed or corrected and will deliver such list to OWNER and CONTRACTOR together with written recommendation as to the division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the Work which will become binding upon OWNER and CONTRACTOR at the time when OWNER takes over such operation (unless they shall have otherwise agreed in writing and so informed ENGINEER). During such operation and prior to Substantial Completion of such part of the Work, OWNER shall allow CONTRACTOR reasonable access to complete or correct items on said list and to complete other related Work.

14.10.3 No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.15 in respect of property insurance. FINAL INSPECTION:

14.11 Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

FINAL APPLICATION FOR PAYMENT:

14.12 After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents-all as required by the CONTRACT DOCUMENTS, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 14.16), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the CONTRACT DOCUMENTS, together with complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Sub-Contractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

FINAL PAYMENT AND ACCEPTANCE:

If, on the basis of ENGINEER'S observation of the Work during construction and final inspection, and ENGINEER'S review of the final Application for Payment and accompanying documentation, all required by the CONTRACT DOCUMENTS, ENGINEER is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the CONTRACT DOCUMENTS have been fulfilled, ENGINEER will, within ten days after receipt of final Application for Payment, indicate in writing ENGINEER'S recommendation of payment and present the Application to OWNER for payment.

Thereupon ENGINEER will give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.16. otherwise, the ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and re-submit the Application. Thirty days after presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance, and with ENGINEER'S recommendation and notice of acceptability the amount recommended by ENGINEER will become due and will be paid by OWNER to CONTRACTOR.

14.14 If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR'S final Application for payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute

a waiver of claims.

CONTRACTOR'S CONTINUING OBLIGATION:

14.15. CONTRACTOR'S obligation to perform and complete the Work in accordance with the CONTRACT DOCUMENTS shall be absolute. Neither recommendation of any progress or final payment by ENGINEER, nor the issuance of a certificate of Substantial Completion, nor any payment by OWNER to CONTRACTOR under the CONTRACT DOCUMENTS, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the CONTRACT DOCUMENTS or release of CONTRACTOR'S obligation to perform the Work in accordance with the CONTRACT DOCUMENTS.

WAIVER OF CLAIMS:

14.16. The making and acceptance of final payment will constitute:

14.16.1 A waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.11 or from failure to comply with the CONTRACT DOCUMENTS or the terms of any special guarantees specified therein; however it will constitute a waiver by OWNER of any rights in respect of CONTRACTOR'S continuing obligations under the CONTRACT DOCUMENTS; and

14.16.2 A waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15- SUSPENSION OF WORK AND TERMINATION OWNER MAY SUSPEND WORK:
15.1 OWNER may at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefore as provided in Articles 11 and 12.

OWNER MAY TERMINATE:

15.2 Upon the occurrence of any one or more of the following events:

15.2.1. If CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filling, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other Federal or State law in effect at the time relating to bankruptcy or insolvency;

15.2.2. If a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other Federal or State law in effect at the time relating to bankruptcy or insolvency;

15.2.3. If CONTRACTOR makes a general assignment for the benefit of creditors;

15.2.4. If a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose or enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR'S creditors;

15.2.5. If CONTRACTOR admits in writing as inability to pay its debts generally as they become due;

15.2.6. If CONTRACTOR persistently fails to perform the work in accordance with the CONTRACT DOCUMENTS (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment of failure to supply sufficient skilled workers or suitable materials or equipment of failure to adhere to the progress schedule established under
paragraph 2.9 as revised from time to time);

15.2.7. If CONTRACTOR disregards Law or Regulations of any public body having jurisdiction;

15.2.8. If CONTRACTOR disregards the authority of ENGINEER; or

15.2.9. If CONTRACTOR otherwise violates in any substantial way any provisions of the CONTRACT DOCUMENTS; OWNER (and the surety, if there be one) seven days written the extent notice and to permitted by Laws and Regulations, terminate the CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion) incorporated in the Work all materials and equipment stored elsewhere and finish the Work as Owner may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs), such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights to remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3 Where CONTRACTOR'S services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter occur. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven days' written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expense, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs.

CONTRACTOR MAY STOP WORK OR TERMINATE:

15.5. If, through no act or fault of CONTRACTOR, the Work is suspended for a period or more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty days after it is submitted,
or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to OWNER and ENGINEER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 6.29 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

ARTICLE 16 - ARBITRATION
Deleted

ARTICLE 17 - MISCELLANEOUS GIVING NOTICE:
17.1 Whenever any provision of the CONTRACT DOCUMENTS requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address know to the giver of the notice.

17.2.1. When any period of time is referred to in the CONTRACT DOCUMENTS by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.2.2. A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

GENERAL:

17.3. Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a

reasonable time of the first observance of such injury or damage. The provision of this paragraph 17.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

17.4. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligation imposed upon CONTRACTOR by paragraphs 6.30, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws and Regulations, by special warranty or guarantee or by other provisions of the CONTRACT DOCUMENTS, and the provisions of this paragraph will be as effective as if repeated specifically in the CONTRACT DOCUMENTS in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the CONTRACT DOCUMENTS will survive final payment and termination or completion of the Agreement.

17.5 STANDARD WORK HOURS: The standard work hours for the OWNER is 8:00 am to 5:00 pm, Monday through Friday. Should the Contractor elect to work on Saturday, Sundays or holidays, he shall be responsible for paying overtime charges for the OWNERS personnel involved. These charges will be at cost and will be calculated either at time and a half or double time, as applicable to the particular day being worked. Pre-approval shall be obtained from the Engineer or Engineer's representative by completing and signing a OWNER'S Form entitled "CONSTRUCTION INSPECTORS OVERTIME COMPENSATION AUTHORIZATION", prior to commencing any overtime work.

Any work done outside the standard workday, without prior authorization, shall be considered under unauthorized work. The Contractor is required to pay the overtime wages of the OWNER Inspectors that work overtime Mondays through Fridays at time in a half. The Contractor is responsible for the overtime wages of the ONWER inspectors that work Holidays at double time. Minimum hours will be billed to contractor for callouts or for insufficient notice of two (2) hours.

17.6 INDEMNIFICATION

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER, ENGINEER, ENGINEER'S SUBCONSULTANTS AND THE OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AND OTHER CONSULTANTS OF EACH AND ANY OF THEM FROM AND AGAINST ALL CLAIMS, COSTS, LOSSES, AND DAMAGES (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OR ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS AND ALL COURT OR ARBITRATION OR OTHER DISPUTE RESOLUTION COSTS) CAUSED BY, ARISING OUT OF, OR RESULTING FROM, THE PERFORMANCE OF THE WORK, PROVIDED THAT ANY SUCH CLAIM, COST, LOSS OR DAMAGE: (i) IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS, DISEASE, OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY (OTHER THAN THE WORK ITSELF), INCLUDING THE LOSS OF USE RESULTING THEREFROM, AND
(ii) IS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION OF CONTRACTOR, ANY SUBCONTRACTOR, ANY SUPPLIER, ANY PERSON, OR

ORGANIZATION DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM TO PERFORM OR FURNISH ANY OF THE WORK, OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT CAUSED IN PART BY ANY NEGLIGENCE OR OMISSION OF A PERSON OR ENTITY INDEMNIFIED HEREUNDER OR WHETHER LIABILITY IS IMPOSED UPON SUCH INDEMNIFIED PARTY BY LAWS AND REGULATIONS REGARDLESS OF THE NEGLIGENCE OF ANY SUCH PERSON OR ENTITY. CLAIMS, COSTS, LOSSES, DAMAGES, SUITS AND CAUSES OF ACTION, AND ANY AND ALL LIABILITY, COSTS, EXPENSES, SETTLEMENTS, DAMAGES, AND JUDGEMENTS INCURRED IN CONNECTION THEREWITH (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OF ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS, AND ALL COURT OR ARBITRATION OR OTHER DISPUTES RESOLUTION COSTS) WHETHER ARISING IN EQUITY, AT COMMON LAW, OR BY STATUTE, INCLUDING THE TEXAS DECEPTIVE TRADE PRACTICES ACTOR SIMILAR STATUTE OF OTHER JURISDICTIONS, OR UNDER THE LAW OF CONTRACTS, TORTS (INCLUDING WITHOUT LIMITATION, NEGLIGENCE AND STRICT LIABILITY WITHOUT REGARD TO FAULT) OR PROPERTY, OF EVERY KIND OR CHARACTER… (iii) IS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION, OTHER FAULT, BREACH OF CONTRACT OR WARRANTY, VIOLATION OF THE TEXAS DECEPTIVE TRADE PRACTICES ACT, OR STRICT LIABILITY WITHOUT REGARD TO FAULT OF CONTRACTOR…. REGARDLESS OF WHETHER OR NOT CAUSED IN PART BY ANY NEGLIGENCE OR OMISSION, OTHER FAULT, BREACH OF CONTRACT OR WARRANTY, VIOLATION OF THE TEXAS DECEPTIVE TRADE PRACTICES ACT, OR STRICT LIABILITY WITHOUT REGARD TO FAULT OF A PERSON OR ENTITY INDEMNIFIED HEREUNDER…. CONTRACTOR'S OBLIGATIONS OF INDEMNIFICATION UNDER THIS PARAGRAPH 6.20.1 SHALL NOT BE LIMITED BY THE AMOUNT OF ANY INSURANCE.

VIDEOTAPING: The Contractor shall videotape the entire job site, including access to the job site, prior to commencing work. A copy of the videotape shall be provided to the City at the Pre-Construction Conference. The videotape will be held for historical purposes and for resolving complaints/claims from affected property owners. Failure to provide such a tape shall render the contractor liable for claims. Acceptable format is standard VHS tape. Beta format is not acceptable.

Monthly videotaping by the contractor during construction is recommended to protect the contractor's interest against claims and as a basis for extras.

"EXHIBIT K"

SPECIAL CONDITIONS

1. COMPLETION TIME AND LIQUIDATED DAMAGES

The project as indicated in the Plans and Specifications shall be completed within the number of consecutive calendar days stated in the Contract beginning the date of the notice to commence work. Contractors shall submit a monthly request for time extensions, and such requests shall include justification in conformance with the Contract. The time set forth in the Proposal for the completion of the work is an essential element of the contract. The Contractor and Owner understand and agree that a breach of this Contract as to completion on time will cause damage to the Owner. The parties agree that for each and every calendar day the work or an portion thereof shall remain uncompleted after the expiration of the time limits, the amount per day given in the following schedule will be deducted from the money due or to become due the Contractor, not as penalty, but as liquidated damages and added expense of engineering and overhead.

The Contractor shall within the (10) days from the beginning of any delay notify the Engineer, in writing, of the causes of delay. The Engineer shall ascertain the facts, and the extent of delay and his findings of the facts thereon shall be final and conclusive.

2. CONTRACT DRAWINGS

The Contractor will be furnished three (3) complete sets of drawings by the Engineer for use during construction of the project. Only Plans and Specifications marked "Approved for Construction" and bearing signature of the Engineer on said mark shall be used as construction drawings. Any additional set of construction plans can be provided to contractor upon payment of $100.00.

3. DISPOSAL OF RUBBISH

It shall be the responsibility of the Contractor to dispose of all rubbish, brush, fencing, trees or other objectionable materials by burning, removal form the site or whatever means necessary to effect such disposal.

4. UTILITY SERVICES FOR CONSTRUCTION

Contractor will be responsible for furnishing water or any other utility services required for construction of project.

5. TESTING, INSPECTION AND CONTROL

Testing and inspection of materials required by these specifications shall be by a commercial testing laboratory. The laboratory shall be selected by the Owner and laboratory services and field testing

required by the Technical Specifications for control of work, such as testing of concrete cylinders made on the job shall be paid for by the Contractor. Additional laboratory services as dictated below shall be paid for y the Contractor:

A. The cost of laboratory services required to establish mix design for Portland Cement Concrete and Asphaltic concrete mixture, testing of aggregates, fixing gradations, the preparations and testing of design cylinders or specimens and other such services required to establish mix design, or to redesign the mix when required due to change in source of materials.

B. The Contractor shall furnish all materials and test specifications for testing as selected by the Testing Agency.

C. Mills test will be required for reinforcing steel, and cement, and mill certificates will be acceptable when it is definite that the test sheets apply to the material being supplied.

D. Any tests or inspections performed exclusively for the Contractor's convenience and for retests caused by initial nonconformance of the materials with the Contract Documents.

The testing mentioned in this section will be performed at a frequency required by the specification or at a frequency determined by the Engineer or the Engineer's representative. The Engineer shall require sufficient testing to ensure that the requirements of the specifications are met by the Contractor.

6. LICENSE, FEES AND PERMITS

It shall be the Contractor's responsibility to make necessary applications and obtain all permits required by all agencies, including, but not limited to, the City, County, State, and Federal government for this project.

7. TRAFFIC

It shall be the responsibility of the Contractor to provide for the safety and convenience of traffic so as to comply with all existing traffic regulations and ordinances as may apply.

8. UNDERGROUND OBSTACLES

Pipelines and other existing underground installations and structures in the vicinity of the work are shown on the drawings according o the best information available to the Owner. The Owner does not guarantee the accuracy of such information. The Contractor shall make every effort to locate all underground pipelines, conduits and structures by contacting owners of underground utilities an by prospecting in advance of trench excavation. The repair of existing utilities cut by the Contractor shall be made at the expense of the Contractor, and shall be scheduled so as to cause the least possible inconvenience to the public. Any delay or extra cost to the Contractor caused by pipelines or other underground structures or obstructions not shown by the Plans, or found in location of different from

those indicated, shall not constitute a claim for extra work, additional payment or damages.

9. RECORD DRAWINGS

Upon completion of the project and before final payment is made to the Contractor, the Contractor shall deliver one (1) complete set of record drawings and said drawings shall be neat, accurate and orderly and produced to the satisfaction of the Engineer.

10. OTHER CONTRACTS

Other contracts may be underway concurrently in this area. Contractor shall afford other contractors and utility companies reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.

11. MATERIALS AND WORKSHIP

When materials are specified by a trade or brand name, it is not the intention of the Owner to discriminate against an equal product of another manufacturer, but to set a definite standard of quality or performance and to establish an equal basis for the evaluation of bids.

12. REPAIR TO ROADS

The Contractor shall be responsible for repairing any damage to City or County Roads and road owned by the Owner which are used by the Contractor in connection with operations under this Contract. Said repair work shall be at the Contractor's expense. Any debris, mud and related sources caused by contractor will need to be hauled off and cleaned.

13. PUBLIC UTILITIES

A. All poles, wires, cables, conduits, pipelines, or other structures within the work area, belonging to municipalities or public utility corporations, shall be protected by the Contractor.
B. The Contractor will conduct the work along any section of this project which is crossed by, or adjacent to, a public utility such as high lines, sewer lines, etc., in a manner so that no damages result to these utilities. The Contractor will be held solely responsible for damages to such utilities as a result of careless or negligent operations.

14. PRE-CONSTRUCTION CONFERENCE

Upon award of a Contract to the successful bidder, the Contractor shall meet with the Engineer at a designated location and at a time set by the Engineer. A schedule of procedure for a sequence of construction shall be agreed upon at this conference.

15. LINES AND GRADES

Special attention is directed to Part 2, Paragraph 2.6, Page GC-5, of the General Conditions of Agreement. Special care should be taken by the Contractor to avoid disturbance of Engineer's horizontal and vertical control points. The protection of construction stakes (horizontal and vertical control points), is the Contractor's responsibility and re-staking or re-establishment of these points or stakes will be done by the Engineer at the Contractor's expense. Survey Party time for re-staking will be charged at hourly rates in accordance with the Engineer's schedule of hourly rates which is in effect at the time of the re-staking. (Refer to SG5 Notification)

16. STAKING FOR CONSTRUCTION General

The staking services that the Engineer will furnish and the responsibility of the Contractor respecting the uses of and maintenance of all stakes is outlined under this section. (Refer to Notification section on this document)

No stakes will be furnished until the right-of-way or easements are acceptable condition other than clearing stakes.

Notification

The Contractor shall notify the Engineer, in writing, at least three (3) full working days in advance of the date when specific staking services are desired, giving the specific location and/or limiting stations. The Contractor shall notify the Engineer five (5) days prior to start-up so as to allow the Engineer to set his control. The Engineer shall be notified of any change of sequence which is established at pre-construction conferences. Construction stakeout is the Contractor's responsibility. (non-pay item).

Control Stakes

Stakes which constitute reference points for all construction work will be conspicuously marked with flagging tape in accordance with the code in these Specifications. It will be the responsibility of the Contractor to inform his employees and his subcontractors of their importance, and the necessity for their preservation. The cost of replacing such controls, should it become necessary for any reason whatsoever, shall be at the Contractor's expense. If the removal of a control stake is required by the construction operations of the Contractor or his subcontractors, advance notice in writing, of at least three (3) full working days shall be given to the Engineer, who will reference and remove said stake or stakes at no cost to the Contractor.

The Contractor shall employ competent grade setters to control the grading operations from the information provided on the reference stakes.

No additional stakes will be furnished, except as requested in writing by the Contractor and paid for by him. This applies to all re-staking for whatever reason, as well as for additional staking which the Contractor may request. Charges for the additional staking will be deducted from next progress payment that is issued to the Owner by the Engineer.

17. INSURANCE REQUIREMENTS

The Contractor, at his expense, shall take out and keep in force throughout the term of this Contract, the following insurance coverage in the amounts specified below to cover all of his operations in connection with the work to be performed under the Technical Specifications. The insurance certificates shall be submitted to the Owner for acceptance prior to move-in and beginning work

MINIMUM INSURANCE REQUIRMENTS

INSURANCE TYPE
Workman's Compensation General Liability
Comprehensive Form
Premises-Operations Products/Completed Operations Hazard Contractual Insurance Independent Contractors Personal Injury

Automobile Liability Comprehensive Owned
Hired
Non-owned

Excess Liability
Umbrella Form

LIMITS OF LIABILITY

As provided by Texas Workman's Compensation Act.

Bodily Injury
$300,000/Person
$500,000/Occurance Property Damage
$100,000/Occurance
$300,00/Aggregate Personal Injury
$500,000

Bodily Injury
$300,000/Person
$500,000/Occurance Property Damage
$300,000/Occurance

$100,000

The remaining term of all policies shall extend at least to the least to the completion date of this Contract; if the expiration date shall occur prior to final completion of all operations hereunder, Contractor shall, not less than fifteen (15) days prior to expiration date, furnish evidence of renewal of

or extension of such insurance. All such evidence of insurance shall provide for ten (10) days prior notice to be given to Owner in the event of cancellations.

The Contractor agrees to indemnify and to hold the Owner and the Engineer harmless from and against any and all damages, claims, demands, suits, judgments and costs including attorney's fees and expenses for or on account of damage to property of any person, firm corporation, or Government agency, or death of or injury to any person or persons (including property and employees of the Owner, the Contractor, and employees of the Contractor) directly or indirectly arising out of, or caused by or in connection with the performance of or failure to perform any work provided for hereunder by the Contractor, his subcontractors, or their or the Contractor's agents, servants, or employees.
The Contractor will be held accountable for all insurance coverage's including those of sub- contractors, and provide that all the above mentioned policies will be with insurance carriers.

18. UNBALINCING OF BIDS AND USAGE OF SPECIAL ITEMS

The Contractor's attention is directed to the fact that unbalancing of unit bid prices for any reason shall be considered justification for rejection of the bid. The Contractor may not decrease these bid prices, however, he may increase the bid prices as he may see fit. In instances where subsurface seepage of water above trench bottom requires the drying up of trench bottom, the use of washed gravelor shell in trench bottom will be permitted.

19. ARBITRATION

Arbitration under this agreement shall be subject to the provisions of the Texas General Arbitration Act, Articles 224 to 238-6, V.A.C.S. To any extend that the provisions of Section 16 of the General Conditions are in conflict with or inconsistent with any provision of such Act, the provisions of such Act shall control. Both the Owner and Contractor shall concur on Arbitration as a method of settling any particular dispute.

20. PARTIAL PAYMENTS

Article 14.2 APPLICATION FOR PROGRESS PAYMENT (Standard General Conditions of the Construction Contract) is hereby supplemented with the following:
On or before the last Monday of each month, the CONTRACTOR shall prepare and submit to the Engineer for approval or modification a statement showing as completely as practicable the total value of the work done by the Contractor up to and including the last day of the preceding month; said statement shall also include the value of all sound materials delivered on the site of the work that are to be fabricated into the work.
The OWNER shall then pay the CONTRACTOR on or before the 2nd Monday of the following month the total amount of the approved statement, less 10 percent of the amount thereof, which 10 percent shall be retained until final payment, and further less all previous payments and all further sums that may be retained by the OWNER under the terms of this Agreement. It is understood, however, that in case the whole work be near the completion and some unexpected and unusual delay occurs due to not fault or neglect on the part of the CONTRACTOR, the OWNER may-upon written recommendation of the ENGINEER- pay a reasonable and equitable portion of the retained percentage to the CONTRACTOR, or the CONTRACTOR at the OWNER'S option, may be relieved of the obligation to fully complete the work and, thereupon, the CONTRACTOR shall receive payment of the balance due him under the contract subject only to the conditions stated under "Final Payment".

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 5/21/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Acrisure South Insurance Services, LLC 1317 Citizens Blvd Leesburg FL 34748 License#: L122365 TRAFMAN-04	CONTACT NAME: Melissa Gaviria PHONE (A/C, No, Ext): 254-314-8290 FAX (A/C, No): E-MAIL ADDRESS: mgaviria@acrisure.com
INSURED The Levy Company LLC 16294 IH-35 N Selma TX 78154	INSURER(S) AFFORDING COVERAGE / NAIC # INSURER A : Great American Insurance Company 16691 INSURER B : Great American Alliance Insurance Company 26832 INSURER C : Homesite Insurance Company 17221 INSURER D : AXIS Surplus Insurance Company 26620 INSURER E : Berkley Assurance Company 39462 INSURER F : AGCS Marine Insurance Company 22837

COVERAGES **CERTIFICATE NUMBER:** 1014661268 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:	Y	Y	GLP 5883167 00	4/1/2026	4/1/2027	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 100,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY [ ] SCHEDULED AUTOS X HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY	Y	Y	CAP 5883169 00	4/1/2026	4/1/2027	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 2,000,000 $ $ $
C D	UMBRELLA LIAB [X] OCCUR X EXCESS LIAB [ ] CLAIMS-MADE DED [X] RETENTION $ 0			CXP-048920-01 P-001-00153110-02	4/1/2026 4/1/2026	4/1/2027 4/1/2027	EACH OCCURRENCE AGGREGATE Excess 2nd Layer	$ 2,000,000 $ 2,000,000 $ 2,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	Y	WC 5883168 00	4/1/2026	4/1/2027	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
A E F	3rd Layer Excess Liab Poll/Prof Liab Equipment Floater			TUE F313373 01 PCAB-5030870-0426 MXI93088760	4/1/2026 4/1/2026 4/1/2026	4/1/2027 4/1/2027 4/1/2027	Each/Aggregate Each/Aggregate Leased/Rented	6,000,000 3,000,000 500,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

The Certificate Holder is included as an Additional Insured for ongoing operations, including products and completed operations, under General Liability, and for Auto Liability when required by written contract. General Liability and Auto Liability are primary and non-contributory when required by written Contract. Waiver of subrogation applies to General Liability, Auto Liability, and Workers' Compensation for the Certificate Holder when required by written contract. Umbrella is follow form of the General Liability, Auto and Workers Compensation policies subject to policy terms and conditions. A 30-day notice of cancellation applies, except for 10 days in the case of non-payment of premium, in accordance with policy terms and conditions.

All City of Brownsville projects

CERTIFICATE HOLDER

City of Brownsville
1001 E. Elizabeth St.
Brownsville TX 78520

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Jimmy Irwin

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Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent must disclose any conflicts of interest related to the goods and/or services associated with this solicitation. A conflict-of-interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s). The City reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

If a conflict of interest exists, the Respondent must:

- Complete Form CIQ
- File the form with the City Secretary
- Include a copy of the completed Form CIQ with the proposal

If no conflict of interest exists, Form CIQ is not required. Regardless of whether a conflict exists, this Form 2 must be completed and signed.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict-of-interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1034 E Levee Street, City Plaza, 1st Floor, Brownsville, TX 78520
Email: City.Secretary@brownsvilletx.gov
Phone: (956) 548-6042

Certification

By signing below, the Respondent certifies that they have reviewed and understand the requirements of Chapter 176, Texas Local Government Code and have determined whether a conflict of interest exists. The Respondent further certifies that, if a conflict of interest exists, a completed Conflict of Interest Questionnaire (Form CIQ) has been or will be filed with the City Secretary in accordance with state law and that a copy of the completed Form CIQ is included with this submission, if applicable. The Respondent affirms that all information provided is true and correct and that they are authorized to bind the entity.

Signature: _____

Printed Name: Russell Perry

Title: President

Date: 05/27/26

Company Name: The Levy Company, LLC

Phone: 210-497-4500

Email: rperry@levycompany.com

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor doing business with local governmental entity

FORM CIQ

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

The Levy Company, LLC

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.)

3 **Name of local government officer about whom the information is being disclosed.**

NA

Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☒ No

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☒ No

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1).

7 Signature of vendor doing business with the governmental entity — Date: 5/27/26

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print, sign, and notarize the TEC Form 1295 and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC's website in accordance with state law.

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed and notarized in accordance with TEC requirements.

Signature: _____

Printed Name: Russell Perry

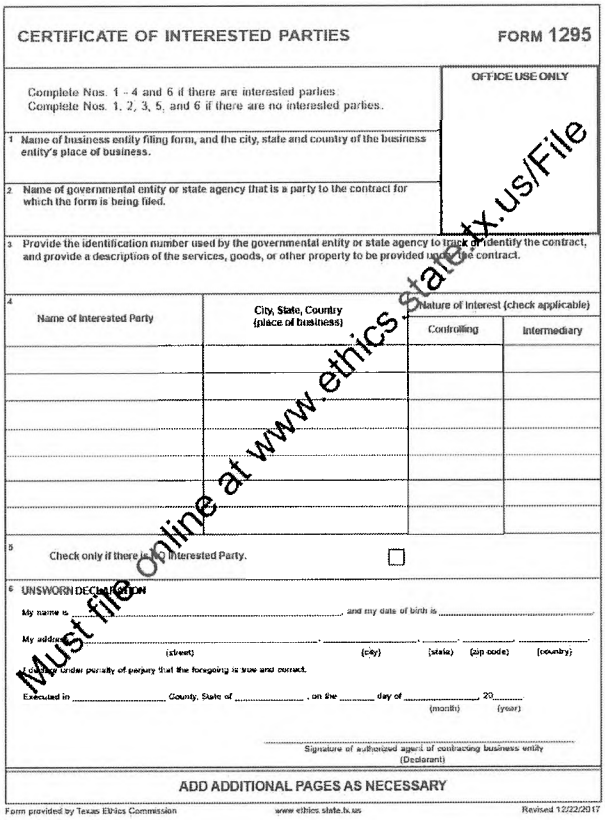
Title: President

Date: 05/27/26

Company Name: The Levy Company, LLC

Phone: 210-497-4500

Email: rperry@levycompany.com



CERTIFICATE OF INTERESTED PARTIES — FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____ (street) _____ (city) _____ (state) _____ (zip code) _____ (country).

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____ (month), 20_____ (year).

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1520164

Date Filed:
09/23/2026

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

The Levy Company, LLC
Selma, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

The City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

144-26-EPW-IFB
Traffic Signal Communication Development

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is Jacob Levy, and my date of birth is 05/13/1987.

My address is 16294 IH 35 North, Selma (city), Tx (state), 78154 (zip code), US (country).

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Guadalupe County, State of Texas, on the 24th day of Sept. (month), 2026 (year).

Signature of authorized agent of contracting business entity
(Declarant)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1520164

Date Filed:
09/23/2026

Date Acknowledged:
09/28/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

The Levy Company, LLC
Selma, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

The City of Brownsville

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

144-26-EPW-IFB
Traffic Signal Communication Development

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

FORM 14: SYSTEM FOR AWARD MANAGEMENT (SAM.GOV) RECORD SEARCH

This project is funded by federal funds, which require all contractors and vendors to be in good standing according to SAM.gov and any applicable state requirements.

Verification of SAM.gov Status

1. Respondent must not be suspended or debarred at the time of the proposal submittal. The proposal response package must include a completed Non-Debarment Certification Form located **on the next page** herein.
2. All Respondents must be pre-vetted for eligibility to perform the outlined federally funded scope of work. A printed screenshot from the SAM.gov website verifies whether the Vendor is excluded from contract participation at the federal level

Contract Award

The federal funding recipient must verify the SAM.gov status of the Respondent(s) selected for contract award prior to execution of the contract as stated in the Non-Debarment Certification Form. The final verification of the Respondent's SAM.gov status is completed prior to contract award, in addition to the initial verification documentation provided with the proposal response submittal.

FORM 14: SYSTEM FOR AWARD MANAGEMENT (SAM.GOV) RECORD SEARCH (CONTINUED)

NON-DEBARMENT CERTIFICATION FORM			
COMPANY/ENTITY LEGAL NAME: The Levy Company, LLC			
STREET ADDRESS: 16294 IH 35 North			
CITY: Selma	**STATE:** Texas	**ZIP:** 78154	
CONTACT NAME: Russell Perry			
CONTACT EMAIL: rperry@levycompany.com		**CONTACT PHONE:** 210-497-4500	
***UEI #**	GXHRRB1S3721	****TIN #**	

*Subrecipients are required to have a Unique Entity Identifier (UEI) Number prior to an award. All entities must be pre-vetted for eligibility/ability to perform the outlined ARPA funded scope of work and a record (PDF of SAM.gov screenshot) of SAM debarment clearance must be obtained prior to entering into any final contracts. **Beneficiary Entities are required to have UEI and/or TIN.

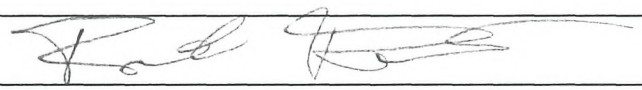
APPLICABLE REGULATIONS: As stated in federal funding requirements: *"OMB Guidelines to Agencies on Government wide Debarment and Suspension (Nonprocurement), 2 CFR Part 180, including the requirement to include a term or condition in all lower-tier covered transactions (contracts and subcontracts described in 2 CFR Part 180, subpart B) that the award is subject to 2 CFR Part 180 and any applicable agency-specific implementing regulations."*

Also, Federal Executive Order (E.O.) 12549: "Debarment" requires that contractors, beneficiaries or subrecipient organizations and their principals – who are receiving awards, using federal funds, are not debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any federal department or agency from doing business with the federal government. By signing this document, you certify that your organization and its principals are not debarred. Failure to comply or attempts to edit this language may disqualify you from receiving or retaining funds. Information on debarment is available at the following website: www.sam.gov

Be advised that we may pursue available remedies per 2 CFR 180.360 as an federally funded recipient entity: *"If a federal agency later determines that you failed to tell the [awarding agency] that you were excluded or disqualified at the time you entered into the covered transaction with that person/awarding agency, the agency may pursue any available remedies, including suspension and debarment."*

[INITIAL]	CERTIFICATION & SIGNATURE
	We hereby certify that we are not excluded, disqualified, or debarred from receiving federally funded awards.
	We hereby confirm that if that status should change within the course of this agreement, we will provide notification immediately. Failure to do so may result in this agreement's termination and/or the repayment of funds.

Your signature certifies that the information provided on this form is correct and that neither you nor your principal(s) is/are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal department or agency.

SIGNATURE 

PRINTED NAME & TITLE Russell Perry, President **DATE** 5/27/26

FOR DEPARTMENT USE ONLY

SAM Debarment/Certification Record of Clearance	Yes [ ] No [ ]	Note:
State of Texas Debarred Vendor List Cleared	Yes [ ] No [ ]	Note:
Verified By:	Yes [ ] No [ ]	Date:

SAM.GOV®

THE LEVY COMPANY, LLC

Unique Entity ID	CAGE / NCAGE	Purpose of Registration
GXHRRB1S3721	**253D1**	**All Awards**
Registration Status	Expiration Date	
Active Registration	**Sep 8, 2027**	
Physical Address	Mailing Address	
16294 Interstate 35 N **Selma, Texas 78154-1212** **United States**	**16294 Interstate 35 N** **Selma, Texas 78154-1212** **United States**	

Business Information

Doing Business as	Division Name	Division Number
(blank)	**(blank)**	**(blank)**
Congressional District	State / Country of Incorporation	URL
Texas 35	**Texas / United States**	**www.levycompany.com**

Registration Dates

Activation Date	Submission Date	Initial Registration Date
Sep 22, 2026	**Sep 8, 2026**	**Jun 10, 2026**

Entity Dates

Entity Start Date	Fiscal Year End Close Date
Aug 4, 2017	**Dec 31**

Immediate Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Highest Level Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Executive Compensation

In your business or organization's preceding completed fiscal year, did your business or organization (the legal entity to which this specific SAM record, represented by a Unique Entity ID, belongs) receive both of the following: 1. 80 percent or more of your annual gross revenues in U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements and 2. $25,000,000 or more in annual gross revenues from U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements?

No

Does the public have access to information about the compensation of the senior executives in your business or organization (the legal entity to which this specific SAM record, represented by a Unique Entity ID, belongs) through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986?

Not Selected

Proceedings Questions

Is your business or organization, as represented by the Unique Entity ID on this entity registration, responding to a Federal procurement opportunity that contains the provision at FAR 52.209-7, subject to the clause in FAR 52.209-9 in a current Federal contract, or applying for a Federal grant opportunity which contains the award term and condition described in 2 C.F.R. 200 Appendix XII?

No

Does your business or organization, as represented by the Unique Entity ID on this specific SAM record, have current active Federal contracts and/or grants with total value (including any exercised/unexercised options) greater than $10,000,000?

Not Selected

Within the last five years, had the business or organization (represented by the Unique Entity ID on this specific SAM record) and/or any of its principals, in connection with the award to or performance by the business or organization of a Federal contract or grant, been the subject of a Federal or State (1) criminal proceeding resulting in a conviction or other acknowledgment of fault; (2) civil proceeding resulting in a finding of fault with a monetary fine, penalty, reimbursement, restitution, and/or damages greater than $5,000, or other acknowledgment of fault; and/or (3) administrative proceeding resulting in a finding of fault with either a monetary fine or penalty greater than $5,000 or reimbursement, restitution, or damages greater than $100,000, or other acknowledgment of fault?

Not Selected

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure
Partnership or Limited Liability Partnership

Entity Type
Business or Organization

Organization Factors
(blank)

Profit Structure
For Profit Organization

Socio-Economic Types

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments
No

Debt Subject To Offset
No

EFT Indicator
0000

CAGE Code
253D1

Electronic Funds Transfer

Account Type
C

Routing Number
*******96**

Lock Box Number
(blank)

Financial Institution
PNC BANK, NATIONAL ASSOCIATION

Account Number
*******89**

Automated Clearing House

Phone (U.S.)
8887622265

Email
(blank)

Phone (non-U.S.)
(blank)

Fax
(blank)

Remittance Address

Melinda Garza
16294 Ih 35 N
Selma, Texas 78154
United States

Taxpayer Information

EIN
*****2371**

Type of Tax
Applicable Federal Tax

Taxpayer Name
The Levy Company LLC

Tax Year (Most Recent Tax Year)
2025

Name/Title of Individual Executing Consent
Contract Administrator

TIN Consent Date
Jun 10 2026

Address
16294 Interstate 35 N
Selma, Texas 78154

Signature
Leah Tiner

Points of Contact

Accounts Receivable POC

Melinda Garza
mgarza@levycompany.com
2104974500

Electronic Business

Leah Tiner, Contract Administrator
ltiner@levycompany.com
3619474331

16294 Ih 35 North
Selma, Texas 78154
United States

Government Business

Leah Tiner, Contract Administrator
ltiner@levycompany.com
3619474331

16294 Ih 35 North
Selma, Texas 78154
United States

Service Classifications

NAICS Codes

Primary	NAICS Codes	NAICS Title
Yes	**237310**	**Highway, Street, And Bridge Construction**
	238210	**Electrical Contractors And Other Wiring Installation Contractors**

Size Metrics

IGT Size Metrics

Annual Revenue (from all IGTs)
(blank)

Worldwide

Annual Receipts (in accordance with 13 CFR 121)	Number of Employees (in accordance with 13 CFR 121)
$25,000,000.00	**250**

Location

Annual Receipts (in accordance with 13 CFR 121)	Number of Employees (in accordance with 13 CFR 121)
(blank)	**(blank)**

Industry-Specific

Barrels Capacity	Megawatt Hours	Total Assets
(blank)	**(blank)**	**(blank)**

Electronic Data Interchange (EDI) Information

This entity did not enter the EDI information

Disaster Response

Yes, this entity appears in the disaster response registry.

No, this entity does not require bonding to bid on contracts.

Bonding Levels	Dollars
	(blank)

States	Counties	Metropolitan Statistical Areas
Texas	**(blank)**	**(blank)**

Exhibit P

State of Texas Child Support Business Ownership Form

County: Cameron

Project Name: Brownsville Traffic Signals Co

TxDOT CSJ: 0921-06-399

LG Project Number: _____

Business Entity Submitting Bid: The Levy Company, LLC

Section 231.006, Family Code, requires a bid for a contract paid from state funds to include the names and social security number of individuals owning 25% or more of the business entity submitting the bid.

1. In the spaces below please provide the names and social security number of individuals owning 25% or more of the business.

Name	Social Security Number
NA	

2. Please check the box below if no individual owns 25% or more of the business.

(✓) No individual own 25% or more of the business.

Except as provided by Section 231.302(d), Family Code, a social security number is confidential and may be disclosed only for the purpose of responding to a request for information from an agency operating under the provisions of Part A and D to Title IV of the Federal Social Security Act (42 USC Section 601-617 and 651-699).

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

The information collected on this form will be maintained by City of Brownsville. With few exceptions, you are entitled on request to be informed about the information collected about you. Under Sections 552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under Section 559.004 of the Government Code, you are also entitled to have information about you corrected that you believe is incorrect.

Signature

05/27/26

Date

Russell Perry

Printed Name

IF THIS PROJECT IS A JOINT VENTURE,

ALL PARTIES TO THE JOINT VENTURE MUST PROVIDE A COMPLETED FORM.

Texas Department of Transportation
125 E 11th St | Austin, Texas 78701
512.463.8588
txdot.gov

March 20, 2026

THE LEVY COMPANY, LLC
16294 IH 35 N
SELMA TX, 78154

RE: TxDOT Vendor Number 31992

Dear Contractor:

Your Confidential Questionnaire is satisfactory and qualifies you to bid on projects let by the Texas Department of Transportation (TxDOT) from the date of this letter through December 31, 2026.

Your bidding capacity has been set at $324,890,430.00. You may request and receive bidding proposals for projects on which the engineer's estimate does not exceed your bidding capacity, less any uncompleted work currently under contract with TxDOT.

If we may be of further assistance, please contact our Pre-qualification Branch at 512/416-2584.

Sincerely,

Greg Williams

Greg Williams
Director, Letting Management Section
Construction Division

City of Brownsville Federal Clauses Certification Form

FEDERAL CERTIFICATIONS
AGREEMENT FUNDED BY U.S. FEDERAL GRANT

TO WHOM IT MAY CONCERN:

Federal Funds will be used therefore this form should be completed and returned.

Instructions for Completing this Form
Suppliers and contractors must review each federal clause and indicate whether it applies to the specific contract. For every section below, please initial **"YES"** to confirm agreement and compliance, or **"N/A"** (Not applicable) if the clause does not apply to the scope of work or funding source.
Yes – contractor/supplier agrees to comply with the clause as written and, where applicable, will provide all required documentation or certifications.
N/A – Clause is not applicable to the contract (e.g., Davis Bacon Act for non-construction work, Buy America for non-transportation projects, etc.) Contractor/supplier must initial next to "N/A" to confirm inapplicability.
Incomplete forms or unmarked sections may disqualify contractor/supplier and/or delay contract approval.

Vendor Responsibility for Regulatory Compliance
It is the responsibility of the contractor/supplier to review, verify, and comply with the most current versions of all applicable federal provisions, clauses, and regulations referenced in this document. The contractor/supplier shall refer to official U.S. Government websites, including the Code of Federal Regulations (www.ecfr.gov), Federal Acquisition Regulation (www.acquisition.gov), and agency-specific resources (e.g., HUD, DOT, Treasury, or OMB), to ensure full and current compliance at the time of bid submission and throughout the contract term.

DEFINITIONS

Contract: A legal agreement by which a non-Federal entity purchases property or services to carry out a federally funded project.

Contractor: An entity that receives a contract as defined in Contract.

Cooperative agreement: A form of federal financial assistance used when substantial involvement is expected between the federal agency or pass-through entity and the recipient.

Federal awarding agency: The U.S. federal agency providing the funding.

Federal award: The financial assistance or cost-reimbursement contract provided directly by a federal agency or indirectly through a pass-through entity to carry out a public purpose.

Non–Federal entity (NFE): A state, local government, tribe, institution of higher education, or non profit organization that receives and administers federal funds.

Pass-Through Entity (PTE): A Non-Federal entity that provides part of its federal award to another organization (a subrecipient) to carry out a portion of the program.

Subrecipient/Subaward: A Non-Federal entity that receives federal funds from a pass-through entity to carry out part of federal program. The legal instrument documenting this relationship is the subaward.

Recipient: A Non–Federal entity receiving funds directly from a federal agency.

Simplified acquisition threshold: The current small-purchase limit established under the FAR (presently $250,000, adjusted periodically for inflation).

Obligations: Orders placed on contracts or subawards made that require payment by the Non-Federal entity.

Termination: The ending of a federal award, in whole or in part, prior to the planned end of the period of performance. These definitions are provided for reference only. For full regulatory text, see 2 C.F.R. Part 200, Subpart A (§§ 200.0-200.1).

Certification Regarding Certain Telecommunications and Video Surveillance Services or Equipment (FAR 52.204-24 & 52.204-25)

The contractor/supplier certifies compliance with the prohibitions under Section 889 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) and the Federal Acquisition Regulation (FAR) 52.204-24 and 52.204-25.

The contractor/supplier shall not provide or use any equipment, system, or service that includes covered telecommunications equipment or services from Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, or any subsidiary or affiliate of such entities.

If the contractor/supplier identifies any covered telecommunications equipment or services during performance, it shall immediately notify the contracting agency or the City of Brownsville in writing and provide all information required under FAR 52.204-25(d).

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

APPENDIX II TO 2 CFR PART 200 – Contract Provision for Non-Federal Entity Contracts Under Federal Awards

(A) Contracts for more than the simplified acquisition threshold currently set at $250,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Pursuant to Federal Rule (A) above, when a Participating Agency expends federal funds, the Participating Agency reserves all rights and privileges under the applicable laws and regulations with respect to this procurement in the event of breach of contract by either party.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(B) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000)

Pursuant to Federal Rule (B) above, when a Participating Agency expends federal funds, the Participating Agency reserves the right to immediately terminate any agreement in excess of $10,000 resulting from this procurement process in the event of a breach or default of the agreement by Contractor/Supplier as detailed in the terms of the contract.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(C) **Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity**

clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 CFR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

Pursuant to Federal Rule (C) above, when a Participating Agency expends federal funds on any federally assisted construction contract, the equal opportunity clause is incorporated by reference herein.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of $2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non- Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.
Pursuant to Federal Rule (D) above, when a Participating Agency expends federal funds during the term of an award for all contracts and subgrants for construction or repair, contractor/supplier will be in compliance with all applicable Davis-Bacon Act provisions.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Pursuant to Federal Rule (E) above, when a Participating Agency expends federal funds, contractor/supplier certifies that contractor/supplier will be in compliance with all applicable provisions of the Contract Work Hours and Safety Standards Act during the term of an award for all contracts by Participating Agency resulting from this procurement process.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Pursuant to Federal Rule (F) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (F) above.

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _RP_

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non- Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251- 1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA)

In the event Federal Transit Administration (FTA) or Department of Transportation (DOT) funding is used by Participating Public Agency, contractor/Supplier also agrees to include Clean Air and Clean Water requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

Pursuant to Federal Rule (G) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency member resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (G) above.

Does contractor/supplier agree? **YES** _RP_Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(H) Prohibition on Fraud, Waste, and Abuse - The contractor/supplier certifies that it will take all reasonable steps to prevent, detect, and disclose any suspected fraud, waste, or abuse of federal funds associated with this contract, consistent with applicable laws and agency guidance. Any such activity will be promptly reported to the awarding agency, pass-through entity, or the Office of Inspector General, as appropriate.

Does contractor/supplier agree? **YES** _RP_Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(I) Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220 cross-reference to Treasury/OMB Guidance Subpart C) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the Executive Office of the President Office of Management and Budget (OMB) guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Pursuant to Federal Rule (H) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the

contractor/supplier certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency. If at any time during the term of an award the contractor/supplier or its principals becomes debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency, the contractor/supplier will notify the Participating Agency.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(J) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

Pursuant to Federal Rule (I) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term and after the awarded term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier certifies that it is in compliance with all applicable provisions of the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). The undersigned further certifies that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

(3) The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Procurement of Recovered Materials 2 C.F.R. § 200.323 / 40 C.F.R Part 247

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable,

consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with 2 C.F.R. § 200.323

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

RECORD RETENTION REQUIREMENTS FOR CONTRACTS INVOLVING FEDERAL FUNDS

When federal funds are expended by Participating Agency for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the record retention requirements detailed in 2 CFR §§ 200.334-200.337. The contractor/supplier further certifies that contractor/supplier will retain all records as required by 2 CFR § 200.334 for a period of three years after grantees or subgrantees submit final expenditure reports or quarterly or annual financial reports, as applicable, and all other pending matters are closed.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH THE ENERGY POLICY AND CONSERVATION ACT

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6321 et seq.; 49 C.F.R. Part 18). Cross-link 2 CFR § 200.323(b)

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH BUY AMERICA PROVISIONS

To the extent purchases are made with Federal Highway Administration, Federal Railroad Administration, or Federal Transit Administration funds, contractor/supplier certifies that its products comply with all applicable provisions of the Buy America Act and agrees to provide such certification or applicable waiver with respect to specific products to any Participating Agency upon request. Purchases made in accordance with the Buy America Act must still follow the applicable procurement rules calling for free and open competition. Additionally:

(1) The Contractor agrees to comply with 49 USC 5323(j) and 49 CFR Part 661, which provide that federal funds may not be obligated unless steel, iron and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7.A general public interest waiver from the Buy America requirements applies to microprocessors, computers, microcomputers, software or other such devices, which are used solely for the purpose of processing or storing data. This general waiver does not extend to a product or device that merely contains a microprocessor or microcomputer and is not used solely for the purpose of processing or storing data. Separate requirements for rolling stock are set out at 5323(j)(2)(C) and 49 CFR 661.11.

(2) A bidder or contractor/supplier must submit to the FTA recipient the appropriate Buy America certification with all bids on FTA- funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower-tier subcontractors.

The following certificates titled FTA and DOT Buy America Certification should be completed and returned with the response as part of FTA and DOT requirements.

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT) - BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF ROLLING STOCK

CERTIFICATE OF COMPLIANCE
(select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j), and the applicable regulations of 49 CFR 661.11.
Check for YES: ☐

OR

Certificate of Non-Compliance with 49 USC §5323(j)

The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C), and the applicable regulations in 49 CFR 661.7.
Check for YES: ☐

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT)
-
BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL OR MANUFACTURED PRODUCTS

CERTIFICATE OF COMPLIANCE (select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.
Check for YES: ☐

OR

Certificate of Non-Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.
Check for YES: ☐

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) RP

Contractor/Supplier's Name: The Levy Company, LLC
Address, City, State, and Zip Code: 16294 IH 35 North, Selma, Texas 78154
Phone Number: 210-497-4500
Fax Number: 210-653-2835

Printed Name and Title of Authorized Representative: Russell Perry, President
Email Address: rperry@levycompany.com
Signature of Authorized Representative: Russell Perry
Date: 09/24/2026

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

If any portion of this project is funded with U.S Department of Transportation (DOT) funds, the contractor/supplier shall also complete a Disadvantage Business Enterprise (DBE) Certification Form in accordance with 49 C.F.R. Part 26. This requirement applies only to DOT-funded projects and is not applicable to HUD, ARPA, or Treasury-funded programs.

CERTIFICATION OF COMPLIANCE WITH BUILD AMERICA, BUY AMERICA ACT (BABA) 2 C.F.R. 184

The contractor/supplier acknowledges that certain federally funded infrastructure projects are subject to the Build America, Buy America Act (Pub. L. 117-58 §§ 70901-70927) and implementing regulations at 2 C.F.R. Part 184. When applicable, the contractor/supplier certifies that all iron, steel, manufactured products, and construction materials used in the project are produced in the United States, as required by the Act.

The contractor/supplier further agrees to provide appropriate documentation, origin certifications, or approved waivers upon request by the awarding agency or pass-through entity. Where a waiver is sought, the contractor/supplier shall support the request in writing and shall not proceed with procurement or installation of foreign materials until such waiver is granted in accordance with federal guidance.

The Build America, Buy America Act applies to all federally funded infrastructure projects, except where otherwise waived or exempted by the awarding agency.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Domestic Preference for Procurements– 2 C.F.R. § 200.322

The contractor/supplier agrees to comply with the requirements of 2 C.F.R. § 200.322, which establishes a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. To the greatest extent practicable, the contractor/supplier shall provide domestic end products, materials, and construction products that are manufactured in the United States. This preference applies to all procurements under federal awards, consistent with applicable statutes, regulations, and the Build America, Buy America Act requirements.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF ACCESS TO RECORDS – 2 C.F.R. § 200.337

Contractor/Supplier agrees that the Inspector General of the Agency or any of their duly authorized representatives shall have access to any documents, papers, or other records of contractor/supplier that are pertinent to contractor's/supplier's discharge of its obligations under the Contract for the purpose of making audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to contractor/supplier's personnel for the purpose of interview and discussion relating to such documents.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF APPLICABILITY TO SUBCONTRACTORS

Contractor/Supplier agrees that all contracts it awards pursuant to the Contract shall be bound by the foregoing terms and conditions.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Conflict of Interest - 2 C.F.R. § 200.318(c)(1)

The Contractor/supplier affirms compliance with 2 C.F.R. § 200.318(c)(1), which requires the maintenance of written standards of conduct covering conflict of interest in the selection, award, and administration of contracts. No employee, officer, agent, or subcontractor shall participate in any procurement or contract decision where a real or apparent conflict of interest exists. The contractor/supplier further agrees to disclose in writing any potential conflicts of interest to the City of Brownsville prior to award or during contract performance.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Executive Order 14173 (2025) – Anti-DEI Certification

The Contractor/supplier certifies compliance with Executive Order 14173 (2025), affirming that it operates in accordance with all applicable federal anti-discrimination laws and that no diversity, equity, or inclusion (DEI) program or policy maintained by the contractor violates such laws. The contractor/supplier acknowledges that compliance with these requirements is a material condition of this contract and that any false certification or noncompliance may subject the contractor/supplier to remedies available under the False Claims Act (31 U.S.C. §§ 3729-3733) and other applicable laws.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Civil Rights Compliance Assurance

The Contractor/supplier agrees to comply with all applicable federal civil rights laws and regulations, including Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq.), Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794), the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq.), the Age Discrimination Act of 1975 (42 U.S.C. § 6101 et seq.), and any other nondiscrimination provisions applicable to this contract. The contractor/supplier shall ensure that no person is excluded from participation in, denied the benefits of, or subjected to discrimination under this contract on the basis of race, color, national origin, sex, age, or disability.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Whistleblower Protection (41 U.S.C 4712)

The contractor/supplier shall comply with the whistleblower protections established under 41 U.S.C. 4712. Employees of contractors, subcontractors, and subrecipients are protected from reprisal for disclosing evidence of gross mismanagement, waste of federal funds, abuse of authority, or violations of law related to a federal contract or grant. The contractor/supplier must inform its employees in writing of their rights and remedies under this statute. Compliance with these protections is a material condition of this contract.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Remedies for Non-Compliance - 2 C.F.R. § 200.339

The contractor/supplier acknowledges that failure to comply with the terms and conditions of this agreement or any applicable federal requirements may result in enforcement actions as provided under 2 C.F.R. § 200.339. Remedies may include, but are not limited to, temporarily withholding payments, disallowing costs, wholly or partly suspending or terminating the contract, initiating suspension or debarment proceedings, or pursuing other legally available remedies.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Termination – 2 C.F.R. § 200.340

The contractor/supplier acknowledges that this contract may be terminated in whole or in part for cause, for convenience, or by mutual agreement, in accordance with 2 C.F.R. § 200.340. The basis for termination, applicable notice, and settlement provisions shall be clearly documented in writing.

Does contractor/supplier agree? **YES** RP Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Subrecipient Monitoring – 2 C.F.R. § 200.332

The contractor/supplier acknowledges that, when acting as a pass-through entity or subrecipient of federal funds, it must comply with the requirements of 2 C.F.R. § 200.332. The contractor/supplier shall monitor the activities of any subrecipients as necessary to ensure that federal funds are used in accordance with applicable statues, regulations, and the terms and conditions of the award. This includes performing risk assessments, issuing written subaward agreements with required flow-down clauses, reviewing financial and performance reports, and taking enforcement action when necessary to address noncompliance.

Does contractor/supplier agree? **YES** _____ Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) RP

COMMUNITY DEVELOPMENT BLOCK GRANTS

Purchases made under this contract may be partially or fully funded with federal grant funds. Funding for this work may include Federal Funding sources, including Community Development Block Grant (CDBG) funds from the U.S. Department of Housing and Urban Development. When such funding is provided, Contractor/Supplier shall comply with all terms, conditions and requirements enumerated by the grant funding source, as well as requirements of the State statutes for which the contract is utilized, whichever is the more restrictive requirement. When using Federal Funding, Contractor/Supplier shall comply with all wage and latest reporting provisions of the Federal Davis-Bacon Act. HUD-4010 Labor Provisions also applies to this contract.

In addition, the Contractor/supplier shall comply with the requirements of Section 3 of the Housing and Urban Development Act of 1968 (24 C.F.R. Part 75), ensuring, to the greatest extent feasible, that employment and contracting opportunities are directed to low- and moderate-income residents and Section 3 businesses.

If the project involves acquisition, demolition, or displacement activities, the contractor/supplier shall also comply with the Uniform Relocation Assistance and Real Property Acquisition Act (49 C.F.R. Part 24), ensuring fair compensation and relocation assistance for affected persons and property owners.

Does contractor/supplier agree? **YES** _____ Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) RP

The City of Brownsville reserves the right to request a signed or notarized certification, affidavit, or other supporting documentation for any of the provisions or clauses contained in this document at any time during the procurement process or contract term.

By signing below, the contractor/supplier certifies that all information provided in this document is true and accurate to the best of their knowledge and understand that any false statement may be subject to penalties under the False Claims Act (31 U.S.C. §§ 3729-3733).

The contractor/supplier further agrees to comply with all applicable federal, state, and local laws, rules, regulations, and ordinances. It is acknowledged that the contractor/supplier certifies compliance with all provisions, laws, acts, and regulations specifically noted above.

Contractor's/Supplier's Name: The Levy Company, LLC

Address, City, State, and Zip Code: 16294 IH 35 North, Selma, Texas 78154

Phone Number: 210-497-4500 Fax Number 210-653-2835

Printed Name and Title of Authorized Representative:
Russell Perry, President

Email Address:
rperry@levycompany.com

Signature of Authorized Representative: Russell Perry Date: 9/24/2026

"General Decision Number: TX20260051 05/18/2026

State: Texas

Construction Types: Highway

Counties: Texas Counties of
Cameron, Hidalgo and Webb

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

SATX2025-002 11/15/2023

	Rates	Fringes
WORK ZONE BARRICADE SERVICER	$ 15.81	0.00
WELDER	$ 21.35	0.00
TRUCK DRIVER, TRANSIT-MIX	$ 18.00	0.00
TRUCK DRIVER, TANDEM AXLE TRACTOR WITH SEMI TRAILER	$ 19.81	0.00
TRUCK DRIVER, SINGLE OR TANDEM AXLE DUMP TRUCK	$ 18.50	0.00
TRUCK DRIVER, SINGLE AXLE	$ 17.93	0.00
TRUCK DRIVER LOWBOY FLOAT	$ 27.10	0.00
SERVICER	$ 20.03	0.00
SCRAPER OPERATOR	$ 14.88	0.00
ROLLER OPERATOR, OTHER	$ 14.88	0.00
ROLLER OPERATOR, ASPHALT	$ 14.88	0.00
REINFORCING STEEL WORKER	$ 19.62	0.00
PIPELAYER	$ 15.48	0.00
MOTOR GRADER OPERATOR, ROUGH	$ 18.78	0.00
MOTOR GRADER OPERATOR, FINE GRADE	$ 21.55	0.00
MILLING MACHINE OPERATOR	$ 18.47	0.00
MECHANIC	$ 23.80	0.00
LOADER/BACKHOE OPERATOR	$ 16.37	0.00
LABORER, UTILITY	$ 16.79	0.00
LABORER, COMMON	$ 14.88	0.00
FRONT END LOADER OPERATOR, OVER 3 CY	$ 16.41	0.00
FRONT END LOADER OPERATOR, 3 CY OR LESS	$ 15.59	0.00
FORM SETTER, PAVING & CURB	$ 17.31	0.00

FORM BUILDER/SETTER, STRUCTURES.....$ 18.59 0.00
FLAGGER.....$ 14.56 0.00
EXCAVATOR OPERATOR, OVER 50,000 POUNDS.....$ 19.29 0.00
EXCAVATOR OPERATOR, 50,000 POUNDS OR LESS.....$ 18.99 0.00
CRAWLER TRACTOR OPERATOR.....$ 20.27 0.00
CRANE OPERATOR, LATTICE BOOM 80 TONS OR LESS.....$ 29.80 0.00
CONCRETE FINISHER, PAVING AND STRUCTURES.....$ 19.13 0.00
BROOM OR SWEEPER OPERATOR.....$ 15.22 0.00
ASPHALT RAKER.....$ 15.02 0.00
ASPHALT PAVING MACHINE OPERATOR.....$ 15.99 0.00
ASPHALT DISTRIBUTOR OPERATOR.....$ 19.62 0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at https://www.dol.gov/agencies/whd/government-contracts.

Note: Executive Order 13658 generally applies to contracts subject to the Davis-Bacon Act that were awarded on or between January 1, 2015 and January 29, 2022, and that have not been renewed or extended on or after January 30, 2022. Executive Order 13658 does not apply to contracts subject only to the Davis-Bacon Related Acts regardless of when they were awarded. If a contract is subject to Executive Order 13658, the contractor must pay all covered workers at least $13.65 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract from May 11, 2026, through December 31, 2026. The applicable Executive Order minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under Executive Order 13658 is available at

www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than **SU**, **UAVG**, **SA**, or **SC** denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to

reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ◆SU◆ identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

◆SU◆ wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ◆SA◆ identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ◆SA◆ identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

"

Docusign Envelope ID: 18875CA0-70B3-86F7-80CD-72FBC022323C

Exhibit W

600 W Interstate 2 | Pharr, Texas 78577
956.702.6100
txdot.gov

August 21, 2026

The Honorable Mayor John Cowen, Jr.
City of Brownsville
1001 E. Elizabeth Street
Brownsville, TX, 78522

RE: Concurrence to Award
Brownsville Traffic Signals Communication Development
CSJ: 0921-06-399

Dear Mayor Cowen,

We have completed our review of the bid package and analysis that was included with the City of Brownsville letter dated July 23, 2026, and do concur with awarding the contract to The Levy Company, INC. with their low bid amount of $7,134,576.30. The City of Brownsville may now award the contract and move forward with construction operations.

Mr. Victor Santos out of the San Benito Area Office will serve as the construction project manager and will be your point of contact from this point forward. Please work directly with him to ensure all requirements are met for you to receive the federal/state funding participation outlined in the Advance Funding Agreement. In addition, and as a reminder, the local government construction procedures that the City of Brownsville will need to follow can be found at https://www.txdot.gov/business/resources/lgp/toolkit.html

Docusign Envelope ID: 18875CA0-70B3-86F7-80CD-72FBC022323C

If you have any questions, feel free to call me or our Traffic Section Engineering Supervisor Ms. Nayely Parra, P.E. at (956) 702-6152.

Sincerely,

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...

Pedro R. Alvarez, P.E.
Pharr District Engineer

Cc: Alan Guard, ICMA-CM, CGFO, City Manager, City of Brownsville
Doroteo Garcia Jr., P.E., Assistant City Manager, City of Brownsville
Carlos Lastra, P.E., City Engineer, City of Brownsville
Lucio S. Gutierrez, P.E., Traffic Manager, City of Brownsville, RPIC City of Brownsville
Rex A. Costley, P.E., Pharr Deputy District Engineer
Norma Y. Garza, P.E., Pharr District Director of Transportation Planning & Development
Gabriel I. Garcia, P.E., Pharr District Director of Transportation Operations
Andres Espinoza, P.E., San Benito Area Engineer
Beethoven Garcia, P.E., Pharr District Advanced Project Delivery Supervisor
Nayely Parra, P.E., Pharr District Traffic Section Supervisor
Gabriel Villarreal, P.E., San Benito Assistant Area Engineer
Jose L. Mena, P.E., TxDOT Project Manager, Pharr District Traffic Section
Victor Santos, TxDOT Project Manager, San Benito Area Office

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	Carlos Lastra, City Engineer
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** to Authorize a Contract with Austin Traffic Signal Construction CO, LLC in the amount of $2,537,330 for Contract No #143-26-EPW-IFB, for a term of 220 Consecutive Calendar Days for the Brownsville Traffic Monitoring & Management of Signalized Roads Project. (Engineering and Public Works Department).

Summary:
The Engineering and Public Works Department recommends consideration and action to approve and authorize the execution of Contract No. 143-26-EPW-IFB with Austin Traffic Signal Construction Co., LLC, for $2,537,330.00, for the Brownsville Traffic Monitoring & Management of Signalized Roads Project, CSJ 0921-06-400.

The project will modernize the City's traffic signal management capabilities through the deployment of upgraded traffic signal controllers, CCTV traffic-monitoring cameras, and electronic access-control systems at signalized intersections throughout the City. These improvements will enhance remote monitoring and traffic management capabilities, improve the security and accountability of traffic signal infrastructure, and allow operational issues to be identified and addressed more efficiently.

The contract term shall be 260 days following issuance of the Notice to Proceed, or as otherwise established in the executed contract documents.

Project Scope and Analysis:
The Brownsville Traffic Monitoring & Management of Signalized Roads Project will modernize critical components of the City's traffic signal infrastructure and expand the City's ability to remotely monitor, manage, and secure its signalized transportation network.

The project includes the installation and integration of the following major components:

1. Traffic signal controllers at 191 locations are to be modernized to support improved traffic signal operations and system management.

2. CCTV traffic-monitoring cameras at 205 locations to provide authorized City staff with live views of traffic conditions at critical intersections. The cameras are intended for traffic management and operational monitoring. They will allow staff to assess incidents, congestion, equipment issues, and other field conditions remotely, reducing the need to dispatch personnel to determine conditions at an intersection initially.

3. Electronic cabinet access-control systems (CyberLocks) at 215 intersections to replace traditional traffic signal cabinet locks. The electronic locking system will improve infrastructure security and accountability by controlling authorized access and maintaining an electronic record of cabinet access.

Together, these improvements will enhance the City's ability to monitor and manage traffic operations, protect critical transportation infrastructure, improve response to operational issues, and support the continued modernization of the City's traffic signal system.

All work shall be performed in accordance with the approved project plans and specifications and applicable Texas Department of Transportation (TxDOT), federal, state, and City requirements.

Funding Source: 812-8112-848-582 – Special Projects: Traffic Monitoring & Management of Signalized Roads

Contract Amount: $2,537,330.00

Grant/Participating Project Amount: $2,435,463.00

TxDOT Funding (80%): $1,948,370.00

City Local Match (20%) : $487,093.00

City-Funded Project Overrun: $101,867.00

Total City Contribution: $588,960.00

The contract amount exceeds the grant-participating project amount by $101,867.00. The City will fund this project overrun in addition to the required local match.

Funding:

Source: 812-8112-848-582 – Special Projects: Traffic Monitoring & Management

Amount: $2,537,330

Local Contribution if Applicable: $588,960

Recommendation:

The Engineering and Public Works Department recommends approval and authorization to execute Contract No. 143-26-EPW-IFB with Austin Traffic Signal Construction Co., LLC, in the amount of $2,537,330.00, for the Brownsville Traffic Monitoring & Management of Signalized Roads Project, CSJ 0921-06-400.

Commission Pillar:
Infrastructure

Attachments:
1. Bid Recommendation Letter (Brownsville Traffic Monitoring & Management of Signalized Roads) CSJ - 0921-06-400 (1)
2. TxDOT Concurrence to Award Letter - (Brownsville Traffic Monitoring & Management of Signalized RoadsCSJ0921-06-400
3. Procurement Analysis 143-26-EPW-IFB 1
4. 143-26-EPW-IFB-Austin Traffic Signal Construction (Legal)

CobbFendley

July 22, 2026

Eduardo Torres, MBA, CTCD
Buyer-City of Brownsville
City of Brownsville | Procurement Division
1001 E. Elizabeth St
Brownsville, Texas 78520

Re: Brownsville Traffic Monitoring & Management of Signalized Roads (CSJ 0921-06-400)
Solicitation No. 143-26-EPW-IFB
BID RECOMMENDATION LETTER

Dear Mr. Torres:

CobbFendley is in receipt of the bid tabulation in accordance with Article 2.14 “Tabulation for Bids” of TxDOT’s Standard Specifications for the above-mentioned project and offers the following Bid Analysis. A total of four (4) bids were received on May 28, 2026.

CobbFendley developed the Bid Analysis spreadsheet for the project and populated it with each item description, unit, estimated quantity, unit price and total cost. The total cost for each item was obtained by multiplying the estimated quantity by the unit price. The total cost for the project was obtained by adding up each total cost for all the items.

The official bid amounts, which are summarized below ranged from 7.1% to 26.4% above the engineer’s estimate from March 2026. The complete evaluation of the bids is on the attached Bid Tabulation.

Engineer’s Estimate - Brownsville Traffic Monitoring & Management of Signalized Roads

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	ATS Construction Co. LLC	$ 2,537,330.00	7.1%
Bidder #2	The Levy Company, LLC	$ 2,814,461.80	18.8%
Bidder #3	Traf-Tex, Inc.	$ 2,850,322.00	20.4%
Bidder #4	Econolite Systems, Inc.	$ 2,992,756.00	26.4%

Bidder #1 - ATS Construction Co. LLC
Based on the bids analysis spreadsheet, Bidder #1 was the lowest responsive and responsible bidder. CobbFendley confirmed ATS Construction Co. LLC’s total summation is $2,537,330.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder’s unit price differs from the engineer’s estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
1	MOBILIZATION	LS	1	$ 35,000.00	$ 215,280.00	-83.7%
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,500.00	$ 600.00	150.0%

The reason for Item 4 being more than 50% higher than the Engineer's Estimate is due to an inflated unit cost.

Bidder #2 - The Levy Company, LLC

Based on the bids analysis spreadsheet, Bidder #2 was a higher bidder. CobbFendley confirmed The Levy Company, LLC's total summation is $2,814,461.80.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
3	TMA (MOBILE OPERATION)	HR	228	$ 6.85	$ 100.00	-93.2%
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,400.00	$ 600.00	133.3%

The reason for Item 4 being more than 50% higher than the Engineer's Estimate is due to an inflated unit cost.

Bidder #3 - Traf-Tex, Inc.

Based on the bids analysis spreadsheet, Bidder #3 was a higher bidder. CobbFendley confirmed Traf-Tex, Inc's total summation is $2,850,322.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
2	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	6	$ 13,020.00	$ 3,500.00	272.0%
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,477.25	$ 600.00	146.2%

The reason for Item 2 and Item 4 being more than 50% higher than the Engineer's Estimate is due to inflated unit costs.

Bidder #4 - Econolite Systems, Inc.

Based on the bids analysis spreadsheet, Bidder #4 was a higher bidder. CobbFendley confirmed Econolite Systems, Inc's total summation is $2,992,756.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 1 item was identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,462.00	$ 600.00	143.7%

The reason for Item 4 being more than 50% higher than the Engineer's Estimate is due to an inflated unit cost.

Since this project has portions within State ROW and federal funds are being utilized, it must follow the TxDOT requirements for TxDOT Prequalification. This project requires a TxDOT Confidential Questionnaire Prequalification since the project cost is above $300,000 and as outlined on TxDOT's website:

https://www.txdot.gov/business/road-bridge-maintenance/contract-letting/contractor-prequalification.html

Bidder #1 was determined to be TxDOT Prequalified under the Confidential Questionnaire. Based on the submitted bids and our corresponding analysis, we recommend that Bidder #1 Austin Traffic Signal Construction Co. LLC is the be awarded a contract not to exceed $2,537,330.00.

This is the first bid opening. The bids were acceptable and there is no reason to rebid due to the low turnout of contractors.

Thank you for the opportunity to assist you with this project and should you have any questions or concerns, please feel free to contact me via email at bcastille@cobbfendley.com or via phone at 713-485-8234.

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC



Brian Castille, P.E., PTOE
Traffic Department Manager | Principal

Attachment: Bid Tabulation

Bid No:	143-26-EPW-IFB
Project:	0921-06-400

							ATS Construction Co. LLC		Econolite Systems, Inc.		The Levy Company, LLC		Traf-Tex, Inc.		CobbFendley EOPCC	
							Total Price	$2,537,330.00	Total Price	$2,992,756.00	Total Price	$2,814,461.80	Total Price	$2,850,322.00	Total Price	$2,368,080.00
Line #	Description	Mfgr	Mfgno	QTY	UOM	Estimated	Unit	Extended	Unit	Extended	Unit	Extended	Unit	Extended	Unit Price	Total
1	MOBILIZATION			1	LS		$35,000.00	$35,000.00	$271,433.00	$271,433.00	$170,000.00	$170,000.00	$252,558.15	$252,558.15	$215,280.00	$215,280.00
2	BARRICADES, SIGNS AND TRAFFIC HANDLING			6	MO		$3,555.00	$21,330.00	$3,355.00	$20,130.00	$3,400.00	$20,400.00	$13,020.00	$78,120.00	$3,500.00	$21,000.00
3	TMA (MOBILE OPERATION)			228	HR		$125.00	$28,500.00	$89.00	$20,292.00	$6.85	$1,561.80	$88.20	$20,109.60	$100.00	$22,800.00
4	FURNISH & INSTALL CYBERLOCK			215	EA		$1,500.00	$322,500.00	$1,462.00	$314,330.00	$1,400.00	$301,000.00	$1,477.25	$317,608.75	$600.00	$129,000.00
5	TRAFFIC SIGNAL CONTROLLER			191	EA		$6,000.00	$1,146,000.00	$4,726.00	$902,666.00	$5,500.00	$1,050,500.00	$4,896.00	$935,136.00	$5,000.00	$955,000.00
6	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)			205	EA		$4,800.00	$984,000.00	$7,141.00	$1,463,905.00	$6,200.00	$1,271,000.00	$6,081.90	$1,246,789.50	$5,000.00	$1,025,000.00
					MOBILIZATION %		1.4%		9.1%		6.0%		8.9%		9%	

TOTALS	$ 2,537,330.00	$ 2,992,756.00	$ 2,814,461.80	$ 2,850,322.00	$2,368,080.00
Δ	$ 169,250.00	$ 624,676.00	$ 446,381.80	$ 482,242.00	
%DIFFERENCE	7.1%	26.4%	18.8%	20.4%	

% Difference for Each Line Item			
-83.7%	26.1%	-21.0%	17.3%
1.6%	-4.1%	-2.9%	272.0%
25.0%	-11.0%	-93.2%	-11.8%
150.0%	143.7%	133.3%	146.2%
20.0%	-5.5%	10.0%	-2.1%
-4.0%	42.8%	24.0%	21.6%

% Difference for Each Total Bid			
7.1%	26.4%	18.8%	20.4%

Docusign Envelope ID: 7E0FCDCE-C137-89CD-8306-4A4D1FE861FE

600 W Interstate 2 | Pharr, Texas 78577
956.702.6100
txdot.gov

August 21, 2026

The Honorable Mayor John Cowen, Jr.
City of Brownsville
1001 E. Elizabeth St.,
Brownsville, Texas 78520

RE: Concurrence to Award
Brownsville Traffic Monitoring & Management of Signalized Roads
CSJ: 0921-06-400

Dear Mayor Cowen,

We have completed our review of the bid package and analysis that was included with the City of Brownsville letter dated July 23rd, 2026, and do concur with awarding the contract to Austin Traffic Signal Construction Co. LLC, with their low bid amount of $2,537,330.00. The City of Brownsville may now award the contract and move forward with construction operations.

Mr. Angel Treviño, E.I.T., out of the San Benito Area Office will serve as the construction project manager and will be your point of contact from this point forward. Please work directly with him to ensure all requirements are met for you to receive the federal funding participation outlined in the Advance Funding Agreement. In addition, and as a reminder, the local government construction procedures that the City of Brownsville will need to follow can be found at http://www.txdot.gov/government/processes-procedures/lgp-toolkit.html.

Docusign Envelope ID: 7E0FCDCE-C137-89CD-8306-4A4D1FE861FE

If you have any questions, feel free to call me or our Traffic Section Supervisor Ms. Nayely Parra, P.E. at (956) 702-6152.

Sincerely,

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...

Pedro R. Alvarez, P.E.
Pharr District Engineer

CC: Alan Guard, ICMA-CM, CGFO, City Manager, City of Brownsville
Carlos Lastra, P.E., City Engineer, City of Brownsville
Lucio S. Gutierrez, P.E., Traffic Manager, City of Brownsville, RPIC City of Brownsville
Doroteo Garcia Jr., P.E., Assistant City Manager
Rex A. Costley, P.E., Pharr Deputy District Engineer
Norma Y. Garza, P.E., Pharr District Director of Transportation Planning & Development
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Andres Espinoza, P.E., San Benito Area Engineer
Beethoven Garcia, P.E., Pharr District Advanced Project Delivery Supervisor
Nayely Parra, P.E., Pharr District Traffic Section Supervisor
Gabriel Villarreal, P.E., San Benito Assistant Area Engineer
Jose L. Mena Jr., P.E., Pharr District Project Manager, Traffic Section
Angel Treviño, E.I.T., Pharr District Project Manager, San Benito Area Office

PROCUREMENT ANALYSIS

Date: Wednesday, September 23, 2026
To: Mr. John Cowen Jr., City Mayor
From: Mr. Alan Guard, City Manager
CC: Mr. Damian Espinoza, Procurement Director
Mrs. Maribel Guerrero, Engineering & Public Works Director

Agenda Title:
Agenda Item for the City Commission meeting of Tuesday, October 6, 2026.
"Consideration and Action to Authorize a Contract with Austin Traffic Signal Construction CO. LLC in the amount of $2,537,330.00 for Contract No. 143-26-EPW-IFB, for a term of 220 Consecutive Calendar Days for the Brownsville Traffic Monitoring & Management of Signalized Roads Project (Engineering and Public Works Department)."

Executive Summary:

- Department: Engineering and Public Works Department
- Procurement Method: IFB
- Submittals Received: Four (4)
- Contract Number: 143-26-EPW-IFB
- Vendor: Austin Traffic Signal Construction CO. LLC.
- Contract Amount: $2,537,330.00
- Term: 220 Consecutive Calendar Days

Background:

The Engineering and Public Works Department is seeking to improve the City's traffic monitoring and management capabilities at existing signalized intersections. The project includes the installation, configuration, and integration of traffic monitoring, detection, access control, and signal management equipment to enhance real-time traffic operations, system performance monitoring, and data-driven traffic management

Procurement Process:
The Procurement Department issued an IFB in compliance with the Texas Local Government Code. The solicitation was advertised in the local newspaper and posted on the City's electronic bidding platform. Four (4) Bids were received.

This procurement is governed by the following statute:

- **IFB (Competitive Sealed Bidding): Texas Local Government Code Chapter 252, Subchapter C – Competitive Sealed Bidding (§252.041).**

Results:
A total of 4 bids were received. After review, Austin Traffic Signal Construction CO. LLC submitted the lowest responsive and responsible bid at $2,537,330.00. The bid tabulation is provided as Exhibit A.

Vendor Information:
Austin Traffic Signal Construction CO. LLC
4615 Priem Lane, Pflugerville, TX 78660
Point of Contact: Stephen Rutledge, Area Manager, V.P.
Phone/Email: (956) 239-1615 | stever@atscc.com

Exhibits & Supporting Documents:
- IFB: Exhibit A – Bid Tab (lowest responsive/responsible bidder).
- All Methods: 1295, other relevant documentation.

Recommendation:
The Procurement Department recommends that the City Commission authorize a contract with Austin Traffic Signal Construction CO., LLC under formal solicitation IFB, in a total amount not to exceed $2,537,330.00, for a base term of 220 Consecutive Calendar Days.

Approval of this agenda item will authorize the full contract value.

CobbFendley

July 22, 2026

Eduardo Torres, MBA, CTCD
Buyer-City of Brownsville
City of Brownsville | Procurement Division
1001 E. Elizabeth St
Brownsville, Texas 78520

Re: Brownsville Traffic Monitoring & Management of Signalized Roads (CSJ 0921-06-400)
Solicitation No. 143-26-EPW-IFB
BID RECOMMENDATION LETTER

Dear Mr. Torres:

CobbFendley is in receipt of the bid tabulation in accordance with Article 2.14 “Tabulation for Bids” of TxDOT’s Standard Specifications for the above-mentioned project and offers the following Bid Analysis. A total of four (4) bids were received on May 28, 2026.

CobbFendley developed the Bid Analysis spreadsheet for the project and populated it with each item description, unit, estimated quantity, unit price and total cost. The total cost for each item was obtained by multiplying the estimated quantity by the unit price. The total cost for the project was obtained by adding up each total cost for all the items.

The official bid amounts, which are summarized below ranged from 7.1% to 26.4% above the engineer’s estimate from March 2026.

Engineer’s Estimate - Brownsville Traffic Monitoring & Management of Signalized Roads

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	ATS Construction Co. LLC	$ 2,537,330.00	7.1%
Bidder #2	The Levy Company, LLC	$ 2,814,461.80	18.8%
Bidder #3	Traf-Tex, Inc.	$ 2,850,322.00	20.4%
Bidder #4	Econolite Systems, Inc.	$ 2,992,756.00	26.4%

Bidder #1 - ATS Construction Co. LLC
Based on the bids analysis spreadsheet, Bidder #1 was the lowest bidder. CobbFendley confirmed ATS Construction Co. LLC’s total summation is $2,537,330.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder’s unit price differs from the engineer’s estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
1	MOBILIZATION	LS	1	$ 35,000.00	$ 215,280.00	-83.7%
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,500.00	$ 600.00	150.0%

Bidder #2 - The Levy Company, LLC

Based on the bids analysis spreadsheet, Bidder #2 was a higher bidder. CobbFendley confirmed The Levy Company, LLC's total summation is $2,814,461.80.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
3	TMA (MOBILE OPERATION)	HR	228	$ 6.85	$ 100.00	-93.2%
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,400.00	$ 600.00	133.3%

Bidder #3 - Traf-Tex, Inc.

Based on the bids analysis spreadsheet, Bidder #3 was a higher bidder. CobbFendley confirmed Traf-Tex, Inc's total summation is $2,850,322.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
2	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	6	$ 13,020.00	$ 3,500.00	272.0%
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,477.25	$ 600.00	146.2%

Bidder #4 - Econolite Systems, Inc.

Based on the bids analysis spreadsheet, Bidder #4 was a higher bidder. CobbFendley confirmed Econolite Systems, Inc's total summation is $2,992,756.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 1 item was identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,462.00	$ 600.00	143.7%

Since this project has portions within State ROW and federal funds are being utilized, it must follow the TxDOT requirements for TxDOT Prequalification. This project requires a TxDOT Confidential Questionnaire Prequalification since the project cost is above $300,000 and as outlined on TxDOT's website:

https://www.txdot.gov/business/road-bridge-maintenance/contract-letting/contractor-prequalification.html

Bidder #1 was determined to be TxDOT Prequalified under the Confidential Questionnaire. Based on the submitted bids and our corresponding analysis, we recommend that Bidder #1 Austin Traffic Signal Construction Co. LLC be awarded a contract not to exceed $2,537,330.00.

This is the first bid opening. The bids were acceptable and there is no reason to rebid due to the low turnout of contractors.

Thank you for the opportunity to assist you with this project and should you have any questions or concerns, please feel free to contact me via email at bcastille@cobbfendley.com or via phone at 713-485-8234.

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC



Brian Castille, P.E., PTOE
Traffic Department Manager | Principal

Attachment: Bid Tabulation

Bid No:	143-26-EPW-IFB
Project:	0921-06-400

							ATS Construction Co. LLC		Econolite Systems, Inc.		The Levy Company, LLC		Traf-Tex, Inc.		CobbFendley EOPCC	
							Total Price	$2,537,330.00	Total Price	$2,992,756.00	Total Price	$2,814,461.80	Total Price	$2,850,322.00	Total Price	$2,368,080.00
Line #	Description	Mfgr	Mfgno	QTY	UOM	Estimated	Unit	Extended	Unit	Extended	Unit	Extended	Unit	Extended	Unit Price	Total
1	MOBILIZATION			1	LS		$35,000.00	$35,000.00	$271,433.00	$271,433.00	$170,000.00	$170,000.00	$252,558.15	$252,558.15	$215,280.00	$215,280.00
2	BARRICADES, SIGNS AND TRAFFIC HANDLING			6	MO		$3,555.00	$21,330.00	$3,355.00	$20,130.00	$3,400.00	$20,400.00	$13,020.00	$78,120.00	$3,500.00	$21,000.00
3	TMA (MOBILE OPERATION)			228	HR		$125.00	$28,500.00	$89.00	$20,292.00	$6.85	$1,561.80	$88.20	$20,109.60	$100.00	$22,800.00
4	FURNISH & INSTALL CYBERLOCK			215	EA		$1,500.00	$322,500.00	$1,462.00	$314,330.00	$1,400.00	$301,000.00	$1,477.25	$317,608.75	$600.00	$129,000.00
5	TRAFFIC SIGNAL CONTROLLER			191	EA		$6,000.00	$1,146,000.00	$4,726.00	$902,666.00	$5,500.00	$1,050,500.00	$4,896.00	$935,136.00	$5,000.00	$955,000.00
6	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)			205	EA		$4,800.00	$984,000.00	$7,141.00	$1,463,905.00	$6,200.00	$1,271,000.00	$6,081.90	$1,246,789.50	$5,000.00	$1,025,000.00
					MOBILIZATION %		1.4%		9.1%		6.0%		8.9%		9%	

TOTALS	$ 2,537,330.00	$ 2,992,756.00	$ 2,814,461.80	$ 2,850,322.00	$2,368,080.00
Δ	$ 169,250.00	$ 624,676.00	$ 446,381.80	$ 482,242.00	
%DIFFERENCE	7.1%	26.4%	18.8%	20.4%	

% Difference for Each Line Item			
-83.7%	26.1%	-21.0%	17.3%
1.6%	-4.1%	-2.9%	272.0%
25.0%	-11.0%	-93.2%	-11.8%
150.0%	143.7%	133.3%	146.2%
20.0%	-5.5%	10.0%	-2.1%
-4.0%	42.8%	24.0%	21.6%

% Difference for Each Total Bid			
7.1%	26.4%	18.8%	20.4%

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1520098

Date Filed:
09/23/2026

Date Acknowledged:
09/23/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO., LLC
ROUND ROCK TX. 78680, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

CITY OF BROWNSVILLE TEXAS

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

143-26-EPW-IFB
TRAFFIC MONITORING & MANAGEMENT of SIGNALIZED ROADS

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
FOSTER, PAUL	EL PASO, TX United States	X	
KELL, WILLIAM	EL PASO, TX United States	X	
WOODY, DARREN	EL PASO, TX United States	X	
RAINES, ROY	EL PASO, TX United States	X	
GOODRICH, JOHN	EL PASO, TX United States	X	
WHITENIGHT, GEORGIAN	EL PASO, TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

Docusign Envelope ID: 7E0FCDCE-C137-89CD-8306-4A4D1FE861FE

600 W Interstate 2 | Pharr, Texas 78577
956.702.6100
txdot.gov

August 21, 2026

The Honorable Mayor John Cowen, Jr.
City of Brownsville
1001 E. Elizabeth St.,
Brownsville, Texas 78520

RE: Concurrence to Award
Brownsville Traffic Monitoring & Management of Signalized Roads
CSJ: 0921-06-400

Dear Mayor Cowen,

We have completed our review of the bid package and analysis that was included with the City of Brownsville letter dated July 23rd, 2026, and do concur with awarding the contract to Austin Traffic Signal Construction Co. LLC, with their low bid amount of $2,537,330.00. The City of Brownsville may now award the contract and move forward with construction operations.

Mr. Angel Treviño, E.I.T., out of the San Benito Area Office will serve as the construction project manager and will be your point of contact from this point forward. Please work directly with him to ensure all requirements are met for you to receive the federal funding participation outlined in the Advance Funding Agreement. In addition, and as a reminder, the local government construction procedures that the City of Brownsville will need to follow can be found at http://www.txdot.gov/government/processes-procedures/lgp-toolkit.html.

Docusign Envelope ID: 7E0FCDCE-C137-89CD-8306-4A4D1FE861FE

If you have any questions, feel free to call me or our Traffic Section Supervisor Ms. Nayely Parra, P.E. at (956) 702-6152.

Sincerely,

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...

Pedro R. Alvarez, P.E.
Pharr District Engineer

CC: Alan Guard, ICMA-CM, CGFO, City Manager, City of Brownsville
Carlos Lastra, P.E., City Engineer, City of Brownsville
Lucio S. Gutierrez, P.E., Traffic Manager, City of Brownsville, RPIC City of Brownsville
Doroteo Garcia Jr., P.E., Assistant City Manager
Rex A. Costley, P.E., Pharr Deputy District Engineer
Norma Y. Garza, P.E., Pharr District Director of Transportation Planning & Development
Gabriel I. Garcia, P.E., Pharr District Director of Transportation Operations
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Nayely Parra, P.E., Pharr District Traffic Section Supervisor
Gabriel Villarreal, P.E., San Benito Assistant Area Engineer
Jose L. Mena Jr., P.E., Pharr District Project Manager, Traffic Section
Angel Treviño, E.I.T., Pharr District Project Manager, San Benito Area Office

Contract Summary Form
Contract Number 143-26-EPW-IFB

Procurement Info	
Procurement Method:	**IFB, RFP, RFQ**
New Contract:	**Yes ☒ No ☐**
Advertisement Dates, if any:	**April 25, 2026 and May 2, 2026**
Award Date:	
Contractor	
Vendor Name:	Austin Traffic Signal Construction CO. LLC
Address:	4615 Priem Lane, Pflugerville, Texas, 78660
Point of Contact / Project Manager*:	Stephen Rutledge- Area Manager, V.P.
Email Address:	stever@atscc.com
City Contact Information	
Department:	**Engineering and Public Works**
Point of Contact / Project Manager:	Lucio Gutierrez
Email Address:	Lucio.Gutierrez@brownsvilletx.gov
Contract Term	
Contract Amount:	$2,537,330.00
Contract Base/Primary Term:	220 Consecutive Calendar Days
Renewal Periods (if any):	NA
Total Term of Contract:	220 Consecutive Calendar Days
City Internal Use	
Signature Sections	**Page: 13**
State or Federal Funds:	**Yes ☒ No ☐**
GL Account:	

CONTRACT FOR:
Brownsville Traffic Monitoring & Management of Signalized Roads

A. AGREEMENT

This Agreement is made by and between:

the Owner ("Owner" or "City"):	The City of Brownsville 1001 E. Elizabeth St., P.O. Box 911 Brownsville, Texas 78520
and the Contractor ("Contractor"):	Austin Traffic Signal Construction CO. LLC 4615 Priem Lane Pflugerville, Texas, 78660
for the following Project ("Project"):	IFB #: 143-26-EPW-IFB Brownsville (Multiple Locations)

Each individually referred to as a "Party" and collectively referred to as the "Parties". Owner and Contractor, in consideration of the covenants contained herein, and for the mutual benefits to be obtained hereby, the parties hereto agree as follows:

B. CONTRACT DOCUMENTS

The Contractor shall complete the Work described in the Contract Documents for the project. The Contract Documents consist of the following Exhibits:

A. This Agreement;
B. Notice of Award;
C. Invitation For Bids (IFB);143-26-EPW-IFB
D. Addenda, as indicated in the IFB;
E. Original Proposal submittal;
F. Bid Tabulation;
G. Plans;
H. Specifications and Special Provisions;
I. General Conditions;
J. Supplementary Conditions;
K. Special Conditions;
L. Certificates of Insurance;
M. Form 2 –Statement of Conflict of Interest
N. Form 3 – Texas Ethics Commission Certificate of Interested Parties
O. Form 14 – SAM Record
P. Form 12 – State of Texas Child Support Business Ownership Form
Q. Confirmation Vendor is Pre-Qualified TxDOT Vendor
R. Payment Bond; (Added after City Commission Approval)

S. Performance Bond;(Added after City Commission Approval)
T. Written Change Orders issued after execution of this Agreement,
U. Federal Clauses
V. Davis-Bacon Prevailing Wage Determination
W. TXDOT Letter of Concurrence

which are attached hereto and incorporated herein, and made a part of this Agreement for all purposes. The Contract Documents represent the entire and integrated agreement between the Owner and the Contractor and supersede all prior negotiations, representations, or agreements, either oral or written. This Agreement may be amended only by written instrument signed by both the Owner and the Contractor. In the event of an inconsistency or conflict in any of the provisions of the Contract Documents, then the inconsistency or conflict shall be resolved by giving precedence first to this Agreement then to the Contract Documents in the order in which they are listed above.

C. WORK

Contractor shall complete all Work as specified or indicated in the Contract Documents for the Project identified herein.

D. PROJECT

The Project is the total construction for which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors, and is generally defined as IFB #: 143-26-EPW-IFB

E. CONTRACT PRICE; PAYMENT TERMS

Owner agrees to pay Contractor for performance of the Work in accordance with the Contract Documents the guaranteed maximum price of **PROJECT COST ($2,537,330.00)** (hereinafter "Guaranteed Maximum Price" or "GMP"). Guaranteed Maximum Price includes all costs incurred by Contractor, including but not limited to Costs of Work (including among others, labor, equipment, materials, fees, inspections, and permits), construction contingency amount, and Contractor's overhead, all bond financing, profit, price escalation and market price variations. Nothing contained in this Agreement shall require the Owner to pay Contractor an aggregate amount that exceeds the Guaranteed Maximum Price or to make any payment if, in the Owner's belief, the cost to complete the Work would exceed the Guaranteed Maximum Price. Change orders may be approved in writing by Owner for increased costs needed for refinement, development and completion of the Project. However, the maximum allowable amount of change orders payable to the Project shall not exceed twenty-five percent (25%) of the Guaranteed Maximum Price for the Project.

The Owner shall pay within ***thirty (30) days*** for completed work in monthly draws, less 10% retainage, upon receipt of an acceptable invoice. Invoices shall be in standard form,

Application and Certificate for Payment, and shall be accompanied by signed Conditional Release of Liens forms from each applicable subcontractor and supplier.

Retainage shall be paid within in thirty (30) days of receipt of an acceptable Final Invoice. The final Application for Payment shall be accompanied by signed Final Release and Waiver of Liens forms from all subcontractors and suppliers.

F. CONTRACT TIME

The Contract Time will commence to run on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 14 days after the Effective Date of the Agreement and shall substantially complete the Work within 220 consecutive calendar days as identified in the Bid package.

G. LIQUIDATED DAMAGES

Contractor recognizes that time is of the essence for completion of the Work, and to achieve Final Acceptance of the Work, and City will suffer financial loss if the Work is not completed within the time(s) specified herein. The Contractor also recognizes the delays, expense and difficulties involved in proving in a legal proceeding, the actual loss suffered by the City if the Work is not completed on time. Accordingly, instead of requiring any such proof, Contractor agrees that as liquidated damages for delay (but not as a penalty), Contractor shall pay City **One Thousand Dollars ($1000.00)** for each day that expires after the time specified in Paragraph F above, for Final Acceptance until the City issues the Final Letter of Acceptance.

H. INSPECTION AND FINAL ACCEPTANCE

The City's inspection and acceptance of contractual compliance will be accomplished by an engineering Inspector of the engineering Department. The City reserves the right to reject unsatisfactory work within a 24-hour period. Contractors have 48 hours to correct unacceptable work. (To be corrected during regular working days, holidays or weekends.)

Prior to beginning work, the Contractor shall provide to the City a Schedule of Values related to the Work, which shall be used for purposes of periodic payments.

The Contract Sum shall include all materials, supplies, tools, equipment, permits, perimeter fencing, portable restrooms, construction debris container(s), supervision and labor necessary for the proper prosecution and completion of the Work.

The Contractor warrants that the completed Project shall be adequate for the purposes intended.

I. INDEMNIFICATION

(a) **CONTRACTOR COVENANTS AND AGREES TO FULLY INDEMNIFY, DEFEND AND HOLD HARMLESS, THE CITY AND THE ELECTED OFFICIALS, EMPLOYEES, OFFICERS, DIRECTORS, VOLUNTEERS AND REPRESENTATIVES OF THE CITY, INDIVIDUALLY AND COLLECTIVELY, FROM AND AGAINST ANY AND ALL COSTS, CLAIMS, LIENS, DAMAGES, LOSSES, EXPENSES, FEES, FINES, PENALTIES, PROCEEDINGS, ACTIONS, DEMANDS, CAUSES OF ACTION, LIABILITY AND SUITS OF ANY KIND AND NATURE, INCLUDING BUT NOT LIMITED TO, PERSONAL OR BODILY INJURY, DEATH AND PROPERTY DAMAGE, MADE UPON THE CITY DIRECTLY OR INDIRECTLY ARISING OUT OF, RESULTING FROM OR RELATED TO CONTRACTOR'S ACTIVITIES UNDER THIS AGREEMENT, INCLUDING ANY ACTS OR OMISSIONS OF CONTRACTOR, ANY AGENT, OFFICER, DIRECTOR, REPRESENTATIVE, EMPLOYEE, CONSULTANT OR SUBCONTRACTOR OF CONTRACTOR, AND THEIR RESPECTIVE OFFICERS, AGENTS EMPLOYEES, DIRECTORS AND REPRESENTATIVES WHILE IN THE EXERCISE OF THE RIGHTS OR PERFORMANCE OF THE DUTIES UNDER THIS AGREEMENT. THIS INDEMNIFICATION PROVISION IS SPECIFICALLY INTENDED TO OPERATE AND BE EFFECTIVE EVEN IF IT IS ALLEGED OR PROVEN THAT ALL OR SOME OF THE DAMAGES BEING SOUGHT WERE CAUSED, IN WHOLE OR IN PART, BY ANY ACT, OMISSION OR NEGLIGENCE OF THE CITY. THIS INDEMNITY PROVISION IS INTENDED TO INCLUDE, WITHOUT LIMITATION, INDEMNITY FOR COSTS, EXPENSES AND LEGAL FEES INCURRED BY THE CITY IN DEFENDING AGAINST SUCH CLAIMS AND CAUSES OF ACTIONS. IN THE EVENT CONTRACTOR AND CITY ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY SHALL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS FOR THE STATE OF TEXAS, WITHOUT, HOWEVER, WAIVING ANY GOVERNMENTAL IMMUNITY AVAILABLE TO THE CITY UNDER TEXAS LAW AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW.**

(b) **THE PROVISIONS OF THIS INDEMNITY ARE SOLELY FOR THE BENEFIT OF THE PARTIES HERETO AND NOT INTENDED TO CREATE OR GRANT ANY RIGHTS, CONTRACTUAL OR OTHERWISE, TO ANY OTHER PERSON OR ENTITY. CONTRACTOR SHALL ADVISE THE CITY IN WRITING WITHIN 24 HOURS OF ANY CLAIM OR DEMAND AGAINST THE CITY OR CONTRACTOR KNOWN TO CONTRACTOR RELATED TO OR ARISING OUT OF CONTRACTOR'S ACTIVITIES UNDER THIS AGREEMENT, AND SHALL SEE TO THE INVESTIGATION AND DEFENSE OF SUCH CLAIM OR DEMAND AT CONTRACTOR'S COST. THE CITY SHALL HAVE THE RIGHT, AT ITS OPTION AND AT ITS OWN EXPENSE, TO PARTICIPATE IN SUCH DEFENSE WITHOUT RELIEVING CONTRACTOR OF ANY OF ITS OBLIGATIONS UNDER THIS PARAGRAPH.**

(c) This Indemnification provision shall survive termination or expiration of the Agreement.

J. INDEPENDENT CONTRACTOR; PERSONNEL

(a) Contractor enters into this Agreement as, and shall continue to be, an independent contractor. All Services shall be performed only by Contractor and Contractor's employees. Specifically, Contractor must perform within its own organization, work equivalent to at least thirty-five (35) percent of the Contract Price, unless otherwise approved by the City. Subject to and in accordance with the conditions and provisions of this Agreement, Contractor shall have the exclusive right to control the details of its operations and activities and be solely responsible for the acts and omissions of its officers, agents, servants, employees, consultants and subcontractors. Under no circumstances shall Contractor, or any of Contractor's employees, look to City as his/her employer, or as a partner, agent or principal. Neither Contractor, nor any of Contractor's employees, shall be entitled to any benefits accorded to City's employees, including without limitation worker's compensation, disability insurance, vacation or sick pay. Contractor shall be responsible for providing, at Contractor's expense, and in Contractor's name, unemployment, disability, worker's compensation and other insurance, as well as any and all licenses and permits usual or necessary for conducting the Services. Contractor shall be responsible for paying all applicable local, state and federal taxes.

(b) Contractor represents and warrants to City that its employees performing Work hereunder will have sufficient expertise, training, licensure (if applicable) and experience to accomplish the Work for the Project.

(c) Contractor shall not subcontract any portion of the work required by this Agreement, except as provided in the Contract Documents. City may terminate this Agreement, effective immediately, if there is any assignment, or attempted assignment, transfer, or encumbrance, by Contractor of this Agreement or any right or interest herein without City's written consent. In the event Contractor engages any subcontractor in the performance of this Agreement, Contractor shall ensure that all of Contractor's subcontractors perform in accordance with the terms and conditions of this Agreement. Contractor shall be fully responsible for all of Contractor's subcontractors' performance, and liable for any of Contractor's subcontractors' non-performance and all of Contractor's subcontractors' acts and omissions.

K. INSURANCE

(a) The Contractor shall furnish proof of insurance requirements as indicated below. The coverage is to remain in force at all times during the contract period. The following minimum insurance coverage is required. The commercial general liability insurance policy shall name the City of Brownsville, Texas, as an "additional insured." This MUST be written in the description section of the insurance certificate, even if there is a check-off box on the insurance certificate. Any costs for adding the City as "additional insured" shall be at the Contractor's expense.

(b) The City of Brownsville shall be given notice ten (10) days prior to cancellation or modification of any required insurance. The insurance provided shall be endorsed or amended to comply with this notice requirement. In the event that the insurer is unable to accommodate, it shall be the responsibility of the Contractor to provide the proper notice. Such notification will be in writing by registered mail, return receipt requested and addressed to the Purchasing & Contract Services Department located at City Hall, 1001 E. Elizabeth St. 1st Floor Suite 101.

(c) The Contractor's insurance must be provided by an A.M. Best's "A-"rated or better insurance company authorized to issue insurance policies in the State of Texas, subject to approval by the City of Brownsville Department of Safety and Risk Management. Any exclusions or provisions in the insurance maintained by the Contractor that excludes coverage for work contemplated in this solicitation shall be deemed unacceptable, and shall be considered breach of contract.

i. Workers' Compensation and Employers' Liability Insurance

Contractor shall purchase and maintain such insurance coverage with limits consistent with statutory benefits outlined in the Texas Workers' Compensation Act (Texas Labor Code, Ch. 406, as amended), and minimum limits for Employers' Liability as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:

1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;

2. claims for damages because of bodily injury, occupational sickness or disease, or death of I Contractor' s employees. Any firm performing work for or on behalf of the City of Brownsville must provide Workers' Compensation insurance.

ii. General Liability Insurance

Covering premises-operations, products-completed operations, independent contractors and contractual liability.

Limits: Combined single limit bodily injury/property damage $1,000,000.

This coverage must include, but not limited to:

1. Coverage for the liability assumed by the Contractor under the indemnity provision of the contract.
2. Coverage for Premises/Operations
3. Products/Completed Operations
4. Broad Form Contractual Liability
5. Independent Contractors

iii. Commercial Automobile Liability Insurance

Covering all owned, hired and non-owned automobile equipment.

Limits:	Bodily injury	$250,000 each person, $500,000 each occurrence
	Property damage	$100,000 each occurrence

This insurance shall be kept in force until the work under this Agreement has been completed and accepted by the City. The City shall be listed as Additional Insured under the policy.

L. **TERMINATION**

(a) *Termination for Cause.* The aggrieved party may terminate this Agreement for cause if the party in breach has not corrected the breach within ten (10) days after written notice from the aggrieved party identifying the breach. The City Manager may also terminate this Agreement upon such notice as the City Manager deems appropriate under the circumstances in the event the City Manager determines that termination is necessary to protect the public health or safety. The parties agree that if the City erroneously, improperly or unjustifiably terminates for cause, such termination shall be deemed a termination for convenience, which shall be effective thirty (30) days after such notice of termination for cause is provided.

This Agreement may be terminated for cause for reasons including, but not limited to, Contractor's repeated (whether negligent or intentional) submission for payment of false or incorrect bills or invoices, failure to perform the Work to the City's satisfaction; or failure to continuously perform the work in a manner calculated to meet or accomplish the objectives as set forth in this Agreement.

(b) *Termination for Convenience.* The City reserves the right, in its best interest as determined by the City, to cancel this Agreement for convenience by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. In the event this Agreement is terminated for convenience, Contractor shall be paid for any services performed to the City's satisfaction pursuant to the Agreement through the termination date specified in the written notice of termination. Contractor acknowledges and agrees that he/she/it has received good, valuable and sufficient consideration from City, the receipt and adequacy of which are hereby acknowledged by Contractor, for City's right to terminate this Agreement for convenience.

(c) *Cancellation for Non-appropriated Funds.* The City reserves the right, in its best interest as determined by the City, to cancel this Agreement for non-appropriated funds or unavailability of funds by giving written notice to the Contractor at least thirty (30) days prior to the effective date of such cancellation. The obligation of the City for payment to a Contractor is limited to the availability of funds appropriated in a current fiscal period, and continuation of the contract into a subsequent fiscal period is subject to appropriation of funds, unless otherwise provided by law.

(d) *Force Majeure.* The City and Contractor will be excused from the performance of their respective obligations under this Agreement when and to the extent that their performance is delayed or prevented by any circumstances beyond their control including, fire, flood,

explosion, strikes or other labor disputes, act of God or public emergency, war, riot, civil commotion, malicious damage, act or omission of any governmental authority, delay or failure or shortage of any type of transportation, equipment, or service from a public utility needed for their performance, provided that:

i. The non-performing party gives the other party prompt written notice describing the particulars of the Force Majeure including, but not limited to, the nature of the occurrence and its expected duration, and continues to furnish timely reports with respect thereto during the period of the Force Majeure;

ii. The excuse of performance is of no greater scope and of no longer duration than is reasonably necessary when considered in light of the Force Majeure;

iii. No obligations of either party that arose before the Force Majeure causing the excuse of performance are excused as a result of the Force Majeure; and

iv. The non-performing party uses its best efforts to remedy its inability to perform.

v. Notwithstanding the above, performance shall not be excused under this Section for a period in excess of sixty (60) days, provided that in extenuating circumstances, the City may excuse performance for a longer term. Economic hardship of the Contractor will not constitute Force Majeure. The term of the agreement shall be extended by a period equal to that during which either party's performance is suspended under this Section.

M. WARRANTIES

The Contractor warrants to the Owner that materials and equipment furnished under the Agreement will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

N. MISCELLANEOUS PROVISIONS

(a) *Successors and Assigns.* All of the provisions of this Agreement shall be binding upon and inure to the benefit of the parties hereto, and their partners, assigns, successors, subcontractors, executors, heirs, officers, agents, employees, representatives, and administrators.

(b) *Choice of Law*. The laws of the state of Texas shall govern the validity of this Agreement, the construction of its terms and the interpretation of the rights and duties of the parties hereto.

(c) *No Waiver of Governmental Immunity.* NOTHING IN THIS AGREEMENT SHALL BE CONSTRUED TO WAIVE CITY'S GOVERNMENTAL IMMUNITY FROM LAWSUIT, WHICH IMMUNITY IS EXPRESSLY RETAINED TO THE EXTENT IT IS NOT CLEARLY AND UNAMBIGUOUSLY WAIVED BY STATE LAW.

(d) *Assignment.* Contractor shall not assign any of Contractor's rights under this Agreement, or delegate the performance of any of Contractor's duties hereunder, without the prior written consent of the City.

(e) *Modification or Amendment.* No amendment, change or modification of this Agreement shall be valid unless in writing signed by the parties hereto.

(f) *Venue.* This Agreement and any and all matters arising directly or indirectly herefrom shall be governed by and construed and enforced in accordance with the Laws of the State of Texas, with the Federal and State Courts of **Cameron County**, Texas having jurisdiction. If at any time there is a dispute between or among the Parties with respect to any matter arising directly or indirectly from this Agreement (an "Agreement Matter"), the Parties agree that, prior to seeking judicial remedy, they will engage in face-to-face negotiations in an attempt to resolve such dispute and shall, upon failing to negotiate a mutually-satisfactory resolution, choose a mutually agreeable neutral third party to mediate such dispute. Mediation shall be non-binding and shall be confidential.

(g) *Execution and Consideration.* This Agreement is executed by the parties hereto without coercion or duress for any substantial consideration, the sufficiency of which is forever confessed

(h) *Notices.* Any and all notices, demands, or other communications required or desired to be given hereunder by any party shall be in writing and shall be validly given or made to another party if personally served, or if deposited in the United States mail, certified or registered, postage prepaid, return receipt requested. If such notice or demand is served personally, notice shall be deemed constructively made at the time of such personal service. If such notice, demand or other communication is given by mail, such notice shall be conclusively deemed given five days after deposit thereof in the United States mail addressed to the party to whom such notice, demand or other communication is to be given as follows:

If to Contractor:

Austin Traffic Signal Construction CO. LLC
Attn: Stephen Rutledge
4615 Priem Lane
Pflugerville, TX 78660

If to City:

City of Brownsville
Attn: City Manager
1001 E Elizabeth St.

Brownsville, TX 78520

With Copy to: City of Brownsville
Attn: City Attorney
1001 E Elizabeth St.
Brownsville, TX 78520

Any party hereto may change its address for purposes of this paragraph by written notice given in the manner provided above.

(i) *Cumulative Remedies*. All rights and remedies of the Parties under this Agreement shall be cumulative, and none shall exclude any other right or remedy provided by law, or by any other provisions of the Agreement. All such rights and remedies may be exercised and enforced concurrently and whenever, and as often, as occasion for their exercise arises.

(j) *Waiver of Breach*. A waiver by either Party of a breach of the Agreement by the other Party does not constitute a continuing waiver or a waiver of any subsequent breach of the Agreement.

(k) *No Third Party Beneficiaries*. Nothing in this Agreement shall be construed to create any right in any third party not a signatory to this Agreement, and the Parties do not intend to create any third party beneficiaries by entering into this Agreement.

(l) *Entire Understanding*. This document and any exhibit attached hereto, constitute the entire understanding and agreement of the parties, and any and all prior agreements, understandings, and representations are hereby terminated and canceled in their entirety and are of no further force and effect.

(m) *Counterparts*. This Agreement may be executed in a number of identical counterparts, each of which shall be deemed an original for all purposes. A facsimile signature will also be deemed to constitute an original if properly executed.

(n) *Miscellaneous Drafting Provisions*. This Agreement shall be deemed drafted equally by the Parties hereto. The language of all parts of this Agreement shall be construed as a whole according to its fair meaning, and any presumption or principle that the language herein is to be construed against any Party shall not apply. Headings in this Agreement are for the convenience of the Parties and are not intended to be used in construing this document.

(o) *Authority to Execute*. The individuals executing this Agreement on behalf of the respective Parties below represent to each other and to others that all appropriate and necessary action has been taken to authorize the individual who is executing this Agreement to do so for and on behalf of the Party for which his or her signature appears, that there are no other parties or entities required to execute this Agreement in order for the same to be an authorized and binding agreement on the Party for whom the individual is signing this Agreement and that each individual affixing his or her signature hereto is authorized to do

so, and such authorization is valid and effective on the date hereof.

(p) *Savings/Severability*. In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision hereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

(q) *Prohibition On Contracts With Companies Boycotting Israel*. Contractor acknowledges that in accordance with Chapter 2270 of the Texas Government Code, the City is prohibited from entering into a contract with a company for goods or services unless the contract contains a written verification from the company that it: (1) does not boycott Israel; and (2) will not boycott Israel during the term of the contract.

The terms " boycott Israel" and" company" shall have the meanings ascribed to those terms in Section 808.001 of the Texas Government Code. ***By signing this* Agreement, *Contractor certifies that Contractor' s signature provides written verification to the City that Contractor: (1) does not boycott Israel, and (2) will not boycott Israel during the term of the Agreement.***

(r) Immigration Nationality Act. As required by law, Contractor shall verify the identify and employment eligibility of its employees who perform work under this Agreement, including completing the Employment Eligibility Verification Form (I-9). Upon request by the City, Contractor shall provide City with copies of all I-9 forms and supporting eligibility documentation for each employee who performs work under this Agreement. Contractor shall adhere to all Federal and State laws as well as establish appropriate procedures and controls so that no services will be performed by any Contractor employee who is not legally eligible to perform such services. **CONTRACTOR SHALL INDEMNIFY CITY AND HOLD CITY HARMLESS FROM ANY PENALTIES, LIABILITIES, OR LOSSES DUE TO VIOLATIONS OF THIS PARAGRAPH BY CONTRACTOR, CONTRACTOR'S EMPLOYEES, SUBCONTRACTORS, AGENTS, OR LICENSEES**. City, upon written notice to Contractor, shall have the right to immediately terminate this Agreement for violation of this provision by Contractor.

(s) *Representations*. Each signatory represents this Agreement has been read by the Party for which this Agreement is executed and that such Party has had an opportunity to confer with its legal counsel.

IN WITNESS WHEREOF the undersigned have executed this Agreement as of the day and year first written above.

NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESSED OR IMPLIED, TO AMEND THIS AGREEMENT, EXCEPT SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE CITY COMMISSION OF THE CITY OF BROWNSVILLE.

EXECUTED THIS _____ DAY OF _____, 2026.

OWNER:

_____
(Signature)

_____
Print Name:
City of Brownsville

CONTRACTOR:

_____
(Signature)

_____
Print Name:

Approved as to Form:

_____
Alyssa J. Castillon
Assistant City Attorney FOR:
City Attorney

Exhibit B

NOTIFICATION OF INTENT TO AWARD

To:	Austin Traffic Signal Construction CO. LLC 4615 Priem Lane Pflugerville, Texas, 78660
Date:	9/10/2026
Attn:	Stephen Rutledge
Project Title	Brownsville Traffic Monitoring & Management of Signalized Roads
Project Location	City of Brownsville
Project Number	143-26-EPW-IFB

Dear Mr. Stephen Rutledge,

On behalf of the City of Brownsville, I am pleased to announce that your company, Austin Traffic Signal Construction CO. LLC, will be submitted for approval to City Commission for the above-referenced project on October 6, 2026.

This Notice of Intent to Award is subject to execution of a written contract and, as a result, this Notice does NOT constitute the formation of a contract between the City of Brownsville and Austin Traffic Signal Construction CO. LLC. Austin Traffic Signal Construction CO. LLC shall not acquire any legal or equitable rights relative to the contract services until a contract containing terms and conditions acceptable to the City of Brownsville is executed.

The City of Brownsville further reserves the right to cancel this Notice of Intent to Award at any time, with or without cause, prior to the execution of a written contract.

Congratulations, and we look forward to working with your company on this project.

Thank you,

Alexandra Guajardo

Alexandra Guajardo
Contract Administrator
Procurement Department
City of Brownsville, Texas

The Brownsville Herald

PUBLISHER'S AFFIDAVIT
STATE OF TEXAS
COUNTY OF CAMERON

I, Sally Rodriguez, being duly sworn on her oath states that she is the Legal Representative of the BROWNSVILLE HERALD a semi-weekly newspaper in Cameron County and that the attached notice did print in the following issues:

Date: April 25, 2026
Acct City Of Bro.Purchasing L Acct #30004791
IO: #30279842 (Bid/Proposal/Qualificatio)

Subscribed and sworn to before me on this the 1st day of May 2026.

Notary Public for the State of Texas

Cristal Amada Trevino
My Commission Expires
4/1/2029
Notary ID135508080

SCANNED

101 Legal Notices

BROWNSVILLE

City of Brownsville Procurement Department

INVITATION

** B/P/Q (Bid/Proposal/Qualifications)*

Description	Number	Pre-Bid/Proposal Meeting	Opening Meeting
Invitation for Bids: Southmost Nature Trail Phase III	*B 141-26-SMT-IFB	Tuesday, April 28, 2026 @ 10:00 A.M CT IN-PERSON & TEAMS VIRTUAL MEETING 1001 E. Elizabeth St. Brownsville, TX, 78520	Thursday, May 21, 2026 @ 3:00 P.M CT IN-PERSON & TEAMS VIRTUAL MEETING 1001 E. Elizabeth St. Brownsville, TX, 78520
Request for Qualifications for Sales Tax Audit, Compliance, Analytics, and Revenue Enhancement Services	*Q 217-26-FIN-RFQ	Tuesday, April 28, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Wednesday, May 20, 2026 @ 3:00 P.M CT TEAMS VIRTUAL MEETING
Invitation For Bids For: Information Technology Department Capital Improvement Project: Proposed 5g & Fiber Design	*B 159-26-IT-IFB	Tuesday, May 5, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 2:00 P.M CT TEAMS VIRTUAL MEETING
Invitation for Bids: Carbon Reduction Program Off-System	*B 174-26-EPW-IFB	Monday, May 4, 2026 @ 10:00 A.M CT IN-PERSON & TEAMS VIRTUAL MEETING 1001 E. Elizabeth St. Brownsville, TX, 78520	Thursday, May 21, 2026 @ 3:30 P.M CT IN-PERSON & TEAMS VIRTUAL MEETING 1001 E. Elizabeth St. Brownsville, TX, 78520
Invitation for Bids: Brownsville Traffic Monitoring & Management of Signalized Roads	*B 143-26-EPW-IFB	Tuesday, May 5, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 3:00 P.M CT TEAMS VIRTUAL MEETING

Interested Bidders/Proposer are invited to attend the Bid/Proposal opening via Video conference on the dates specified. Presence is not mandatory. Specifications may also be viewed and downloaded at: http://www.brownsvilletx.gov or https://brownsvilletx.bonfirehub.com/ (956) 548-6087 office. e-mail: purchasing@brownsvilletx.gov.

04/25/2026

101 Legal Notices

Cameron County
Fair Housing Policy

In accordance with the Fair Housing Act, Cameron County hereby adopts the following policy with respect to the Affirmatively Further Fair Housing:

1. Cameron County agrees to: affirmatively further Fair Housing choice for all seven protected classes (race, color, religion, sex, disability, familial status, and national origin).
2. Cameron County agrees to plan at least one activity during the contract term to affirmatively further Fair Housing.
3. Cameron County will introduce and pass a resolution adopting this policy.

As Officers and Representatives of Cameron County Commissioner's Court, we the undersigned, on this 7th day of April, 2026, have read and fully agree to this plan, and become a party to the full implementation of this Program.

Eddie Trevino, Jr., County Judge

Sofia Benavides, Precinct 1 Commissioner — Joey Lopez, Precinct 2 Commissioner

David A. Garza, Precinct 3 Commissioner — Gus Ruiz, Precinct 4 Commissioner

Attested:

Sylvia Garza-Perez, County Clerk

Condado de Cameron
Política de Vivienda Justa

De conformidad con la Ley de Equidad de Vivienda el Condado de Cameron adopta la siguiente Política con respecto a la promoción de Vivienda Equitativa Afirmativamente.

1. El Condado de Cameron acuerda afirmativamente más opciones de vivienda justa para las siete clases protegidas raza, color, religion, sexo, discapacidad, estado familiar y origen nacional.
2. El Condado de Cameron para alentar planificar al menos una actividad durante el plazo del contrato pea alenta afirmativamente la vivienda justa.
3. El Condado de Cameron presentará una resolución adoptando esta política.

Como oficiales y representates de la Corte de Comisionados del Condado de Cameron nosotros los abajo firmantes, en este día 7 de abril de 2026, hemos leído y estamos totalmente de acuerdo con este plan y nos covertimos en parte de la implementación de este programa.

Eddie Trevino Jr., County Judge

Sofia Benavides, Precinct 1 Commissioner — Joey Lopez, Precinct 2 Commissioner

David A. Garza, Precinct 3 Commissioner — Gus Ruiz, Precinct 4 Commissioner

Attested:

Sylvia Garza-Perez, County Clerk

PUBLIC NOTICE — TOWN OF BAYVIEW
SUBSTANDARD STRUCTURES ORDINANCE

On March 27, 2026, the Town of Bayview, Texas adopted an ordinance for the administration and governance of substandard structures and declaring them to be public nuisances subject to repair, vacating, securing, or demolition upon order of the Building and Standards Commission after notice and public hearing. Failure to comply with an order of the Building and Standards Commission may result in the Town taking corrective action and assessing related costs as a lien against the property containing the substandard structure(s) or otherwise assessing civil penalties in an amount not to exceed $1000 per violation.

101 Legal Notices

Cameron County, Texas
Commissioners' Court
1100 E. Monroe Street
Brownsville, Texas 78520
Office (956)544-0830 Fax (956)544-0801

PUBLIC NOTICE OF INTENT TO CONSIDER TAX ABATEMENT AGREEMENTS AT THE JUNE 2, 2026 COMMISSIONERS' COURT REGULAR MEETING

THE CAMERON COUNTY COMMISSIONERS' COURT WILL MEET FOR A REGULARLY SCHEDULED PUBLIC MEETING ON TUESDAY, JUNE 2, 2026 AT 9:30 A.M. IN THE COURTROOM ON THE 2ND FLOOR AT THE CAMERON COUNTY COURTHOUSE, OSCAR C. DANCY BUILDING, 1100 E. MONROE STREET, BROWNSVILLE, TEXAS AND WILL HOLD A PUBLIC HEARING TO CONSIDER APPROVAL OF TAX ABATEMENT AGREEMENTS

1. THE NAME OF THE PROPERTY OWNER IS THE BROWNSVILLE NAVIGATION DISTRICT OF CAMERON COUNTY, TEXAS, AND THE NAME OF THE APPLICANT FOR THE TAX ABATEMENT AGREEMENTS IS: SARONIC TECHNOLOGIES, INC., NATALIE WIEGAND, VICE PRESIDENT OF OPERATIONS.

2. THE NAME AND LOCATION OF THE REINVESTMENT ZONE IN WHICH THE PROPERTY SUBJECT TO THE AGREEMENTS ARE LOCATED: CAMERON COUNTY IS AN ENTERPRISE ZONE AND THE PROJECT SITE IS IN THE PORT OF BROWNSVILLE: PARCEL #1) 591.76 ACRES OUT OF A 9,028. 7 ACRE TRACT OUT OF SHARES 3 OF THE SAN MARTIN GRANT, CAMERON COUNTY, TEXAS, SAID 9,028.7 ACRE TRACT RECORDED IN VOLUME 999, PAGE 697, DEED RECORDS OF CAMERON COUNTY, TEXAS; PARCEL #2) 1,701.47 ACRES OUT OF A 9,028.7 ACRE TRACT OUT OF SHARES 3 AND 4 OF THE SAN MARTIN GRANT, CAMERON COUNTY, TEXAS, SAID 9,028.7 ACRE TRACT RECORDED IN VOLUME 999, PAGE 697, DEED RECORDS OF CAMERON COUNTY, TEXAS; PARCEL #3) 835.27 ACRES OUT OF A PORTION OF A 9,028.7 ACRE TRACT OUT OF SHARES 4 AND 5 OF THE SAN MARTIN GRANT, CAMERON COUNTY, TEXAS, SAID 9,028.7 ACRE TRACT RECORDED IN VOLUME 999, PAGE 697, DEED RECORDS OF CAMERON COUNTY, TEXAS; PARCEL #4) 1,231.72 ACRES OUT OF A PORTION OF A 9,028.7 ACRE TRACT OUT OF SHARES 4 AND 5 OF THE SAN MARTIN GRANT, CAMERON COUNTY, TEXAS, SAID 9,028.7 ACRE TRACT RECORDED IN VOLUME 999, PAGE 697, DEED RECORDS OF CAMERON COUNTY, TEXAS.

3. A GENERAL DESCRIPTION OF THE NATURE OF THE IMPROVEMENTS OR REPAIRS INCLUDED IN THE AGREEMENTS ARE: NEW SHIP AND BOAT MANUFACTURING FACILITIES FOR MILITARY AND COMMERCIAL USE INCLUDING FOUR (4) PHASES AND RELATED INFRASTRUCTURE.

4. THE ESTIMATED COST OF THE IMPROVEMENTS OR REPAIRS IS ESTIMATED TO BE $3.2 BILLION WITH ESTIMATED PROPERTY TAX VALUES OF $2.7 BILLION.

SIGNED THIS 21ST DAY OF APRIL, 2026.

EDDIE TREVIÑO, JR.
COUNTY JUDGE

Questions regarding this notice should be directed to the County Judge's Staff at (956) 544-0830. Cameron County Courthouse Accessibility Statement. This meeting is accessible to disabled persons. There are six (6) parking spaces reserved for the disabled on Monroe Street at the front entrance of the 1912 Cameron County Courthouse, Oscar C. Dancy Building. The building is accessible through the front entrance handicapped ramps and elevators.

SCANNE

The Brownsville Herald

PUBLISHER'S AFFIDAVIT
STATE OF TEXAS
COUNTY OF CAMERON

I, Sally Rodriguez, being duly sworn on her oath states that she is the Legal Representative of the BROWNSVILLE HERALD a semi-weekly newspaper in Cameron County and that the attached notice did print in the following issues:

Date: May 02, 2026
Acct: City Of Bro. Purchasing L Acct #30004791
IO: #30280129 (Inv to Bid/Propose/Qualif)

Subscribed and sworn to before me on this the 2nd day of June 2026.

Notary Public for the State of Texas

Cristal Amada Trevino
My Commission Expires
4/1/2029
Notary ID 135508080

City of PRIMERA

Request for Qualifications (RFQ)

Engineering Services for the

City of Primera's Water Treatment Plant and Water System Improvements

The City of Primera (the City) is seeking qualified firms to provide engineering services for the City.

The City proposes to contract with a qualified Engineering Firm to provide engineering services for the design of a Water Reverse Osmosis (RO) Water Treatment Plant, groundwater pump(s), and other water system improvements.

The requested engineering services shall include, but are not limited to, preparing all preliminary and final design plans and specifications, support permit and regulatory approvals, and overseeing project implementation.

Particular consideration will be given to firms demonstrating prior experience with similar water supply and RO treatment projects, as well as the ability to prepare a detailed project schedule and implementation plan to bring the project to "shovel-ready" status as soon as possible.

Interested firms can request a copy of the full RFQ by going to www.cityofprimera.us or by e-mailing a request to the City's Water Plant Project Manager at aurrea@cflenterprise.com.

The RFQ release date is April 25, 2026. Questions regarding this RFQ must be submitted no later than May 19, 2026, at 5:00 p.m. Statements of Qualifications for the proposed services must be received no later than May 26, 2026, at 5:00 p.m., at the following address:

City of Primera, TX
ATTN: Celina Gonzales, City Manager
17635 Primera Rd.
Primera, Texas 78552

If you have any questions, please feel free to reach out to the City's Water Plant Project Manager at aurrea@cflenterprise.com or (956) 433-2276

BROWNSVILLE
On the Border. Up for the Sun.

City of Brownsville Procurement Department

INVITATION

** B/P/Q (Bid/Proposal/Qualifications)*

Description	Number	Pre-Bid/Proposal Meeting	Opening Meeting
Invitation For Bids For: Information Technology Department Capital Improvement Project: Proposed 5g & Fiber Design	*B 159-26-IT-IFB	Tuesday, May 5, 2026 @ 10:00 A.M CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 2:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: Carbon Reduction Program Off-System	*B 174-26-EPW-IFB	Monday, May 4, 2026 @ 10:00 AM CT IN-PERSON & TEAMS VIRTUAL MEETING 1001 E. Elizabeth St. Brownsville, TX, 78520	Thursday, May 21, 2026 @ 3:30 PM CT IN-PERSON & TEAMS VIRTUAL MEETING 1001 E. Elizabeth St. Brownsville, TX, 78520
Invitation for Bids: Brownsville Traffic Monitoring & Management of Signalized Roads	*B 143-26-EPW-IFB	Tuesday, May 5, 2026, @ 10:00 AM CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 3:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: Brownsville Traffic Signals Communication Development	*B 144-26-EPW-IFB	Monday, May 11, 2026 @ 10:00 AM CT TEAMS VIRTUAL MEETING	Thursday, May 28, 2026 @ 4:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: 12th St Traffic Signal Improvements	*B 145-26-EPW-IFB	Monday, May 11, 2026 @ 11:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, May 26, 2026 @ 3:00 PM CT TEAMS VIRTUAL MEETING
Invitation for Bids: International Blvd Traffic Signal Improvements	*B 146-26-EPW-IFB	Tuesday, May 12, 2026 @ 10:00 AM CT TEAMS VIRTUAL MEETING	Tuesday, May 26, 2026 @ 4:00 PM CT TEAMS VIRTUAL MEETING

Interested Bidders/Proposer are invited to attend the Bid/Proposal opening via Video conference on the dates specified. Presence is not mandatory. Specifications may also be viewed and downloaded at: http://www.brownsvilletx.gov or https://brownsvilletx.bonfirehub.com/ (956) 548-6087 office, e-mail: purchasing@brownsvilletx.gov.

05/02/2026

Extra Space Storage, on behalf of itself or its affiliates, Life Storage or Storage Express, will hold a public auction to satisfy Extra Space's lien, by selling personal property described below belonging to those individuals listed below at the location indicated. All spaces contain household furniture, unless otherwise noted. Clean up deposit required.

Property #7952
296 Lorenaly Dr, Brownsville, TX 78526
- Elsa Chio
- Brandy Coffee

Auction Date : May 13th, 2026,
Time: 10:00 AM

The auction will be listed and advertised on www.storageextraxpress.com. Purchases must be made with cash only and paid at the above referenced facility to complete the transactions. Extra space storage may refuse any bid and may rescind any purchases up until the winning bidder takes possession of the personal property.

Application is being made with the Texas Alcoholic Beverage Commission for a Wine and Malt Beverage Retail Dealer's Off-Premise Permit by Dolgencorp of Texas, Inc. d/b/a Dollar General Store #31204 located at 3860 Laredo Rd, Brownsville, Cameron County, TX 78520. Officers of said Corporation are Zak Brining, CEO, Donny Hong Bong Lau, CFO, William Arthur Steiger, VP Tax, and Emily C. Taylor, EVP/Secretary.

04/29/2026, 05/02/2026

PUBLIC NOTICE — TOWN OF BAYVIEW SUBSTANDARD STRUCTURES ORDINANCE

On March 27, 2026, the Town of Bayview, Texas adopted an ordinance for the administration and governance of substandard structures and declaring them to be public nuisances subject to repair, vacating, securing, or demolition upon order of the Building and Standards Commission after notice and public hearing. Failure to comply with an order of the Building and Standards Commission may result in the Town taking corrective action and assessing related costs as a lien against the property containing the substandard structure(s) or otherwise assessing civil penalties in an amount not to exceed $1000 per violation.

CITATION BY PUBLICATION- TRC 109 & 114

THE STATE OF TEXAS

2025-DCL-02681

U.S. Bank National Association, Not in Its Individual Capacity but Solely as Trustee of NRZ Pass-Through Trust XII
vs
Alejandro N. Mata

§ IN THE 444TH DISTRICT COURT
§ OF
§ CAMERON COUNTY, TEXAS

TO: **The Unknown Heirs-at-Law of Maria G. Mata, Deceased**
No Known Address

NOTICE TO DEFENDANT: "You have been sued. You may employ an attorney. If you or your attorney do not file a written answer with the clerk who issued this citation by 10:00 am on the Monday next following the expiration of 42 days after the date this citation was issued, a default judgment may be taken against you. In addition to filing a written answer with the clerk, you may be required to make initial disclosures to the other parties of this suit. These disclosures generally must be made no later than 30 days after you file your answer with the clerk. Find out more at TexasLawHelp.org."

You are hereby commanded to appear by filing a written answer to the Plaintiffs Original Petition at or before 10:00 o'clock A.M. on the Monday next after the expiration of 42 days after the date of issuance of this citation before the Honorable 444th District Court of Cameron County, at the Courthouse in said County in Brownsville, Texas. Said Plaintiffs Original Petition was filed in said court on the 12th day of May, 2025 in the above entitled cause.

A brief statement of the nature of this suit is as follows, to-wit:

Plaintiff U.S. Bank National Association, not in its individual capacity but solely as trustee of NRZ Pass-Through Trust XII., its successors and assigns, by and through its attorney of record, Myra Homayoun of McCarthy & Holthus, LLP, 1255 West 15th Street, Suite 1060, Plano, Texas 75075, brought suit in rem only, against Alejandro N. Mata a/k/a Alejandro, Mata-Nanez, Sela Noema Gomez, Alejandro Mata, Omar Mata, the Unknown Heirs-at-Law of Maria G. Mata, Deceased, and any other person(s) claiming any right, title, or interest through Maria G. Mata, as heir(s)-at-law to 4356 Palmo Caribe Dr., Brownsville, Texas 78521 and legally described to wit: LOT 6, BLOCK 2, ISLA DE PALMAS SUBDIVSION, SECTION IV, CITY OF BROWNSVILLE, CAMERON COUNTY, TEXAS, ACCORDING TO MAP THEREOF RECORDED IN CABINET 1, PAGE 852-A OF THE MAP RECORDS, CAMERON COUNTY, TEXAS.

as is more fully shown by Plaintiffs Original Petition on file in this suit.

Issued and given under my hand and seal of said Court at Brownsville, Texas, on this the 6th day of March, 2026.

ATTORNEY
Myra Homayoun
SBN 15135100
214-291-3800
1255 West 15th Street, Suite 1060
Plano, TX 75075

DISTRICT COURT CAMERON COUNTY, TEXAS

Laura Perez-Reyes
District Clerk of Cameron County
974 E Harrison Street
Brownsville, Texas 78520

By: _____ Deputy

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SELLING YOUR HOME?



Exhibit D

City of Brownsville - Procurement Department
ADDENDUM #1

INVITATION FOR BIDS FOR:
BROWNSVILLE TRAFFIC MONITORING & MANAGEMENT OF SIGNALIZED ROADS

IFB #: 143-26-EPW-IFB

ACKNOWLEDGEMENT OF RECEIPT

Please email this page upon receipt

Please fill in the requested information below as acknowledgment that *you have received the* Addendum noted above. If your firm is interested in participating, this sheet must be completed and returned or emailed to:

Eduardo Torres
City of Brownsville - P.O. Box 911
City Hall 1001 E. Elizabeth St. 1ST FLOOR Suite No. 101 Brownsville,
Texas 78520
Phone: (956) 548- Fax: (956) 546-
Email: purchasing@brownsvilletx.gov

Name of Firm: Austin Traffic Signal Construction Co. LLC.

Address: P.O.BOX 130

City, State, Zip: ROUND ROCK,TX 78680

Telephone Number: 512-255-9951 Email: stever@atscc.com

(X) **YES,** Our Company does have an interest in responding.

(__) **NO,** Our Company does not have an interest in responding.

Name: (Print) Stephen Rutledge

Title: Area Manager V.P.

Signature: _____

***ADDENDA*:** The undersigned hereby acknowledges receipt of the following addenda to the Specifications, all of the provisions and requirements of which Addenda have been taken into consideration in the preparation of the foregoing proposal.

Clarifications/Additional Information/Changes to the Original Solicitation Package:

This Addendum is issued to include an in-person attendance option for the Bid Opening Meeting. Vendors may attend the Bid Opening Meeting either in person at the address listed below or virtually via the Microsoft Teams information provided in the solicitation package and restated below.

Bid Opening Meeting in Person Address:
City Hall: 1001 E. Elizabeth St. Brownsville, TX, 78520
Procurement Department- 1st Floor Suite 101

Microsoft Teams Virtual Information:
Link: https://teams.microsoft.com/meet/218114372287608?p=r8cPJ6SaMLYxRBFxJX
Meeting ID: 218 114 372 287 608
Passcode: uN7JS7Qz

Austin Traffic Signal

Name of Bidder/Proposer

SA

Signature

Stephen Rutledge

Print Name

5/20/2026

Date

City of Brownsville - Procurement Department
ADDENDUM #2

INVITATION FOR BIDS FOR: BROWNSVILLE TRAFFIC MONITORING & MANAGEMENT OF SIGNALIZED ROADS

IFB #: 143-26- PW-IFB

ACKNOWLEDGEMENT OF RECEIPT

Please email this page upon receipt

Please fill in the requested information below as acknowledgment that *you have received the* Addendum noted above. If your firm is interested in participating, this sheet must be completed and returned or emailed to:

Eduardo Torres
City of B ownsville - P.O. Box 911
City Hall 1001 E. Elizabeth St. 1ST FLOOR Suite No. 101 Brownsville,
Texas 78520
Phone: (956) 548-6087 Fax: (956) 546-271
Email: purchasing@brownsvilletx.gov

Name of Firm: Austin Traffic Signal Construction Co.LLC.

Address: P.O.BOX 130

City, State, Zip: ROUND ROCK,TX 78680

Telephone Number: 512-255-9951 Email: stever@atscc.com

(X) **YES,** Our Company does have an interest in responding.

(__) **NO,** Our Company does not have an interest in responding.

Name: (Print) Stephen Rutledge

Title: Area Manager V.P.

Signature:

ADDENDA: The undersigned hereby acknowledges receipt of the following addenda to the Specifications, all of the provisions and requirements of which Addenda have been taken into consideration in the preparation of the foregoing proposal.

Clarifications/Additional Information/Changes to the Original Solicitation Package:

- Questions and answers (Please see below);
- Incorporates the following additional requirements into Section 2.1 - CCTV System Deployment:
    - Any proposed equivalent CCTV solution, including cloud-based or subscription-based platforms, shall include all software licenses, cloud services, firmware support, platform access, and associated functionality necessary for complete system operation during the required warranty period.
    - The proposed CCTV system shall include a minimum five (5) year manufacturer's warranty effective from the date of installation and final acceptance.
    - Any recurring subscription fees, licensing renewals, or additional operational costs necessary to maintain standard system functionality during the required warranty period shall be included in the original bid proposal.
- Includes revised Sheet 10 of the Plans (General Notes) to state that working days will be charged in accordance with Article 8.3.1, Standard Workweek.

Vendor Discussions

Note 7 Clarification

May 06, 2026 2:57 PM CDT

Note 7 states “Utilize existing conduit and ground boxes for proposed CCTV camera cable connection to the existing traffic signal cabinet.” However, this is a span intersection. For this “span wire configuration” should contractors run the CCTV cable across the the existing span? If yes, is re-lashing required, or is overlashing permitted?

Re-lashing with proper messenger support, rather than simply overlashing onto existing signal span infrastructure without analysis.

Question

May 06, 2026 2:58 PM CDT

Would the City please confirm the allowable work hours?

Working days and allowable work periods shall be in accordance with Article 8.3.1.4 – Standard Workweek of the applicable TxDOT Standard Specifications included in the contract documents.

Any weekend, holiday, or after-hours work must be requested in advance and is subject to approval by the City, with concurrence from TxDOT.

CCTV related questions

May 06, 2026 1:50 PM CDT

1. Approved Equals & RTSP Integration "Section 2.1 requires the CCTV system to integrate with the Glance management platform. Given that the City already successfully utilizes RTSP (Real-Time Streaming Protocol) video integrations for its broader Smart City and AI dashboard initiatives, will the Traffic Department accept an RTSP stream from an 'approved equal' camera manufacturer to satisfy this Glance integration requirement?"

Any proposed CCTV solution utilizing RTSP integration or similar interoperability methods shall demonstrate compatibility with the required Glance management platform in accordance with Section 2.1 – Approved Products and Substitutions of the solicitation.

2. Unified Smart City Ecosystem Alignment "Regarding the 'approved equal or better' substitution clause, will the City look favorably upon a camera system that not only integrates with the required Glance platform but also natively aligns with the City’s existing Centific/Nvidia AI Smart City

dashboard, thereby preventing disparate, siloed camera ecosystems across different City departments?"

The City will consider “approved equal” substitutions in accordance with the requirements, specifications, and evaluation criteria established in the contract documents.

Vendors proposing equivalent products shall demonstrate compatibility with the required Glance management platform as identified in the solicitation documents.

Final determination regarding equivalency and acceptability will be made by the City in accordance with the solicitation requirements.

3. Warranty vs. Subscription Model "The IFB mentions an Extended Warranty Bond and equipment warranties. For 'equivalent' cloud-based CCTV solutions that operate on a licensing and subscription model, will the City accept a multi-year software agreement to satisfy the traditional hardware warranty requirements?"

Refer to revised Section 2.1 – CCTV System Deployment included in this Addendum.

4. Award Structure & Partner Bidding "Section 4.5 indicates the City may award the contract on an 'all-or-nothing' basis, by line item, or by groupings. Can the City clarify if it prefers a single prime contractor for the entire scope, or if it will accept and evaluate separate, concurrent bids from different partners for distinct scopes of work (e.g., Vendor A bidding solely on the CCTV deployment, and Vendor B bidding solely on the Cyber Lock configuration)?"

The City will evaluate bids in accordance with Section 4.5 – Basis of Award of the solicitation documents.

Bidders may utilize subcontractors, suppliers, manufacturers, or integration partners as part of their proposed team. The awarded contractor shall remain responsible for contract performance, coordination, and compliance with all applicable contract requirements.

5.The "Existing Investment / Interoperability" Approach "The City of Brownsville has previously made successful investments in Verkada camera infrastructure for its Smart City initiatives. To maximize the ROI of these existing City-wide deployments and ensure seamless cross-departmental interoperability, will the Traffic Department accept Verkada as an 'approved equal' under Section 2.1, provided the vendor guarantees in writing that the solution fully integrates with and supports the required Glance management platform?"

The City will consider ‘approved equal’ products in accordance with Section 2.1 – Approved Products and Substitutions of the solicitation.

Vendors proposing equivalent products must demonstrate compatibility with the City’s existing systems and the required Glance management platform as identified in the contract documents.

Final determination of equivalency and acceptability will be made by the City based on compliance with the solicitation requirements.

Project Number: **Sheet A**

County: Cameron **Control:** 0921-06-400

Highway: Varies

2024 SPECS GENERAL NOTES:

****

General Requirements and Covenants:

ITEM 2: Instructions to Bidders

TxDOT related contractor questions on this project are to be addressed to the following individual(s):

Carlos Lastra, P.E., City Engineer; Carlos.Lastra@brownsvilletx.gov

Lucio S. Gutierrez, MPA, Traffic Manager; lucio.gutierrez@brownsvilletx.gov

ITEM 7: Legal Relations and Responsibilities

No significant traffic generator events identified.

In accordance with Article 7.2.4. of the standard specifications, roadway, or lane closures during the following key dates and/or special events are prohibited:

- National Holidays
- The day before a National Holiday
- During emergency events such as natural disasters or as directed by the Engineer

ITEM 8: Prosecution and Progress

Working days will be computed and charged in accordance with Article 8.3.1.4. Standard Workweek.

Prepare progress schedules as a Bar Chart.

Project Number: **Sheet B**

County: Cameron **Control:** 0921-06-400

Highway: Varies

ITEM 502: Barricades, Signs, and Traffic Handling

From the beginning to the end of the project, all traffic control devices need to be in acceptable condition as per the Texas Quality Guidelines for Work Zone Traffic Control Devices.

Remove and dispose of all litter, debris, objectionable material, excess materials that accumulate at the base of all traffic control devices as directed by the Engineer.

ITEM 505: Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA)
In addition to the shadow vehicles with truck mounted attenuator (TMA) that are specified as being required on the traffic control plan for the project, provide 2 additional shadow vehicle(s) with TMA as per TCP (1-1) -18 as detailed on General Note 5 of this standard sheet;
or as per TCP(1-2) -18 as detailed on General Note 6 of this standard sheet;
or as per TCP(1-3) -18 as detailed on General Note 7 of this standard sheet;
or as per TCP(1-4) -18 as detailed on General Note 5 of this standard sheet;

ITEM 680 / 690: Highway Traffic Signals

The installation of highway traffic signals shall consist of the following principal Items:

1. Furnishing and installing 16-phase full traffic actuated controllers, base mounted cabinets, conflict monitors, load switches and loop amplifiers.
3. Removal and disposal of existing signal material specified in the plans.
4. All other Items not listed above which are needed to provide for complete traffic signal installations and for proper signal operation as called for in the plans and specifications shall be furnished and installed.

Any deviation of location for proposed signal work shall be as approved.

Signal controller

The signal installations shall be wired in accordance with the phase diagrams in the plans. The proposed base mounted cabinet shall contain 16-phase conflict monitor which display the "R-Y-G" and "Walk" phases. In addition to detecting phasing conflicts, the conflict monitor shall also be able to detect multiple signal head indications within every phase. The conflict monitor shall continue to operate in the event of a power supply failure in the timer and shall be able to retain in memory the time and date of the failure detection. Time changes shall be programmable in the field without replacing components or use of external devices. The full-actuated controller shall meet N.E.M.A. Specifications.

A controller manufacturer's technician shall be required to load initial timing programs into the controllers as called for in the plans. Once the traffic signals are turned on, the same technician shall monitor the signal operation and traffic movement and shall adjust settings for best signal operation. The technician shall provide the State with a certification that the timing plan and

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
5/15/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 2747
Land Surveying Firm No. 10046700

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GENERAL NOTES

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	10

03_GENERAL NOTES (1 OF 2).dgn

4/20/2026 10:06:20 AM
pw://cobbfen-pw.bentley.com:cobbfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/01-General/03_GENERAL NOTES (1 OF 2)

Exhibit E

Bid Price Form

Brownsville Traffic Monitoring & Management of Signalized Roads - CSJ 0921-06-400					
ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ITEM COST
500-7001	MOBILIZATION	LS	1	$1000	$1000
502-7001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	6	$350	$2100
505-7002	TMA (MOBILE OPERATION)	HR	228	$20	$4500
680-0003	FURNISH & INSTALL CYBERLOCK	EA	215	$300	$64500
680-0006	TRAFFIC SIGNAL CONTROLLER	EA	191	$900	$45,000
6018-0002	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	EA	205	$300	$4,000
				TOTAL	$57,630

CobbFendley

July 22, 2026

Eduardo Torres, MBA, CTCD
Buyer-City of Brownsville
City of Brownsville | Procurement Division
1001 E. Elizabeth St
Brownsville, Texas 78520

Re: Brownsville Traffic Monitoring & Management of Signalized Roads (CSJ 0921-06-400)
Solicitation No. 143-26-EPW-IFB
BID RECOMMENDATION LETTER

Dear Mr. Torres:

CobbFendley is in receipt of the bid tabulation in accordance with Article 2.14 "Tabulation for Bids" of TxDOT's Standard Specifications for the above-mentioned project and offers the following Bid Analysis. A total of four (4) bids were received on May 28, 2026.

CobbFendley developed the Bid Analysis spreadsheet for the project and populated it with each item description, unit, estimated quantity, unit price and total cost. The total cost for each item was obtained by multiplying the estimated quantity by the unit price. The total cost for the project was obtained by adding up each total cost for all the items.

The official bid amounts, which are summarized below ranged from 7.1% to 26.4% above the engineer's estimate from March 2026.

Engineer's Estimate - Brownsville Traffic Monitoring & Management of Signalized Roads

	Bidder Name	Submitted Bid	% Below/Above
Bidder #1	ATS Construction Co. LLC	$ 2,537,330.00	7.1%
Bidder #2	The Levy Company, LLC	$ 2,814,461.80	18.8%
Bidder #3	Traf-Tex, Inc.	$ 2,850,322.00	20.4%
Bidder #4	Econolite Systems, Inc.	$ 2,992,756.00	26.4%

Bidder #1 - ATS Construction Co. LLC
Based on the bids analysis spreadsheet, Bidder #1 was the lowest bidder. CobbFendley confirmed ATS Construction Co. LLC's total summation is $2,537,330.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
1	MOBILIZATION	LS	1	$ 35,000.00	$ 215,280.00	-83.7%
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,500.00	$ 600.00	150.0%

Bidder #2 - The Levy Company, LLC
Based on the bids analysis spreadsheet, Bidder #2 was a higher bidder. CobbFendley confirmed The Levy Company, LLC's total summation is $2,814,461.80.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
3	TMA (MOBILE OPERATION)	HR	228	$ 6.85	$ 100.00	-93.2%
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,400.00	$ 600.00	133.3%

Bidder #3 - Traf-Tex, Inc.
Based on the bids analysis spreadsheet, Bidder #3 was a higher bidder. CobbFendley confirmed Traf-Tex, Inc's total summation is $2,850,322.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 2 items were identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
2	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	6	$ 13,020.00	$ 3,500.00	272.0%
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,477.25	$ 600.00	146.2%

Bidder #4 - Econolite Systems, Inc.
Based on the bids analysis spreadsheet, Bidder #4 was a higher bidder. CobbFendley confirmed Econolite Systems, Inc's total summation is $2,992,756.00.

In accordance with TxDOT guidelines, an item is considered significantly unbalanced if the low bidder's unit price differs from the engineer's estimate by more than +50% or less than -75%. The following 1 item was identified as significantly unbalanced:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	ENGINEER'S ESTIMATE	% DIFF
4	FURNISH & INSTALL CYBERLOCK	EA	215	$ 1,462.00	$ 600.00	143.7%

Since this project has portions within State ROW and federal funds are being utilized, it must follow the TxDOT requirements for TxDOT Prequalification. This project requires a TxDOT Confidential Questionnaire Prequalification since the project cost is above $300,000 and as outlined on TxDOT's website:

https://www.txdot.gov/business/road-bridge-maintenance/contract-letting/contractor-prequalification.html

Bidder #1 was determined to be TxDOT Prequalified under the Confidential Questionnaire. Based on the submitted bids and our corresponding analysis, we recommend that Bidder #1 Austin Traffic Signal Construction Co. LLC be awarded a contract not to exceed $2,537,330.00.

This is the first bid opening. The bids were acceptable and there is no reason to rebid due to the low turnout of contractors.

Thank you for the opportunity to assist you with this project and should you have any questions or concerns, please feel free to contact me via email at bcastille@cobbfendley.com or via phone at 713-485-8234.

Sincerely,

COBB, FENDLEY & ASSOCIATES, INC



Brian Castille, P.E., PTOE
Traffic Department Manager | Principal

Attachment: Bid Tabulation

Bid No:	143-26-EPW-IFB
Project:	0921-06-400

							ATS Construction Co. LLC		Econolite Systems, Inc.		The Levy Company, LLC		Traf-Tex, Inc.		CobbFendley EOPCC	
							Total Price	$2,537,330.00	Total Price	$2,992,756.00	Total Price	$2,814,461.80	Total Price	$2,850,322.00	Total Price	$2,368,080.00
Line #	Description	Mfgr	Mfgno	QTY	UOM	Estimated	Unit	Extended	Unit	Extended	Unit	Extended	Unit	Extended	Unit Price	Total
1	MOBILIZATION			1	LS		$35,000.00	$35,000.00	$271,433.00	$271,433.00	$170,000.00	$170,000.00	$252,558.15	$252,558.15	$215,280.00	$215,280.00
2	BARRICADES, SIGNS AND TRAFFIC HANDLING			6	MO		$3,555.00	$21,330.00	$3,355.00	$20,130.00	$3,400.00	$20,400.00	$13,020.00	$78,120.00	$3,500.00	$21,000.00
3	TMA (MOBILE OPERATION)			228	HR		$125.00	$28,500.00	$89.00	$20,292.00	$6.85	$1,561.80	$88.20	$20,109.60	$100.00	$22,800.00
4	FURNISH & INSTALL CYBERLOCK			215	EA		$1,500.00	$322,500.00	$1,462.00	$314,330.00	$1,400.00	$301,000.00	$1,477.25	$317,608.75	$600.00	$129,000.00
5	TRAFFIC SIGNAL CONTROLLER			191	EA		$6,000.00	$1,146,000.00	$4,726.00	$902,666.00	$5,500.00	$1,050,500.00	$4,896.00	$935,136.00	$5,000.00	$955,000.00
6	CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)			205	EA		$4,800.00	$984,000.00	$7,141.00	$1,463,905.00	$6,200.00	$1,271,000.00	$6,081.90	$1,246,789.50	$5,000.00	$1,025,000.00
					MOBILIZATION %		1.4%		9.1%		6.0%		8.9%		9%	

TOTALS	$ 2,537,330.00	$ 2,992,756.00	$ 2,814,461.80	$ 2,850,322.00	$2,368,080.00
Δ	$ 169,250.00	$ 624,676.00	$ 446,381.80	$ 482,242.00	
%DIFFERENCE	7.1%	26.4%	18.8%	20.4%	

% Difference for Each Line Item			
-83.7%	26.1%	-21.0%	17.3%
1.6%	-4.1%	-2.9%	272.0%
25.0%	-11.0%	-93.2%	-11.8%
150.0%	143.7%	133.3%	146.2%
20.0%	-5.5%	10.0%	-2.1%
-4.0%	42.8%	24.0%	21.6%

% Difference for Each Total Bid			
7.1%	26.4%	18.8%	20.4%

Docusign Envelope ID: 9AC2B31B-630C-41F1-BDF7-389768573807

CONT	SECT	JOB	HIGHWAY
0921	06	400	VAR
DIST	COUNTY		SHEET NO.
PHR	CAMERON		1

Exhibit G

INDEX OF SHEETS

SEE SHEET No. 2

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

PLANS OF PROPOSED
STATE HIGHWAY IMPROVEMENT

FEDERAL AID PROJECT NUMBER
STP 2026(823)MM
CSJ 0921-06-400

BROWNSVILLE TRAFFIC SIGNALS MONITORING & MANAGEMENT OF SIGNALIZED ROADS

NET LENGTH OF PROJECT = VARIOUS LOCATIONS

CAMERON COUNTY

LIMITS: FROM: VARIOUS
TO: VARIOUS

FOR THE INSTALLATION OF TRAFFIC MONITORING EQUIPMENT



LOCATION MAP NOT TO SCALE

OVERALL NUMBER OF LOCATIONS: 228
DESIGN SPEED: VARIES
EXCEPTIONS: NONE
EQUATIONS: NONE
RAILROAD CROSSINGS: NONE

FINAL PLANS

DATE OF LETTING: _____

DATE WORK BEGAN: _____

DATE WORK COMPLETED: _____

DATE WORK ACCEPTED: _____

FINAL CONTRACT COST: $ _____

CONTRACTOR: _____

LIST OF APPROVED FIELD CHANGES, CHANGE ORDERS & SUPPLEMENTAL AGREEMENTS:

THIS IS TO CERTIFY THAT ALL CONSTRUCTION SUBSTANTIAL WORK WAS PERFORMED IN ACCORDANCE WITH THE PLANS SPECIFICATIONS AND CONTRACT.ALL PROPOSED CONSTRUCTION WAS COMPLETED UNLESS OTHERWISE NOTED.

CARLOS LASTRA P.E.
CITY ENGINEER

DATE

TDLR INSPECTION NOT REQUIRED

SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION ON SEPTEMBER 1, 2024 AND SPECIFICATION ITEMS LISTED AND DATED AS FOLLOWS, SHALL GOVERN ON THIS PROJECT: REQUIRED CONTRACT PROVISIONS FOR ALL FEDERAL-AID CONSTRUCTION CONTRACTS (FORM FHWA 1273, OCTOBER 23, 2023).

Texas Department of Transportation

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STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
04/20/2026

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

City of BROWNSVILLE Texas
On the Border. By the Sea and Beyond.

SUBMITTED FOR LETTING: DATE: 4/21/2026

LOCAL PUBLIC AGENCY

RECOMMENDED FOR LETTING: DATE: 4/21/2026

Signed by:
Gabriel Isaac Garcia
E75CB72436B0468...
SECTION ENGINEER

APPROVED FOR LETTING: DATE: 4/21/2026

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...
DISTRICT ENGINEER

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59	BOCA CHICA BLVD AT N MINNESOTA AVE
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79	E ADAMS ST AT E 11TH ST
80	E ADAMS ST AT E 12TH ST
81	E ADAMS ST AT E 13TH ST
82	E ADAMS ST AT E 14TH ST
83	E ADAMS ST AT E 6TH ST
84	E ADAMS ST AT E 7TH ST
85	EAST AVE AT IMPALA DR - ELENA ST
86	EAST AVE AT TULIPAN ST
87	E ELIZABETH ST AT E 10TH ST
88	E ELIZABETH ST AT E 11TH ST
89	E ELIZABETH ST AT E 12TH ST
90	E ELIZABETH ST AT E 13TH ST
91	E ELIZABETH ST AT INTERNATIONAL BLVD
92	E ELIZABETH ST AT E 6TH ST
93	E ELIZABETH ST AT E 7TH ST
94	E ELIZABETH ST AT E 8TH ST
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109	RUBEN M TORRES BLVD (FM 802) AT DANA AVE
110	RUBEN M TORRES BLVD (FM 802) AT HABANA ST
111	RUBEN M TORRES BLVD (FM 802) AT HUDSON BLVD
112	RUBEN M TORRES BLVD (FM 802) AT LAREDO RD
113	RUBEN M TORRES BLVD (FM 802) AT MCALLEN RD - COUNTRY CLUB RD
114	RUBEN M TORRES BLVD (FM 802) AT N MINNESOTA AVE
115	RUBEN M TORRES BLVD (FM 802) AT OLD ALICE RD/JOSE MARTI BLVD
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129	E HARRISON ST AT E 13TH ST
130	E HARRISON ST AT E 7TH ST
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132	INTERNATIONAL BLVD AT E ADAMS ST
133	INTERNATIONAL BLVD AT CLEVELAND ST
134	INTERNATIONAL BLVD AT E JACKSON ST - E 17TH ST
135	INTERNATIONAL BLVD AT E JEFFERSON ST - MAY ST
136	INTERNATIONAL BLVD AT E MONROE DR
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138	INTERNATIONAL BLVD AT MAGNETEK DR
139	INTERNATIONAL BLVD AT ROOSEVELT ST
140	INTERNATIONAL BLVD AT SECURITY DR - E 14TH ST
141	INTERNATIONAL BLVD AT SOUTHMOST RD
142	INTERNATIONAL BLVD AT E TYLER ST
143	INTERNATIONAL BLVD AT IH-69E/US 77 NB FRONTAGE
144	INTERNATIONAL BLVD AT IH-69E/US 77 SB FRONTAGE
145	INTERNATIONAL BLVD AT E WASHINGTON ST
146	E JACKSON ST AT E 12TH ST
147	JAIME J ZAPATA AVE AT ROBINDALE RD
148	E JEFFERSON ST AT E 12TH ST
149	E JEFFERSON ST AT E 13TH ST
150	E JEFFERSON ST AT E 14TH ST
151	E JEFFERSON ST AT E 6TH ST
152	E LEVEE ST AT E 10TH ST
153	E LEVEE ST AT E 11TH ST
154	E LEVEE ST AT E 12TH ST
155	E LEVEE ST AT E 13TH ST
156	E LEVEE ST AT E 6TH ST
157	E LEVEE ST AT E 7TH ST
158	E LEVEE ST AT E 8TH ST
159	E LEVEE ST AT E 9TH ST
160	E LOS EBANOS BLVD AT N CORIA ST
161	E LOS EBANOS BLVD AT OLD ALICE RD
162	E MADISON ST AT E 11TH ST
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165	E MADISON ST AT E 14TH ST
166	E MADISON ST AT E 6TH ST
167	E MADISON ST AT E 7TH ST
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176	N MINNESOTA AVE AT HOUSTON RD
177	N MINNESOTA AVE AT TRAVIS RD
178	E MONROE ST AT E 13TH ST
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184	MORRISON RD AT MCALLEN RD
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186	MORRISON RD AT SAN MARCELO BLVD - LAS PALOMAS ST
187	MORRISON RD AT IH-69E/US 77
188	MORRISON RD AT WESTRAIL TRL
189	OLD PORT ISABEL RD AT HACKBERRY LN
190	OLD PORT ISABEL RD AT ROBINHOOD DR
191	PADRE ISLAND HWY AT AUSTIN RD
192	PADRE ISLAND HWY AT CENTRAL AVE
193	PADRE ISLAND HWY AT COFFEE PORT RD
194	PADRE ISLAND HWY AT HOME DEPOT DRIVEWAY
195	PADRE ISLAND HWY AT MCKENZIE RD
196	PADRE ISLAND HWY AT N MINNESOTA AVE
197	PADRE ISLAND HWY AT ROBINDALE RD - FRUITDALE DR
198	PADRE ISLAND HWY AT WALMART DRIVEWAY
199	PADRE ISLAND HWY AT ZENA DR
200	PALM BLVD AT CALLE RETAMA
201	PALM BLVD AT ELIZABETH ST
202	PALM BLVD AT FRONTON ST
203	PALM BLVD AT JEFFERSON ST
204	PALM BLVD AT LEVEE ST
205	PALM BLVD AT RINGGOLD ST
206	PALM BLVD AT ST CHARLES ST
207	PALM BLVD AT ST FRANCIS ST
208	PAREDES LINE RD (FM 1847) AT AVENIDA CARLOS
209	PAREDES LINE RD (FM 1847) AT EVENT CENTER BLVD - EMERALD VALLEY BLVD
210	PAREDES LINE RD (FM 1847) AT GALVESTON RD
211	PAREDES LINE RD (FM 1847) AT CSR DR - HERITAGE TRL
212	PAREDES LINE RD (FM 1847) AT LOS EBANOS BLVD
213	PAREDES LINE RD (FM 1847) AT MAIN ST
214	PAREDES LINE RD (FM 1847) AT E MORRISON RD
215	E POLK ST AT E 24TH ST
216	W PRICE RD AT BARNARD RD
217	E PRICE RD AT BISD DRIVEWAY
218	W PRICE RD AT CENTRAL BLVD
219	E PRICE RD AT EAGLE DR (EAST)
220	E PRICE RD AT EAGLE DR (WEST)
221	E PRICE RD AT OLD PORT ISABEL RD
222	E PRICE RD AT PADRE ISLAND HWY
223	E PRICE RD AT PAREDES LINE RD (FM 1847)
224	E PRICE RD AT SLOSS DR
225	E PRICE RD AT IH-69E/US 77 NB FRONTAGE
226	W PRICE RD @ OLD ALICE RD AT IH-69E/US 77 SB FRONTAGE
227	E RINGGOLD ST AT E 12TH ST
228	E RINGGOLD ST AT E 13TH ST
229	E RINGGOLD ST AT E 6TH ST
230	E RINGGOLD ST AT E 7TH ST
231	E ROOSEVELT ST AT E 13TH ST
232	E ROOSEVELT ST AT E 14TH ST

THE STANDARD SHEETS SPECIFICALLY IDENTIFIED WITH A "#" HAVE BEEN ISSUED BY ME AND ARE APPLICABLE TO THIS PROJECT.

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED PROFESSIONAL ENGINEER
04/21/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INDEX OF SHEETS

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY	STATE
6	VAR	TEXAS

STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	2

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02_SHEET_INDEX (1 OF 2).dgn

SHEET NO	DESCRIPTION
233	E ROOSEVELT ST AT MCDAVITT BLVD - OAK ST
234	E ST CHARLES ST AT E 12TH ST - SAM PEARL BLVD
235	E ST CHARLES ST AT E 6TH ST
236	SOUTHMOST RD AT E 14TH ST
237	SOUTHMOST RD AT E 23RD ST
238	SOUTHMOST RD AT E 26TH ST
239	SOUTHMOST RD AT E 30TH ST
240	SOUTHMOST RD AT DOCKBERRY RD
241	SOUTHMOST RD AT ESPERANZA RD - MORNINGSIDE RD
242	SOUTHMOST RD AT MORNINGSIDE RD
243	SOUTHMOST RD AT TULIPAN ST
244	W UNIVERSITY BLVD AT PARKING LOT DRIVEWAY
245	W UNIVERSITY BLVD AT RINGGOLD RD
246	W UNIVERSITY BLVD AT E TYLER ST
247	UNIVERSITY BLVD AT IH-69E/US 77
248	IH-69E/US 77 AT E 13TH ST
249	IH-69E/US 77 AT E 14TH ST
250	E WASHINGTON ST AT E 10TH ST
251	E WASHINGTON ST AT E 11TH ST
252	E WASHINGTON ST AT E 12TH ST
253	E WASHINGTON ST AT E 13TH ST
254	E WASHINGTON ST AT E 14TH ST
255	E WASHINGTON ST AT E 6TH ST
256	E WASHINGTON ST AT E 7TH ST
257	E WASHINGTON ST AT E 8TH ST
258	E WASHINGTON ST AT E 9TH ST

TRAFFIC SIGNAL STANDARDS

# 259 - 266	[S] ED(1)-25 THRU ED(8)-25
# 267 - 268	[S] SMA-100(1)-12 THRU SMA-100(2)-12
# 269 - 270	[S] SP-100(1)-12 THRU SP-100(2)-12
# 271 - 273	[S] DMA-100(1)-12 THRU DMA-100(3)-12
# 274 - 278	[S] LMA(1)-12 THRU LMA(5)-12
# 279	[S] TS-CF-21

ENVIRONMENTAL ISSUES

280 - 281	ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS (EPIC)
282 - 284	EPIC SHEET SUPPLEMENTALS TPWD BMPs
285 - 286	STORMWATER POLLUTION PREVENTION PLAN (SWP3) (ONE ACRE OR MORE)

ENVIRONMENTAL ISSUES STANDARDS

# 287	[S] EC(1)-16

[S] = STATEWIDE STANDARD

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STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED PROFESSIONAL ENGINEER
04/21/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	3

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02_SHEET_INDEX (2 OF 2).dgn



NUMBER	STREET
209	IH-69E/ US77 @Rancho Viejo (North Frontage)
	IH-69E/ US77 @Rancho Viejo (South Frontage)
68	IH-69E/ US77 @FM 511 (North Frontage)
	IH-69E/ US77 @FM 511 (South Frontage)
67	FM 511 @Paredes Line Road (East Frontage)
	FM 511 @Paredes Line Road (West Frontage)
65	FM 511 @Old Alice Rd East Frontage
	FM 511 @Old Alice Rd West Frontage
9	Anaqua St @IH-69E/ US77 North Frontage
	Anaqua St @IH-69E/ US77 South Frontage

SCALE: NTS

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

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LOCATION MAP

SHEET 1 OF 6

DISTRICT DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	4

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04_LOCATION MAP (1 OF 6).dgn



NUMBER	STREET
1	Alton Gloor @Lakeway Drive
2	Alton Gloor @Morrison Rd.
3	Alton Gloor @Pablo Kisel Blvd., Sugar Mill
4	Alton Gloor @Paredes Line Road (FM 1847)
5	Alton Gloor @Ridgeline Drive
6	Alton Gloor @Stage Coach Trail
7	Alton Gloor @IH-69E/ US77 North Frontage
	Alton Gloor @IH-69E/ US77 South Frontage
8	Alton Gloor @West Rail Trail
38	Central Blvd @Media Luna, Old USHWY77
42	Coffee Port @Paredes Ln Rd.
70	FM 802 @Central Blvd
73	FM 802 @Habana St.
74	FM 802 @Hudson Blvd.
76	FM 802 @McAllen, Country Club
78	FM 802 @Old Alice Rd., Jose Marti Blvd.
81	FM 802 @Paredes Line Road
83	FM 802 @San Marcelo, Coffee Rd.
85	FM 802 @Sunrise Mall East Entrance
86	FM 802 @IH-69E/ US77 North Frontage
	FM 802 @IH-69E/ US77 South Frontage
88	FM 802 @Village Center Dr.
89	FM 802 @West Rail Trail
130	Military Hwy. @Alton Gloor Blvd
142	Morrison Rd. @Hitorical Battefield Trail
143	Morrison Rd. @Laredo Rd.
144	Morrison Rd. @McAllen Rd.
145	Morrison Rd. @Pablo Kisel Blvd.
146	Morrison Rd. @San Marcelo Blvd, Las Palomas
147	Morrison Rd. @IH-69E/ US77 North Frontage
	Morrison Rd. @IH-69E/ US77 South Frontage
148	Morrison Rd. @West Rail Trail.
168	Paredes Line Road @Avenida Carlos
169	Paredes Line Road @Event Center, Emerald Valley
171	Paredes Line Road @Heritage Trail
173	Paredes Line Road @Main St.
174	Paredes Line Road @Morrison Rd.

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03/06/2026

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LOCATION MAP
SHEET 02 OF 05

SHEET 2 OF 6

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	5

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04_LOCATION MAP (2 OF 6).dgn



NUMBER	STREET
12	Boca Chica @Barnard Rd.
15	Boca Chica @Calle Cenizo
17	Boca Chica @Central Blvd.
18	Boca Chica @Coria St.
20	Boca Chica @Honeydale Rd., West Monroe St.
25	Boca Chica @Old Alice Rd.
26	Boca Chica @Old Military and Madison St.
27	Boca Chica @Old Port Isabel Rd. / Mcdavitt Blvd.
29	Boca Chica @Palm Blvd.
30	Boca Chica @Paredes Line Road
32	Boca Chica @IH-69E/ US77 North Frontage Boca Chica @IH-69E/ US77 South Frontage
35	Central Blvd @Elizabeth St. and W. 8th St.
36	Central Blvd @Jefferson Blvd., Lakeside Blvd.
37	Central Blvd @Los Ebanos Rd.
39	Central Blvd @Wild Rose Ln
75	FM 802 @Laredo Rd.
121	Los Ebanos Blvd. @Coria St.
122	Los Ebanos Blvd. @Old Alice Rd.
129	IH-69E/ US77 @McDavitt, 6th & 7th (North Frontage) IH-69E/ US77@McDavitt, 6th & 7th (South Frontage)
131	Military Hwy. @Capt Basler Ave. / Calle Pluton
133	Military Hwy. @FM802
134	Military Hwy. @Kennedy Ln, Jo Anne Ln.
160	Palm Blvd @Calle Retama
163	Palm Blvd @Jefferson St.
165	Palm Blvd @Ringgold St.
170	Paredes Line Road @Galveston Road
172	Paredes Line Road @Los Ebanos Blvd.
176	Price Road @Barnard Rd.
177	Price Road @BISD Driveway
178	Price Road @Central Blvd
179	Price Road @ Eagle Drive (East)
180	Price Road @ Eagle Drive (West)
183	Price Road @Paredes Line Road
184	Price Road @Sloss Drive
185	Price Road @IH-69E/ US77 North Frontage Price Road @IH-69E/US77 South Frontage and Old Alice
188	Ringgold St. at 6th
189	Ringgold St. at 7th
190	Roosevelt St. @13th
191	Roosevelt St. @14th
192	Roosevelt St. @McDavitt Blvd., Oak St.
195	Southmost Rd. @14th St.

SCALE: NTS

STATE OF TEXAS
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03/06/2026

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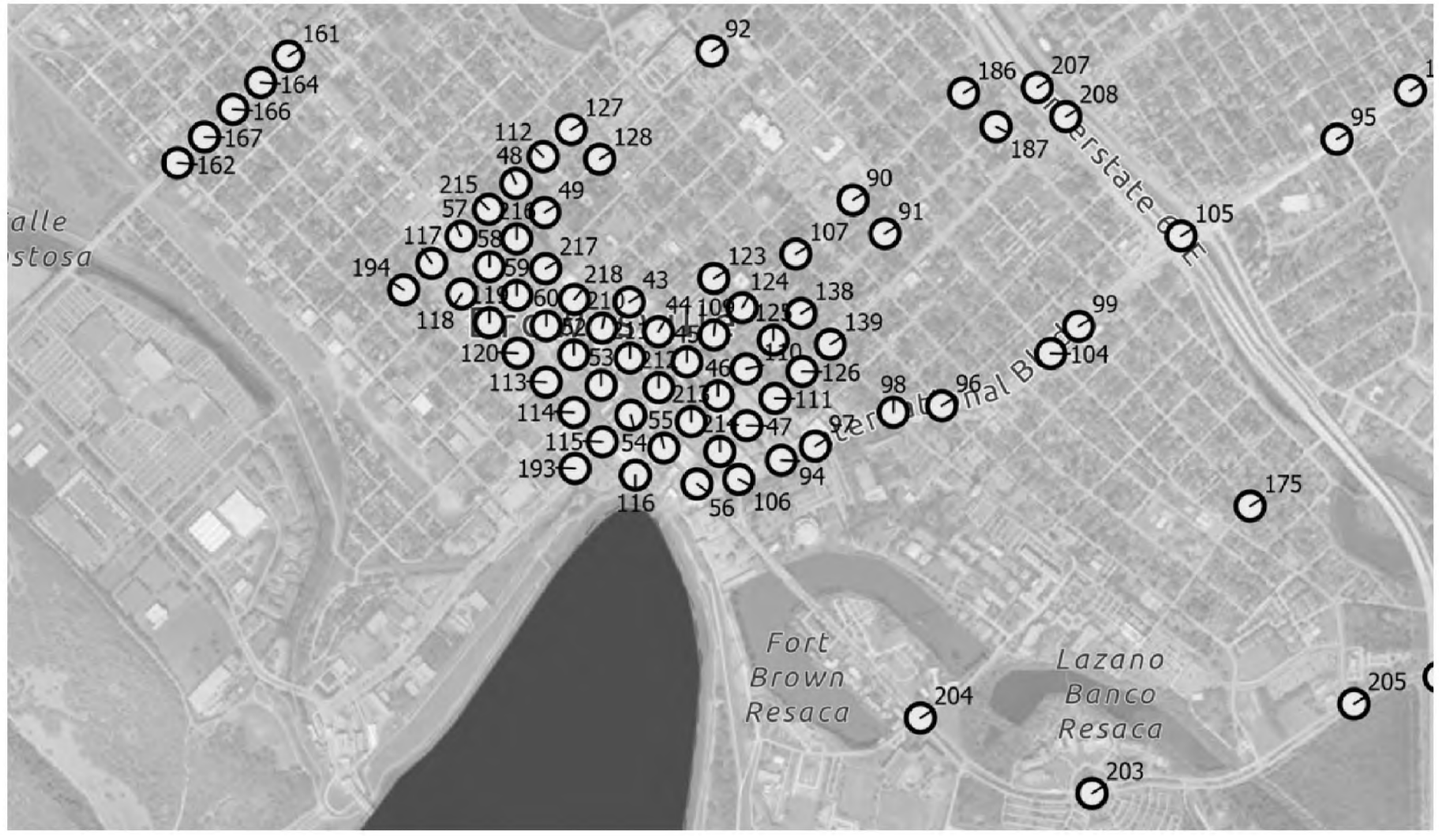
LOCATION MAP

SHEET 3 OF 6

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	6

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04_LOCATION MAP (3 OF 6).dgn



NUMBER	STREET
43	E. Adams St. @10th St.
44	E. Adams St. @11th St.
45	E. Adams St. @12th St.
46	E. Adams St. @13th St.
47	E. Adams St. @14th St.
48	E. Adams St. @6th St.
49	E. Adams St. @7th St.
52	E. Elizabeth @10th
53	E. Elizabeth @11th
54	E. Elizabeth @12th
55	E. Elizabeth @13th
56	E. Elizabeth @International Blvd.
57	E. Elizabeth @6th
58	E. Elizabeth @7th
59	E. Elizabeth @8th
60	E. Elizabeth @9th
90	Harrison St. @12th St.
91	Harrison St. @13th St.
92	Harrison St. @7th St.
94	International Blvd @ E. Adams St.
95	International Blvd @ E. Cleveland St.
96	International Blvd @ E. Jackson St.
97	International Blvd @ E. Jefferson, May
98	International Blvd @E. Monroe, Ridgley
99	International Blvd @E. Polk St.
104	International Blvd @Tyler St.
105	IH-69E/ US77 @International St (North Frontage) IH-69E/ US77 @International St (South Frontage)
106	International Blvd @Washington St.
107	Jackson St. @12th St.
109	E. Jefferson @12th St.
110	E. Jefferson @13th St.
111	E. Jefferson @14th St.
112	E. Jefferson @6th St.
113	E. Levee @10th St.
114	E. Levee @11th St.
115	E. Levee @12th St.
116	E. Levee @13th St.
117	E. Levee @6th St.
118	E. Levee @7th St.
119	E. Levee @8th St.
120	E. Levee @9th St.
123	Madison @11th St.
124	Madison @12th St.
125	Madison @13th St.
126	Madison @14th
127	Madison @6th St.
128	Madison @7th St.
138	Monroe @13th
139	Monroe @14th
161	Palm Blvd @E. Elizabeth St.
162	Palm Blvd @Fronton St.
164	Palm Blvd @Levee St.
166	Palm Blvd @Saint Charles St.
167	Palm Blvd @Saint Francis St.
175	Polk @24th
186	Ringgold St. at 12th
187	Ringgold St. at 13th
193	Saint Charles @12th, Sam Pearl Blvd
194	Saint Charles @6th
203	University Blvd @Parking Lot
204	University Blvd @Ringgold Road
205	University Blvd @Tyler St. and Polk St.
207	IH-69E/ US77 @13th Street (North Frontage) IH-69E/ US77 @13th Street (South Frontage)
208	IH-69E/ US77 @14th Street (North Frontage) IH-69E/ US77 @14th Street (South Frontage)
210	E. Washington @E. 10th
211	E. Washington @E. 11th
212	E. Washington @E. 12th
213	E. Washington @E. 13th
214	E. Washington @E. 14th
215	E. Washington @E. 6th
216	E. Washington @E. 7th
217	E. Washington @E. 8th
218	E. Washington @E. 9th

SCALE: NTS

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LOCATION MAP

SHEET 4 OF 6

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	7

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04_LOCATION MAP (4 OF 6).dgn



NUMBER	STREET
40	Coffee Port @Minnesota Ave.
41	Coffee Port @Old Port Isabel Rd.
61	FM 511 @Charmaine Ln.
62	FM 511 @Devon Dr.
62	FM 511 @Devon Dr.
63	FM 511 @Dr. Hugh Emerson Rd. (East Frontage)
	FM 511 @Dr. Hugh Emerson Rd. (West Frontage)
64	FM 511 @FM 802
66	FM 511 @Padre Island Hwy East Frontage
	FM 511 @Padre Island Hwy West Frontage
69	FM 802 @Central Avenue
71	FM 802 @Coffee Port Rd
72	FM 802 @Dana Avenue
77	FM 802 @Minnesota Ave
79	FM 802 @Old Port Isabel Rd.
80	FM 802 @Padre Island Hwy
82	FM 802 @Robindale Rd.
84	FM 802 @Seville Blvd.
87	FM 802 @Vermillion Rd - Illinois Ave.
108	Coffee Port / Jaime Zapata Ave. @Robindale Rd.
149	Old Port Isabel Rd. @Hackberry Ln.
153	Padre Island Hwy @Coffee Port Rd.
156	Padre Island Hwy. @Minnesota Ave.
158	Padre Island Hwy. @Walmart Entrance
159	Padre Island Hwy / Zena Dr.

SCALE: NTS

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LOCATION MAP

SHEET 5 OF 6

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
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04_LOCATION MAP (5 OF 6).dgn



NUMBER	STREET
10	Billy Mitchell Blvd @Central Avenue
11	Billy Mitchell Blvd @Jose Colunga Jr.
13	Boca Chica @Billy Mitchell Blvd
14	Boca Chica @Brownsville Plaza
16	Boca Chica @Central Ave.
19	Boca Chica @FM 511
21	Boca Chica @International Blvd, Padre Island Hwy.
22	Boca Chica @Iowa Ave.
23	Boca Chica @Kings Hwy.
24	Boca Chica @Minnesota Ave.
28	Boca Chica @Owens Rd.
31	Boca Chica @Security Dr.
33	Boca Chica @Vermillion Rd.
34	Central Avenue @Mackenzie Rd.
50	East Avenue @Impala Dr. and Elena
51	East Avenue @Tulipan St.
93	Hortencia St. @28th St.
100	International Blvd @Magnetek Drive
102	International Blvd @Security Dr. and 14th Street
103	International Blvd @Southmost Rd.
135	Minnesota Ave. @Austin Rd.
136	Minnesota Ave. @Houston Rd.
137	Minnesota Ave. @Travis Rd.
140	Morningside Rd. / Apollo - Jose Colunga Jr.
141	Morningside Rd. / Central Ave.
150	Old Port Isabel Rd. @Robinhood Dr.
151	Padre Island Hwy @Austin Rd.
152	Padre Island Hwy. @Central Ave.
154	Padre Island Hwy. @Home Depot Entrance
155	Padre Island Hwy. @Mckenzie Rd.
157	Padre Island Hwy. @Robindale / Fruitdale
181	Price Road @Old Port Isabel Rd.
182	Price Road @Padre Island Hwy
196	Southmost Rd. @23rd St.
197	Southmost Rd. @26th St.
198	Southmost Rd. @30th St.
199	Southmost Rd. @Dockberry Rd.
200	Southmost Rd. @Esperanza, Morningside
201	Southmost Rd. @Morningside
202	Southmost Rd. @Tulipan St.
206	University Blvd, East Avenue @IH-69E/ US77

SCALE: NTS

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LOCATION MAP

SHEET 6 OF 6

DIST/DIV. NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	9

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04_LOCATION MAP (6 OF 6).dgn

Project Number: **Sheet A**

County: Cameron **Control:** 0921-06-400

Highway: Varies

2024 SPECS GENERAL NOTES:

****

General Requirements and Covenants:

ITEM 2: Instructions to Bidders

TxDOT related contractor questions on this project are to be addressed to the following individual(s):

Carlos Lastra, P.E., City Engineer; Carlos.Lastra@brownsvilletx.gov

Lucio S. Gutierrez, MPA, Traffic Manager; lucio.gutierrez@brownsvilletx.gov

ITEM 7: Legal Relations and Responsibilities

No significant traffic generator events identified.

In accordance with Article 7.2.4. of the standard specifications, roadway, or lane closures during the following key dates and/or special events are prohibited:

- National Holidays
- The day before a National Holiday
- During emergency events such as natural disasters or as directed by the Engineer

ITEM 8: Prosecution and Progress

Working days will be computed and charged in accordance with Article 8.3.1.4.

Prepare progress schedules as a Bar Chart.

Project Number: **Sheet B**

County: Cameron **Control:** 0921-06-400

Highway: Varies

ITEM 502: Barricades, Signs, and Traffic Handling

From the beginning to the end of the project, all traffic control devices need to be in acceptable condition as per the Texas Quality Guidelines for Work Zone Traffic Control Devices.

Remove and dispose of all litter, debris, objectionable material, excess materials that accumulate at the base of all traffic control devices as directed by the Engineer.

ITEM 505: Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA)
In addition to the shadow vehicles with truck mounted attenuator (TMA) that are specified as being required on the traffic control plan for the project, provide 2 additional shadow vehicle(s) with TMA as per TCP (1-1) -18 as detailed on General Note 5 of this standard sheet;
or as per TCP(1-2) -18 as detailed on General Note 6 of this standard sheet;
or as per TCP(1-3) -18 as detailed on General Note 7 of this standard sheet;
or as per TCP(1-4) -18 as detailed on General Note 5 of this standard sheet;

ITEM 680 / 690: Highway Traffic Signals

The installation of highway traffic signals shall consist of the following principal Items:

1. Furnishing and installing 16-phase full traffic actuated controllers, base mounted cabinets, conflict monitors, load switches and loop amplifiers.
3. Removal and disposal of existing signal material specified in the plans.
4. All other Items not listed above which are needed to provide for complete traffic signal installations and for proper signal operation as called for in the plans and specifications shall be furnished and installed.

Any deviation of location for proposed signal work shall be as approved.

Signal controller

The signal installations shall be wired in accordance with the phase diagrams in the plans. The proposed base mounted cabinet shall contain 16-phase conflict monitor which display the "R-Y-G" and "Walk" phases. In addition to detecting phasing conflicts, the conflict monitor shall also be able to detect multiple signal head indications within every phase. The conflict monitor shall continue to operate in the event of a power supply failure in the timer and shall be able to retain in memory the time and date of the failure detection. Time changes shall be programmable in the field without replacing components or use of external devices. The full-actuated controller shall meet N.E.M.A. Specifications.

A controller manufacturer's technician shall be required to load initial timing programs into the controllers as called for in the plans. Once the traffic signals are turned on, the same technician shall monitor the signal operation and traffic movement and shall adjust settings for best signal operation. The technician shall provide the State with a certification that the timing plan and

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GENERAL NOTES

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
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PHR	CAMERON	0921	06	400	10

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03_GENERAL NOTES (1 OF 2).dgn

coordination has been established according to the plans. This certification shall include a record showing all settings and functions programmed into the timer and any related units.

The controller must be delivered with two sets of wiring diagrams and operating manuals enclosed in a weatherproof bag.

All wiring not covered by the plans and specifications shall be in accordance with the latest edition of the National Electrical Code.

Existing utilities

The exact location of existing underground utilities shall be verified with the utility companies prior to construction to avoid conflict with or damage to these utilities.

Coordination with the utility companies will be required to make any adjustments, due to utility conflicts, as defined in the specifications or deemed necessary.

Uniformity in Equipment

1. All traffic signal equipment furnished shall be by the same manufacturer for each item.

Handling of Traffic

Roads and streets shall always be kept open to traffic. The installation of equipment shall also be arranged so as to permit the continuous movement of traffic in both directions at all times.

All construction operations shall be conducted to provide the least possible interference to traffic as shown on the plans, as provided for in the specifications and/or as directed. All signing, barricading, and handling of traffic shall conform to the current edition of the "Texas Manual on Uniform Traffic Control Devices".

Sequence of work

1. The existing traffic signal installations shall always remain in operation during construction of the proposed traffic signal modifications.
2. The complete removal of the specified existing specified Items will be required when the proposed traffic signal installations are in place and operational.
3. All labor, tools, and materials used to remove the specified existing traffic signal material shall not be paid for directly but be considered subsidiary to the various items of work.
4. Final inspection shall be conducted in conjunction with the district signal shop.

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GENERAL NOTES

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
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03_GENERAL NOTES (2 OF 2).dgn

SUMMARY OF SIGNAL ITEMS								
INTERSECTION NUMBER	LOCATION	500 7001 MOBILIZATION	502 7001 BARRICADES, SIGNS AND TRAFFIC HANDLING	505 7002 TMA (MOBILE OPERATION)	680-0006 TRAFFIC SIGNAL CONTROLLER	680-0003 FURNISH & INSTALL CYBERLOCK	6018-0002 CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	* CCTV CABLE
		LS	MO	HR	EA	EA	EA	LF
1	ALTON GLOOR @ LAKEWAY DRIVE	0.01	0.02	1	1	1	1	60
2	ALTON GLOOR @ MORRISON RD.	0.01	0.02	1	0	1	1	60
3	ALTON GLOOR @ PABLO KISEL BLVD., SUGAR MILL	0.01	0.02	1	0	1	1	60
4	ALTON GLOOR @ PAREDES LINE ROAD (FM 1847)	0.01	0.02	1	0	1	1	60
5	ALTON GLOOR @ RIDGELINE DRIVE	0.01	0.02	1	0	1	1	60
6	ALTON GLOOR @ STAGE COACH TRAIL	0.01	0.02	1	0	1	1	60
7	ALTON GLOOR @ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	2	0	1	1	300
	ALTON GLOOR @ IH-69E / US 77 SOUTH FRONTAGE						1	
8	ALTON GLOOR @ WEST RAIL TRAIL	0.01	0.02	1	1	1	1	60
9	ANAQUA ST @ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	1	300
	ANAQUA ST @ IH-69E / US 77 SOUTH FRONTAGE						1	
10	BILLY MITCHELL BLVD @ CENTRAL AVENUE	0.01	0.02	1	1	1	1	60
11	BILLY MITCHELL BLVD @ JOSE COLUNGA JR.	0.01	0.02	1	1	1	1	60
12	BOCA CHICA @ BARNARD RD.	0.01	0.02	1	1	1	1	60
13	BOCA CHICA @ BILLY MITCHELL BLVD	0.01	0.02	1	1	1	1	60
14	BOCA CHICA @ BROWNSVILLE PLAZA	0.01	0.02	1	1	1	1	60
15	BOCA CHICA @ CALLE CENIZO	0.01	0.02	1	1	1	1	60
16	BOCA CHICA @ CENTRAL AVE.	0.01	0.02	1	1	1	1	60
17	BOCA CHICA @ CENTRAL BLVD.	0.01	0.02	1	1	1	1	60
18	BOCA CHICA @ CORIA ST.	0.01	0.02	1	1	1	1	60
19	BOCA CHICA @ FM 511	0.01	0.02	1	1	1	1	60
20	BOCA CHICA @ HONEYDALE RD., WEST MONROE ST.	0.01	0.02	1	1	1	1	60
21	BOCA CHICA @ INTERNATIONAL BLVD, PADRE ISLAND HWY.	0.01	0.02	1	1	1	1	60
22	BOCA CHICA @ IOWA AVE.	0.01	0.02	1	1	1	1	60
23	BOCA CHICA @ KINGS HWY.	0	0	0	0	0	0	0
24	BOCA CHICA @ MINNESOTA AVE.	0.01	0.02	1	1	1	1	60
25	BOCA CHICA @ OLD ALICE RD.	0.01	0.02	1	1	1	1	60
26	BOCA CHICA @ OLD MILITARY AND MADISON ST.	0.01	0.02	1	1	1	1	60
27	BOCA CHICA @ OLD PORT ISABEL RD. / MCDAVITT BLVD.	0.01	0.02	1	1	1	1	60
28	BOCA CHICA @ OWENS RD.	0.01	0.02	1	1	1	1	60
29	BOCA CHICA @ PALM BLVD.	0.01	0.02	1	1	1	1	60
30	BOCA CHICA @ PAREDES LINE ROAD	0.01	0.02	1	1	1	1	60
31	BOCA CHICA @ SECURITY DR.	0.01	0.02	1	1	1	1	60
32	BOCA CHICA @ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	1	300
	BOCA CHICA @ IH-69E / US 77 SOUTH FRONTAGE						1	
33	BOCA CHICA @ VERMILLION RD.	0.01	0.02	1	1	1	1	60
34	CENTRAL AVENUE @ MACKENZIE RD.	0.01	0.02	1	1	1	1	60
35	CENTRAL BLVD @ ELIZABETH ST. AND W. 8TH ST.	0.01	0.02	1	1	1	1	60
36	CENTRAL BLVD @ JEFFERSON BLVD., LAKESIDE BLVD.	0.01	0.02	1	1	1	1	60
37	CENTRAL BLVD @ LOS EBANOS RD.	0.01	0.02	1	1	1	1	60
38	CENTRAL BLVD @ MEDIA LUNA, OLD US HWY 77	0.01	0.02	1	1	1	1	60
39	CENTRAL BLVD @ WILD ROSE LN	0.01	0.02	1	1	1	1	60
40	COFFEE PORT @ MINNESOTA AVE.	0.01	0.02	1	1	1	1	60
41	COFFEE PORT @ OLD PORT ISABEL RD.	0.01	0.02	1	1	1	1	60
42	COFFEE PORT @ PAREDES LN RD.	0.01	0.02	1	1	1	1	60
43	E. ADAMS ST. @ 10TH ST	0.01	0.02	1	1	1	1	60
44	E. ADAMS ST. @ 11TH ST	0.01	0.02	1	1	1	1	60

NOTE: * ITEM IS SUBSIDIARY TO 6018-0002

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SUMMARY OF QUANTITIES

SHEET 1 OF 5

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
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05_SUMMARY OF QUANTITIES (1 OF 5).dgn

SUMMARY OF SIGNAL ITEMS								
INTERSECTION NUMBER	LOCATION	500 7001 MOBILIZATION	502 7001 BARRICADES, SIGNS AND TRAFFIC HANDLING	505 7002 TMA (MOBILE OPERATION)	680-0006 TRAFFIC SIGNAL CONTROLLER	680-0003 FURNISH & INSTALL CYBERLOCK	6018-0002 CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	* CCTV CABLE
		LS	MO	HR	EA	EA	EA	LF
45	E. ADAMS ST. @ 12TH ST	0.01	0.02	1	0	1	0	0
46	E. ADAMS ST. @ 13TH ST	0.01	0.02	1	1	1	1	60
47	E. ADAMS ST. @ 14TH ST	0.01	0.02	1	1	1	1	60
48	E. ADAMS ST. @ 6TH ST	0.01	0.02	1	1	1	1	60
49	E. ADAMS ST. @ 7TH ST	0.01	0.02	1	1	1	1	60
50	EAST AVENUE @ IMPALA DR. AND ELENA	0.01	0.02	1	1	1	1	60
51	EAST AVENUE @ TULIPAN ST.	0.01	0.02	1	1	1	1	60
52	E. ELIZABETH @ 10TH	0.01	0.02	1	1	1	1	60
53	E. ELIZABETH @ 11TH	0.01	0.02	1	1	1	1	60
54	E. ELIZABETH @ 12TH	0.01	0.02	1	0	1	0	0
55	E. ELIZABETH @ 13TH	0.01	0.02	1	1	1	1	60
56	E. ELIZABETH @ INTERNATIONAL BLVD.	0.01	0.02	1	0	1	1	60
57	E. ELIZABETH @ 6TH	0.01	0.02	1	1	1	1	60
58	E. ELIZABETH @ 7TH	0.01	0.02	1	1	1	1	60
59	E. ELIZABETH @ 8TH	0.01	0.02	1	1	1	1	60
60	E. ELIZABETH @ 9TH	0.01	0.02	1	1	1	1	60
61	FM 511 @ CHARMAINE LN.	0.01	0.02	1	1	1	1	60
62	FM 511 @ DEVON DR.	0.01	0.02	1	1	1	1	60
63A	FM 511 @ DR. HUGH EMERSON RD. (EAST FRONTAGE)	0.01	0.02	2	1	1	1	300
63B	FM 511 @ DR. HUGH EMERSON RD. (WEST FRONTAGE)						1	
64	FM 511 @ FM 802	0.01	0.02	1	1	1	1	60
65A	FM 511 @ OLD ALICE RD EAST FRONTAGE	0.01	0.02	2	1	1	1	300
65B	FM 511 @ OLD ALICE RD WEST FRONTAGE						1	
66	FM 511 @ PADRE ISLAND HWY EAST FRONTAGE	0.01	0.02	2	1	1	1	300
	FM 511 @PADRE ISLAND HWY WEST FRONTAGE						1	
67A	FM 511 @ PAREDES LINE ROAD (EAST FRONTAGE)	0.01	0.02	2	1	1	1	300
67B	FM 511 @ PAREDES LINE ROAD (WEST FRONTAGE)						1	
68A	IH-69E / US 77 @ FM 511 (NORTH FRONTAGE)	0	0	0	0	0	0	0
68B	IH-69E / US 77 @ FM 511 (SOUTH FRONTAGE)							
69	FM 802 @ CENTRAL AVENUE	0.01	0.02	1	1	1	1	60
70	FM 802 @ CENTRAL BLVD	0.01	0.02	1	1	1	1	60
71	FM 802 @ COFFEE PORT RD	0.01	0.02	1	1	1	1	60
72	FM 802 @ DANA AVENUE	0.01	0.02	1	1	1	1	60
73	FM 802 @ HABANA ST.	0.01	0.02	1	1	1	1	60
74	FM 802 @ HUDSON BLVD.	0.01	0.02	1	1	1	1	60
75	FM 802 @ LAREDO RD.	0.01	0.02	1	1	1	1	60
76	FM 802 @ MCALLEN, COUNTRY CLUB	0.01	0.02	1	1	1	1	60
77	FM 802 @ MINNESOTA AVE	0.01	0.02	1	1	1	1	60
78	FM 802 @ OLD ALICE RD., JOSE MARTI BLVD.	0.01	0.02	1	1	1	1	60
79	FM 802 @ OLD PORT ISABEL RD.	0.01	0.02	1	1	1	1	60
80	FM 802 @ PADRE ISLAND HWY	0.01	0.02	1	1	1	1	60
81	FM 802 @ PAREDES LINE ROAD	0.01	0.02	1	1	1	1	60
82	FM 802 @ ROBINDALE RD.	0.01	0.02	1	1	1	1	60
83	FM 802 @ SAN MARCELO, COFFEE RD.	0.01	0.02	1	1	1	1	60
84	FM 802 @ SEVILLE BLVD.	0.01	0.02	1	1	1	1	60
85	FM 802 @ SUNRISE MALL EAST ENTRANCE	0.01	0.02	1	1	1	1	60
86	FM 802 @ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	1	300
	FM 802 @ IH-69E / US 77 SOUTH FRONTAGE						1	

NOTE: * ITEM IS SUBSIDIARY TO 6018-0002

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SUMMARY OF QUANTITIES

SHEET 2 OF 5

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	13

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05_SUMMARY OF QUANTITIES (2 OF 5).dgn

SUMMARY OF SIGNAL ITEMS

INTERSECTION NUMBER	LOCATION	500 7001 MOBILIZATION	502 7001 BARRICADES, SIGNS AND TRAFFIC HANDLING	505 7002 TMA (MOBILE OPERATION)	680-0006 TRAFFIC SIGNAL CONTROLLER	680-0003 FURNISH & INSTALL CYBERLOCK	6018-0002 CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	* CCTV CABLE
		LS	MO	HR	EA	EA	EA	LF
87	FM 802 @ VERMILLION RD - ILLINOIS AVE.	0.01	0.02	1	1	1	1	60
88	FM 802 @ VILLAGE CENTER DR.	0.01	0.02	1	1	1	1	60
89	FM 802 @ WEST RAIL TRAIL	0.01	0.02	1	1	1	1	60
90	HARRISON ST. @ 12TH ST.	0.01	0.02	1	0	1	1	60
91	HARRISON ST. @ 13TH ST.	0.01	0.02	1	1	1	0	0
92	HARRISON ST. @ 7TH ST.	0.01	0.02	1	1	1	1	60
93	HORTENCIA ST.@ 28TH ST.	0.01	0.02	1	1	1	1	60
94	INTERNATIONAL BLVD @ E. ADAMS ST.	0.01	0.02	1	0	1	0	0
95	INTERNATIONAL BLVD @ CLEVELAND ST.	0.01	0.02	1	1	1	1	60
96	INTERNATIONAL BLVD @ E. JACKSON ST.	0.01	0.02	1	0	1	0	0
97	INTERNATIONAL BLVD @ E. JEFFERSON, MAY	0.01	0.02	1	0	1	0	0
98	INTERNATIONAL BLVD @ E. MONROE, RIDGLEY	0.01	0.02	1	0	1	0	0
99	INTERNATIONAL BLVD @ E. POLK ST.	0.01	0.02	1	0	1	0	0
100	INTERNATIONAL BLVD @ MAGNETEK DRIVE	0.01	0.02	1	1	1	1	60
101	INTERNATIONAL BLVD @ ROOSEVELT ST.	0.01	0.02	1	1	1	1	60
102	INTERNATIONAL BLVD @ SECURITY DR. AND 14TH STREET	0.01	0.02	1	1	1	1	60
103	INTERNATIONAL BLVD @ SOUTHMOST RD.	0.01	0.02	1	1	1	1	60
104	INTERNATIONAL BLVD @ TYLER ST.	0.01	0.02	1	0	1	0	0
105	INTERNATIONAL BLVD @ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	1	300
	INTERNATIONAL BLVD @ IH-69E / US 77 SOUTH FRONTAGE						1	
106	INTERNATIONAL BLVD @ WASHINGTON ST.	0.01	0.02	1	0	1	0	0
107	E. JACKSON @ 12TH ST.	0.01	0.02	1	0	1	0	0
108	COFFEE PORT / JAIME ZAPATA AVE. @ ROBINDALE RD.	0.01	0.02	1	1	1	1	60
109	E. JEFFERSON @ 12TH ST.	0.01	0.02	1	0	1	0	0
110	E. JEFFERSON @ 13TH ST.	0.01	0.02	1	1	1	1	60
111	E. JEFFERSON @ 14TH ST.	0.01	0.02	1	1	1	1	60
112	E. JEFFERSON @ 6TH ST.	0.01	0.02	1	1	1	1	60
113	E. LEVEE @ 10TH ST.	0.01	0.02	1	1	1	1	60
114	E. LEVEE @ 11TH ST.	0.01	0.02	1	1	1	1	60
115	E. LEVEE @ 12TH ST.	0.01	0.02	1	0	1	0	0
116	E. LEVEE @ 13TH ST.	0.01	0.02	1	1	1	1	60
117	E. LEVEE @ 6TH ST.	0.01	0.02	1	1	1	1	60
118	E. LEVEE @ 7TH ST.	0.01	0.02	1	1	1	1	60
119	E. LEVEE @ 8TH ST.	0.01	0.02	1	1	1	1	60
120	E. LEVEE @ 9TH ST.	0.01	0.02	1	1	1	1	60
121	LOS EBANOS BLVD. @ CORIA ST.	0.01	0.02	1	1	1	1	60
122	LOS EBANOS BLVD. @ OLD ALICE RD.	0.01	0.02	1	1	1	1	60
123	MADISON @ 11TH ST.	0.01	0.02	1	1	1	1	60
124	MADISON @ 12TH ST.	0.01	0.02	1	0	1	0	0
125	MADISON @ 13TH	0.01	0.02	1	1	1	1	60
126	MADISON @ 14TH	0.01	0.02	1	1	1	1	60
127	MADISON @ 6TH ST.	0.01	0.02	1	1	1	1	60
128	MADISON @ 7TH ST.	0.01	0.02	1	1	1	1	60
129A	IH-69E / US 77 @ MCDAVITT, 6TH & 7TH (NORTH FRONTAGE)	0.01	0.02	2	1	1	1	300
129B	IH-69E / US 77@ MCDAVITT, 6TH & 7TH (SOUTH FRONTAGE)							
130	MILITARY HWY. @ ALTON GLOOR BLVD	0.01	0.02	1	1	1	1	60
131	MILITARY HWY. @ CAPT BASLER AVE. / CALLE PLUTON	0.01	0.02	1	1	1	1	60

NOTE: * ITEM IS SUBSIDIARY TO 6018-0002

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SUMMARY OF QUANTITIES

SHEET 3 OF 5

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	14

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05_SUMMARY OF QUANTITIES (3 OF 5).dgn

SUMMARY OF SIGNAL ITEMS								
INTERSECTION NUMBER	LOCATION	500 7001 MOBILIZATION	502 7001 BARRICADES, SIGNS AND TRAFFIC HANDLING	505 7002 TMA (MOBILE OPERATION)	680-0006 TRAFFIC SIGNAL CONTROLLER	680-0003 FURNISH & INSTALL CYBERLOCK	6018-0002 CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	* CCTV CABLE
		LS	MO	HR	EA	EA	EA	LF
132	MILITARY HWY. @ CARMEN AVENUE	0.01	0.02	1	1	1	1	60
133	MILITARY HWY. @ FM 802	0.01	0.02	1	1	1	1	60
134	MILITARY HWY. @ KENNEDY LN, JO ANNE LN.	0.01	0.02	1	1	1	1	60
135	MINNESOTA AVE. @ AUSTIN RD.	0.01	0.02	1	1	1	1	60
136	MINNESOTA AVE. @ HOUSTON RD.	0.01	0.02	1	1	1	1	60
137	MINNESOTA AVE. @ TRAVIS RD.	0.01	0.02	1	1	1	1	60
138	MONROE @ 13TH	0.01	0.02	1	1	1	1	60
139	MONROE @ 14TH	0.01	0.02	1	1	1	1	60
140	MORNINGSIDE RD. / APOLLO - JOSE COLUNGA JR.	0.01	0.02	1	1	1	1	60
141	MORNINGSIDE RD. / CENTRAL AVE.	0.01	0.02	1	1	1	1	60
142	MORRISON RD. @ HITORICAL BATTEFIELD TRAIL	0.01	0.02	1	1	1	1	60
143	MORRISON RD. @ LAREDO RD.	0.01	0.02	1	1	1	1	60
144	MORRISON RD. @ MCALLEN RD.	0.01	0.02	1	1	1	1	60
145	MORRISON RD. @ PABLO KISEL BLVD.	0.01	0.02	1	1	1	1	60
146	MORRISON RD. @ SAN MARCELO BLVD, LAS PALOMAS	0.01	0.02	1	1	1	1	60
147	MORRISON RD. @ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	1	300
147	MORRISON RD. @ IH-69E / US 77 SOUTH FRONTAGE							
148	MORRISON RD. @ WEST RAIL TRAIL.	0.01	0.02	1	1	1	1	60
149	OLD PORT ISABEL RD. @ HACKBERRY LN.	0.01	0.02	1	1	1	1	60
150	OLD PORT ISABEL RD. @ ROBINHOOD DR.	0.01	0.02	1	1	1	1	60
151	PADRE ISLAND HWY @ AUSTIN RD.	0.01	0.02	1	1	1	1	60
152	PADRE ISLAND HWY. @ CENTRAL AVE.	0.01	0.02	1	1	1	1	60
153	PADRE ISLAND HWY @ COFFEE PORT RD.	0.01	0.02	1	1	1	1	60
154	PADRE ISLAND HWY. @ HOME DEPOT ENTRANCE	0.01	0.02	1	1	1	1	60
155	PADRE ISLAND HWY. @ MCKENZIE RD.	0.01	0.02	1	1	1	1	60
156	PADRE ISLAND HWY. @ MINNESOTA AVE.	0.01	0.02	1	1	1	1	60
157	PADRE ISLAND HWY. @ ROBINDALE / FRUITDALE	0.01	0.02	1	1	1	1	60
158	PADRE ISLAND HWY. @ WALMART ENTRANCE	0.01	0.02	1	1	1	1	60
159	PADRE ISLAND HWY / ZENA DR.	0.01	0.02	1	1	1	1	60
160	PALM BLVD @ CALLE RETAMA	0.01	0.02	1	1	1	1	60
161	PALM BLVD @ E. ELIZABETH ST.	0.01	0.02	1	1	1	1	60
162	PALM BLVD @ FRONTON ST.	0.01	0.02	1	1	1	1	60
163	PALM BLVD @ JEFFERSON ST.	0.01	0.02	1	1	1	1	60
164	PALM BLVD @ LEVEE ST.	0.01	0.02	1	1	1	1	60
165	PALM BLVD @ RINGGOLD ST.	0.01	0.02	1	1	1	1	60
166	PALM BLVD @ SAINT CHARLES ST.	0.01	0.02	1	1	1	1	60
167	PALM BLVD @ SAINT FRANCIS ST.	0.01	0.02	1	1	1	1	60
168	PAREDES LINE ROAD @ AVENIDA CARLOS	0.01	0.02	1	1	1	1	60
169	PAREDES LINE ROAD @ EVENT CENTER, EMERALD VALLEY	0.01	0.02	1	1	1	1	60
170	PAREDES LINE ROAD @ GALVESTON ROAD	0.01	0.02	1	1	1	1	60
171	PAREDES LINE ROAD @ HERITAGE TRAIL	0.01	0.02	1	1	1	1	60
172	PAREDES LINE ROAD @ LOS EBANOS BLVD.	0.01	0.02	1	1	1	1	60
173	PAREDES LINE ROAD @ MAIN ST.	0.01	0.02	1	1	1	1	60
174	PAREDES LINE ROAD @ MORRISON RD.	0.01	0.02	1	1	1	1	60
175	POLK @ 24TH	0.01	0.02	1	1	1	1	60
176	PRICE ROAD @ BARNARD RD.	0.01	0.02	1	1	1	0	0
177	PRICE ROAD @ BISD DRIVEWAY	0.01	0.02	1	1	1	0	0

NOTE: * ITEM IS SUBSIDIARY TO 6018-0002

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SUMMARY OF QUANTITIES

SHEET 4 OF 5

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	15

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05_SUMMARY OF QUANTITIES (4 OF 5).dgn

SUMMARY OF SIGNAL ITEMS

INTERSECTION NUMBER	LOCATION	500 7001 MOBILIZATION	502 7001 BARRICADES, SIGNS AND TRAFFIC HANDLING	505 7002 TMA (MOBILE OPERATION)	680-0006 TRAFFIC SIGNAL CONTROLLER	680-0003 FURNISH & INSTALL CYBERLOCK	6018-0002 CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)	* CCTV CABLE
		LS	MO	HR	EA	EA	EA	LF
178	PRICE ROAD @ CENTRAL BLVD	0.01	0.02	1	1	1	1	60
179	PRICE ROAD @ EAGLE DRIVE (EAST)	0.01	0.02	1	1	1	1	60
180	PRICE ROAD @ EAGLE DRIVE (WEST)	0.01	0.02	1	1	1	1	60
181	PRICE ROAD @ OLD PORT ISABEL RD.	0.01	0.02	1	1	1	0	0
182	PRICE ROAD @ PADRE ISLAND HWY	0.01	0.02	1	1	1	1	60
183	PRICE ROAD @ PAREDES LINE ROAD	0.01	0.02	1	1	1	0	0
184	PRICE ROAD @ SLOSS DRIVE	0.01	0.02	1	1	1	0	0
185	PRICE ROAD @ IH-69E / US 77 NORTH FRONTAGE	0.01	0.02	2	1	1	1	300
	PRICE ROAD @ IH-69E /US 77 SOUTH FRONTAGE AND OLD ALICE						1	
186	RINGGOLD ST. AT 12TH	0.01	0.02	1	0	1	0	0
187	RINGGOLD ST. AT 13TH	0.01	0.02	1	1	1	1	60
188	RINGGOLD ST. AT 6TH	0.01	0.02	1	1	1	1	60
189	RINGGOLD ST. AT 7TH	0.01	0.02	1	1	1	1	60
190	ROOSEVELT ST. @ 13TH	0.01	0.02	1	1	1	1	60
191	ROOSEVELT ST. @ 14TH	0.01	0.02	1	1	1	1	60
192	ROOSEVELT ST. @ MCDAVITT BLVD., OAK ST.	0.01	0.02	1	1	1	1	60
193	SAINT CHARLES @ 12TH, SAM PEARL BLVD	0.01	0.02	1	0	1	0	0
194	SAINT CHARLES @ 6TH	0.01	0.02	1	1	1	1	60
195	SOUTHMOST RD. @ 14TH ST.	0.01	0.02	1	1	1	1	60
196	SOUTHMOST RD. @ 23RD ST.	0.01	0.02	1	1	1	1	60
197	SOUTHMOST RD. @ 26TH ST.	0.01	0.02	1	1	1	1	60
198	SOUTHMOST RD. @ 30TH ST.	0.01	0.02	1	1	1	1	60
199	SOUTHMOST RD. @ DOCKBERRY RD.	0.01	0.02	1	1	1	1	60
200	SOUTHMOST RD. @ESPERANZA, MORNINGSIDE	0.01	0.02	1	1	1	1	60
201	SOUTHMOST RD. @ MORNINGSIDE	0.01	0.02	1	1	1	1	60
202	SOUTHMOST RD. @ TULIPAN ST.	0.01	0.02	1	1	1	1	60
203	UNIVERSITY BLVD @ PARKING LOT	0.01	0.02	1	1	1	1	60
204	UNIVERSITY BLVD @ RINGGOLD ROAD	0.01	0.02	1	1	1	1	60
205	UNIVERSITY BLVD @ TYLER ST. AND POLK ST.	0.01	0.02	1	1	1	1	60
206	UNIVERSITY BLVD, EAST AVENUE @ IH-69E / US 77	0.01	0.02	1	1	1	1	60
207	IH-69E / US 77 @ 13TH STREET (NORTH FRONTAGE)	0.01	0.02	2	1	1	1	300
	IH-69E / US 77@ 13TH STREET (SOUTH FRONTAGE)						1	
208	IH-69E / US 77 @ 14TH STREET (NORTH FRONTAGE)	0.01	0.02	1	1	1	1	300
	IH-69E / US 77 @ 14TH STREET (SOUTH FRONTAGE)						1	
209	IH-69E / US 77 @ RANCHO VIEJO (NORTH FRONTAGE)	0	0	0	0	0	0	0
	IH-69E / US 77 @ RANCHO VIEJO (SOUTH FRONTAGE)						0	
210	E. WASHINGTON @ E. 10TH	0.01	0.02	1	1	1	1	60
211	E. WASHINGTON @ E. 11TH	0.01	0.02	1	1	1	1	60
212	E. WASHINGTON @ E. 12TH	0.01	0.02	1	0	1	0	0
213	E. WASHINGTON @ E. 13TH	0.01	0.02	1	1	1	1	60
214	E. WASHINGTON @ E. 14TH	0.01	0.02	1	1	1	1	60
215	E. WASHINGTON @ E. 6TH	0.01	0.02	1	1	1	1	60
216	E. WASHINGTON @ E. 7TH	0.01	0.02	1	1	1	1	60
217	E. WASHINGTON @ E. 8TH	0.01	0.02	1	1	1	1	60
218	E. WASHINGTON @ E. 9TH	0.01	0.02	1	1	1	1	60

NOTE: * ITEM IS SUBSIDIARY TO 6018-0002

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SUMMARY OF QUANTITIES

SHEET 5 OF 5

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	16

05_SUMMARY OF QUANTITIES (5 OF 5).dgn

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BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

1. The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).

2. The development and design of the Traffic Control Plan (TCP)is the responsibility of the Engineer.

3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.

4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.

5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.

6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.

7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.

8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.

9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.

10. Where highway construction or maintenance work is being undertaken, other than mobile operations as defined by the Texas Manual on Uniform Traffic Control Devices, CSJ limit signs are required. CSJ limit signs are shown on BC(2). The OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits. For mobile operations, CSJ limit signs are not required.

11. Traffic control devices should be in place only while work is actually in progress or a definite need exists.

12. The Engineer has the final decision on the location of all traffic control devices.

13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

WORKER SAFETY NOTES:

1. Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.

2. Except in emergency situations, flagger stations shall be illuminated when flagging is used at night.

COMPLIANT WORKZONE TRAFFIC CONTROL DEVICES

1. Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources.

2. Work zone traffic control devices shall be compliant with the Manual for Assessing safety Hardware (MASH).

THE DOCUMENTS BELOW CAN BE FOUND ON-LINE AT http://www.txdot.gov
COMPLIANT WORK ZONE TRAFFIC CONTROL DEVICES LIST (CWZTCD)
DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS)
MATERIAL PRODUCER LIST (MPL)
ROADWAY DESIGN MANUAL - SEE "MANUALS (ONLINE MANUALS)"
STANDARD HIGHWAY SIGN DESIGNS FOR TEXAS (SHSD)
TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)
TRAFFIC ENGINEERING STANDARD SHEETS

SHEET 1 OF 12

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION GENERAL NOTES AND REQUIREMENTS

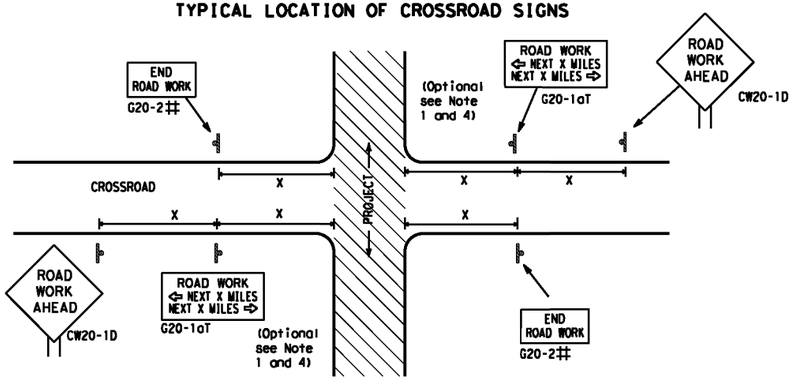
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©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
REVISIONS 4-03 7-13 9-07 8-14 5-10 5-21	0921	06	400	VAR
	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		17

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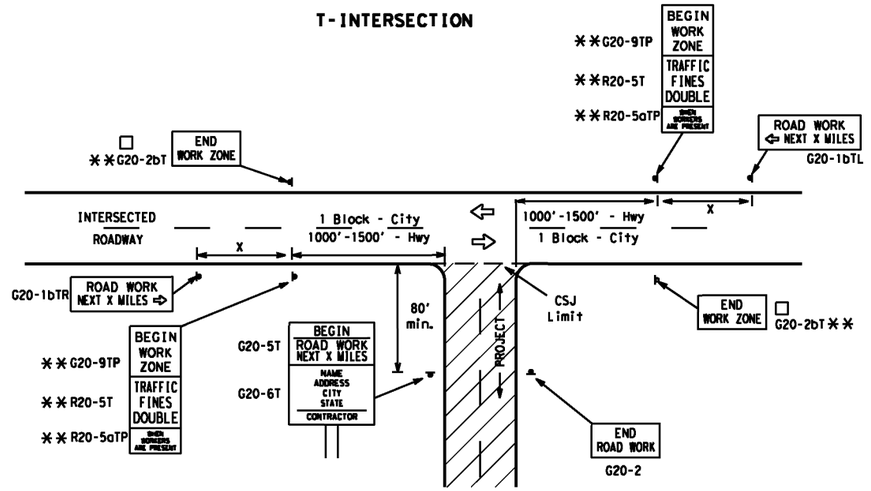
TYPICAL LOCATION OF CROSSROAD SIGNS



May be mounted on back of "ROAD WORK AHEAD"(CW20-1D) sign with approval of Engineer. (See note 2 below)

1. The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D)sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(G20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume as per TMUTCD Part 5. This information shall be shown in the plans.
3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
4. The "ROAD WORK NEXT X MILES"(G20-1aT)sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

T-INTERSECTION



CSJ LIMITS AT T-INTERSECTION

1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
2. If construction closes the road at a T-intersection, the Contractor shall place the "CONTRACTOR NAME"(G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING[1,5,6]

SIZE

Sign Number or Series	Conventional Road	Expressway/ Freeway
CW20[4] CW21 CW22 CW23 CW25	48" x 48"	48" x 48"
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" x 48"
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" x 48"	48" x 48"

SPACING

Posted Speed	Sign △ Spacing "X"
MPH	Feet (Apprx.)
30	120
35	160
40	240
45	320
50	400
55	500[2]
60	600[2]
65	700[2]
70	800[2]
75	900[2]
80	1000[2]
*	*[3]

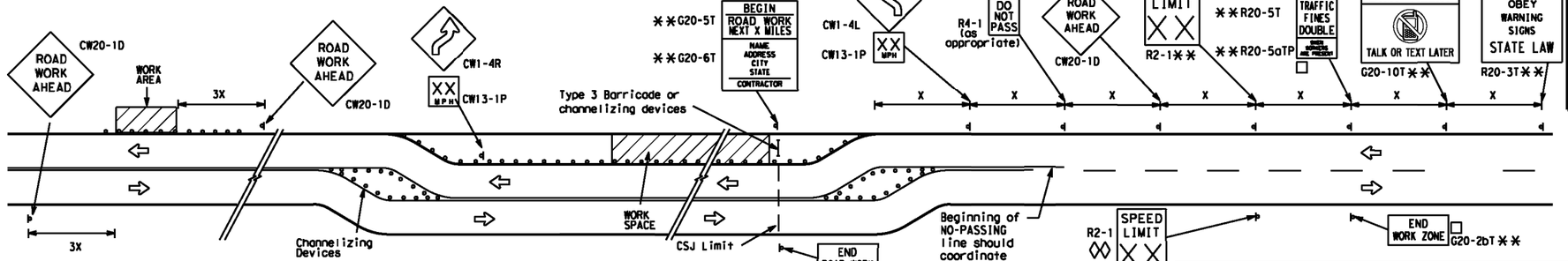
* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.

△ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

GENERAL NOTES

1. Special or larger size signs may be used as necessary.
2. Distance between signs should be increased as required to have 1500 feet advance warning.
3. Distance between signs should be increased as required to have 1/2 mile or more advance warning.
4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D)signs may be used on low volume crossroads at the discretion of the Engineer as per TMUTCD Part 5. See Note 2 under "Typical Location of Crossroad Signs".
5. Only diamond shaped warning sign sizes are indicated.
6. See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.

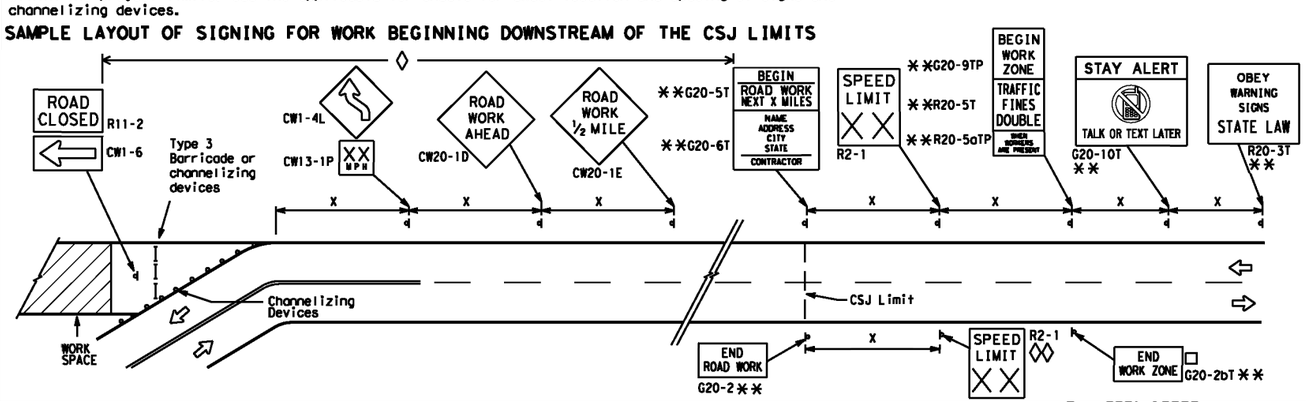
WORK AREAS IN MULTIPLE LOCATIONS WITHIN CSJ LIMITS



When extended distances occur between minimal work spaces, the Engineer/Inspector should ensure additional "ROAD WORK AHEAD"(CW20-1D)signs are placed in advance of these work areas to remind drivers they are still within the project limits. See the applicable TCP sheets for exact location and spacing of signs and channelizing devices.

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING AT THE CSJ LIMITS

SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS



NOTES

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES"(G20-5T)sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer. No decimals shall be used.

□ The "BEGIN WORK ZONE"(G20-9TP) and "END WORK ZONE" (G20-2bT) shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.

** CSJ limit signing is required for highway construction and maintenance work, with the exception of mobile operations.

◊ Area for placement of "ROAD WORK AHEAD" (CW20-1D)sign and other signs or devices as called for on the Traffic Control Plan.

◊◊ Contractor will install a regulatory speed limit sign at the end of the work zone.

LEGEND

⊢⊣	Type 3 Barricade
○○○	Channelizing Devices
▬	Sign
X	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PROJECT LIMIT

BC(2)-21

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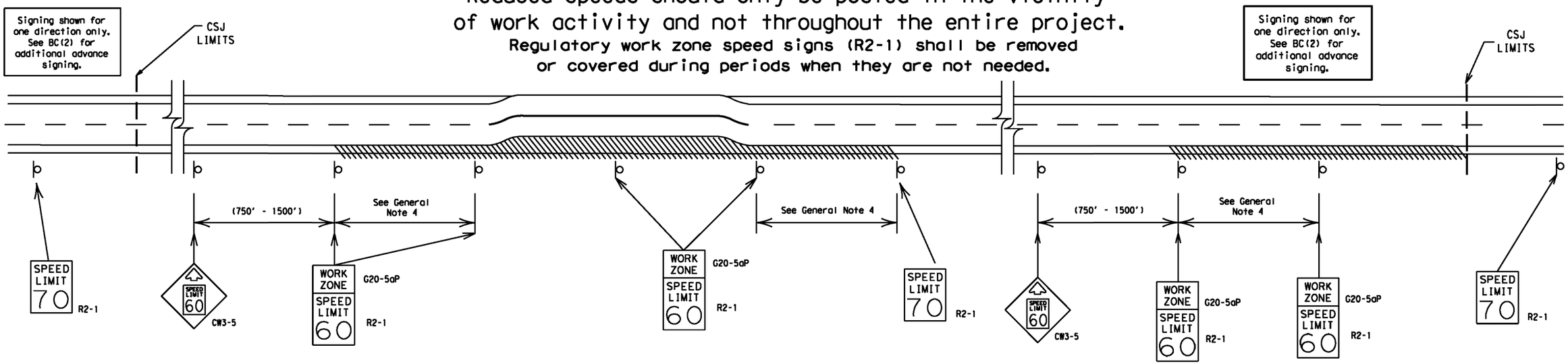
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TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.

Reduced speeds should only be posted in the vicinity of work activity and not throughout the entire project.

Regulatory work zone speed signs (R2-1) shall be removed or covered during periods when they are not needed.



GUIDANCE FOR USE:

LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

a) rough road or damaged pavement surface
b) substantial alteration of roadway geometrics (diversions)
c) construction detours
d) grade
e) width
f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the traveled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.
(See Removing or Covering on BC(4)).

GENERAL NOTES

1. Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
2. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.
3. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
4. Frequency of work zone speed limit signs should be:
   40 mph and greater 0.2 to 2 miles
   35 mph and less 0.2 to 1 mile
5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
6. Fabrication, erection and maintenance of the"ADVANCE SPEED LIMIT"(CW3-5)sign, "WORK ZONE"(G20-5aP) plaque and the "SPEED LIMIT"(R2-1)signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
8. Techniques that may help reduce traffic speeds include but are not limited to:
   A. Law enforcement.
   B. Flagger stationed next to sign.
   C. Portable changeable message sign (PCMS).
   D. Low-power (drone) radar transmitter.
   E. Speed monitor trailers or signs.
9. Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.
10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

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SHEET 3 OF 12

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

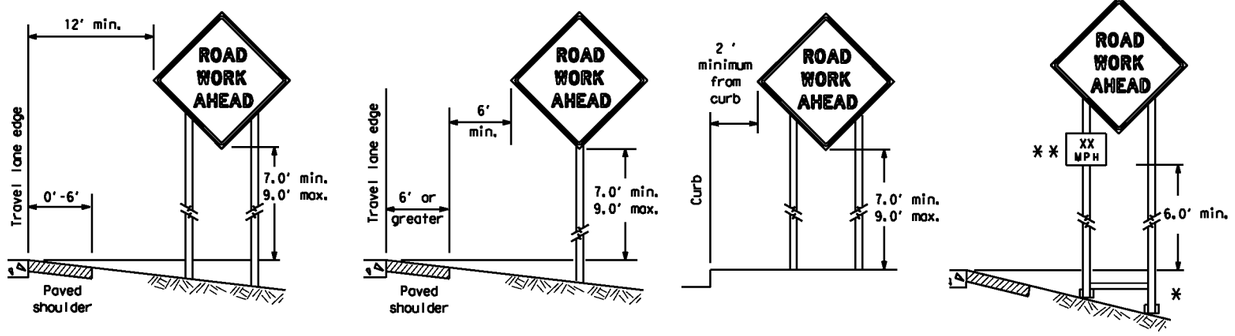
BC(3)-21

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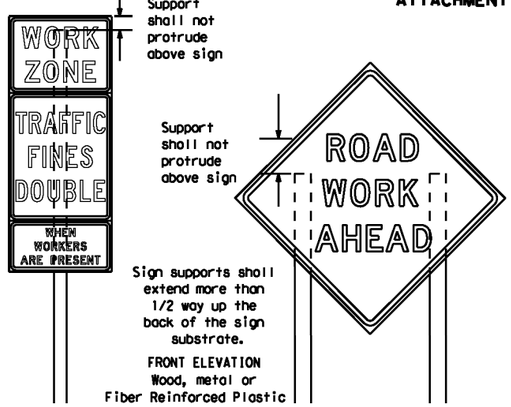
TYPICAL MINIMUM CLEARANCES FOR LONG TERM AND INTERMEDIATE TERM SIGNS

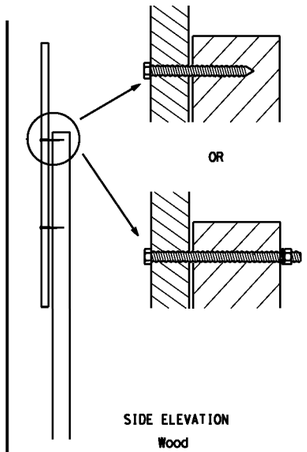


* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

** When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.

ATTACHMENT FOR SIGN SUPPORTS





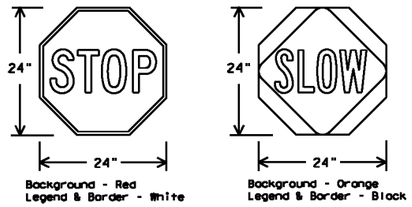
Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sign shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

Splicing embedded perforated square metal tubing in order to extend post height will only be allowed when the splice is made using four bolts, two above and two below the spice point. Splice must be located entirely behind the sign substrate, not near the base of the support. Splice insert lengths should be at least 5 times nominal post size, centered on the splice and of at least the same gauge material.

STOP/SLOW PADDLES

1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24".
2. STOP/SLOW paddles shall be retroreflectorized when used at night.
3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



SHEETING REQUIREMENTS (WHEN USED AT NIGHT)		
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	RED	TYPE B OR C SHEETING
BACKGROUND	ORANGE	TYPE B_{FL} OR C_{FL} SHEETING
LEGEND & BORDER	WHITE	TYPE B OR C SHEETING
LEGEND & BORDER	BLACK	ACRYLIC NON-REFLECTIVE FILM

CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, specific service (LOGO), or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
2. When permanent regulatory or warning signs conflict with work zone conditions, remove or cover the permanent signs until the permanent sign message matches the roadway condition. For details for covering large guide signs see the TS-CD standard.
3. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
4. If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
5. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC standard sheets, TLRS standard sheets or the CWZTCD list. The signs shall meet the required mounting heights shown on the BC, or the SMD standard sheets during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
6. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
5. The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the TMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
6. The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD) for small roadside signs. Supports for temporary large roadside signs shall meet the requirements detailed on the Temporary Large Roadside Signs (TLRS) standard sheets. The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
7. The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
8. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be 1 inch.
9. The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

1. The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
   a. Long-term stationary - work that occupies a location more than 3 days.
   b. Intermediate-term stationary - work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
   c. Short-term stationary - daytime work that occupies a location for more than 1 hour in a single daylight period.
   d. Short, duration - work that occupies a location up to 1 hour.
   e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

SIGN MOUNTING HEIGHT

1. The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
2. The bottom of Short-term/Short Duration signs shall be a minimum of 1 foot above the pavement surface but no more than 2 feet above the ground.
3. Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
4. Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
5. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

SIZE OF SIGNS

1. The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

SIGN SUBSTRATES

1. The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWZTCD lists each substrate that can be used on the different types and models of sign supports.
2. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
3. All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
2. White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
3. Orange sheeting, meeting the requirements of DMS-8300 Type B_{FL} or Type C_{FL}, shall be used for rigid signs with orange backgrounds.

SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
2. Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
3. Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
4. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting.
5. Burlap shall NOT be used to cover signs.
6. Duct tape or other adhesive material shall NOT be affixed to a sign face.
7. Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

SIGN SUPPORT WEIGHTS

1. Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall NOT be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

FLAGS ON SIGNS

1. Flags may be used to draw attention to warning signs. When used, the flag shall be 16 inches square or larger and shall be orange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of the sign face.

SHEET 4 OF 12

Texas Department of Transportation | Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

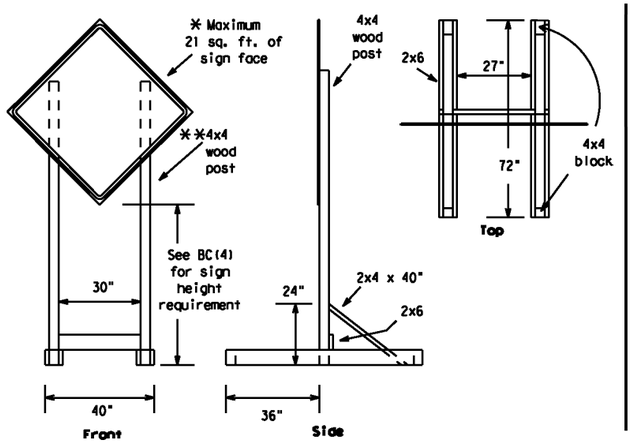
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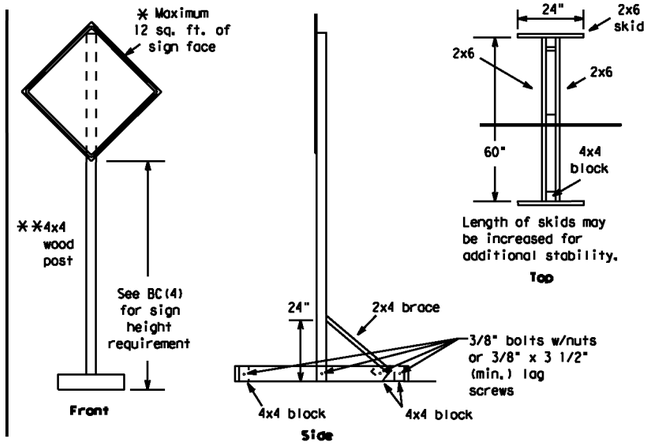
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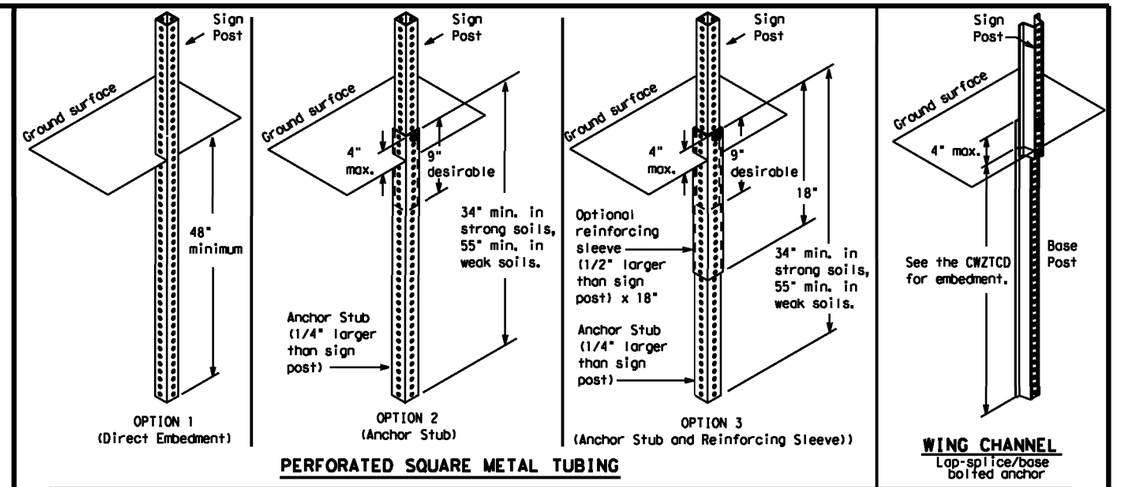
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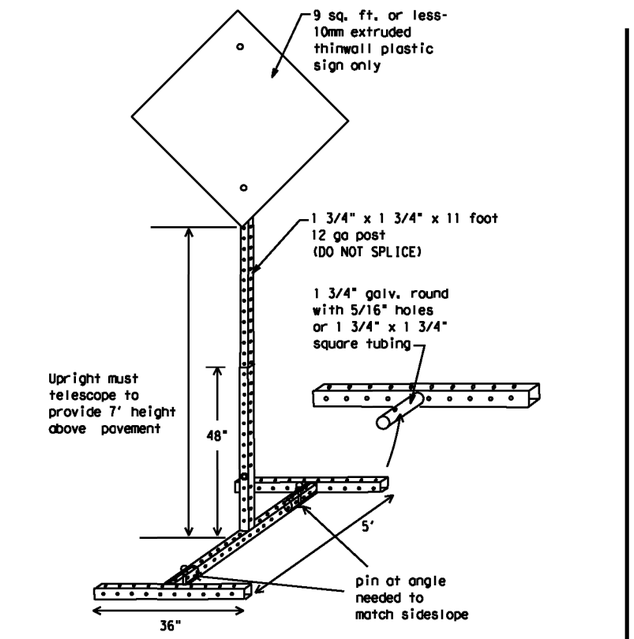
SKID MOUNTED WOOD SIGN SUPPORTS

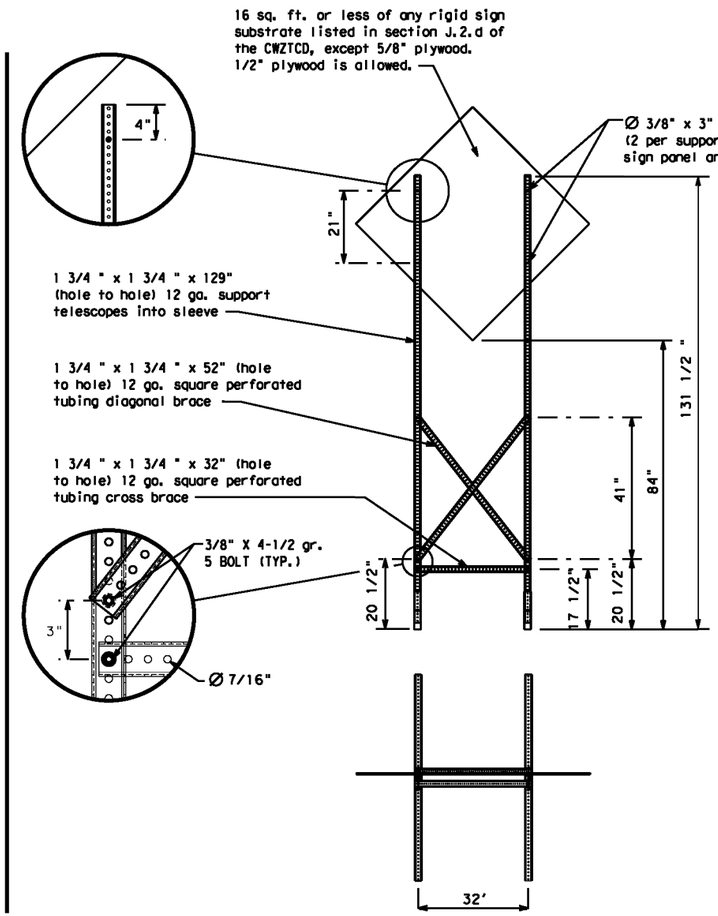
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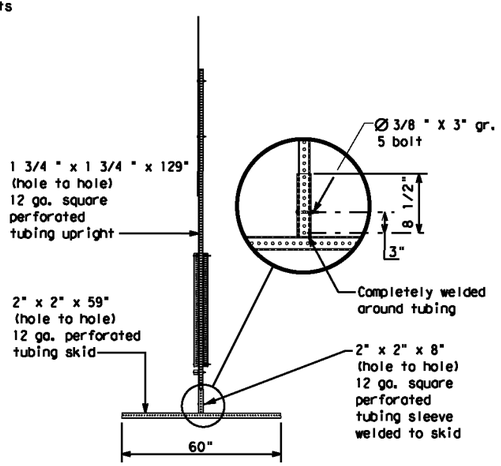


GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support.
The maximum sign square footage shall adhere to the manufacturer's recommendation.
Two post installations can be used for larger signs.







SKID MOUNTED PERFORATED SQUARE STEEL TUBING SIGN SUPPORTS

*** LONG/INTERMEDIATE TERM STATIONARY - PORTABLE SKID MOUNTED SIGN SUPPORTS**

WEDGE ANCHORS

Both steel and plastic Wedge Anchor Systems as shown on the SMD Standard Sheets may be used as temporary sign supports for signs up to 10 square feet of sign face. They may be set in concrete or in sturdy soils if approved by the Engineer. (See web address for "Traffic Engineering Standard Sheets" on BC(1)).

OTHER DESIGNS

MORE DETAILS OF APPROVED LONG/INTERMEDIATE AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

GENERAL NOTES

1. Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
2. No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on the CWZTCD List.
3. When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.

* See BC(4) for definition of "Work Duration."

** Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.

☐ See the CWZTCD for the type of sign substrate that can be used for each approved sign support.

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BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-21

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WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

PORTABLE CHANGEABLE MESSAGE SIGNS

1. The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
2. Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO," "FOR," "AT," etc.
3. Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
4. Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED." Do not use the term "RAMP."
5. Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
6. When in use, the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
7. The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
8. The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
9. Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line.
11. Do not use the word "Danger" in message.
12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
13. Do not display messages that scroll horizontally or vertically across the face of the sign.
14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.
16. Each line of text should be centered on the message board rather than left or right justified.
17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD
Alternate	ALT
Avenue	AVE
Best Route	BEST RTE
Boulevard	BLVD
Bridge	BRDG
Cannot	CANT
Center	CTR
Construction Ahead	CONST AHD
CROSSING	XING
Detour Route	DETOUR RTE
Do Not	DONT
East	E
Eastbound	(route) E
Emergency	EMER
Emergency Vehicle	EMER VEH
Entrance, Enter	ENT
Express Lane	EXP LN
Expressway	EXPWY
XXXX Feet	XXXX FT
Fog Ahead	FOG AHD
Freeway	FRWY, FWY
Freeway Blocked	FWY BLKD
Friday	FRI
Hazardous Driving	HAZ DRIVING
Hazardous Material	HAZMAT
High-Occupancy	HOV
Vehicle Highway	HWY
Hour(s)	HR, HRS
Information	INFO
It Is	ITS
Junction	JCT
Left	LFT
Left Lane	LFT LN
Lane Closed	LN CLOSED
Lower Level	LWR LEVEL
Maintenance	MAINT

WORD OR PHRASE	ABBREVIATION
Major	MAJ
Miles	MI
Miles Per Hour	MPH
Minor	MNR
Monday	MON
Normal	NORM
North	N
Northbound	(route) N
Parking	PKING
Road	RD
Right Lane	RT LN
Saturday	SAT
Service Road	SERV RD
Shoulder	SHLDR
Slippery	SLIP
South	S
Southbound	(route) S
Speed	SPD
Street	ST
Sunday	SUN
Telephone	PHONE
Temporary	TEMP
Thursday	THURS
To Downtown	TO DWNTN
Traffic	TRAF
Travelers	TRVLRS
Tuesday	TUES
Time Minutes	TIME MIN
Upper Level	UPR LEVEL
Vehicles (s)	VEH, VEHS
Warning	WARN
Wednesday	WED
Weight Limit	WT LIMIT
West	W
Westbound	(route) W
Wet Pavement	WET PVMT
Will Not	WONT

Roadway designation = IH-number, US-number, SH-number, FM-number

RECOMMENDED PHASES AND FORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

Phase 1: Condition Lists

Road/Lane/Ramp Closure List

FREEWAY CLOSED X MILE	FRONTAGE ROAD CLOSED
ROAD CLOSED AT SH XXX	SHOULDER CLOSED XXX FT
ROAD CLSD AT FM XXXX	RIGHT LN CLOSED XXX FT
RIGHT X LANES CLOSED	RIGHT X LANES OPEN
CENTER LANE CLOSED	DAYTIME LANE CLOSURES
NIGHT LANE CLOSURES	I-XX SOUTH EXIT CLOSED
VARIOUS LANES CLOSED	EXIT XXX CLOSED X MILE
EXIT CLOSED	RIGHT LN TO BE CLOSED
MALL DRIVEWAY CLOSED	X LANES CLOSED TUE - FRI
XXXXXXXX BLVD CLOSED	

Other Condition List

ROADWORK XXX FT	ROAD REPAIRS XXXX FT
FLAGGER XXXX FT	LANE NARROWS XXXX FT
RIGHT LN NARROWS XXXX FT	TWO-WAY TRAFFIC XX MILE
MERGING TRAFFIC XXXX FT	CONST TRAFFIC XXX FT
LOOSE GRAVEL XXXX FT	UNEVEN LANES XXXX FT
DETOUR X MILE	ROUGH ROAD XXXX FT
ROADWORK PAST SH XXXX	ROADWORK NEXT FRI-SUN
BUMP XXXX FT	US XXX EXIT X MILES
TRAFFIC SIGNAL XXXX FT	LANES SHIFT *

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

Phase 2: Possible Component Lists

Action to Take/Effect on Travel List

MERGE RIGHT	FORM X LINES RIGHT
DETOUR NEXT X EXITS	USE XXXXX RD EXIT
USE EXIT XXX	USE EXIT I-XX NORTH
STAY ON US XXX SOUTH	USE I-XX E TO I-XX N
TRUCKS USE US XXX N	WATCH FOR TRUCKS
WATCH FOR TRUCKS	EXPECT DELAYS
EXPECT DELAYS	PREPARE TO STOP
REDUCE SPEED XXX FT	END SHOULDER USE
USE OTHER ROUTES	WATCH FOR WORKERS
STAY IN LANE *	

Location List

AT FM XXXX
BEFORE RAILROAD CROSSING
NEXT X MILES
PAST US XXX EXIT
XXXXXXX TO XXXXXXX
US XXX TO FM XXXX

Warning List

SPEED LIMIT XX MPH
MAXIMUM SPEED XX MPH
MINIMUM SPEED XX MPH
ADVISORY SPEED XX MPH
RIGHT LANE EXIT
USE CAUTION
DRIVE SAFELY
DRIVE WITH CARE

** Advance Notice List

TUE-FRI XX AM- X PM
APR XX-XX X PM-X AM
BEGINS MONDAY
BEGINS MAY XX
MAY X-X XX PM - XX AM
NEXT FRI-SUN
XX AM TO XX PM
NEXT TUE AUG XX
TONIGHT XX PM- XX AM

* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

** See Application Guidelines Note 6.

APPLICATION GUIDELINES

1. Only 1 or 2 phases are to be used on a PCMS.
2. The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

WORDING ALTERNATIVES

1. The words RIGHT, LEFT and ALL can be interchanged as appropriate.
2. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
4. Highway names and numbers replaced as appropriate.
5. ROAD, HIGHWAY and FREEWAY can be interchanged as needed.
6. AHEAD may be used instead of distances if necessary.
7. FT and MI, MILE and MILES interchanged as appropriate.
8. AT, BEFORE and PAST interchanged as needed.
9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC, THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

FULL MATRIX PCMS SIGNS

1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-21

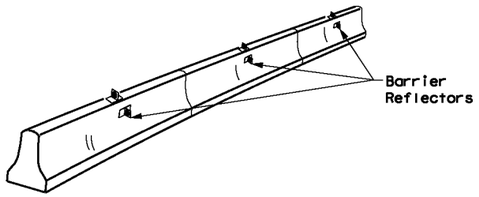
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©TxDOT November 2002	CONT	SECT	JOB	HIGHWAY
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9-07 8-14	DIST	COUNTY		SHEET NO.
7-13 5-21	PHR	CAMERON		22

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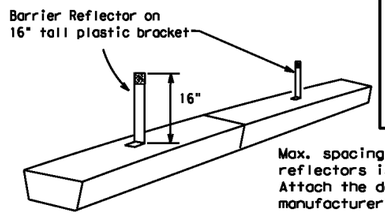
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1. Barrier Reflectors shall be pre-qualified, and conform to the color and reflectivity requirements of DMS-8600. A list of prequalified Barrier Reflectors can be found at the Material Producer List web address shown on BC(1).
2. Color of Barrier Reflectors shall be as specified in the TMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



CONCRETE TRAFFIC BARRIER (CTB)

3. Where traffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional)while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
5. When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
6. Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
7. Maximum spacing of Barrier Reflectors is forty (40) feet.
8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's recommendations.
10. Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
11. Single slope barriers shall be delineated as shown on the above detail.

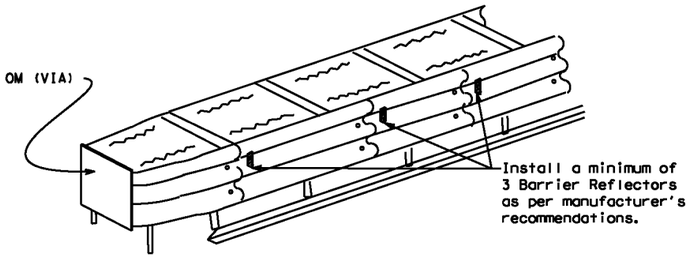


Max. spacing of barrier reflectors is 20 feet. Attach the delineators as per manufacturer's recommendations.

LOW PROFILE CONCRETE BARRIER (LPCB) USED IN WORK ZONES

LPCB is approved for use in work zone locations, where the posted speed is 45mph, or less. See Roadway Standard Sheet LPCB.

LOW PROFILE CONCRETE BARRIER (LPCB)

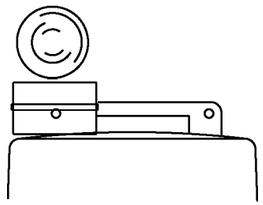


DELINEATION OF END TREATMENTS

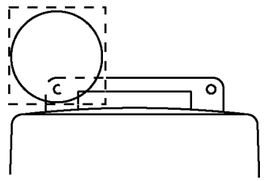
END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet the appropriate crashworthy standards as defined in the Manual for Assessing Safety Hardware (MASH). Refer to the CWZTCD List for approved end treatments and manufacturers.

BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS



Type C Warning Light or approved substitute mounted on a drum adjacent to the travel way.



Warning reflector may be round or square. Must have a yellow reflective surface area of at least 30 square inches

WARNING LIGHTS

1. Warning lights shall meet the requirements of the TMUTCD.
2. Warning lights shall NOT be installed on barricades.
3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B_{FL} or C_{FL} Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
4. Type-C and Type D 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices.
6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights.
7. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

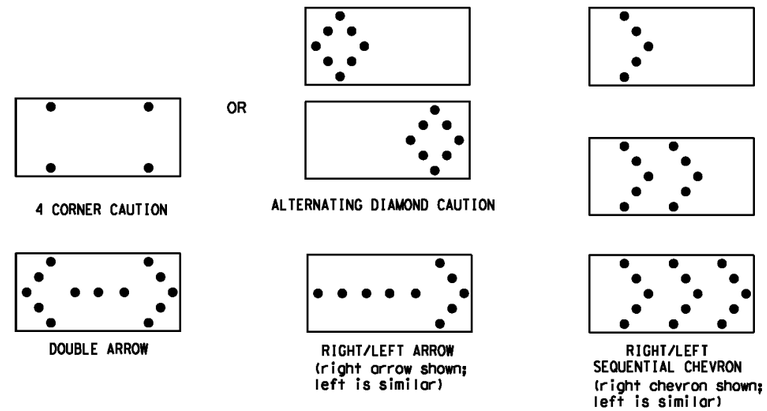
1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.
2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes.
4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed on the CWZTCD.
3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum.
6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
3. The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
4. The Flashing Arrow Board should be able to display the following symbols:



5. The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
6. The straight line caution display is NOT ALLOWED.
7. The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
8. Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
9. The sequential arrow display is NOT ALLOWED.
10. The flashing arrow display is the TxDOT standard; however, the sequential chevron display may be used during daylight operations.
11. The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
12. A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
13. A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility, flash rate and dimming requirements on this sheet for the same size arrow.
14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

REQUIREMENTS			
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE
B	30 x 60	13	3/4 mile
C	48 x 96	15	1 mile

ATTENTION

Flashing Arrow Boards shall be equipped with automatic dimming devices.

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

FLASHING ARROW BOARDS

TRUCK-MOUNTED ATTENUATORS

1. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the Manual for Assessing Safety Hardware (MASH).
2. Refer to the CWZTCD for the requirements of Level 2 or Level 3 TMAs.
3. Refer to the CWZTCD for a list of approved TMAs.
4. TMAs are required on freeways unless otherwise noted in the plans.
5. A TMA should be used anytime that it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the work performance.
6. The only reason a TMA should not be required is when a work area is spread down the roadway and the work crew is an extended distance from the TMA.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS, WARNING LIGHTS & ATTENUATOR

BC(7)-21

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REVISIONS	0921	06	400	VAR
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GENERAL NOTES

1. For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections, one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
3. For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
4. Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
5. Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
6. The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

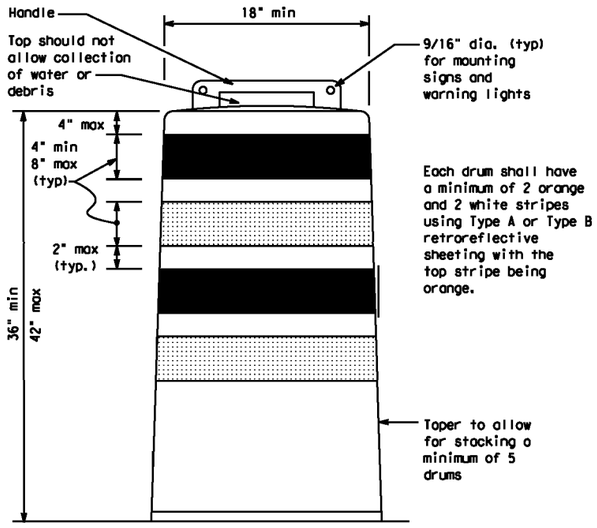
1. Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
2. The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
3. Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
7. Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
9. Drum body shall have a maximum unballasted weight of 11 lbs.
10. Drum and base shall be marked with manufacturer's name and model number.

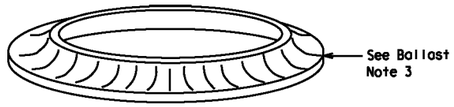
RETROREFLECTIVE SHEETING

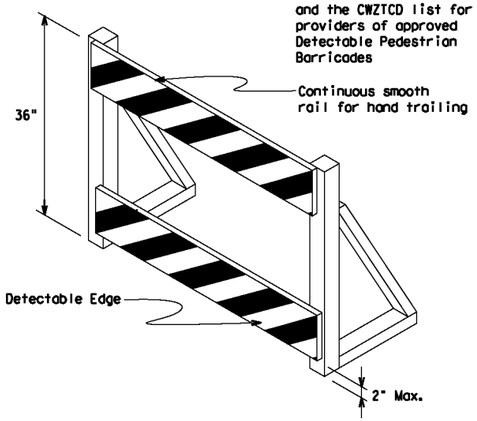
1. The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A or Type B reflective sheeting shall be supplied unless otherwise specified in the plans.
2. The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

BALLAST

1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
2. Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
3. Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
5. When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
6. Ballast shall not be placed on top of drums.
7. Adhesives may be used to secure base of drums to pavement.

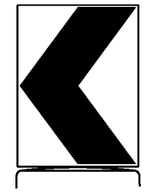




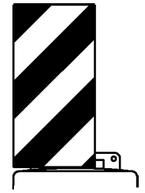


DETECTABLE PEDESTRIAN BARRICADES

1. When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. Refer to WZ(BTS-2) for Pedestrian Control requirements for Sidewalk Diversions, Sidewalk Detours and Crosswalk Closures.
2. Where pedestrians with visual disabilities normally use the closed sidewalk, a Detectable Pedestrian Barricade shall be placed across the full width of the closed sidewalk instead of a Type 3 Barricade.
3. Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, some concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines (ADAAG)" and should not be used as a control for pedestrian movements.
5. Warning lights shall not be attached to detectable pedestrian barricades.
6. Detectable pedestrian barricades should use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign
(Maximum Sign Dimension)
Chevron CW1-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals sloping down towards travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

1. Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
2. Chevrons and other work zone signs with an orange background shall be manufactured with Type B_{FL} or Type C_{FL} Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
3. Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A or Type B. Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
4. Other sign messages (text or symbolic) may be used as approved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
5. Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
6. Mounting bolts and nuts shall be fully engaged and adequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
7. Chevrons may be placed on drums on the outside of curves, on merging tapers or on shifting tapers. When used in these locations, they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
8. R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

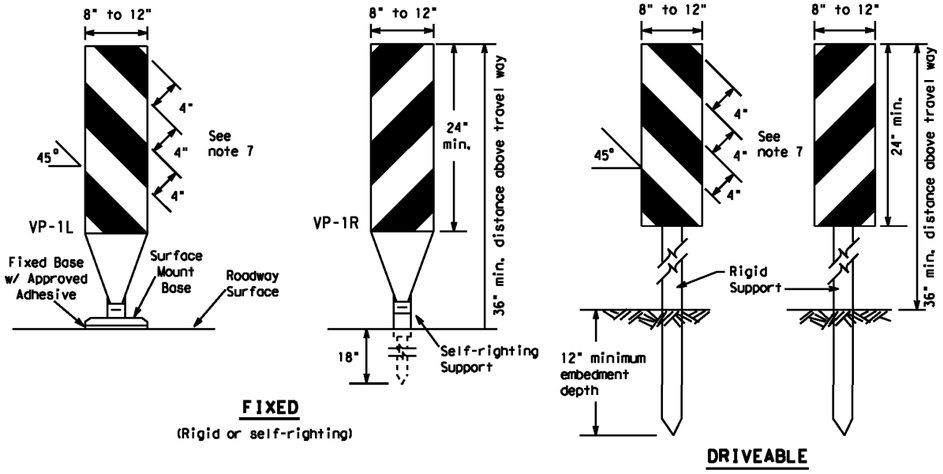
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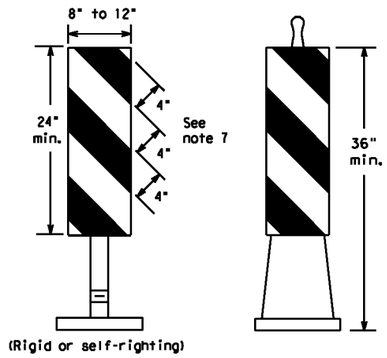
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FIXED
(Rigid or self-righting)

DRIVEABLE

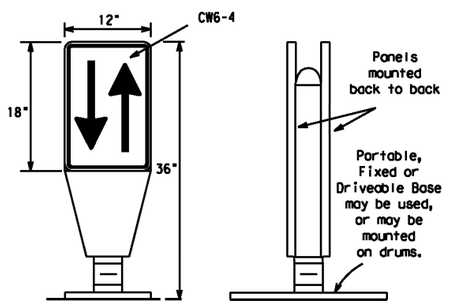


(Rigid or self-righting)

PORTABLE

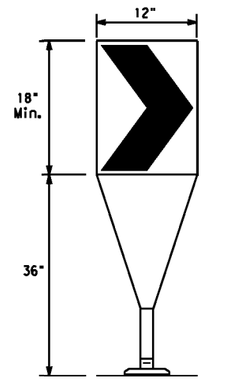
1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.
2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other areas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual for additional requirements on the use VP's for drop-offs.
3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.
5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
6. Sheeting for the VP's shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300, unless noted otherwise.
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

VERTICAL PANELS (VPs)



1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation. OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
2. The OTLD may be used in combination with 42" cones or VPs.
3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
4. The OTLD shall be orange with a black non-reflective legend. Sheeting for the OTLD shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



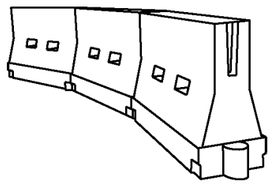
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
4. To be effective, the chevron should be visible for at least 500 feet.
5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type B_{FL} or Type C_{FL} conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
6. For Long Term Stationary use on tapers or transitions on freeways and divided highways, self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

CHEVRONS

GENERAL NOTES

1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.



LONGITUDINAL CHANNELIZING DEVICES (LCD)

1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact.
2. LCDs may be used instead of a line of cones or drums.
3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10). Place reflective sheeting near the top of the LCD along the full length of the device.

WATER BALLASTED SYSTEMS USED AS BARRIERS

1. Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the work space per the appropriate Manual for Assessing Safety Hardware (MASH) crashworthiness requirements based on roadway speed and barrier application.
2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
3. Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flared to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top of the unit shall not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

Posted Speed	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent
30	$L = \frac{WS^2}{60}$	150'	165'	180'	30'	60'
35		205'	225'	245'	35'	70'
40		265'	295'	320'	40'	80'
45	L = WS	450'	495'	540'	45'	90'
50		500'	550'	600'	50'	100'
55		550'	605'	660'	55'	110'
60		600'	660'	720'	60'	120'
65		650'	715'	780'	65'	130'
70		700'	770'	840'	70'	140'
75		750'	825'	900'	75'	150'
80		800'	880'	960'	80'	160'

** Taper lengths have been rounded off.
L=Length of Taper (FT.) W=Width of Offset (FT.)
S=Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

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Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(9)-21

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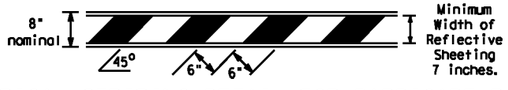
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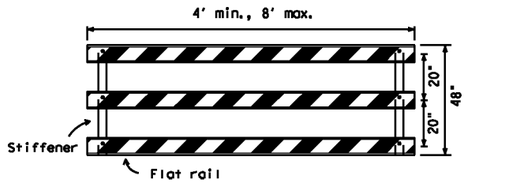
TYPE 3 BARRICADES

1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type 3 Barricades and a list of all materials used in the construction of Type 3 Barricades.
2. Type 3 Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road, striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type A or Type B conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.



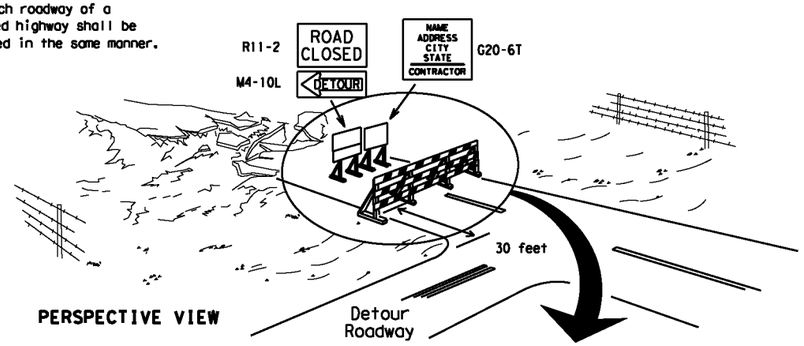
TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

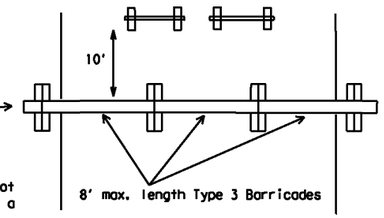
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES

Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

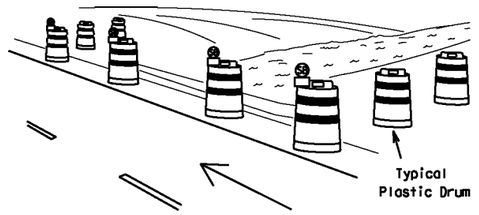
The three rails on Type 3 barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

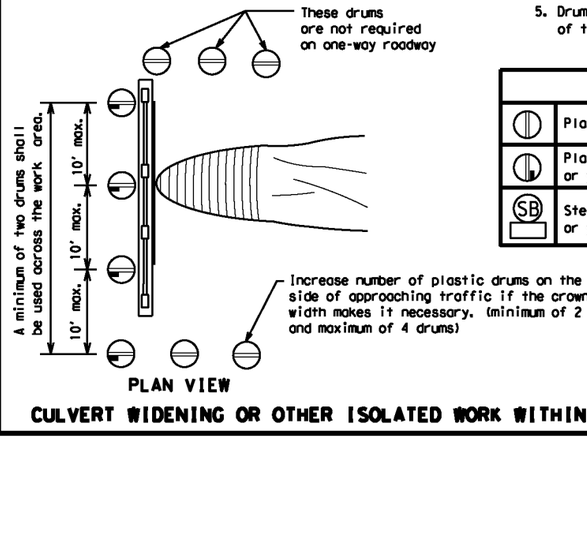
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type 3 Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION



PERSPECTIVE VIEW

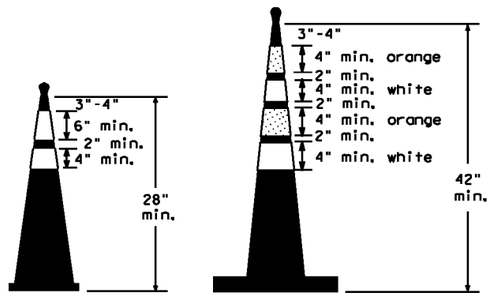
1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.



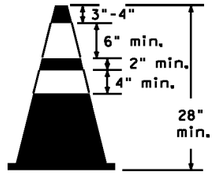
LEGEND	
	Plastic drum
	Plastic drum with steady burn light or yellow warning reflector
SB	Steady burn warning light or yellow warning reflector

PLAN VIEW

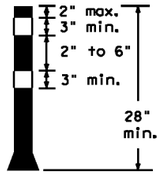
CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Two-Piece cones



One-Piece cones

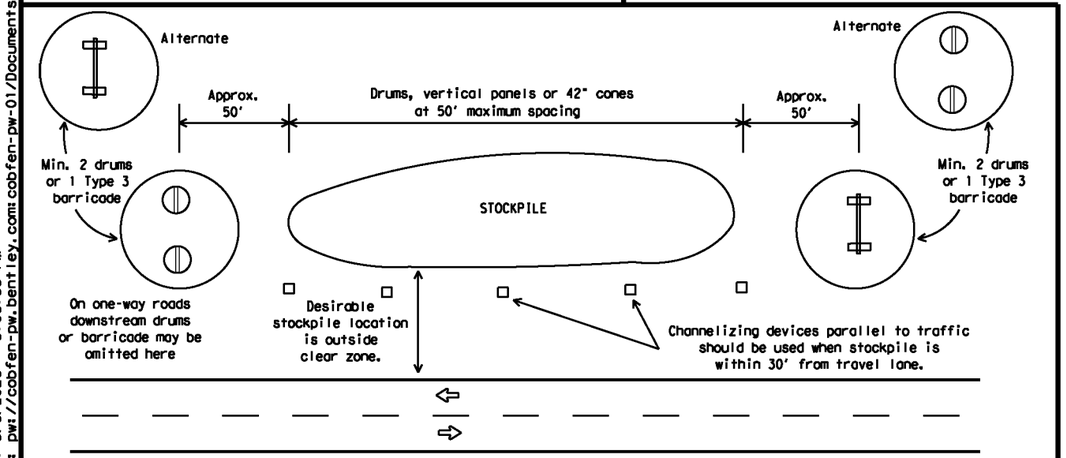


Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.
2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base, or ballast, that is added to keep the device upright and in place.
3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
4. Cones or tubular markers shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A or Type B.
5. 28" cones and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
6. 42" two-piece cones, vertical panels or drums are suitable for all work zone durations.
7. Cones or tubular markers used on each project should be of the same size and shape.



TRAFFIC CONTROL FOR MATERIAL STOCKPILES

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Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(10)-21

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WORK ZONE PAVEMENT MARKINGS

GENERAL

1. The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
3. Additional supplemental pavement marking details may be found in the plans or specifications.
4. Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
5. When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

RAISED PAVEMENT MARKERS

1. Raised pavement markers are to be placed according to the patterns on BC(12).
2. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

PREFABRICATED PAVEMENT MARKINGS

1. Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
2. Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

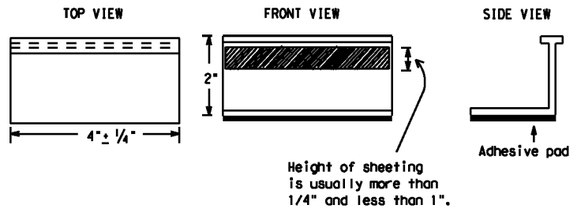
MAINTAINING WORK ZONE PAVEMENT MARKINGS

1. The Contractor will be responsible for maintaining work zone pavement markings within the work limits.
2. Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
4. Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

REMOVAL OF PAVEMENT MARKINGS

1. Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
2. The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
3. Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
4. The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in Item 677.
5. Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
6. Blast cleaning may be used but will not be required unless specifically shown in the plans.
7. Over-painting of the markings SHALL NOT BE permitted.
8. Removal of raised pavement markers shall be as directed by the Engineer.
9. Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

1. Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "B" below may be imposed to assure quality before placement on the roadway.
   A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Pavement Section to determine specification compliance.
   B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
3. Small design variances may be noted between tab manufacturers.
4. See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

1. Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
2. All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
3. Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

DEPARTMENTAL MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(1).

Texas Department of Transportation — Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKINGS

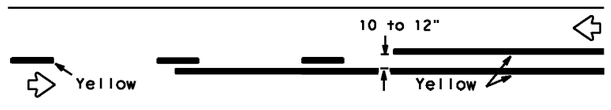
BC(11)-21

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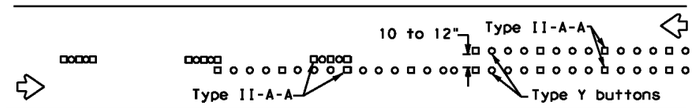
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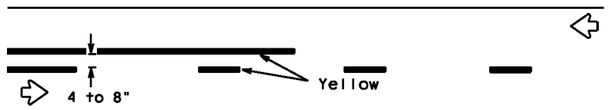
PAVEMENT MARKING PATTERNS



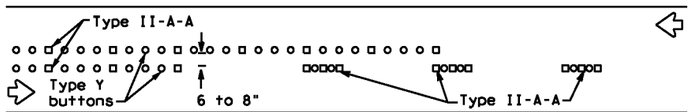
REFLECTORIZED PAVEMENT MARKINGS - PATTERN A



RAISED PAVEMENT MARKERS - PATTERN A



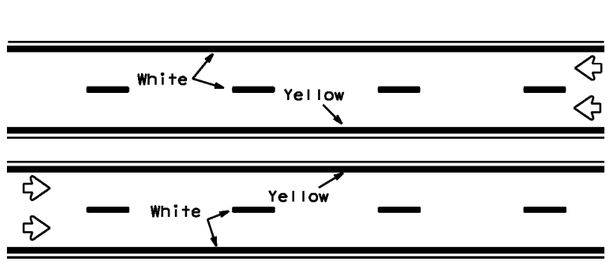
REFLECTORIZED PAVEMENT MARKINGS - PATTERN B



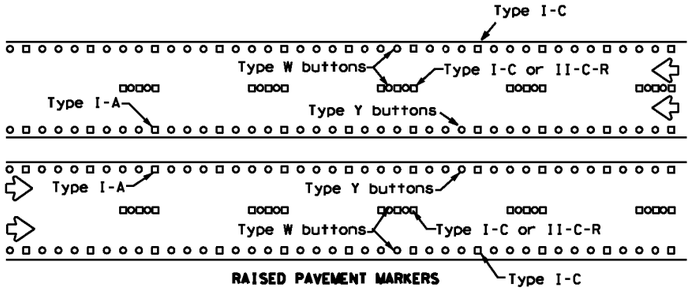
RAISED PAVEMENT MARKERS - PATTERN B

Pattern A is the TXDOT Standard, however Pattern B may be used if approved by the Engineer.
Prefabricated markings may be substituted for reflectorized pavement markings.

CENTER LINE & NO-PASSING ZONE BARRIER LINES FOR TWO-LANE, TWO-WAY HIGHWAYS



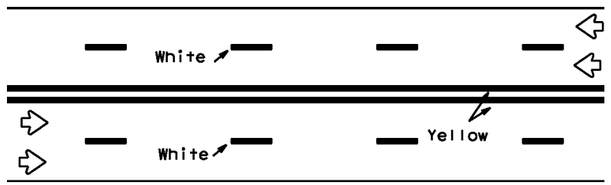
REFLECTORIZED PAVEMENT MARKINGS



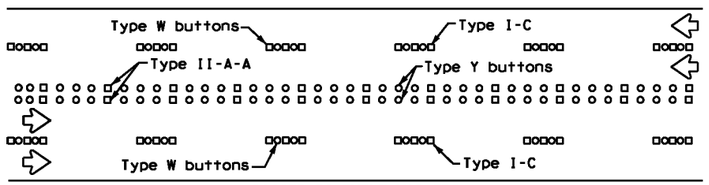
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

EDGE & LANE LINES FOR DIVIDED HIGHWAY



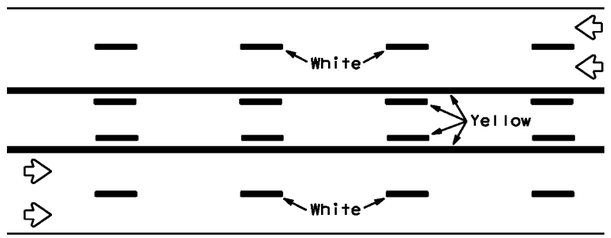
REFLECTORIZED PAVEMENT MARKINGS



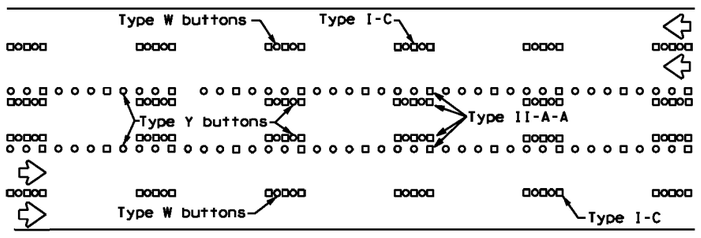
RAISED PAVEMENT MARKERS

Prefabricated markings may be substituted for reflectorized pavement markings.

LANE & CENTER LINES FOR MULTILANE UNDIVIDED HIGHWAYS



REFLECTORIZED PAVEMENT MARKINGS



RAISED PAVEMENT MARKERS

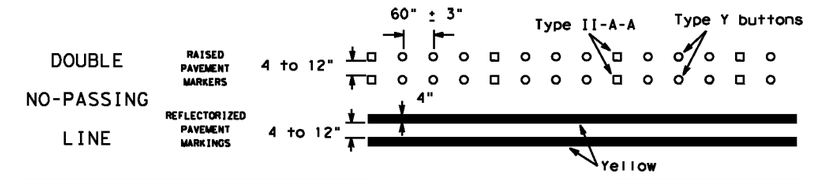
Prefabricated markings may be substituted for reflectorized pavement markings.

TWO-WAY LEFT TURN LANE

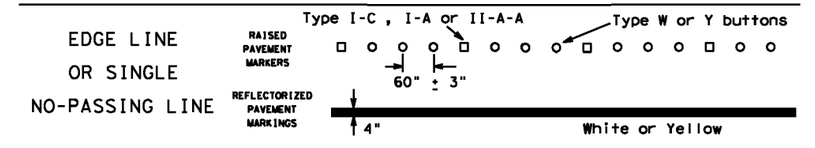
STANDARD WORK ZONE PAVEMENT MARKINGS DETAILS

SOLID LINES

DOUBLE NO-PASSING LINE

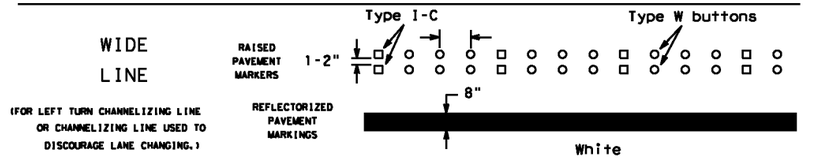


EDGE LINE OR SINGLE NO-PASSING LINE



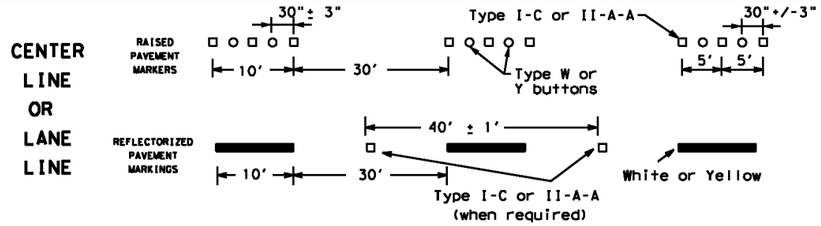
WIDE LINE

(FOR LEFT TURN CHANNELIZING LINE OR CHANNELIZING LINE USED TO DISCOURAGE LANE CHANGING.)

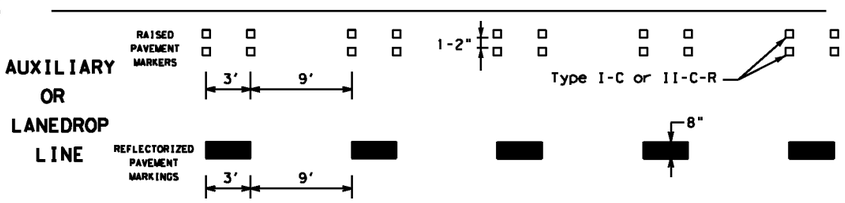


BROKEN LINES

CENTER LINE OR LANE LINE

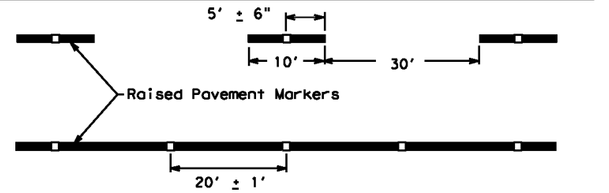


AUXILIARY OR LANEDROP LINE



REMOVABLE MARKINGS WITH RAISED PAVEMENT MARKERS

If raised pavement markers are used to supplement REMOVABLE markings, the markers shall be applied to the top of the tape at the approximate mid length of tape used for broken lines or at 20 foot spacing for solid lines. This allows an easier removal of raised pavement markers and tape.



Centerline only - not to be used on edge lines

Raised pavement markers used as standard pavement markings shall be from the approved products list and meet the requirements of Item 672 "RAISED PAVEMENT MARKERS."

Texas Department of Transportation

Traffic Safety Division Standard

BARRICADE AND CONSTRUCTION PAVEMENT MARKING PATTERNS

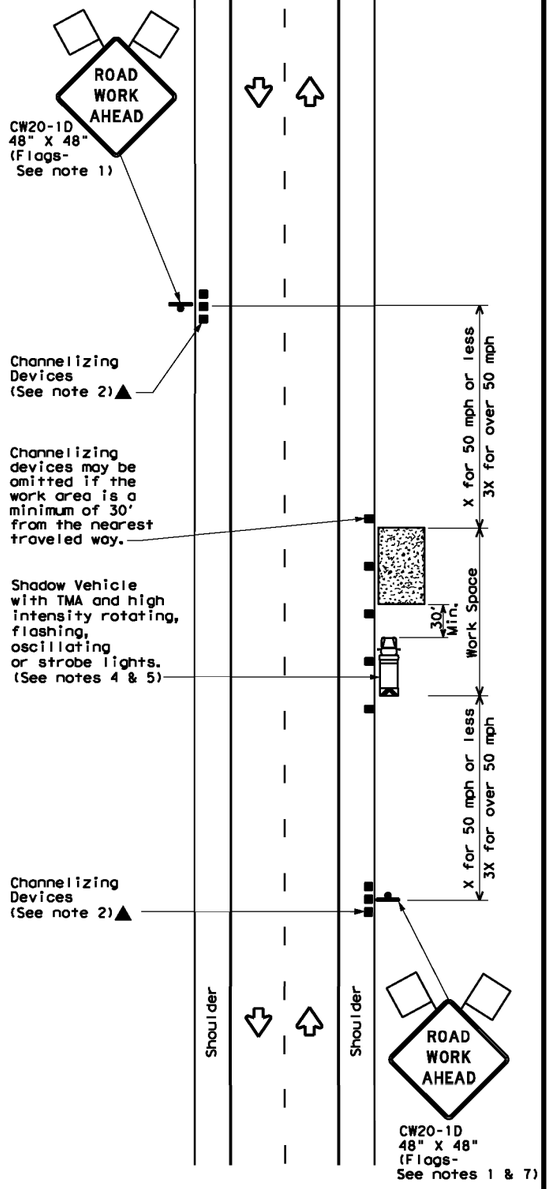
BC(12)-21

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	PHR	CAMERON		28

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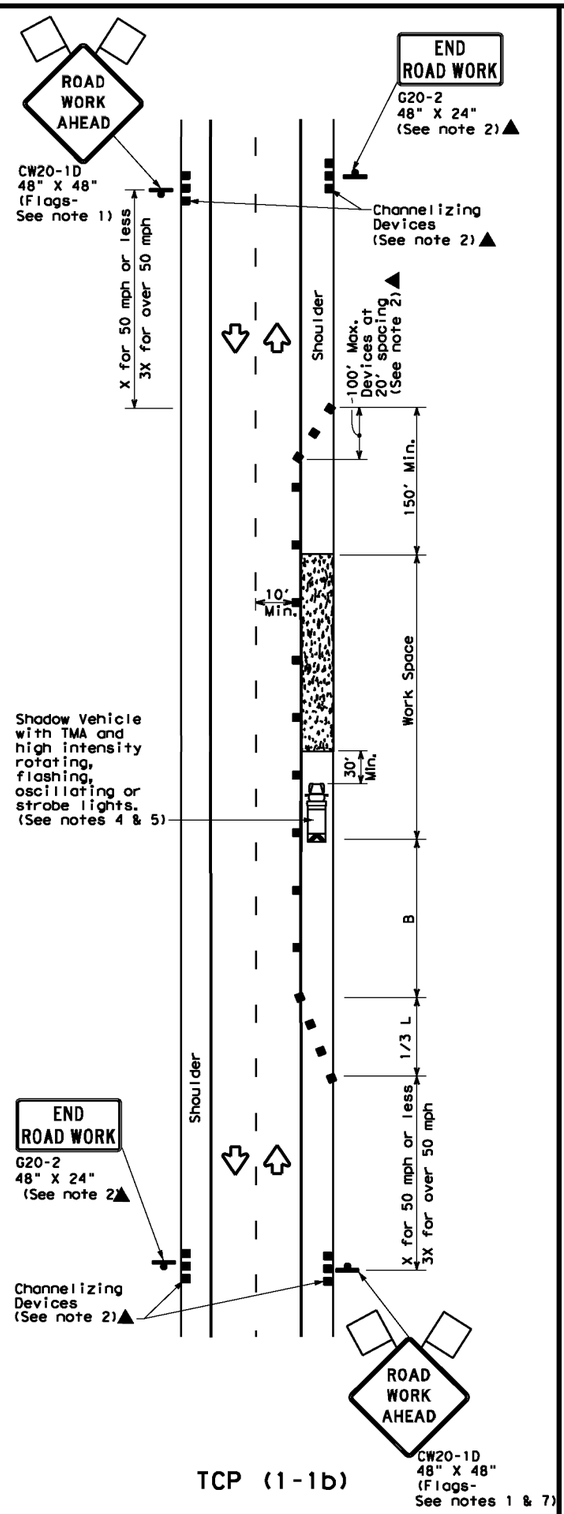
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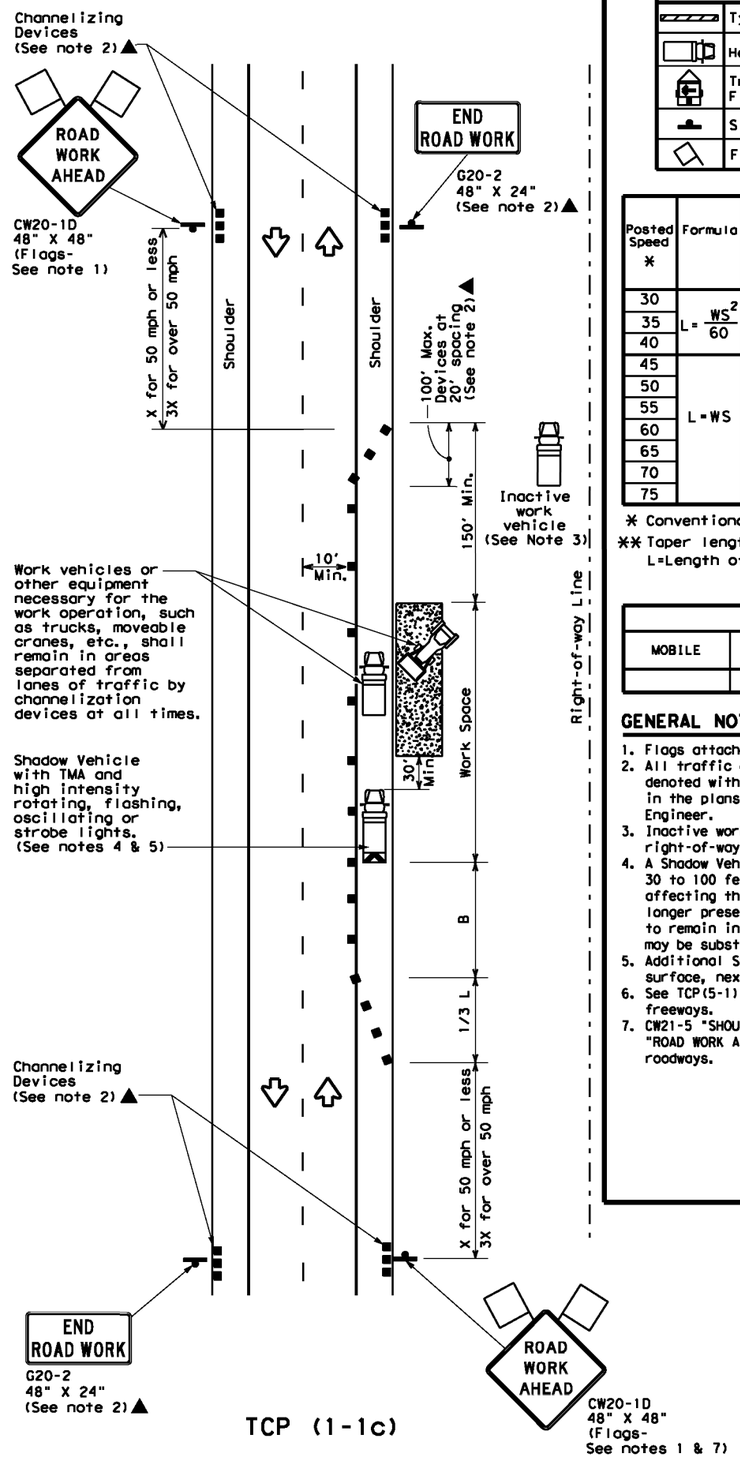
TCP (1-1a)

WORK SPACE NEAR SHOULDER
Conventional Roads



TCP (1-1b)

WORK SPACE ON SHOULDER
Conventional Roads



TCP (1-1c)

WORK VEHICLES ON SHOULDER
Conventional Roads

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. Inactive work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.
6. See TCP(5-1)for shoulder work on divided highways, expressways and freeways.
7. CW21-5 "SHOULDER WORK" signs may be used in place of CW20-1D "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation — Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

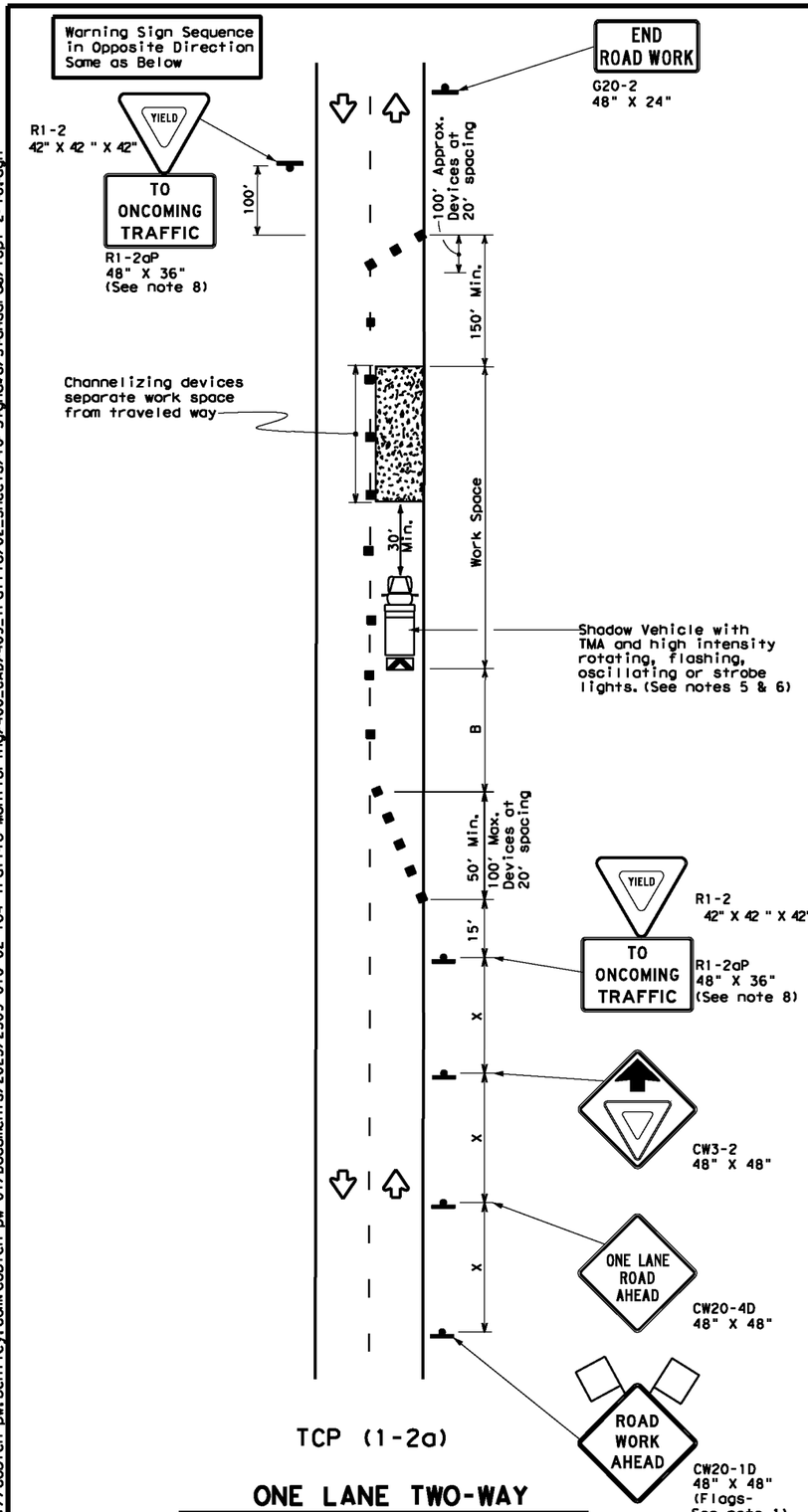
TCP(1-1)-18

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151

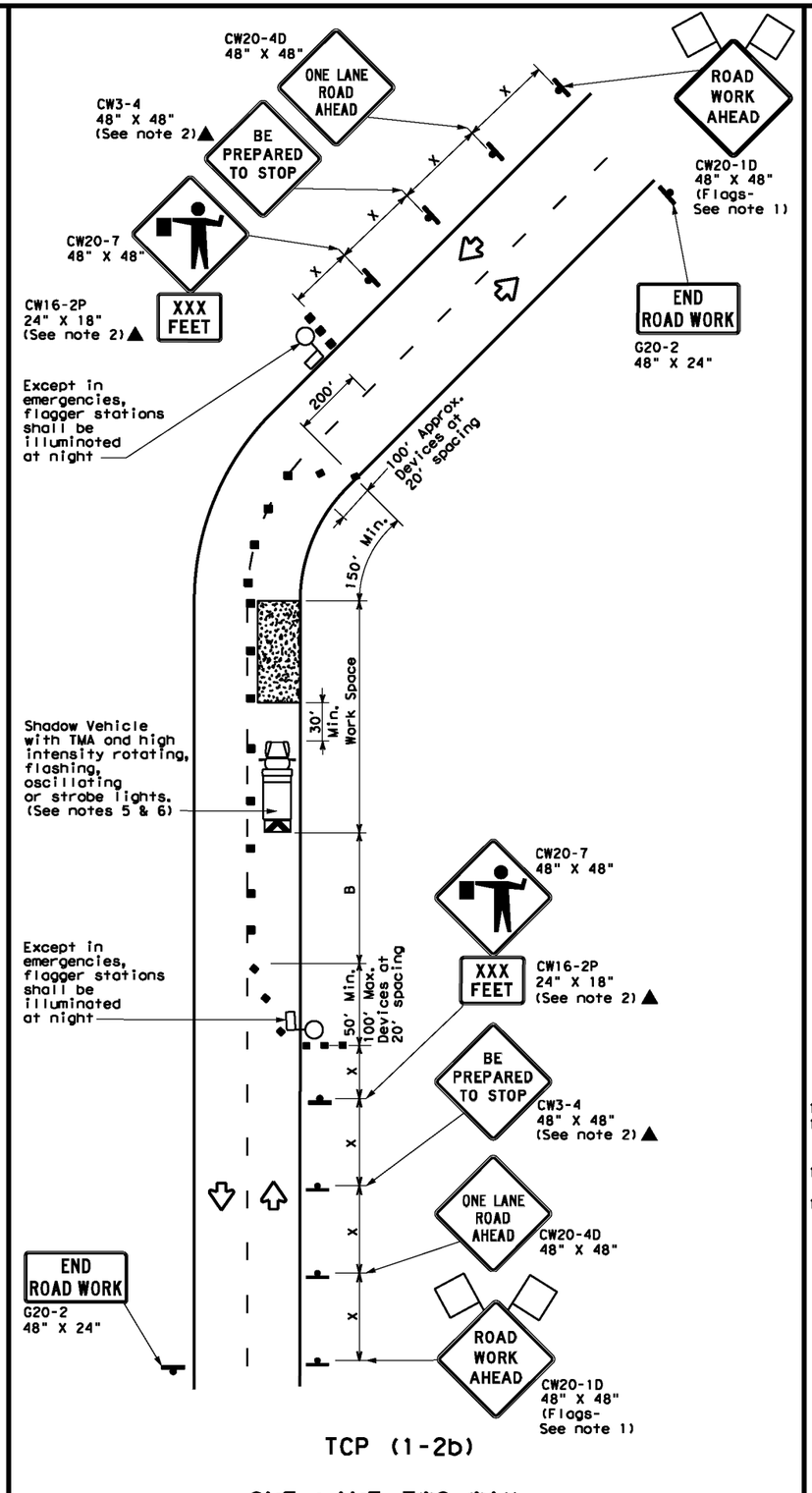
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TCP (1-2a)

ONE LANE TWO-WAY CONTROL WITH YIELD SIGNS
(Less than 2000 ADT - See note 7)



TCP (1-2b)

ONE LANE TWO-WAY CONTROL WITH FLAGGERS

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"	Stopping Sight Distance
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'	200'
35		205'	225'	245'	35'	70'	160'	120'	250'
40		265'	295'	320'	40'	80'	240'	155'	305'
45	L=WS	450'	495'	540'	45'	90'	320'	195'	360'
50		500'	550'	600'	50'	100'	400'	240'	425'
55		550'	605'	660'	55'	110'	500'	295'	495'
60		600'	660'	720'	60'	120'	600'	350'	570'
65		650'	715'	780'	65'	130'	700'	410'	645'
70		700'	770'	840'	70'	140'	800'	475'	730'
75		750'	825'	900'	75'	150'	900'	540'	820'

* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

TYPICAL USAGE				
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	✓	✓		

GENERAL NOTES

1. Flags attached to signs where shown are REQUIRED.
2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-2a)

7. R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
8. R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support at a 7 foot minimum mounting height.

TCP (1-2b)

9. Flaggers should use two-way radios or other methods of communication to control traffic.
10. Length of work space should be based on the ability of flaggers to communicate.
11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
12. Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.
13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situations.

Texas Department of Transportation

Traffic Operations Division Standard

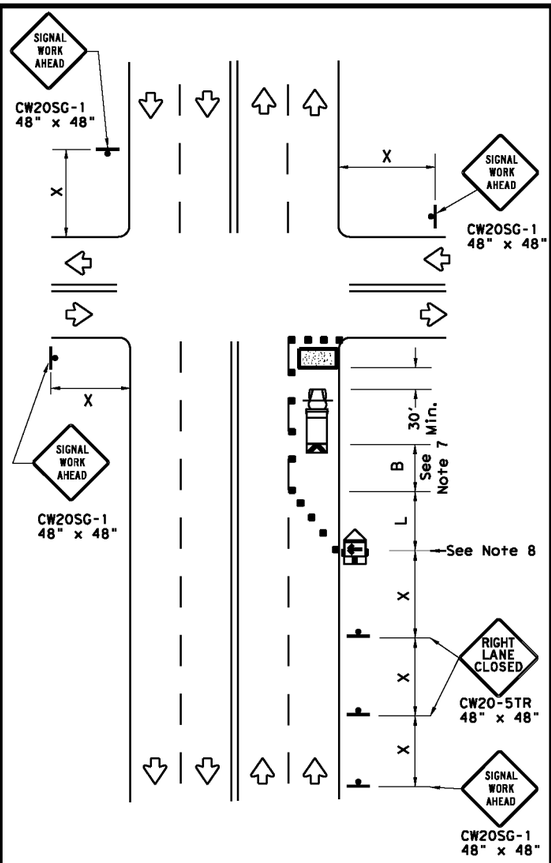
TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL

TCP(1-2)-18

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©TxDOT December 1985	CONT	SECT	JOB	HIGHWAY
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	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		30

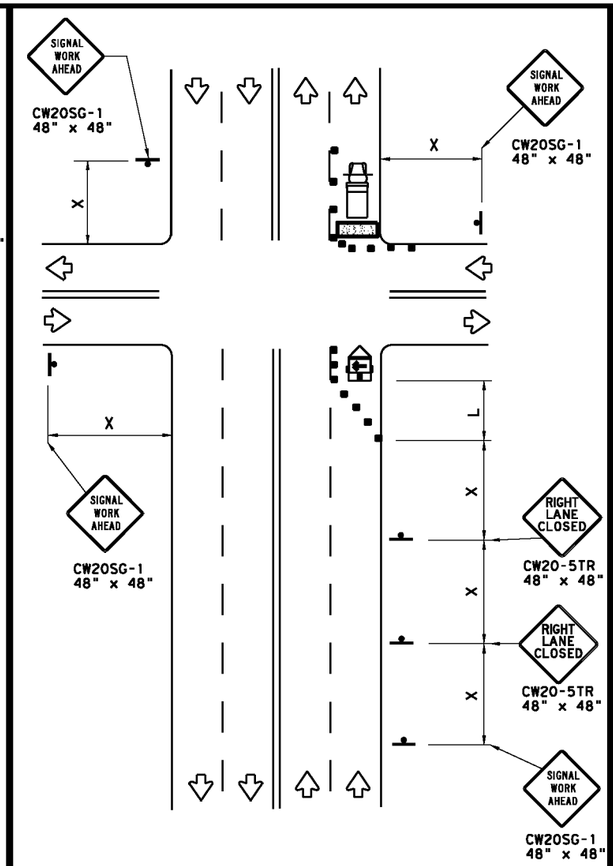
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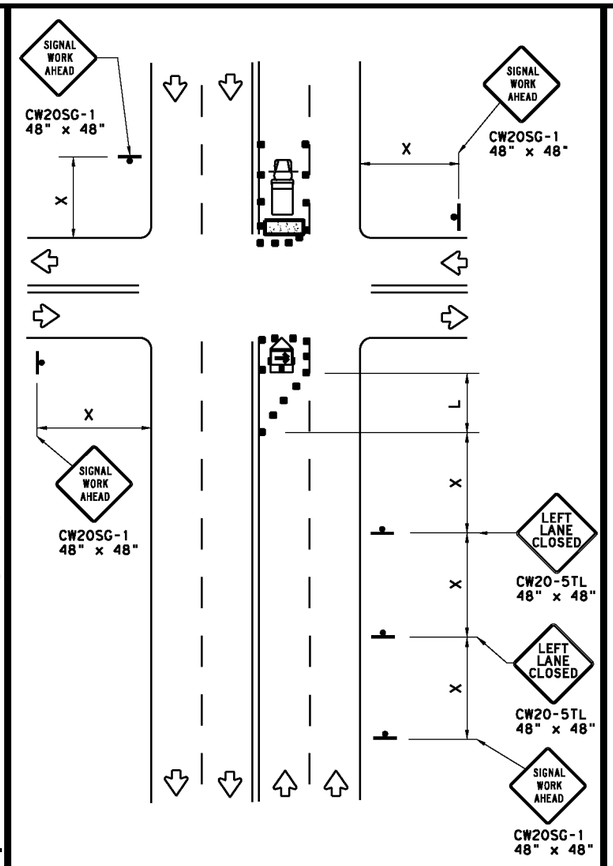
NEAR SIDE LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY



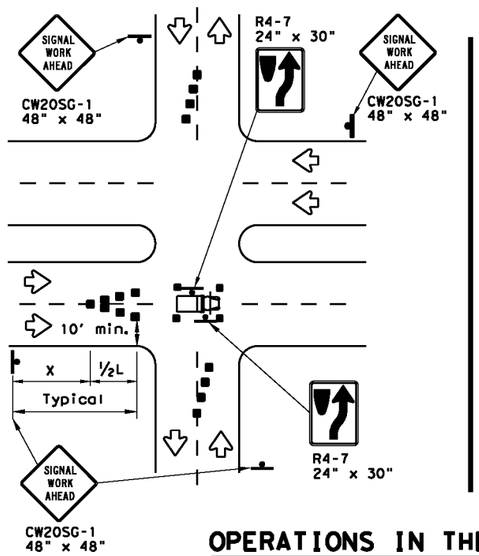
FAR SIDE RIGHT LANE CLOSURE

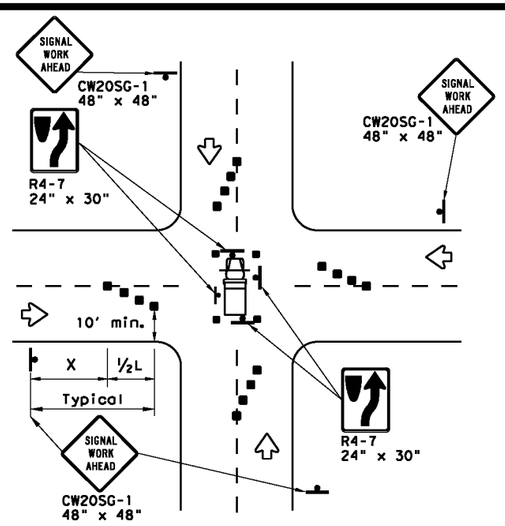
SHORT DURATION OR SHORT TERM STATIONARY



FAR SIDE LEFT LANE CLOSURE

SHORT DURATION OR SHORT TERM STATIONARY





OPERATIONS IN THE INTERSECTION

SHORT DURATION

LEGEND			
	Type 3 Barricade		Channelizing Devices
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)
	Trailer Maunted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)
	Sign		Traffic Flow
	Flag		Flagger

Posted Speed *	Formula	Minimum Desirable Taper Lengths ** 10' Offset	11' Offset	12' Offset	Suggested Maximum Spacing of Channelizing Devices: On a Taper	On a Tangent	Minimum Sign Spacing "X" Distance	Suggested Longitudinal Buffer Space "B"
30	$L=\frac{WS^2}{60}$	150'	165'	180'	30'	60'	120'	90'
35		205'	225'	245'	35'	70'	160'	120'
40		265'	295'	320'	40'	80'	240'	155'
45	L=WS	450'	495'	540'	45'	90'	320'	195'
50		500'	550'	600'	50'	100'	400'	240'
55		550'	605'	660'	55'	110'	500'	295'
60		600'	660'	720'	60'	120'	600'	350'
65		650'	715'	780'	65'	130'	700'	410'
70		700'	770'	840'	70'	140'	800'	475'
75		750'	825'	900'	75'	150'	900'	540'

* Conventional Roads Only

** Taper lengths have been rounded off.
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

WORKERS IN BUCKET TRUCKS SHALL NOT WORK ABOVE OPEN LANES OF TRAFFIC.

GENERAL NOTES

1. The minimum size channelizing device is the 28" cone. 42" Two-piece cones, drums, vertical panels or barricades will be required when the device must be left unattended at night.
2. Obstructions or hazards at the work area shall be clearly marked and delineated at all times.
3. Flaggers and Flagger Symbol (CW20-7) signs may be required according to field conditions.
4. Vehicles parked in roadway shall be equipped with at least two high intensity rotating, flashing, oscillating or strobe type lights.
5. High level warning devices (flag trees) may be used at corners of the vehicle.
6. When work operations are performed on existing signals, the signals may be placed in flashing red mode when approved by the engineer. If existing signals do not have power, All-Way Stop (R1-1 and R1-3P) signs may be implemented when approved by the engineer.
7. For Short-Term Stationary work the buffer space "B" from the above table should be used if field conditions permit. For Short Duration (less than 1 hour) any buffer space provided will enhance the safety of the setup.
8. The arrow board at this location may be omitted for Short Duration work if the work vehicle has an arrow board in operation. As an option, the arrow board may be placed at the end of the taper in the closed lane if space is not available at the beginning of the taper.
9. Signs and devices for the NEAR SIDE LANE CLOSURE may be altered for a left lane closure by using a LEFT LANE CLOSED (CW20-5TL) and adding channelizing devices on the centerline to protect the work space from opposing traffic.

SHEET 1 OF 2

Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC SIGNAL WORK TYPICAL DETAILS

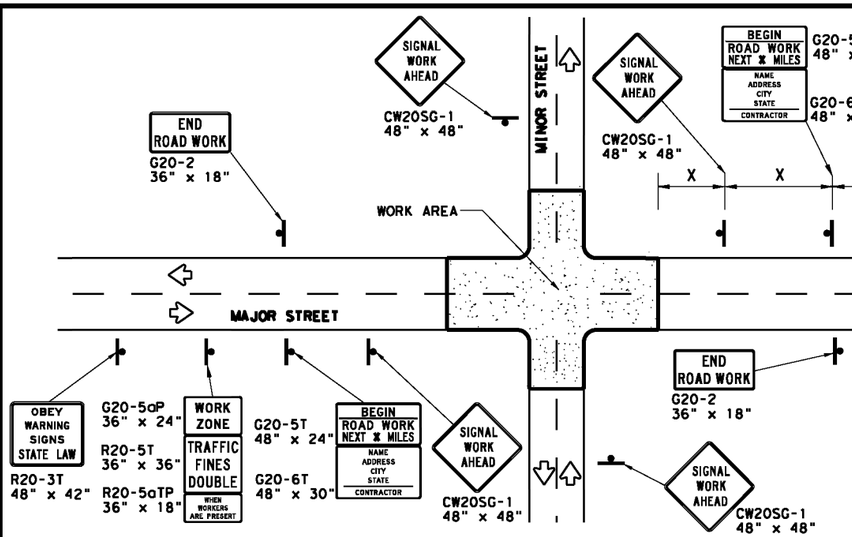
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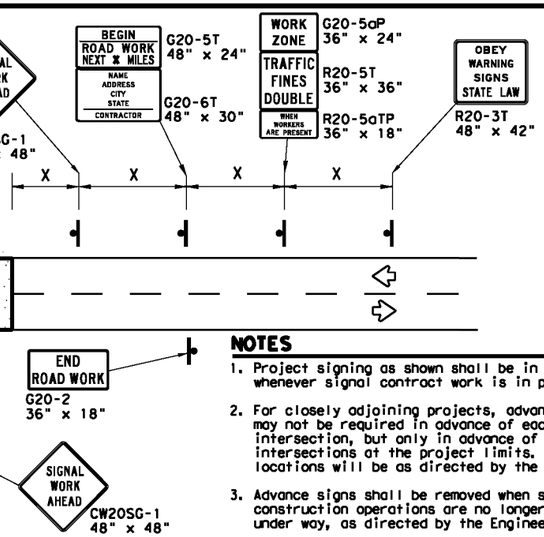
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©TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS	0921	06	400	VAR
2-98 10-99 7-13	DIST	COUNTY		SHEET NO.
4-98 3-03	PHR	CAMERON		31

114

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TYPICAL ADVANCE SIGNAL PROJECT SIGNING

FOR LONG TERM and INTERMEDIATE-TERM STATIONARY WORK OPERATIONS

NOTES

1. Project signing as shown shall be in place whenever signal contract work is in progress.
2. For closely adjoining projects, advance signing may not be required in advance of each intersection, but only in advance of the intersections at the project limits. Actual locations will be as directed by the Engineer.
3. Advance signs shall be removed when signal construction operations are no longer under way, as directed by the Engineer.
4. Warning sign spacing shown is typical for both directions.
5. See the Table on sheet 1 of 2 for Typical warning sign spacing.

GENERAL NOTES FOR WORK ZONE SIGNS

1. Signs shall be installed and maintained in a straight and plumb condition.
2. Wooden sign posts shall be painted white.
3. Barricades shall NOT be used as sign supports.
4. Nails shall NOT be used to attach signs to any support.
5. All signs shall be installed in accordance with the plans or as directed by the Engineer.
6. The Contractor shall furnish the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD).
7. The Contractor shall furnish sign supports and substrates listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD), installed as per the manufacturer's recommendations.
8. Temporary signs that have damaged or cracked substrates and/or damaged or marred reflective sheeting shall be replaced as directed by the Engineer.
9. Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identificotion shall be 1".
10. Damaged wood posts shall be replaced. Splicing wood posts will not be allowed.

DURATION OF WORK

1. Work zone durations are defined in Part 6, Section 6G.02 of the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

SIGN MOUNTING HEIGHT

1. Sign height of Long-term/Intermediate-term warning signs shall be as shown on Figure 6F-1 of the TMUTCD.
2. Sign height of Short-term/Short Duration warning signs shall be as shown on Figure 6F-2 of the TMUTCD.
3. Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

REMOVING OR COVERING

1. When sign messages may be confusing or do not apply, the signs shall be removed or completely covered, unless otherwise approved by the Engineer.
2. When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night without damaging the sign sheeting. Burlap, or heavy materials such as plywood or aluminum shall not be used to cover signs.
3. Duct tape or other adhesive material shall NOT be affixed to a sign face.
4. Signs and anchor stubs shall be removed and holes back filled upon completion of the work.

REFLECTIVE SHEETING

1. All signs shall be retroreflective and constructed of sheeting meeting the requirements of the DMS and color usage table shown on this sheet.

SIGN SUPPORT WEIGHTS

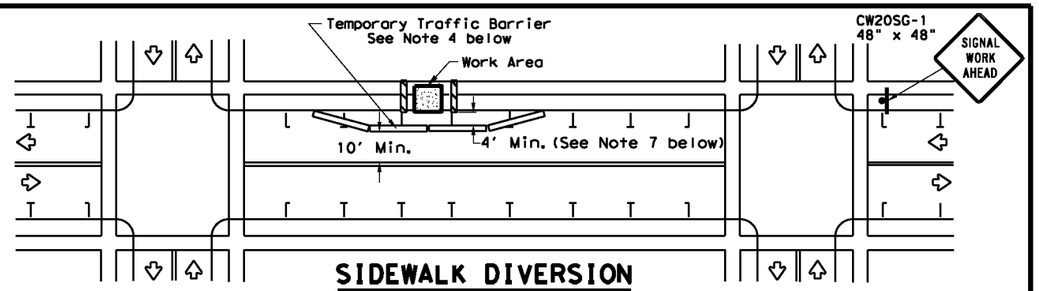
1. Weights used to keep signs from turning over should be sandbags filled with dry, cohesionless material.
2. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
3. Rock, concrete, iron, steel or other solid objects will not be permitted for use as sign support weights.
4. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs.
5. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber, such as tire inner tubes, shall not be used.
6. Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
7. Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fastners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
8. Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

LEGEND	
	Sign
	Channelizing Devices
	Type 3 Barricade

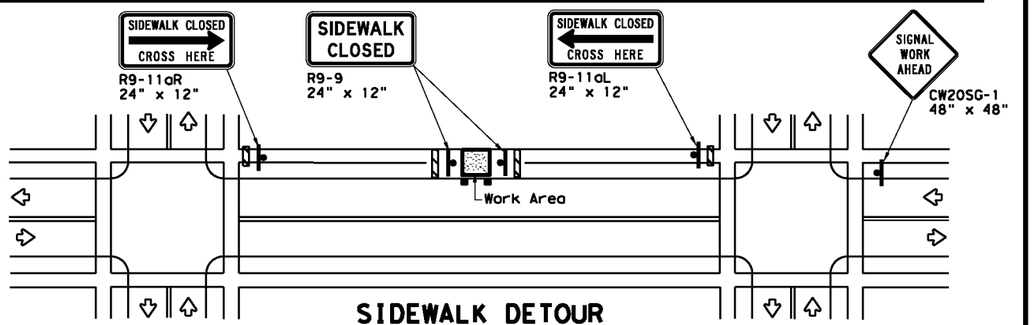
DEPARTMENTAL MATERIAL SPECIFICATIONS	
SIGN FACE MATERIALS	DMS-8300
FLEXIBLE ROLL-UP REFLECTIVE SIGNS	DMS-8310

COLOR	USAGE	SHEETING MATERIAL
ORANGE	BACKGROUND	TYPE B_{FL} OR TYPE C_{FL} SHEETING
WHITE	BACKGROUND	TYPE A SHEETING
BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

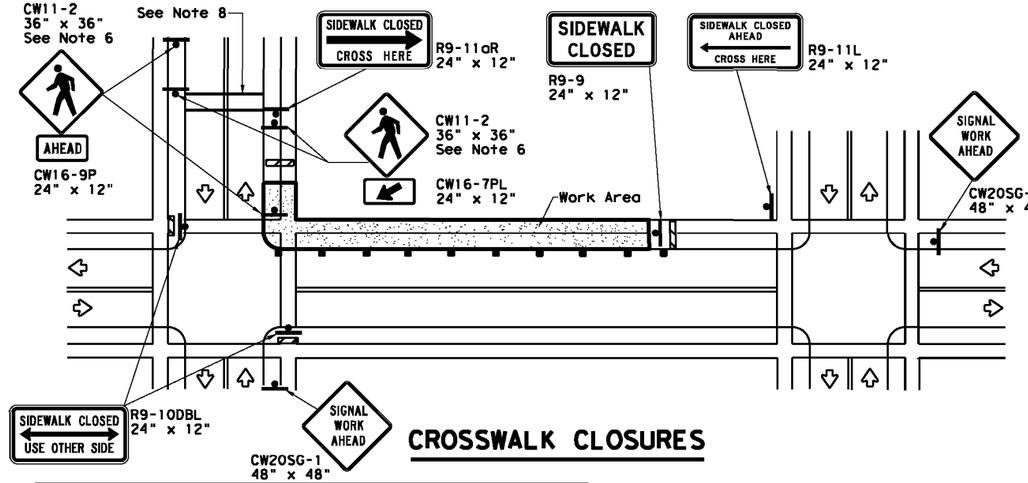
Only pre-qualified products shall be used. A copy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found at the following web address:
http://www.txdot.gov/txdot_library/publications/construction.htm



SIDEWALK DIVERSION



SIDEWALK DETOUR



CROSSWALK CLOSURES

PEDESTRIAN CONTROL

1. Holes, trenches or other hazards shall be adequately protected by covering, delineating or surrounding the hazard with orange plastic pedestrian fencing or longitudinal channelizing devices, or as directed by the Engineer.
2. "CROSSWALK CLOSURES" as detailed above will require the Engineer's approval prior to installation.
3. R9 series signs shown may be placed on supports detailed on the BC standards or CWZTCD list, or when fabricated from approved lightweight plastic substrates, they may be mounted on top of a plastic drum at or near the location shown.
4. For speeds less than 45 mph longitudinal channelizing devices may be used instead of traffic barriers when approved by the Engineer. Attenuation of blunt ends and installation of water filled devices shall be as per BC(9) and manufacturer's recommendations.
5. Location of devices are for general guidance. Actual device spacing and location must be field adjusted to meet actual conditions.
6. Where pedestrians with visual disabilities normally use the closed sidewalk Detectable Pedestrian Barricades should be used instead of the Type 3 Barricades shown.
7. The width of existing sidewalk should be maintained if practical.
8. Pavement markings for mid-block crosswalks shall be paid for under the appropriate bid items.
9. When crosswalks or other pedestrian facilities are closed or relocated, temporary facilities shall be detectable and shall include accessibility features consistent with the features present in the existing pedestrian facility.

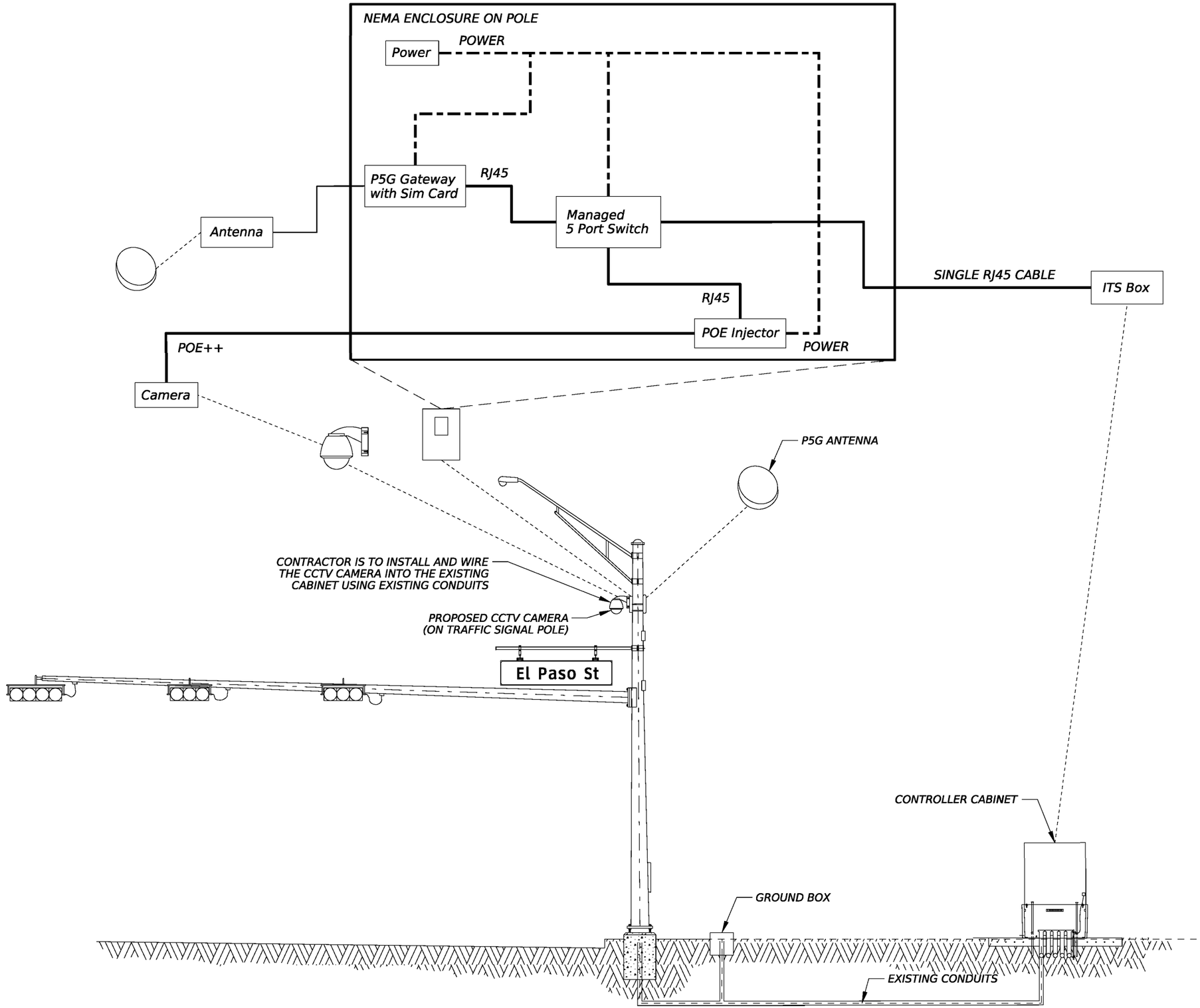
Texas Department of Transportation

Traffic Operations Division Standard

TRAFFIC SIGNAL WORK BARRICADES AND SIGNS

WZ(BTS-2)-13

FILE: wzbts-13.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 1992	CONT	SECT	JOB	HIGHWAY
REVISIONS	0921	06	400	VAR
2-98 10-99 7-13	DIST	COUNTY		SHEET NO.
4-98 3-03	PHR	CAMERON		32



N.T.S.

NOTES:
1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.

3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.

4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INSTALL DETAIL

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	33

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CCTV Camera Install Detail-rev.dgn

CONTRACTORS SHOULD ROUTE CONSTRUCTION QUESTIONS TO THE CITY ENGINEER OR DESIGNEE. POINT OF CONTACT IS:

CARLOS LASTRA P.E.
CARLOS.LASTRA@BROWNSVILLETX.GOV
956-547-6571

THIS PROJECT CONSISTS OF FURNISHING, INSTALLING, CONFIGURING, COMISSIONING AND TESTING FIELD EQUIPMENT WITHIN EXISTING TRAFFIC SIGNAL INFRASTRUCTURE. THE CONSTRUCTION WILL INCLUDE THE FOLLOWING WORK ITEMS:

1. 680-0003 FURNISH & INSTALL CYBERLOCK

- CONTRACTOR TO REMOVE EXISTING MECHANICAL KEY LOCKS FROM TRAFFIC SIGNAL CONTROL CABINETS.
- CONTRACTOR TO FURNISH AND INSTALL CYBER LOCK ELECTRONIC LOCKING DEVICES ON DESIGNATED CABINETS.
- CONTRACTOR TO CONFIGURE AND PROGRAM THE CYBER LOCK SYSTEM, INCLUDING USER ACCESS PERMISSIONS.
- CONTRACTOR TO INTEGRATE AND IMPLEMENT THE CYBER LOCK SYSTEM WITHIN THE GLANCE MANAGEMENT PLATFORM TO ENABLE CENTRALIZED ACCESS CONTROL, MONITORING, AND AUDIT FUNCTIONALITY.
- CONTRACTOR TO TEST AND VERIFY PROPER OPERATION OF ALL INSTALLED CYBER LOCK COMPONENTS.
- CONTRACTOR TO RETURN MECHANICAL LOCKS TO CITY.

2. 6018-0002 CCTV FIELD EQUIPMENT (DIGITAL) (ARTIFICIAL INTELLIGENCE)

- CONTRACTOR TO FURNISH AND INSTALL CLOSED-CIRCUIT TELEVISION (CCTV) CAMERAS AT DESIGNATED TRAFFIC SIGNAL LOCATIONS.
  DESIGNATED TRAFFIC SIGNAL LOCATIONS.
- CONTRACTOR TO PROVIDE ALL MOUNTING HARDWARE AND ACCESSORIES NECESSARY FOR SECURE INSTALLATION. ANY OTHER ITEMS NECESSARY TO MEET ACCEPTANCE CRITERIA, WHETHER LISTED EXPLICITY OR NOT, WILL BE PROVIDED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE A FULLY OPERATIONAL, SECURE, AND INTEGRATED SOLUTION, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, LICENSES, SOFTWARE, TESTING, DOCUMENTATION, AND TRAINING NECESSARY FOR SUCCESSFUL DEPLOYMENT.

0921-06-400 – Brownsville Traffic Monitoring & Management of Signalized Roads

- CONTRACTOR TO INSTALL AND ROUTE COMMUNICATION AND POWER CABLING FROM EACH CAMERA TO THE ASSOCIATED PROCESSOR OR EQUIPEMENT LOCATED INSIDE THE TRAFFIC SIGNAL CONTROL CABINET, WHERE CABLING PASSES THROUGH PULL BOXES OR GROUND BOXES, AND PROVIDE A MINIMUJM OF FIVE (5) FEET OF SERVICE SLACK.
- CONTRACTOR TO TERMINATE, LABEL, AND TEST ALL CABLING TO ENSURE RELIABLE VIDEO TRANSMISSION AND SYSTEM FUNCTIONALITY.
- CONTRACTOR TO CONNECT TO P5G GATEWAYS WITH E-SIM COMPATIBLE AND DUAL SIM, ANTENNAS AND ALL OTHER NECESSARY EQUIPEMENT TO CONNECT THE CCTV CAMERAS TO CITY SYSTEMS.
- THE SYSTEM MUST BE PHYSICALLY INSTALLED AT ALL DESIGNATED LOCATIONS, POWERED, NETWORKED, AND SECURED.
- THE SYSTEM WILL BE CONNECTED TO THE CITY'S PRIVATE 5G NETWORK AND INTEGRATED INTO THE GLANCE MANAGEMENT SYSTEM.
- THE SYSTEM MUST BE ACCESSIBLE TO CITY USERS, INTERGRATED WITH SSO SETUP AND OPERATING CONTINOUSLY UNDER NORMAL CONDITIONS. IT MUST HAVE PASSED ALL TESTING AND VALIDATION REQUIREMETNS AND BEEN FORMALLY ACCEPTED BY THE CITY IN WRITING.
- CONTRACTOR TO DELIVER ALL OF THE FOLLOWING ITEMS TO THE CITY OF BROWNSVILLE:
  - ACCEPTANCE TEST REPORT (CITY APPROVED)
  - AS-BUILT DRAWINGS AND CABINET LAYOUTS
  - NETWORK AND CONFIGURATION DOCUMENTATION
  - INVENTORY OF ALL INSTALLED EQUIPMENT
  - CREDENTIAL HANDOFF DOCUMENTATION
  - WARRANTY AND SUPPORT DOCUMENTATION

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/23/26

BROWNSVILLE

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TRAFFIC NOTES

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	34

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TRAFFIC_NOTES (1 OF 2).dgn

3. 680-0006 TRAFFIC SIGNAL CONTROLLER

- CONTRACTOR TO REMOVE THE EXISTING TRAFFIC SIGNAL CONTROLLER FROM THE TRAFFIC SIGNAL CONTROL CABINET.
- CONTRACTOR TO FURNISH AND INSTALL A NEW TRAFFIC SIGNAL CONTROLLER INCLUDING ALL REQUIRED HARDWARE, BRACKETS, AND ACCESSORIES.
- THE CITY OF BROWNVILLE WILL REPLACE ALL TRAFFIC SIGNAL CONTROLLERS. DUE TO THIS CHANGE, ALL SIGNAL TIMING DATABASES WILL NEED TO BE CONVERTED TO WORK WITH THE NEW TRAFFIC SIGNAL CONTROLLER SOFTWARE.
- THE SELECTED CONTRACTOR WILL BE RESPONSIBLE FOR CONVERTING THE DATABASES AND PROVIDING THESE DATABASES TO THE CITY OF BROWNVILLE FOR AN OFFICIAL REVIEW SUBMITTAL. THE REVIEW SUBMITTAL SHOULD CONTAIN A MAXIMUM OF 50 INTERSECTIONS PER SUBMITTAL. AS PART OF THE REVIEW PROCESS, THE CITY WILL REVIEW ALL DATABASES FOR THE ACCURACY/CORRECTNESS OF INTERSECTION SIGNAL TIMING PARAMETERS AND MAKE ANY CHANGES DEEMED NECESSARY. AFTER THE CITY COMPLETES THE REVIEW OVER A 7- TO 14-DAY PERIOD, APPROVED DATABASES WILL BE RETURNED TO THE CONTRACTOR.
- CONTRACTOR WILL NOT IMPLEMENT ANY CONTROLLER DATABASES WITHOUT REVIEW, APPROVAL, AND AUTHORIZATION FROM THE CITY OF BROWNSVILLE.
- CONTRACTOR TO COPY, TRANSFER, AND LOAD ALL EXISTING CONTROLLER DATA FROM THE OLD CONTROLLER TO THE NEW CONTROLLER, INCLUDING BUT NOT LIMITED TO:
  - TIMING PLANS
  - PHASE CONFIGURATION
  - COORDINATION PARAMETERS
  - DETECTOR ASSIGNMENTS
  - COMMUNICATION SETTINGS
- CONTRACTOR TO CONFIGURE AND VERIFY ALL CONTROLLER SETTINGS DIRECTLY AT THE CABINET TO MATCH THE EXISTING OPERATIONAL PARAMETERS AND ENSURE UNINTERRUPTED TRAFFIC OPERATIONS.
- CONTRACTOR TO TEST ALL CONTROLLER FUNCTIONS, INCLUDING LOCAL OPERATION, COORDINATION, DETECTION, AND COMMUNICATIONS, TO CONFIRM PROPER PERFORMANCE.
- CONTRACTOR TO DELIVER THE REMOVED TRAFFIC SIGNAL CONTROLLER TO THE CITY OF BROWNSVILLE FOR DISPOSAL IN ACCORDANCE WITH CITY POLICIES.

0921-06-400 – Brownsville Traffic Monitoring & Management of Signalized Roads

CITY OF BROWNSVILLE PREEMPTION PLAN

STANDARD INTERSECTION
PRE-EMPT 1 – N/A
PRE-EMPT 2 – N/A
PRE-EMPT 3 – DWELL PHASES WESTBOUND
PRE-EMPT 4 – DWELL PHASES EASTBOUND
PRE-EMPT 5 – DWELL PHASES NORTHBOUND
PRE-EMPT 6 – DWELL PHASES SOUTHBOUND
PRE-EMPT 7,8… - ADDITIONAL APPROACHES
ENTRANCE TIMING FOR ALL PRE-EMPTION SHOULD MATCH WHAT IS IN CURRENT INTERSECTION. THIS IS THE STANDARD FOR ALL INTERSECTIONS BUT INTERSECTIONS WITH DIFFERENT SEQUENCES SHOULD BE HANDLED CASE BY CASE.

DIAMOND INTERSECTION
PRE-EMPT 1 – N/A
PRE-EMPT 2 – N/A
PRE-EMPT 3 – DWELL PHASES WESTBOUND
PRE-EMPT 4 – DWELL PHASES EASTBOUND
PRE-EMPT 5 – DWELL PHASES NORTHBOUND
PRE-EMPT 6 – DWELL PHASES SOUTHBOUND
PRE-EMPT 7,8… - ADDITIONAL APPROACHES
ENTRANCE TIMING FOR ALL PRE-EMPTION SHOULD MATCH WHAT IS IN CURRENT INTERSECTION. THIS IS THE STANDARD FOR ALL INTERSECTIONS BUT INTERSECTIONS WITH DIFFERENT SEQUENCES SHOULD BE HANDLED CASE BY CASE.

STATE OF TEXAS
BRIAN G. CASTILLE
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LICENSED PROFESSIONAL ENGINEER
3/23/26

BROWNSVILLE

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TRAFFIC NOTES

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	35

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LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
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LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ALTON GLOOR BLVD AT LAKEWAY DR

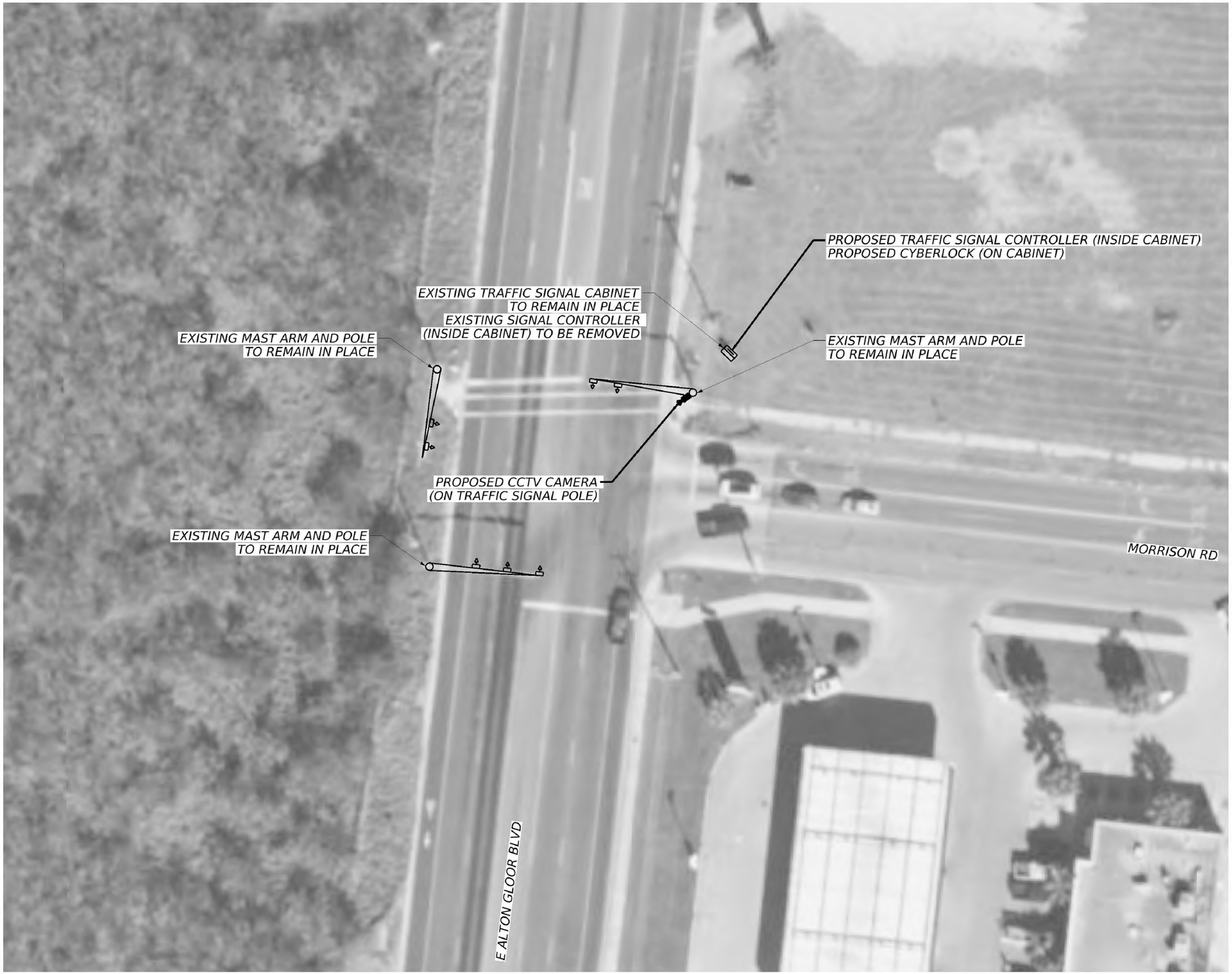
INTERSECTION 001

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	36

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PROP SIG 001 ALTON GLOOR AT LAKEWAY DRIVE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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E ALTON GLOOR BLVD AT MORRISON RD

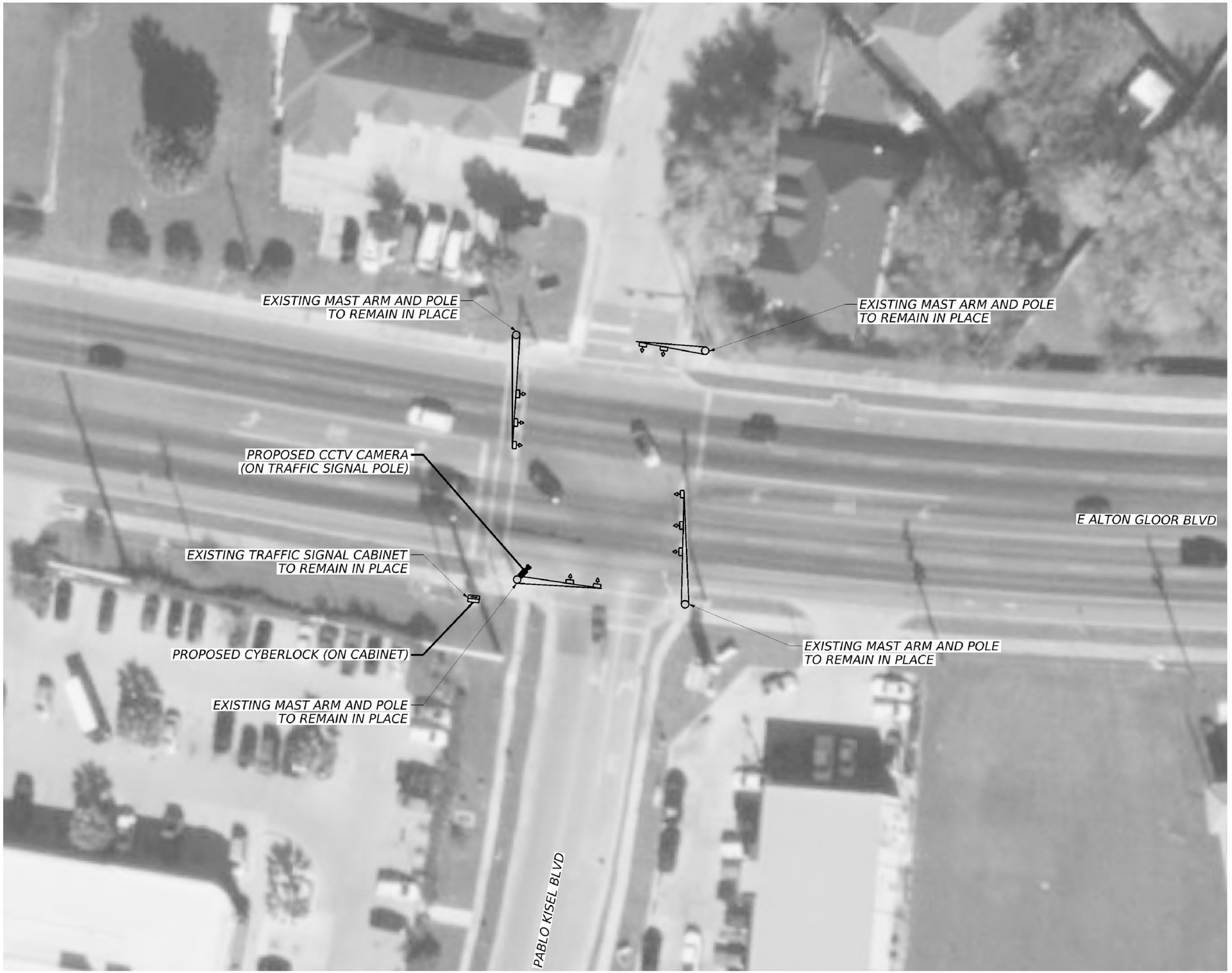
INTERSECTION 002

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	37

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PROP SIG 002 ALTON GLOOR AT MORRISON RD CSJ 400.dgn



LEGEND

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E ALTON GLOOR BLVD AT PABLO KISEL BLVD

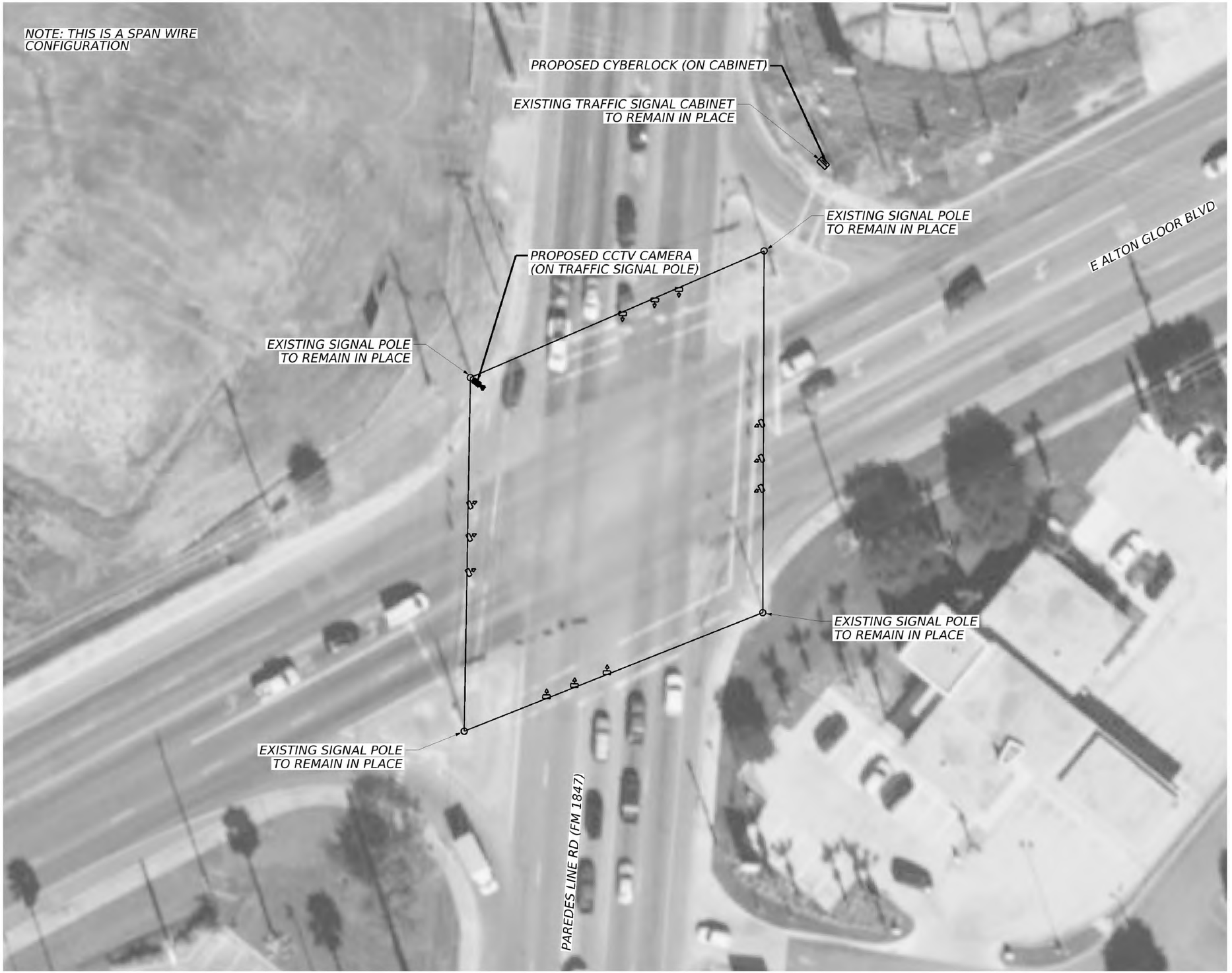
INTERSECTION 003

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	38

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PROP SIG 003 ALTON GLOOR BLVD AT PABLO KISEL BLVD CSJ 400.dgn



LEGEND

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Land Surveying Firm No. 10048700

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E ALTON GLOOR BLVD AT PAREDES LINE RD (FM 1847)

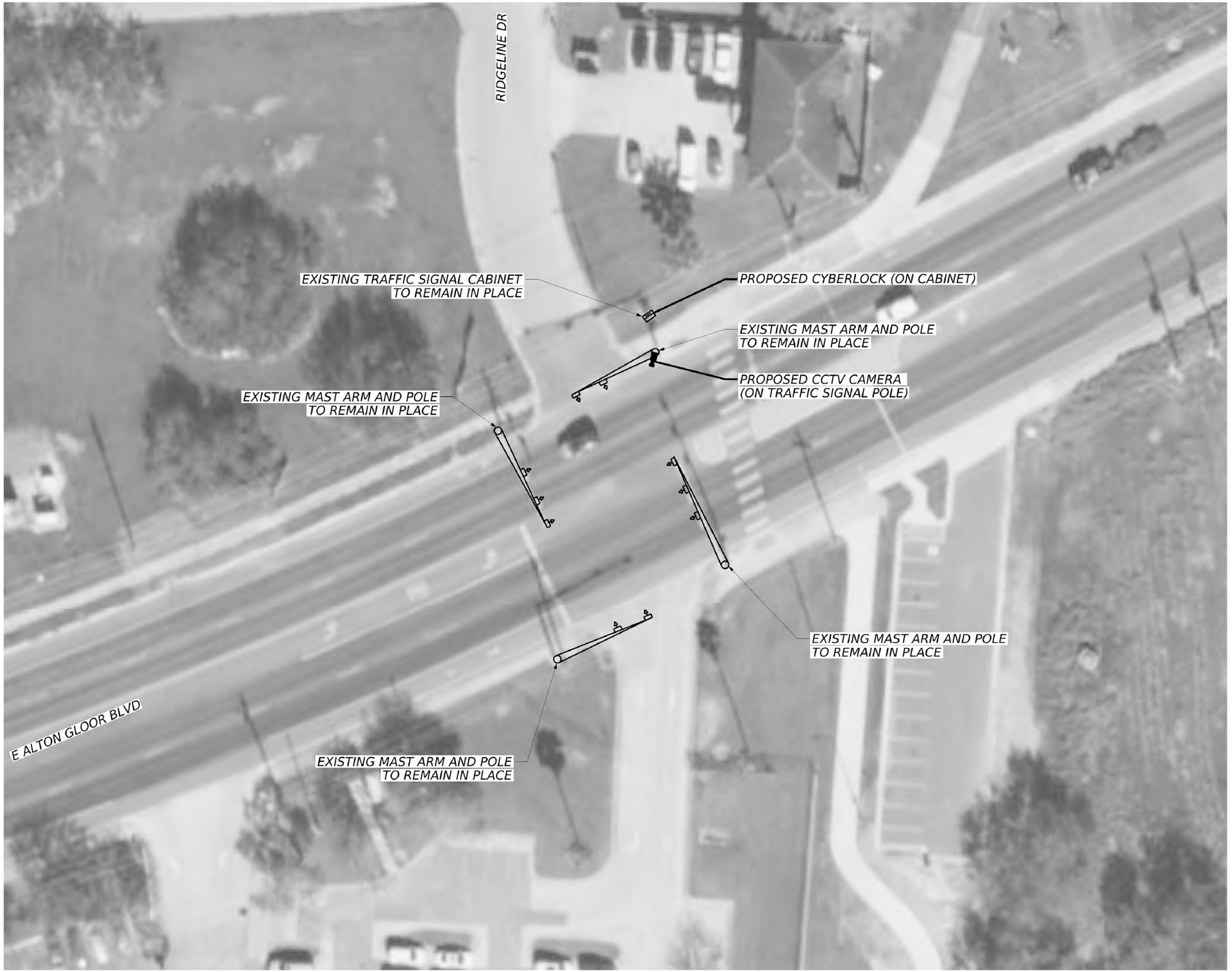
INTERSECTION 004

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	39

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PROP SIG 004 ALTON GLOOR BLVD AT PAREDES LINE RD_FM 1847 CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ALTON GLOOR BLVD AT RIDGELINE DR

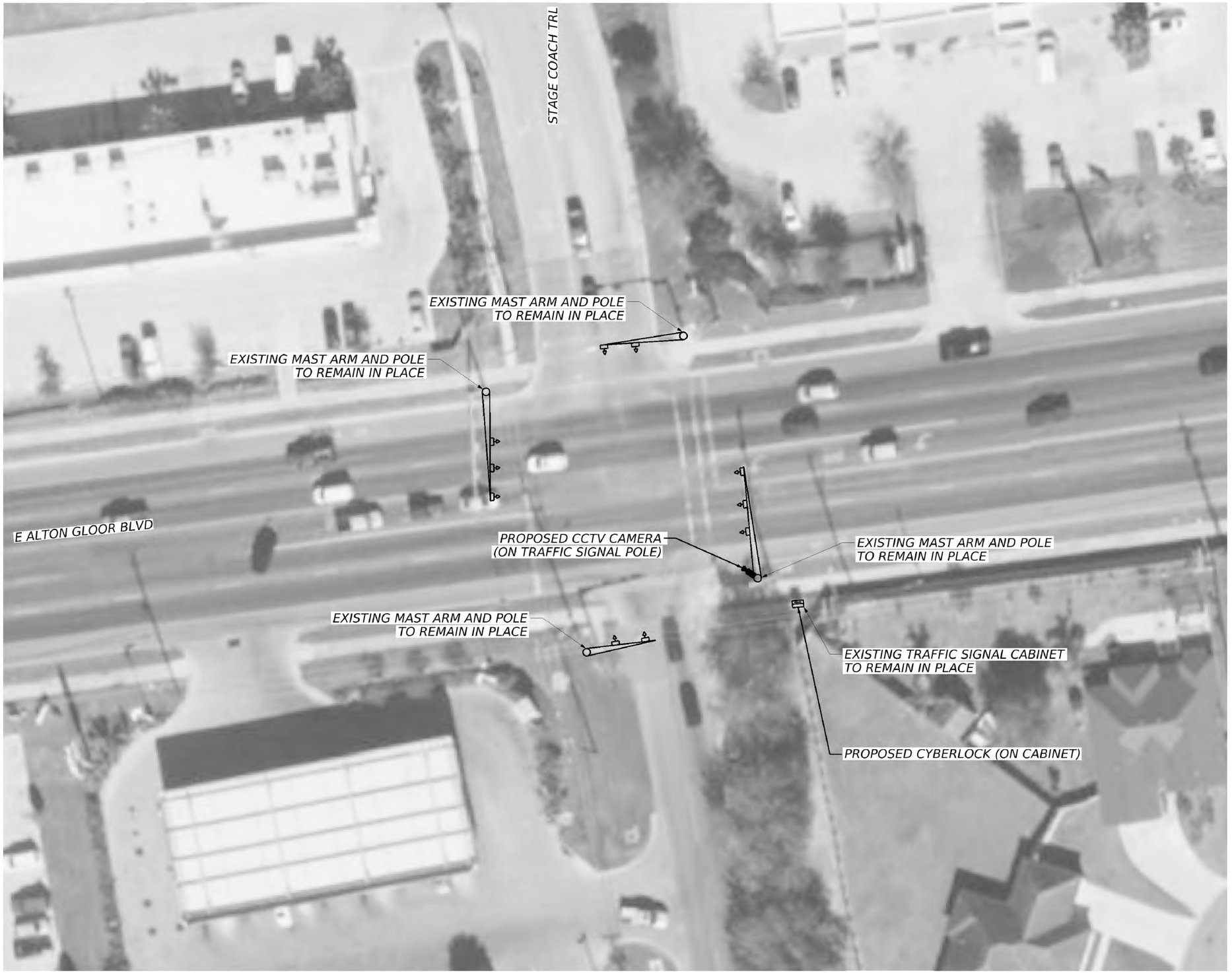
INTERSECTION 005

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	40

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PROP SIG 005 ALTON GLOOR BLVD AT RIDGELINE DRIVE CSJ 400.dgn



LEGEND

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PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E ALTON GLOOR BLVD AT STAGE COACH TRL

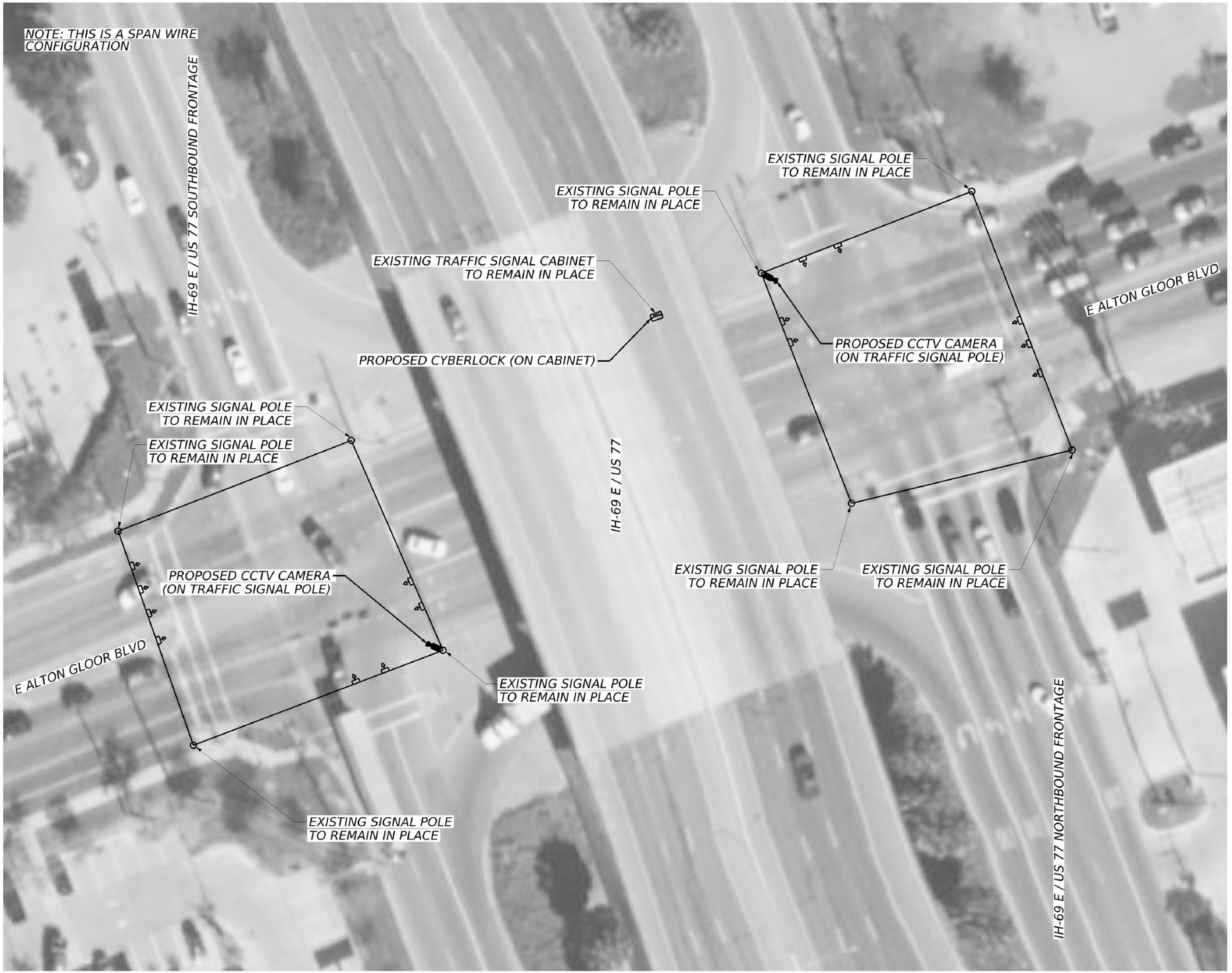
INTERSECTION 006

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	41

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PROP SIG 006 ALTON GLOOR BLVD AT STAGE COACH TR CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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- PROPOSED CCTV CAMERA

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STATE OF TEXAS
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03/06/2026

BROWNSVILLE

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E ALTON GLOOR BLVD AT IH-69E / US 77

INTERSECTION 007

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	42

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PROP SIG 007 ALTON GLOOR AT IH-69E - US 77 CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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03/06/2026

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E ALTON GLOOR BLVD AT WESTRAIL TRL

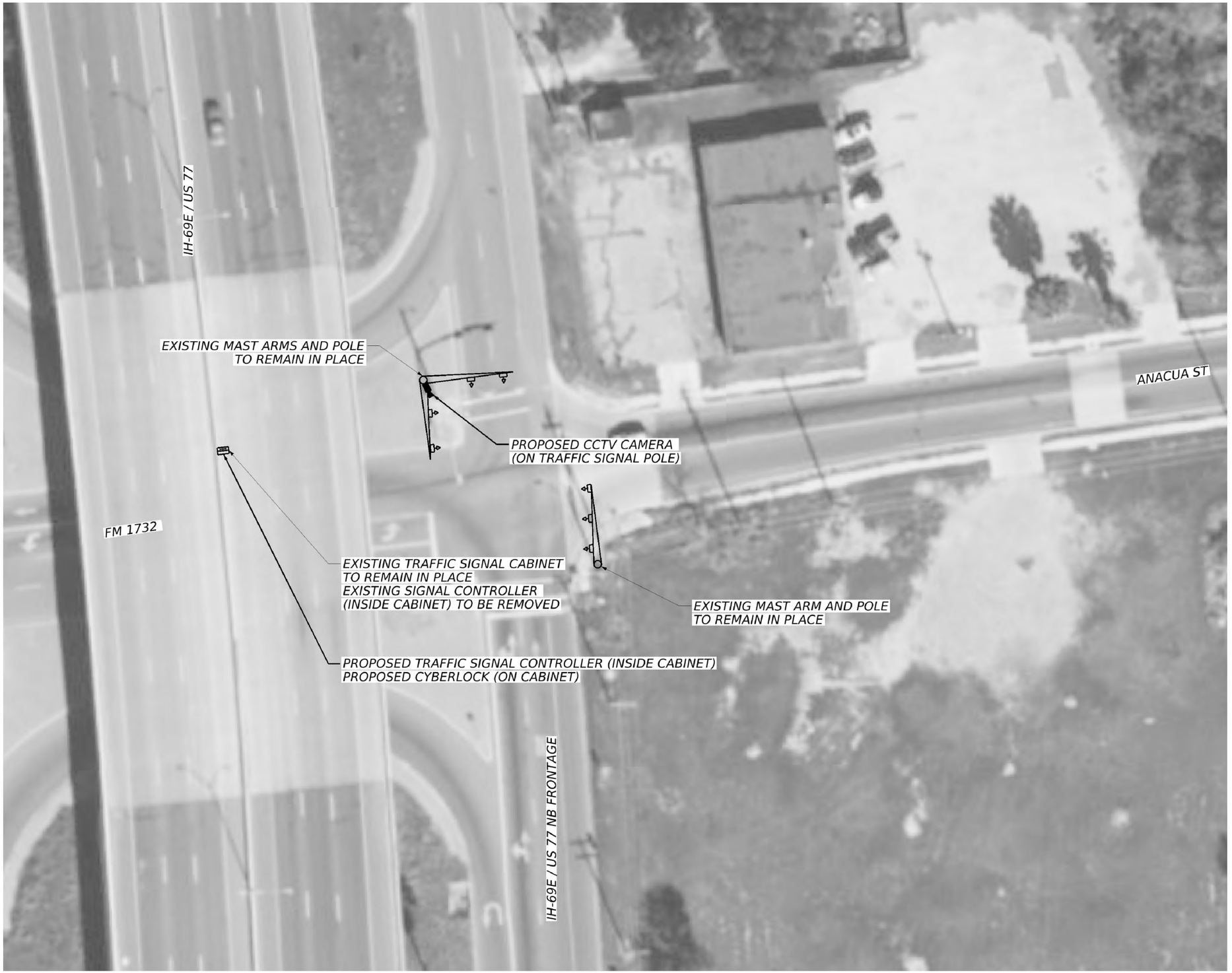
INTERSECTION 008

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	43

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PROP SIG 008 ALTON GLOOR BLVD AT WEST RAIL TR CSJ 400.dgn



LEGEND

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ANACUA ST - FM 1732 AT IH-69E / US 77 NB FRONTAGE

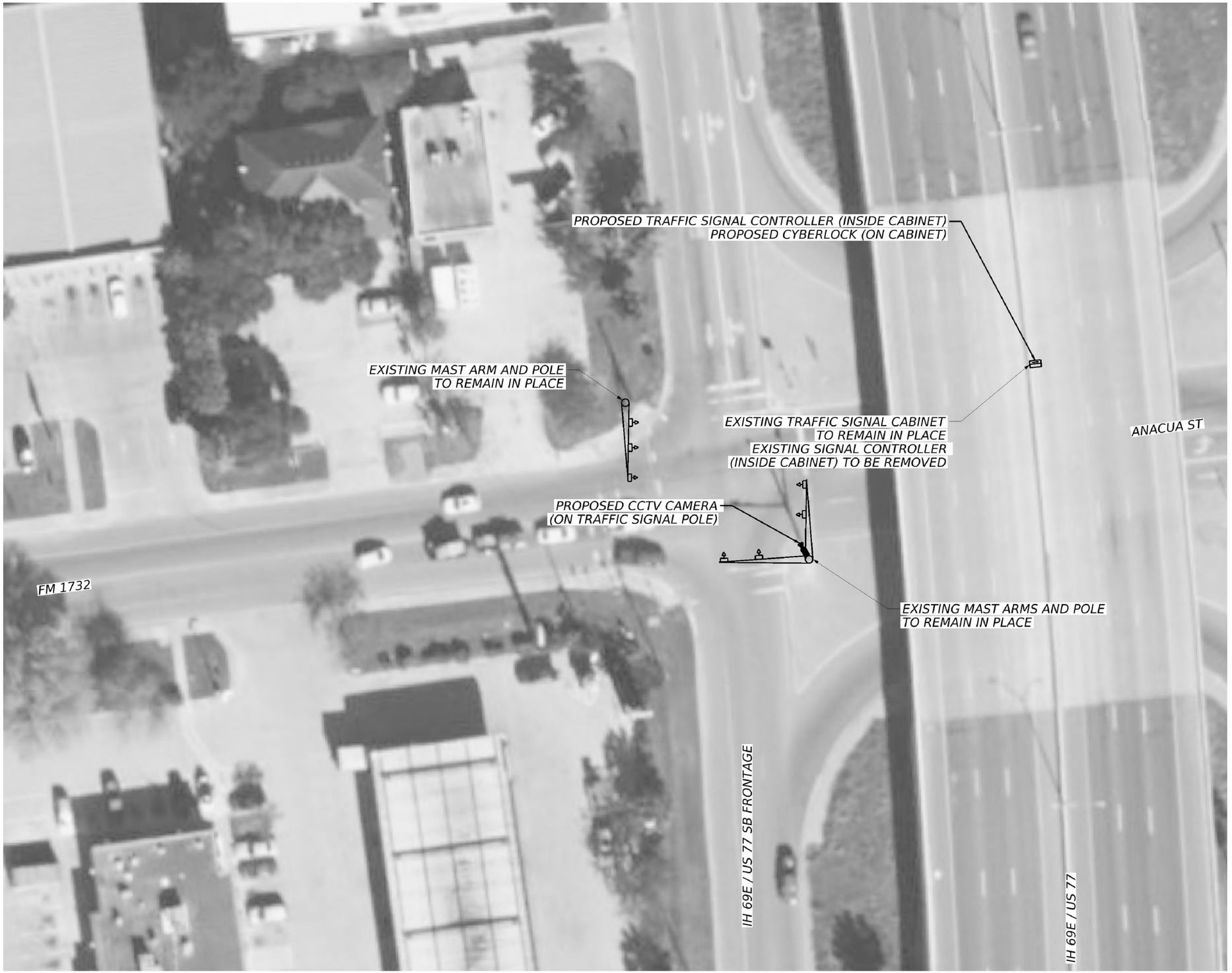
INTERSECTION 009

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	44

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PROP SIG 009A ANACUA ST AT IH-69E_US 77 (NORTH FRONTAGE) CSJ 400.dgn



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ANACUA ST - FM 1732 AT
IH-69E / US 77 SB FRONTAGE

INTERSECTION 009

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	45

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PROP SIG 009B ANACUA ST AT IH-69E_US 77 (SOUTH FRONTAGE) CSJ 400.dgn



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STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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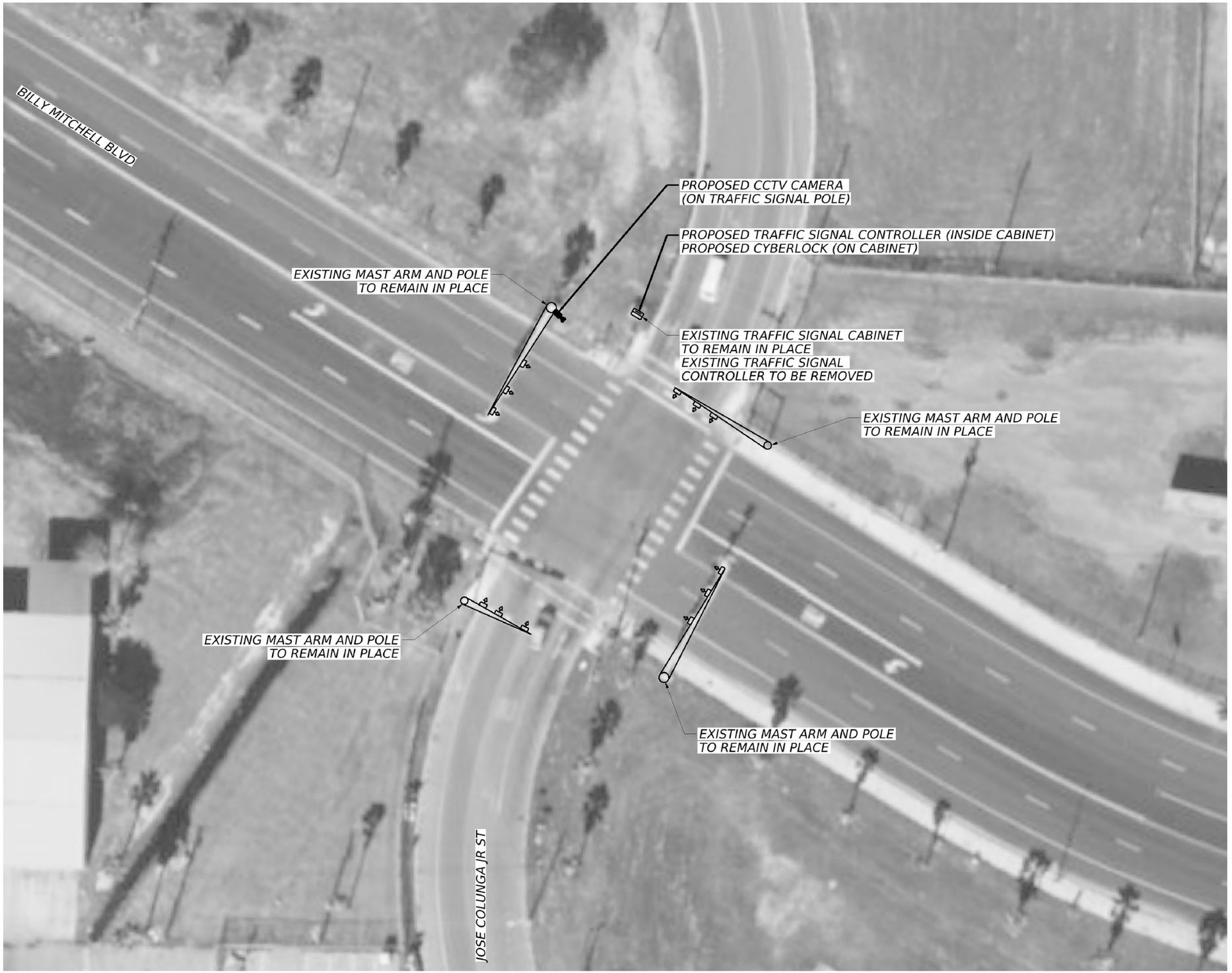
BILLY MITCHELL BLVD AT S CENTRAL AVE

INTERSECTION 010

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	46

3/6/2026 4:37:17 PM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509.010-02.TO4 Traffic Monitoring\400_CAD\409_Traffic\02_Sheets\10-Signals\PROP SIG 010 BILLY MITCHELL BLVD AT CENTRAL AVE CSJ 400.dgn
PROP SIG 010 BILLY MITCHELL BLVD AT CENTRAL AVE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.

3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.

4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40
1" = 40'

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BILLY MITCHELL BLVD AT JOSE COLUGNA JR ST

INTERSECTION 011

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	47

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PROP SIG 011 BILLY MITCHELL BLVD JOSE COLUNGA JR CSJ 400.dgn



LEGEND

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- EXISTING CABINET
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BOCA CHICA BLVD AT BARNARD RD
INTERSECTION 012
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	48

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PROP SIG 012 BOCA CHICA BLVD AT BARNARD RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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- EXISTING TRAFFIC SIGNAL HEAD
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BOCA CHICA BLVD AT BILLY MITCHELL BLVD

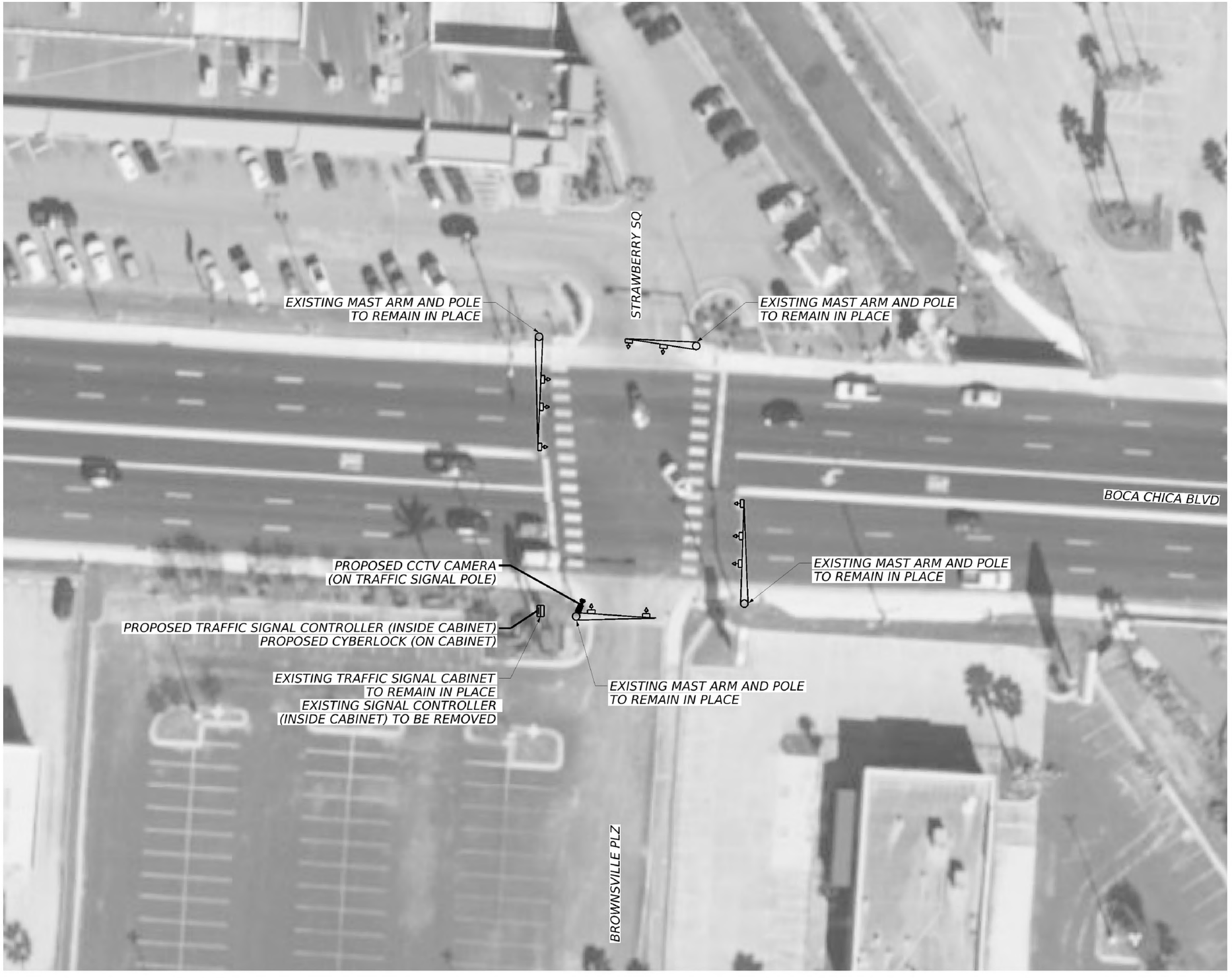
INTERSECTION 013

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	49

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PROP SIG 013 BOCA CHICA BLVD AT BILLY MITCHELL BLVD CSJ 400.dgn



LEGEND

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BOCA CHICA BLVD AT BROWNSVILLE PLZ/STRAWBERRY SQ

INTERSECTION 014

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	50

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PROP SIG 014 BOCA CHICA AT BROWNSVILLE PLAZA CSJ 400.dgn



LEGEND

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BOCA CHICA BLVD AT CALLE CENIZO

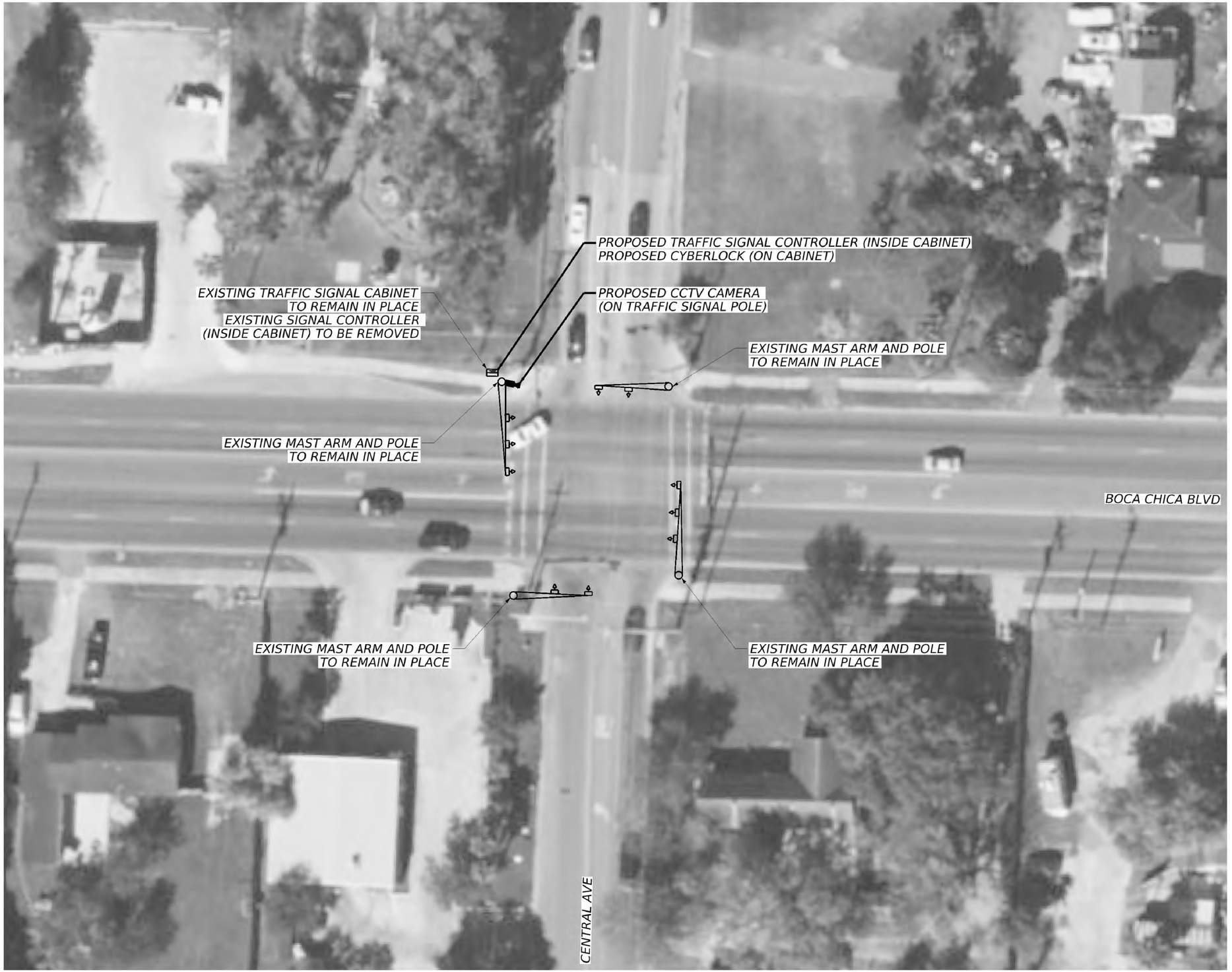
INTERSECTION 015

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	51

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PROP SIG 015 BOCA CHICA AT CALLE CENIZO CSJ 400.dgn



LEGEND

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BOCA CHICA BLVD AT CENTRAL AVE

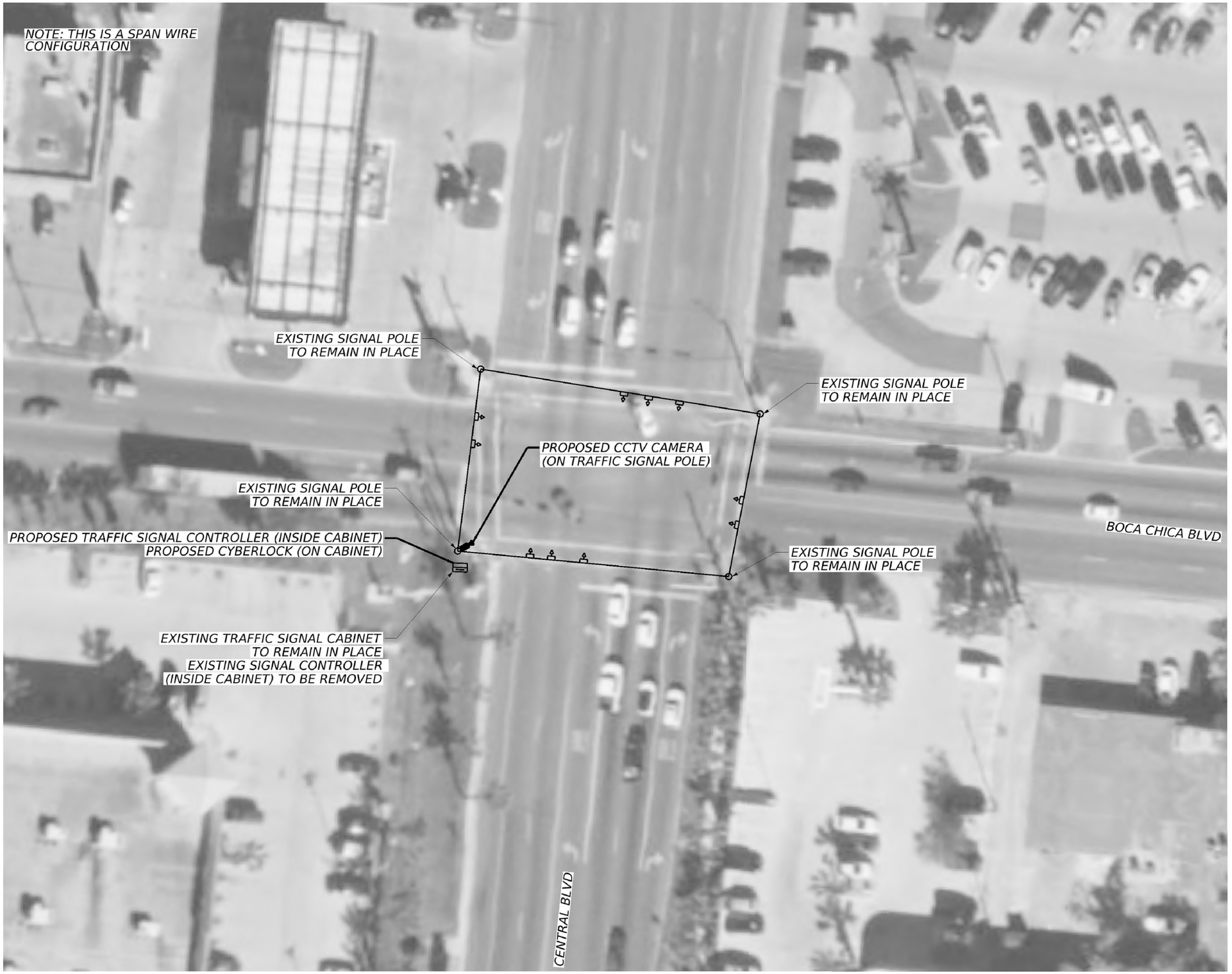
INTERSECTION 016

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	52

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PROP SIG 016 BOCA CHICA AT CENTRAL AVE CSJ 400.dgn



LEGEND

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BOCA CHICA BLVD AT CENTRAL BLVD

INTERSECTION 017

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	53

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PROP SIG 017 BOCA CHICA AT CENTRAL BLVD CSJ 400.dgn



LEGEND

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BOCA CHICA BLVD AT CORIA ST

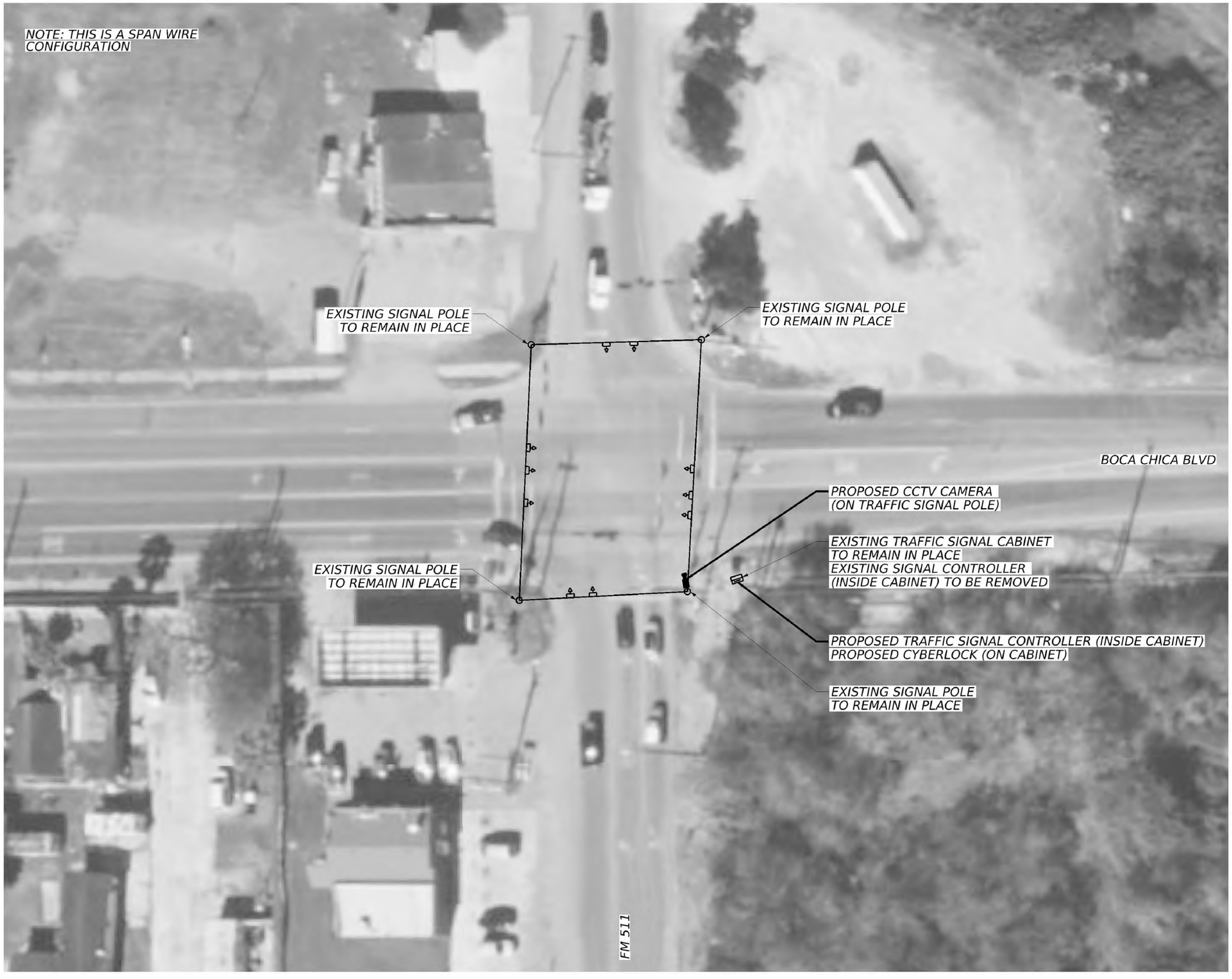
INTERSECTION 018

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	54

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PROP SIG 018 BOCA CHICA AT CORIA ST CSJ 400.dgn



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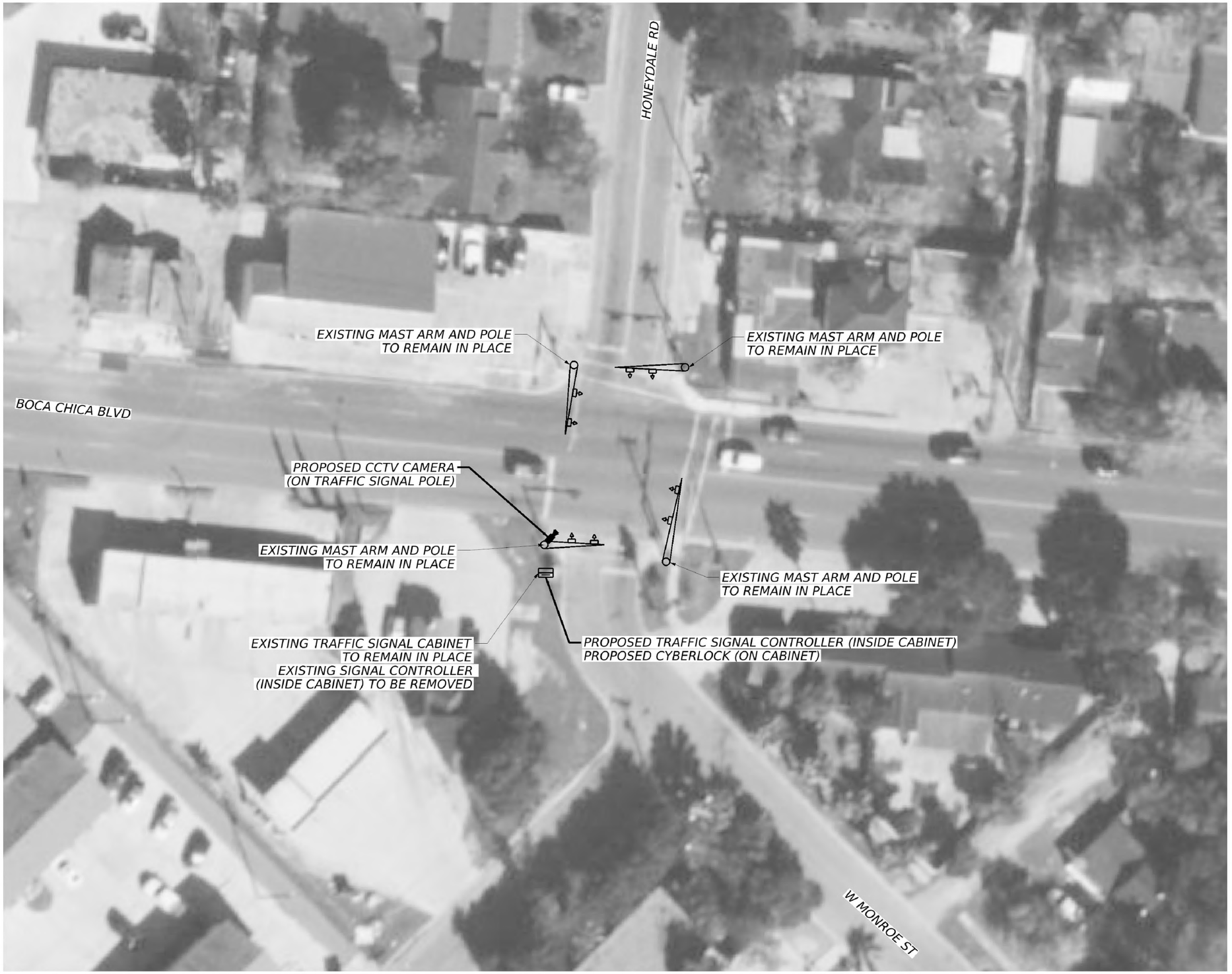
BOCA CHICA BLVD AT FM 511

INTERSECTION 019

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	55

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PROP SIG 019 BOCA CHICA AT FM 511 CSJ 400.dgn



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BOCA CHICA BLVD AT
HONEYDALE RD - W MONROE ST

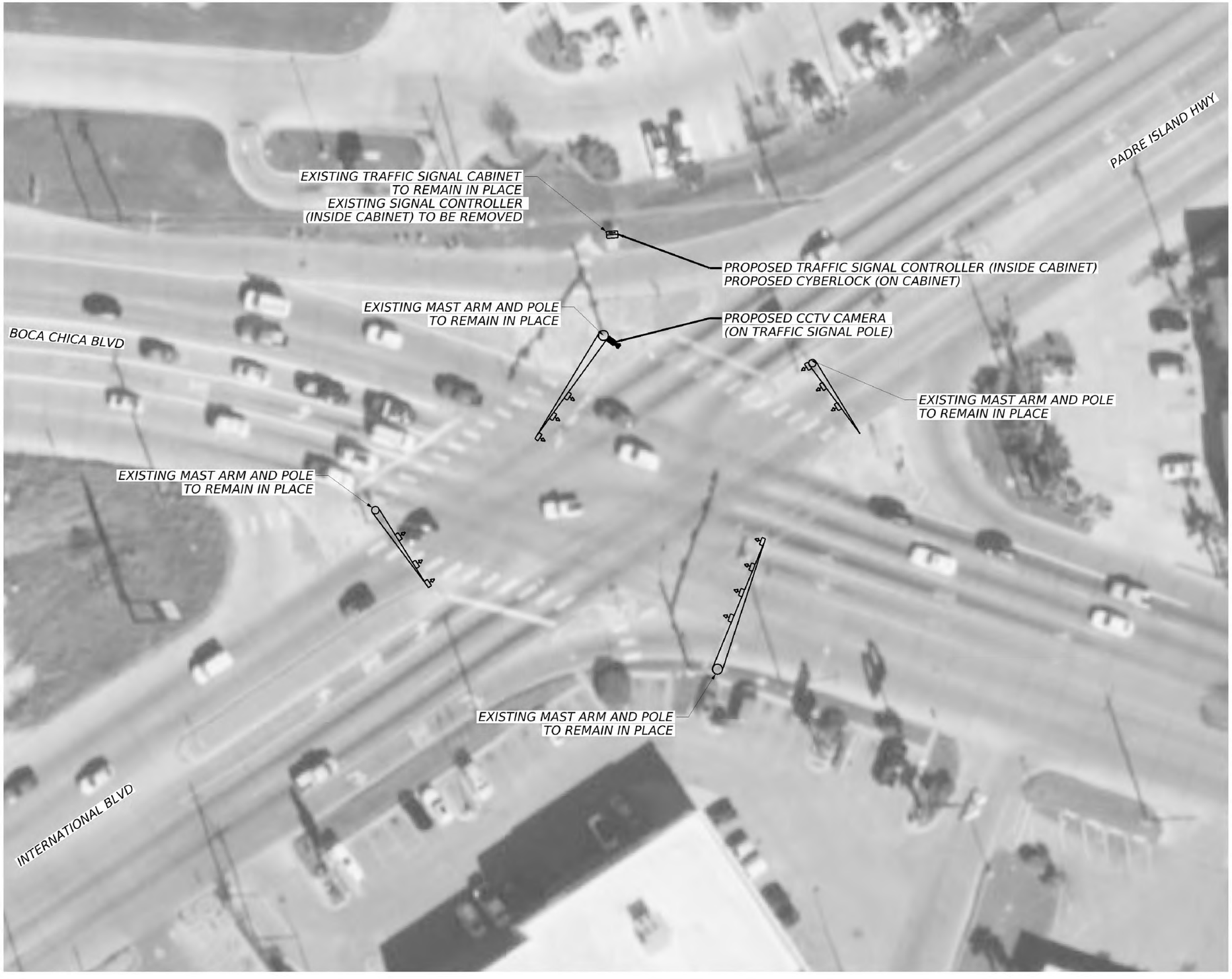
INTERSECTION 020

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	56

3/5/2026 9:39:27 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 020 BOCA CHICA AT HONEYDALE RD - WEST MONROE ST CSJ 400.dgn

PROP SIG 020 BOCA CHICA AT HONEYDALE RD - WEST MONROE ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274
Land Surveying Firm No. 10046700

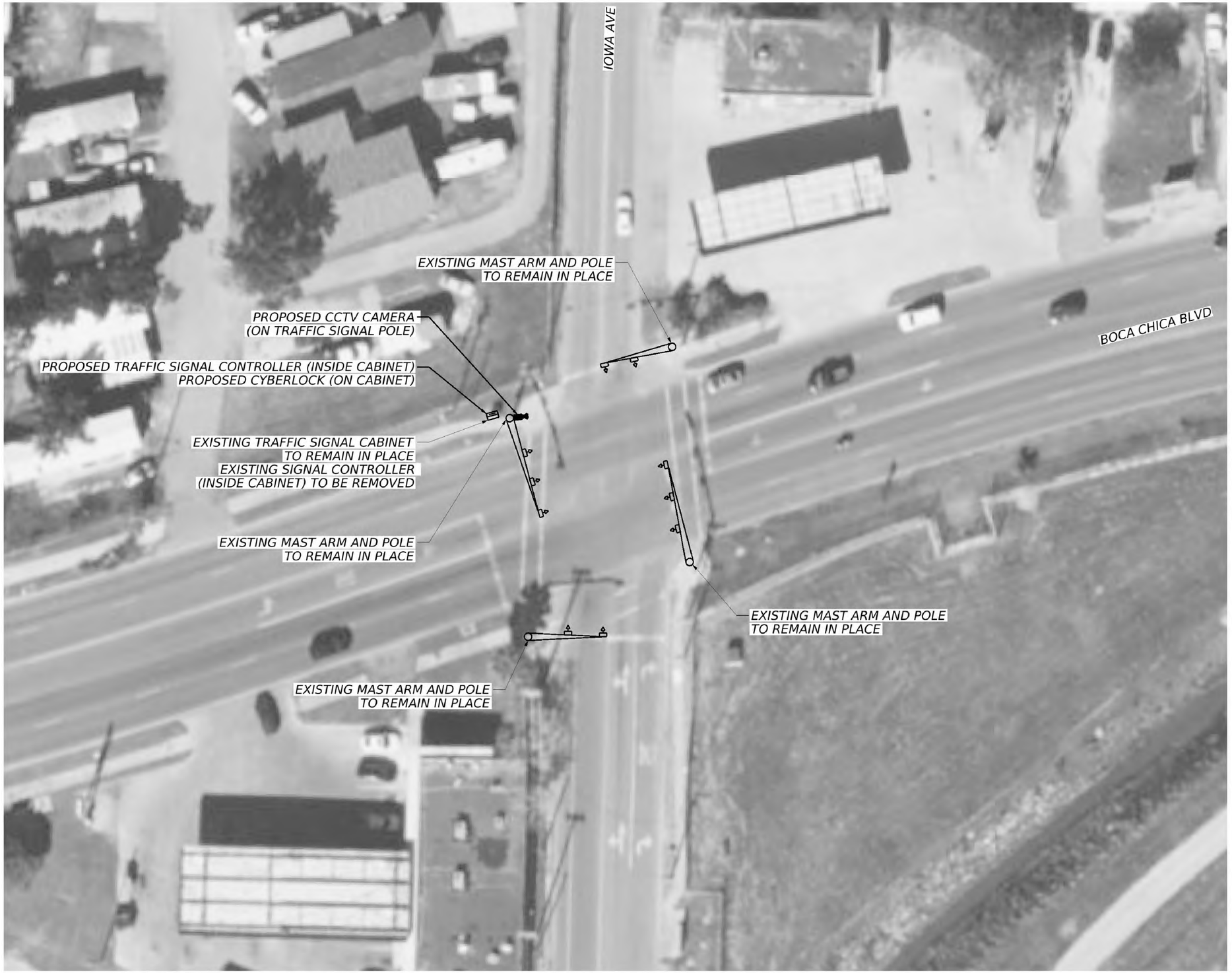
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BOCA CHICA BLVD AT
INTERNATIONAL BLVD - PADRE ISLAND HWY
INTERSECTION 021
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	57

3/5/2026 9:39:44 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-T04 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 021 BOCA CHICA BLVD AT INTERNATIONAL BLVD AND PADRE ISLAND HWY CSJ 400.dgn

PROP SIG 021 BOCA CHICA BLVD AT INTERNATIONAL BLVD AND PADRE ISLAND HWY CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER

03/06/2026

BROWNSVILLE

CobbFendley

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Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT IOWA AVE

INTERSECTION 022

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	58

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PROP SIG 022 BOCA CHICA BLVD AT IOWA AVE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
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Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT
N MINNESOTA AVE

INTERSECTION 024

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	59

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PROP SIG 024 BOCA CHICA BLVD AT MINNESOTA AVE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT OLD ALICE RD

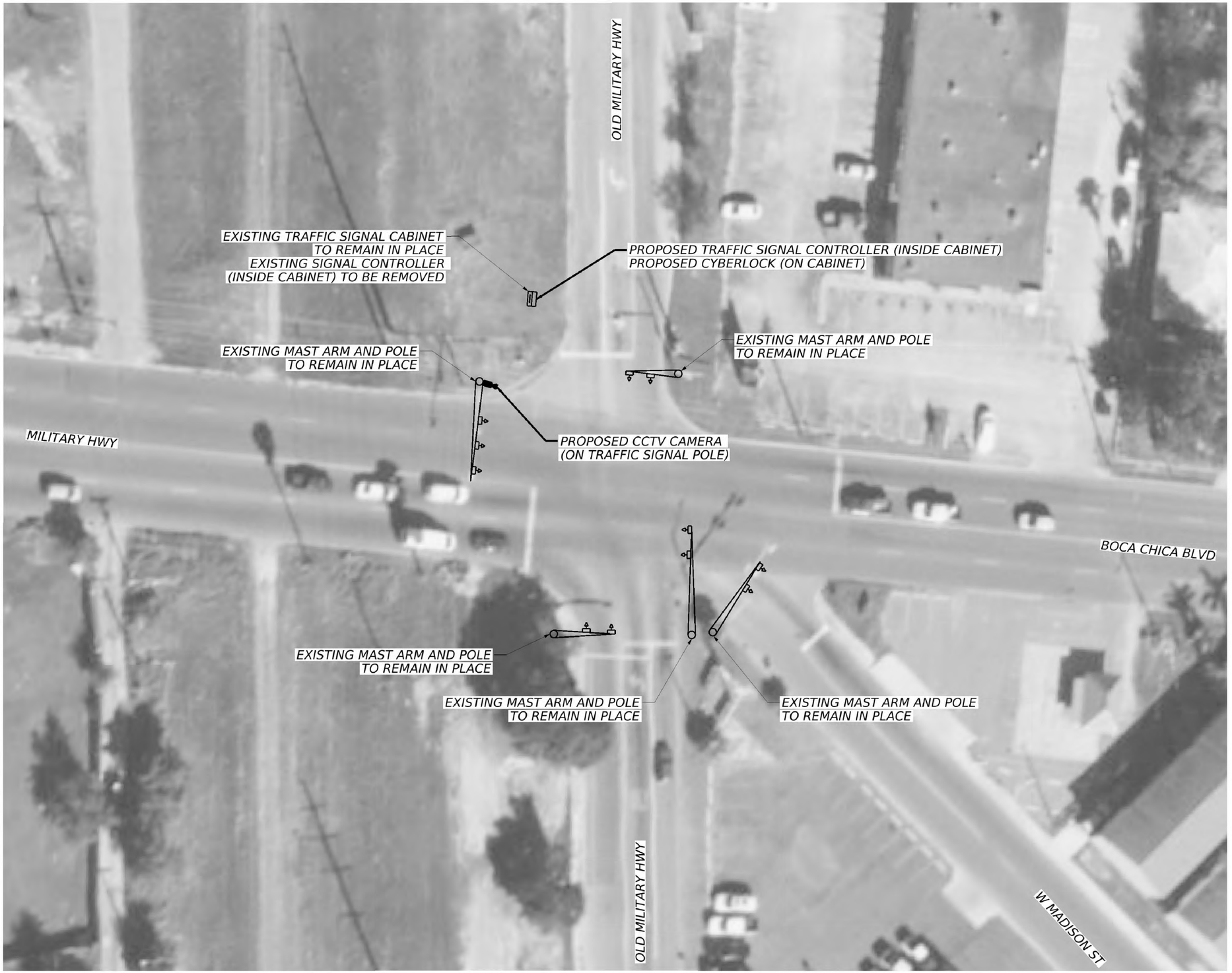
INTERSECTION 025

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	60

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PROP SIG 025 BOCA CHICA BLVD AT OLD ALICE RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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0 10 20 40
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STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT OLD MILITARY HWY - W MADISON ST

INTERSECTION 026

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	61

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PROP SIG 026 BOCA CHICA BLVD AT OLD MILITARY HWY AND MADISON ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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STATE OF TEXAS
CARRIE A. JAEGER
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03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT OLD PORT ISABEL RD / MCDAVITT BLVD

INTERSECTION 027

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	62

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PROP SIG 027 BOCA CHICA BLVD AT OLD PORT ISABEL RD AND MCDAVITT BLVD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER

03/06/2026

BROWNSVILLE

CobbFendley

TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT OWENS RD

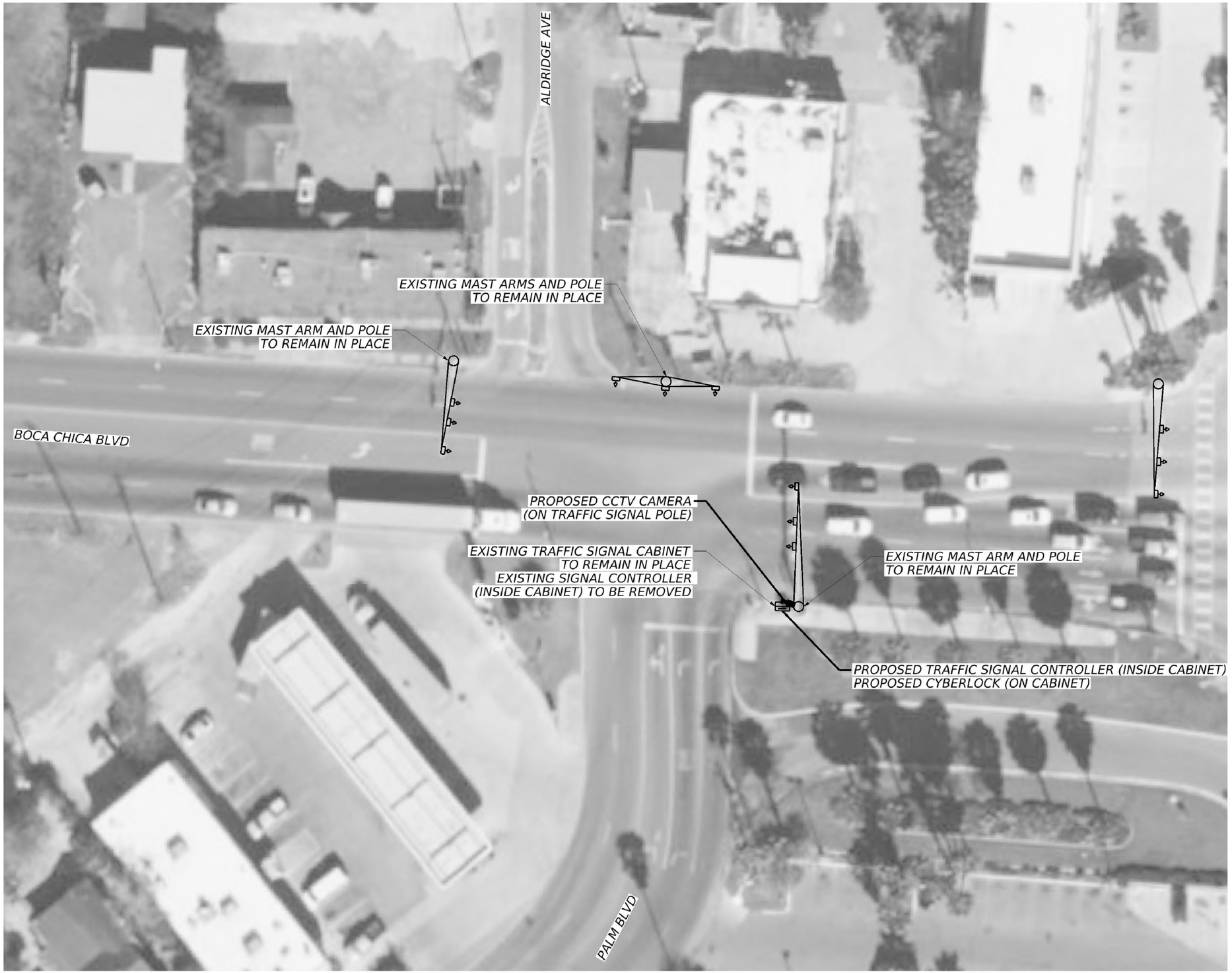
INTERSECTION 028

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	63

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PROP SIG 028 BOCA CHICA BLVD AT OWENS RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274
Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT PALM BLVD - ALDRIDGE AVE

INTERSECTION 029

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY	STATE
6	VAR	TEXAS

STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	64

3/5/2026 9:41:47 AM
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PROP SIG 029 BOCA CHICA BLVD AT PALM BLVD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274
Land Surveying Firm No. 10048700

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BOCA CHICA BLVD AT PAREDES LINE RD (FM 1847)

INTERSECTION 030

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	65

3/5/2026 9:42:01 AM
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PROP SIG 030 BOCA CHICA BLVD AT PAREDES LINE RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT SECURITY DR

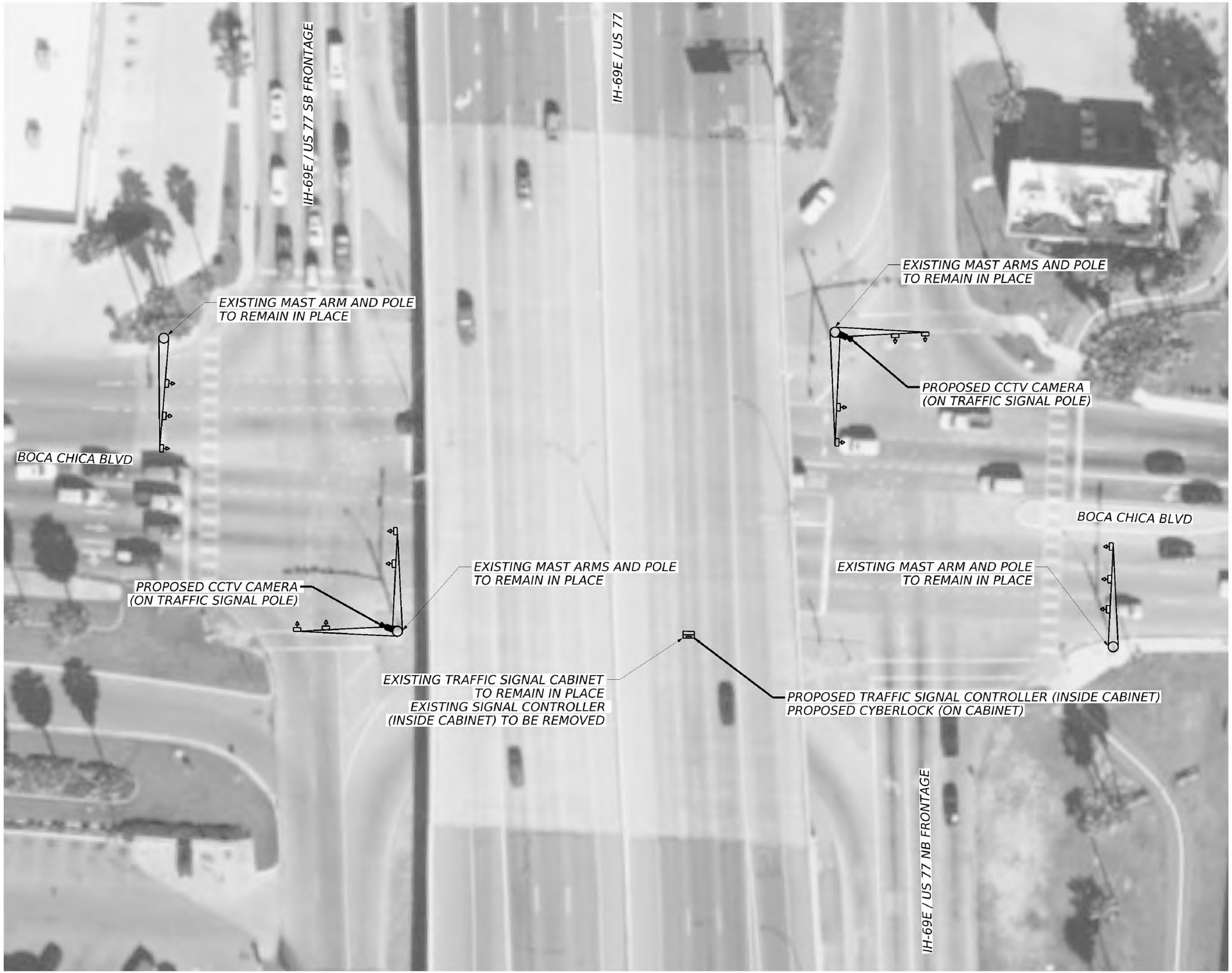
INTERSECTION 031

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	66

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PROP SIG 031 BOCA CHICA BLVD AT SECURITY DR CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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BOCA CHICA BLVD AT IH-69E / US 77

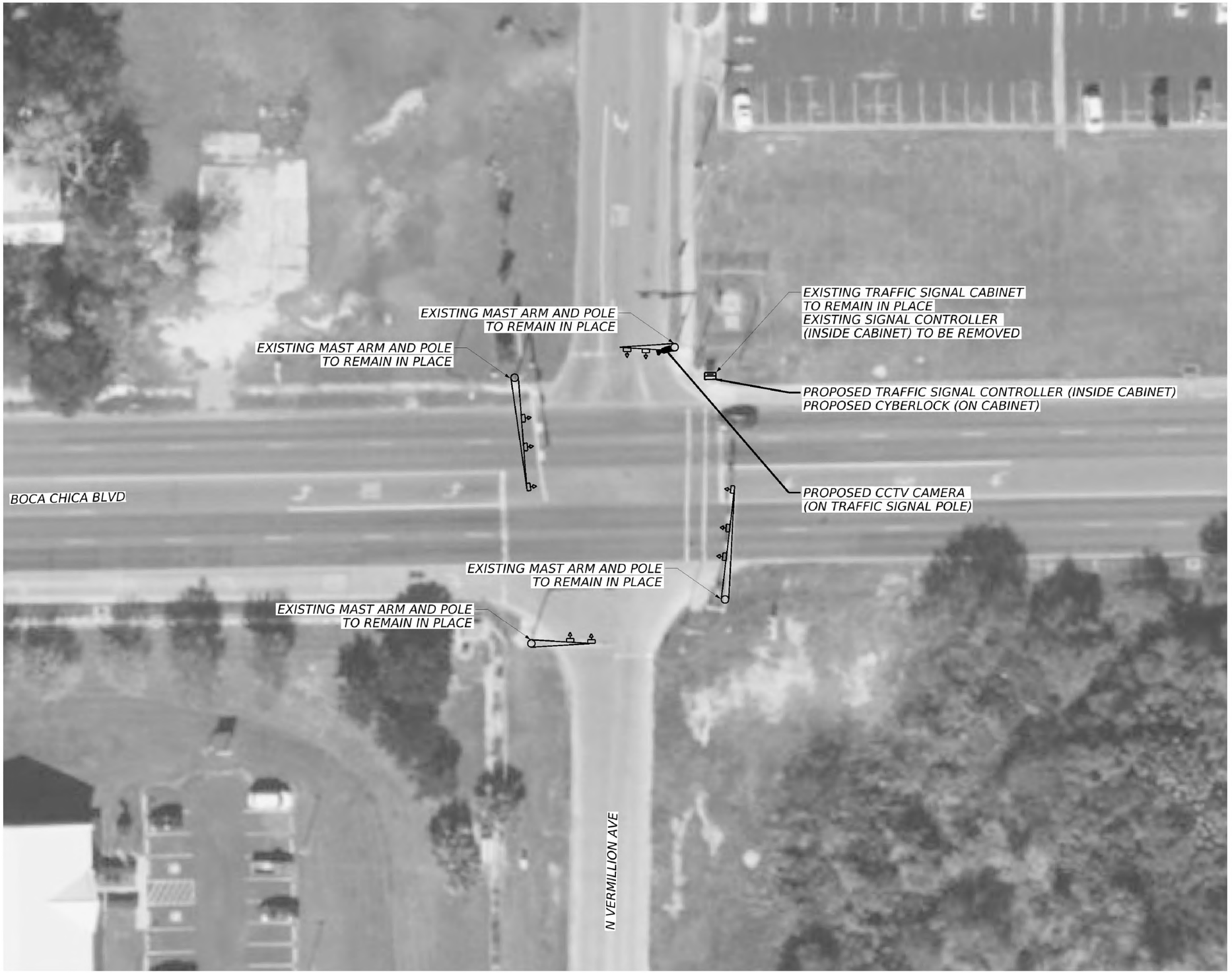
INTERSECTION 032

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	67

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PROP SIG 032 BOCA CHICA AT IH-69 E - US 77 CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
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BOCA CHICA BLVD AT N VERMILLION AVE

INTERSECTION 033

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	68

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PROP SIG 033 BOCA CHICA BLVD AT VERMILLION AVE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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STATE OF TEXAS
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BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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N CENTRAL AVE AT MCKENZIE RD

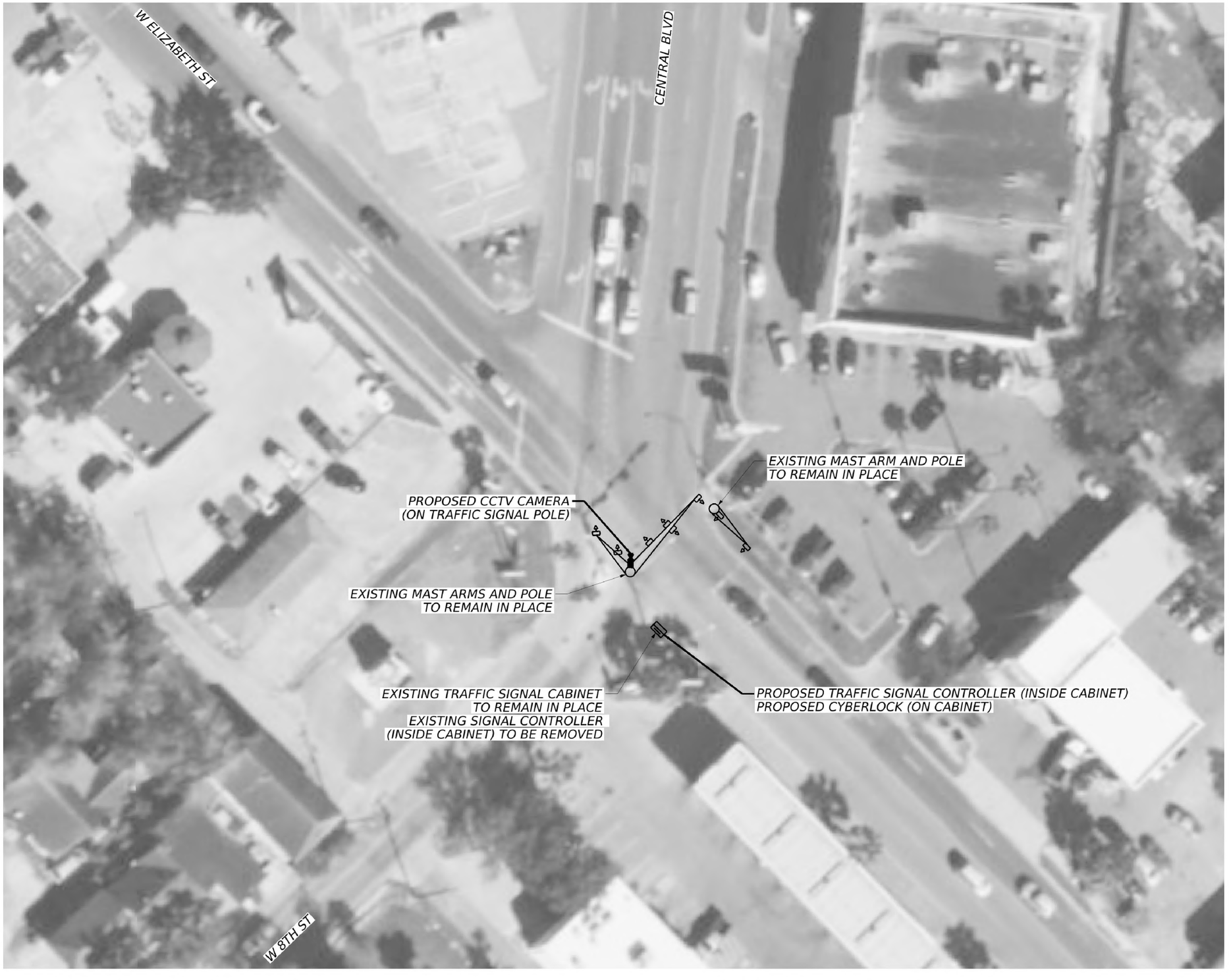
INTERSECTION 034

SHEET 1 OF 1

FED.RD DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	69

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PROP SIG 034 CENTRAL AVE AT MCKENZIE RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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- EXISTING CABINET
- PROPOSED CCTV CAMERA

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Land Surveying Firm No. 10046700

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CENTRAL BLVD AT W ELIZABETH ST - W 8TH ST

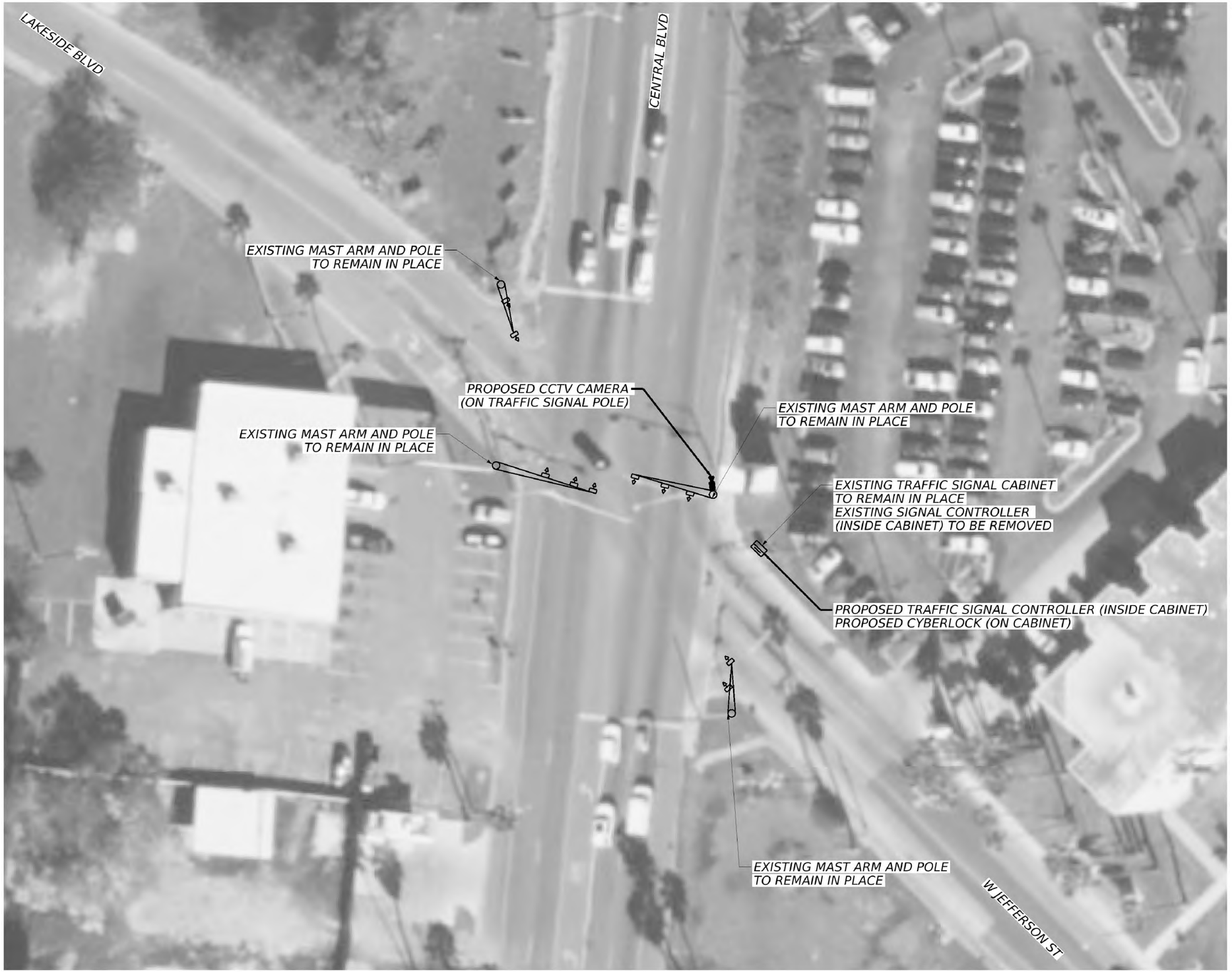
INTERSECTION 035

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	70

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PROP SIG 035 CENTRAL BLVD AT ELIZABETH ST AND 8TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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N

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03/06/2026

BROWNSVILLE

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CENTRAL BLVD AT
W JEFFERSON ST - LAKESIDE BLVD

INTERSECTION 036

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	71

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PROP SIG 036 CENTRAL BLVD AT JEFFERSON ST AND LAKESIDE BLVD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
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STATE OF TEXAS
CARRIE A. JAEGER
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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
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CENTRAL BLVD AT
E LOS EBANOS BLVD

INTERSECTION 037

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	72

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PROP SIG 037 CENTRAL BLVD AT LOS EBANOS BLVD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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CENTRAL BLVD AT
MEDIA LUNA RD - OLD US HWY 77

INTERSECTION 038

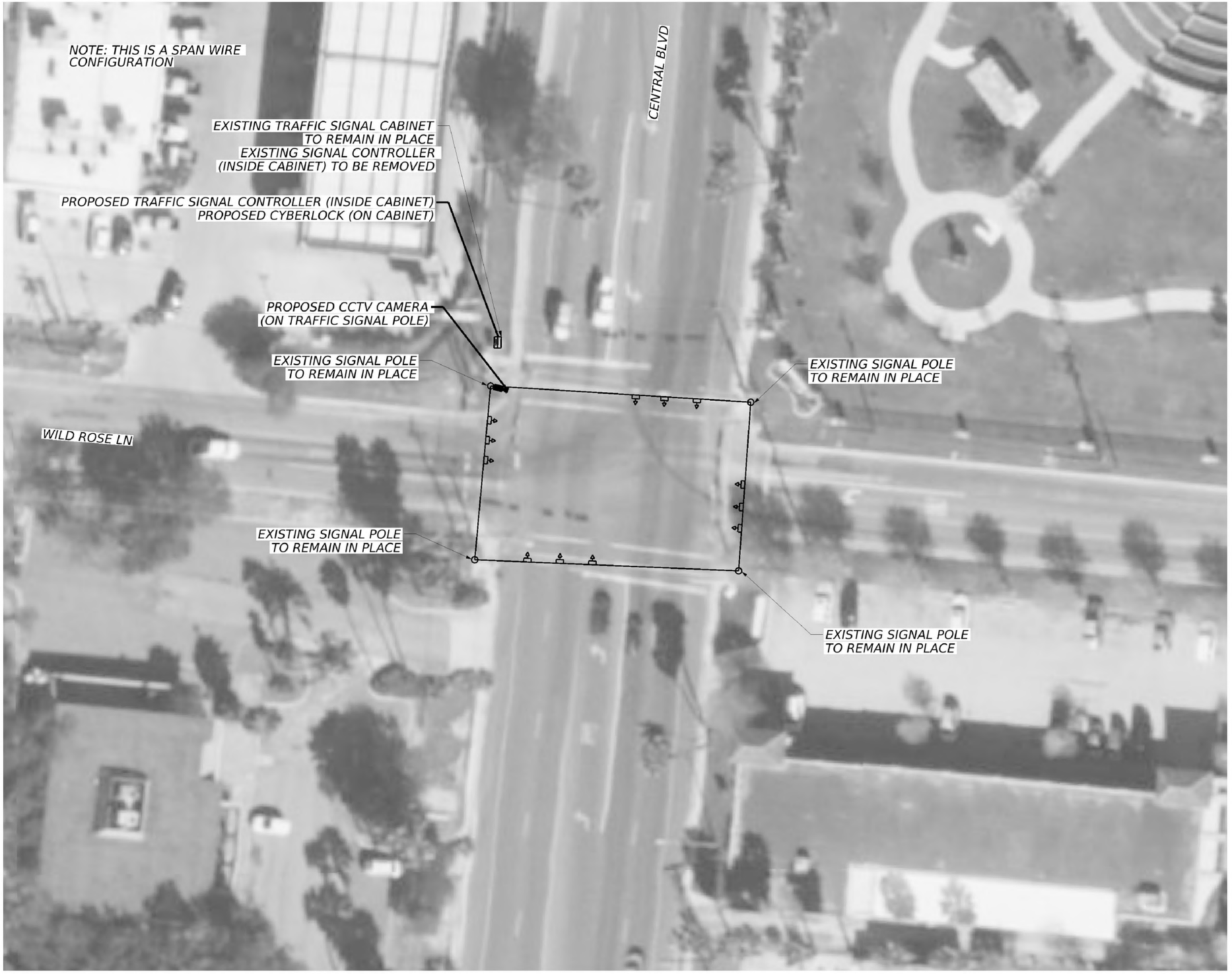
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY	STATE
6	VAR	TEXAS

STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	73

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PROP SIG 038 CENTRAL BLVD AT MEDIA LUNA RD AND OLD US HWY 77 CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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03/06/2026

BROWNSVILLE

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CENTRAL BLVD AT WILD ROSE LN

INTERSECTION 039

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	74

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PROP SIG 039 CENTRAL BLVD AT WILD ROSE LN CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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0 10 20 40
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STATE OF TEXAS
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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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COFFEE PORT RD AT N MINNESOTA AVE

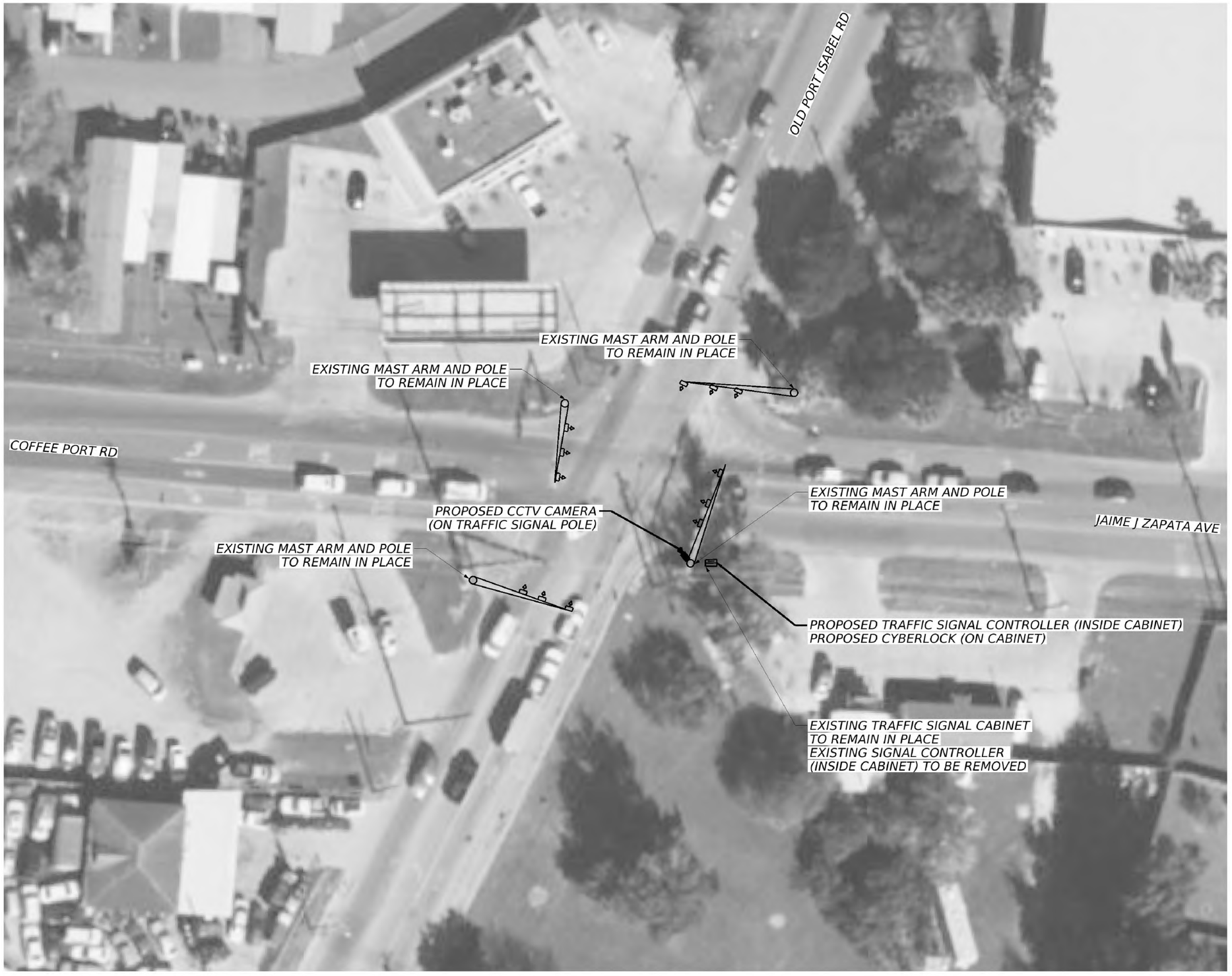
INTERSECTION 040

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	75

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PROP SIG 040 COFFEE PORT RD AT MINNESOTA AVE CSJ 400.dgn



LEGEND

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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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COFFEE PORT RD - JAMIE J ZAPATA AVE
AT OLD PORT ISABEL RD

INTERSECTION 041

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	76

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PROP SIG 041 COFFEE PORT RD AT OLD PORT ISABEL RD CSJ 400.dgn



LEGEND

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03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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COFFEE PORT RD AT PAREDES LINE RD (FM 1847)

INTERSECTION 042

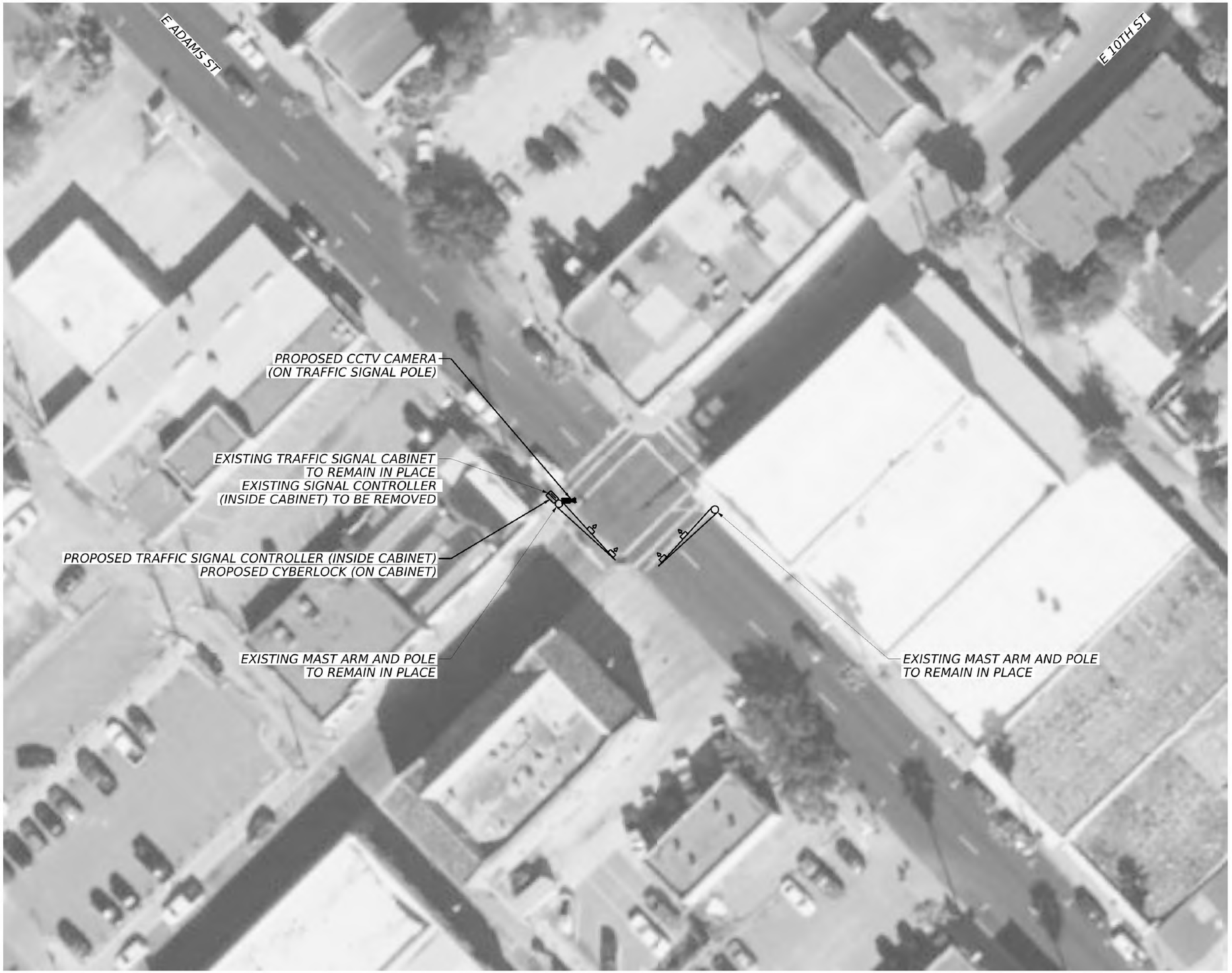
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY	STATE
6	VAR	TEXAS

STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	77

3/5/2026 9:45:20 AM
pw://cobfen.pw.bentley.com:cobfen-pw-01/Documents/2025/2509.010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 042 COFFEE PORT RD AT PAREDES LINE RD CSJ 400.dgn

PROP SIG 042 COFFEE PORT RD AT PAREDES LINE RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10048700

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E ADAMS ST AT E 10TH ST

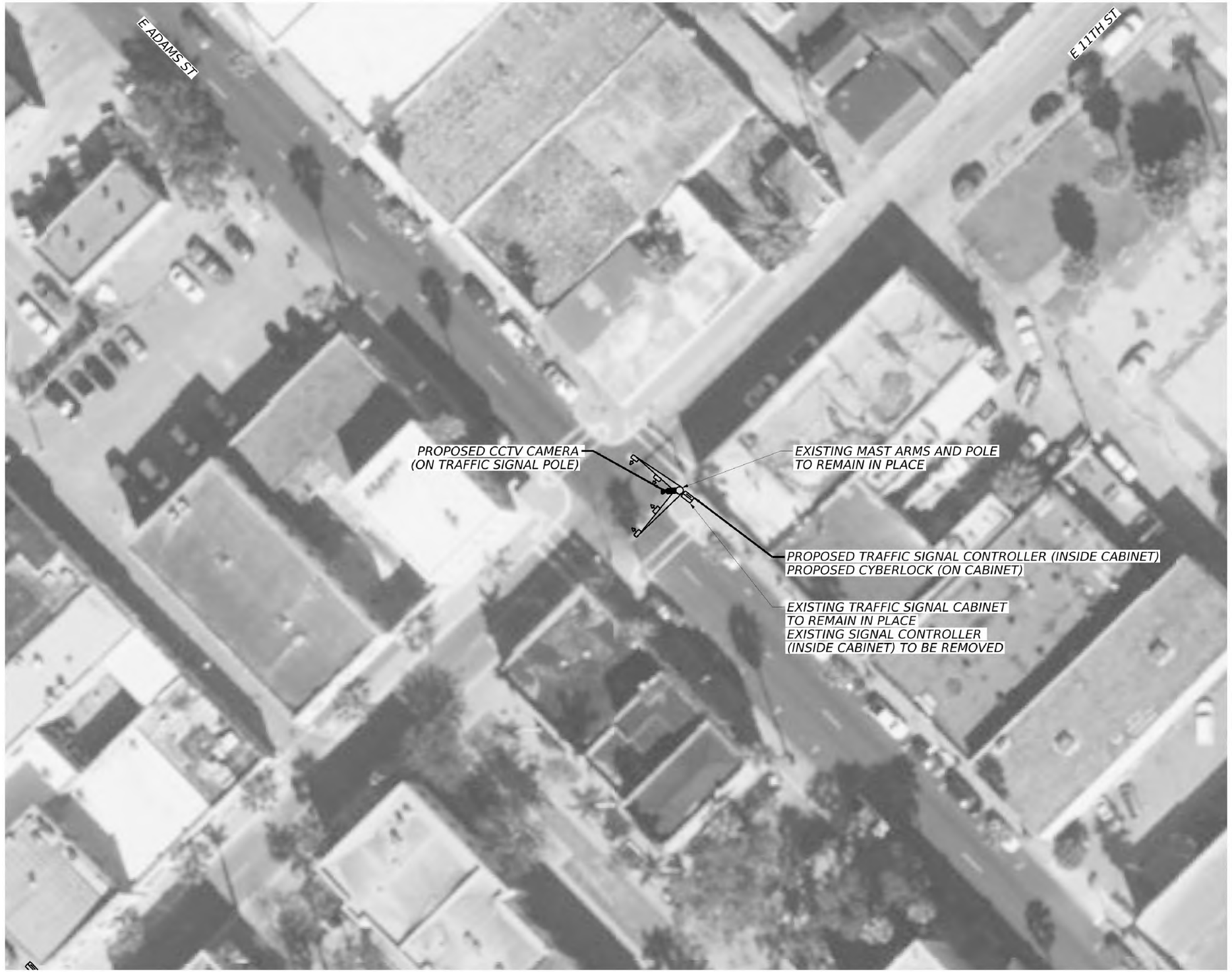
INTERSECTION 043

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	78

3/5/2026 9:45:35 AM pw://cobfen.pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 043 E ADAMS ST AT 10TH ST CSJ 400.dgn

PROP SIG 043 E ADAMS ST AT 10TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ADAMS ST AT
E 11TH ST

INTERSECTION 044

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	79

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PROP SIG 044 E ADAMS ST AT 11TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

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6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

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STATE OF TEXAS
CARRIE A. JAEGER
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LICENSED
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03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ADAMS ST AT E 12TH ST

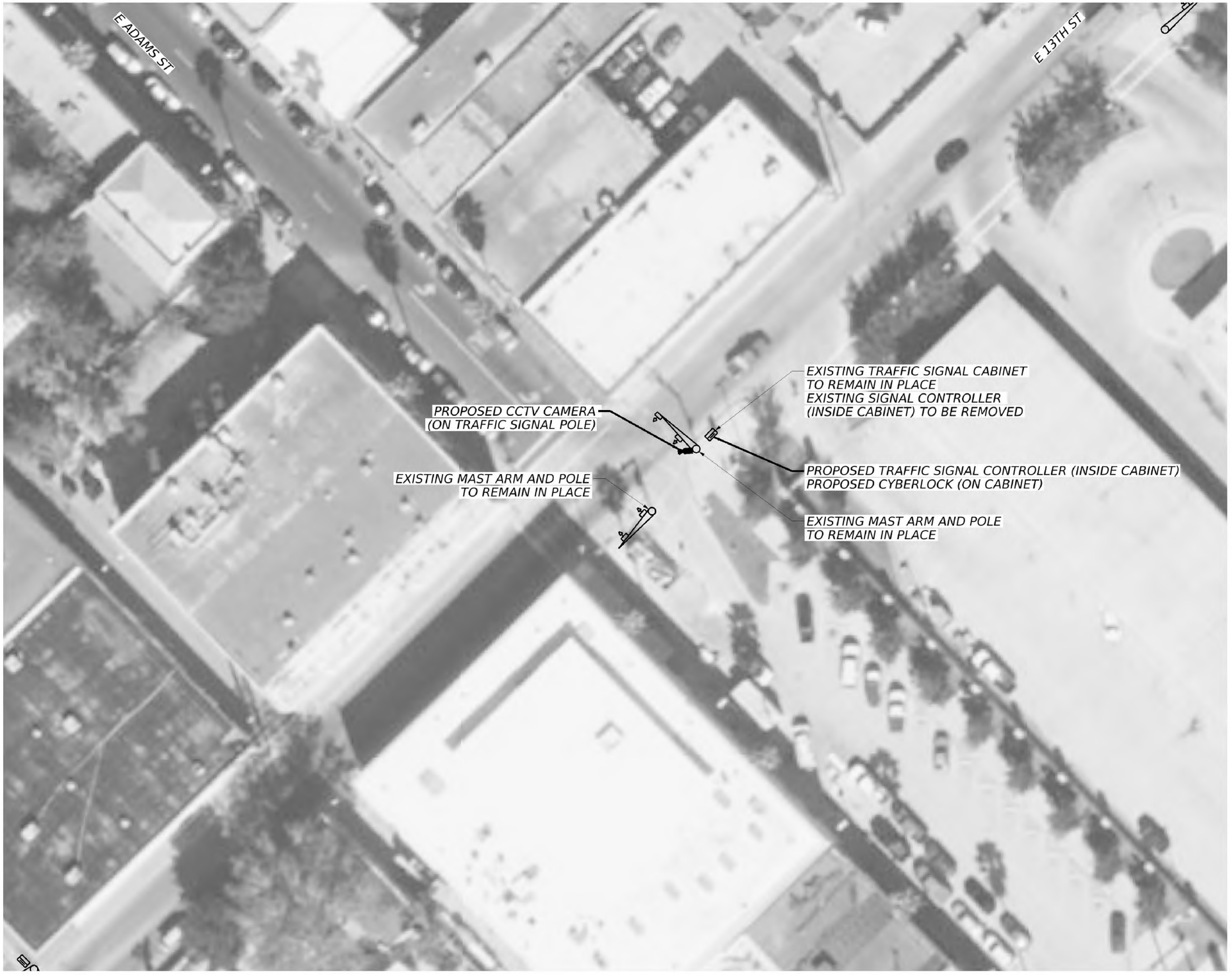
INTERSECTION 045

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	80

3/5/2026 9:46:11 AM
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PROP SIG 045 E ADAMS ST AT 12TH ST CSJ 400.dgn



LEGEND

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- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ADAMS ST AT
E 13TH ST

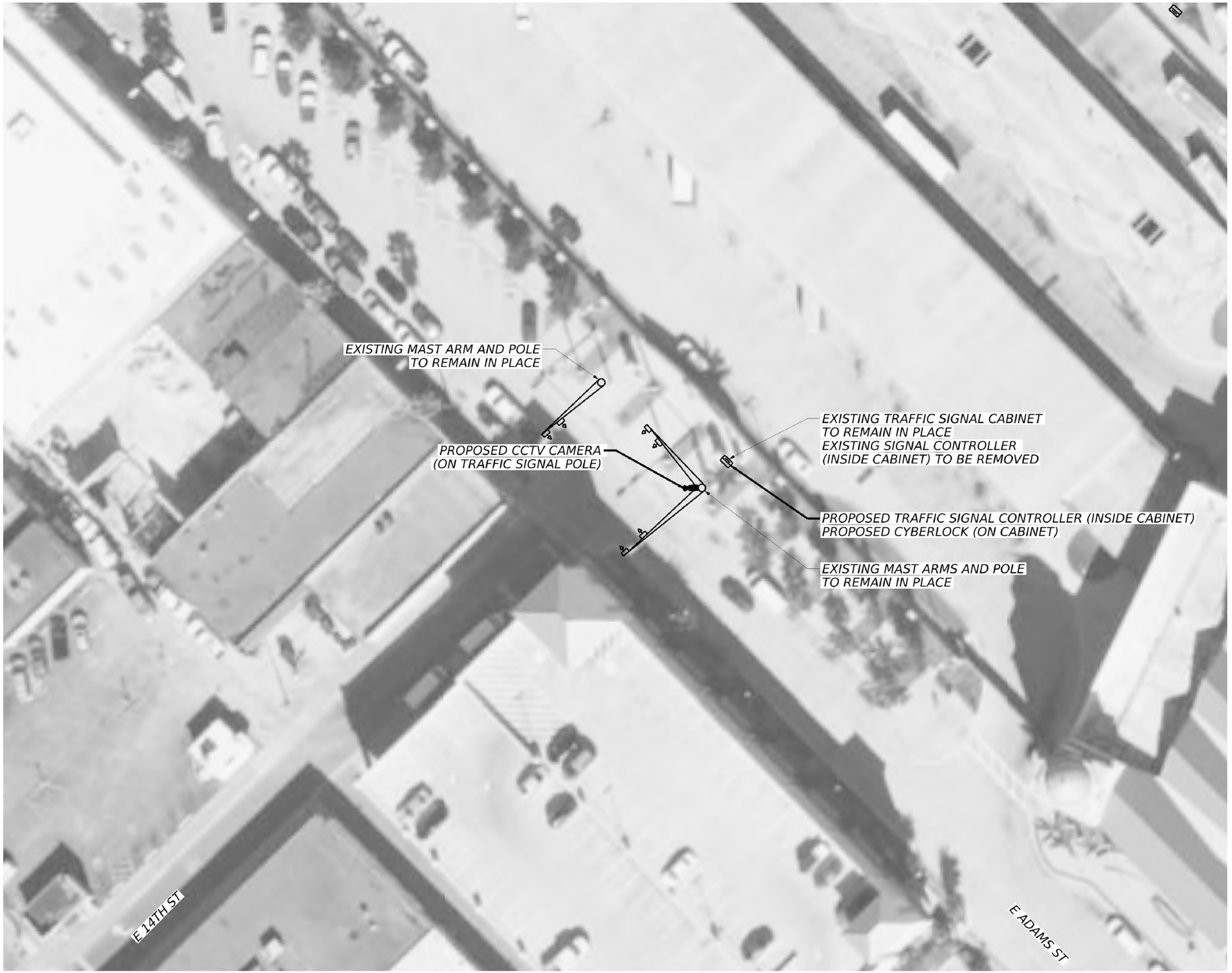
INTERSECTION 046

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	81

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PROP SIG 046 E ADAMS ST AT 13TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E ADAMS ST AT E 14TH ST

INTERSECTION 047

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	82

3/5/2026 9:46:48 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509.010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 047 E ADAMS ST AT 14TH ST CSJ 400.dgn

PROP SIG 047 E ADAMS ST AT 14TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER

03/06/2026

BROWNSVILLE

CobbFendley

TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ADAMS ST AT E 6TH ST

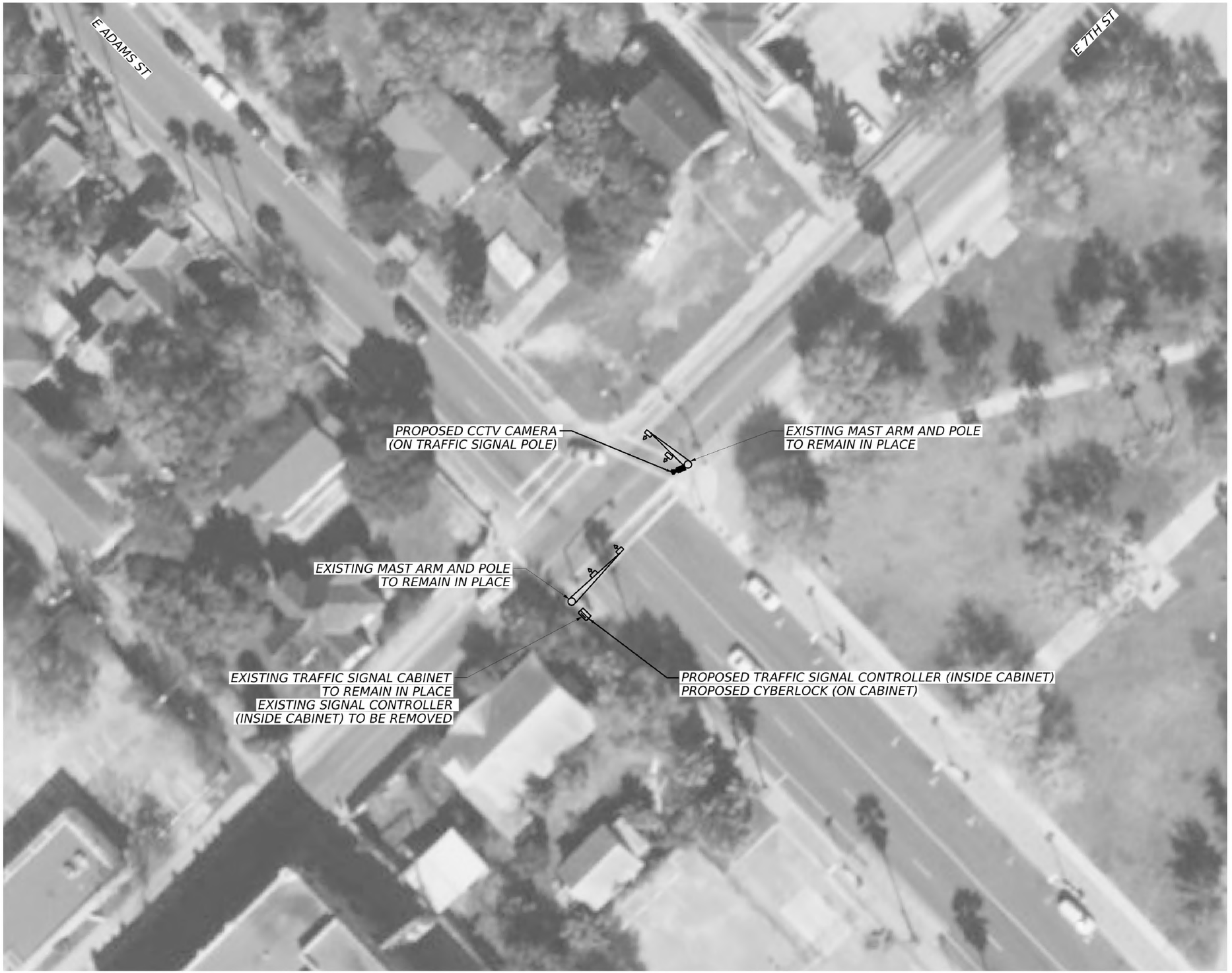
INTERSECTION 048

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	83

3/5/2026 9:47:04 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509.010-02.TO4 Traffic Monitoring\400_CAD\409_Traffic\02_Sheets\10-Signals\PROP SIG 048 E ADAMS ST AT 6TH ST CSJ 400.dgn

PROP SIG 048 E ADAMS ST AT 6TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ADAMS ST AT
E 7TH ST

INTERSECTION 049

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE	
6	VAR			TEXAS	
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	84

3/5/2026 9:47:29 AM pw://cobfen.pw.bentley.com:cobfen.pw-01/Documents/2025/2509.010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 049 E ADAMS ST AT 7TH ST CSJ 400.dgn

PROP SIG 049 E ADAMS ST AT 7TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274
Land Surveying Firm No. 10046700

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EAST AVE AT IMPALA DR - ELENA ST

INTERSECTION 050

SHEET 1 OF 1

FED.RD DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	85

3/5/2026 9:47:45 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02.T04 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 050 EAST AVENUE AT IMPALA DR AND ELENA CSJ 400.dgn

PROP SIG 050 EAST AVENUE AT IMPALA DR AND ELENA CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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EAST AVE AT
TULIPAN ST

INTERSECTION 051

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	86

3/5/2026 9:02:34 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-T04 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 051 EAST AVENUE AT TULIPAN ST CSJ 400.dgn

PROP SIG 051 EAST AVENUE AT TULIPAN ST CSJ 400.dgn



LEGEND

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E ELIZABETH AT E 10TH ST

INTERSECTION 052

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	87

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PROP SIG 052 E ELIZABETH AT 10TH CSJ 400.dgn



LEGEND

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0 10 20 40

1" = 40'

STATE OF TEXAS
CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ELIZABETH AT
E 11TH ST

INTERSECTION 053

SHEET 1 OF 1

FED.RD DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	88

3/5/2026 9:03:04 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 053 E ELIZABETH AT 11TH CSJ 400.dgn

PROP SIG 053 E ELIZABETH AT 11TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

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03/06/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E ELIZABETH AT E 12TH ST

INTERSECTION 054

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	89

3/5/2026 9:03:19 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 054 E ELIZABETH AT 12TH CSJ 400.dgn

PROP SIG 054 E ELIZABETH AT 12TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
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BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ELIZABETH AT
E 13TH ST

INTERSECTION 055

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	90

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PROP SIG 055 E ELIZABETH AT 13TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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STATE OF TEXAS
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03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ELIZABETH ST AT INTERNATIONAL BLVD

INTERSECTION 056

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	91

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PROP SIG 056 E ELIZABETH AT INTERNATIONAL BLVD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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- PROPOSED CCTV CAMERA

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132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ELIZABETH ST AT
E 6TH ST

INTERSECTION 057

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	92

3/5/2026 9:04:10 AM pw://cobfen.pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 057 E ELIZABETH AT 6TH CSJ 400.dgn

PROP SIG 057 E ELIZABETH AT 6TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ELIZABETH ST AT E 7TH ST

INTERSECTION 058

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE	
6	VAR			TEXAS	
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	93

3/5/2026 9:04:25 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 058 E ELIZABETH AT 7TH CSJ 400.dgn

PROP SIG 058 E ELIZABETH AT 7TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
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STATE OF TEXAS
CARRIE A. JAEGER
132489
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PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ELIZABETH ST AT E 8TH ST

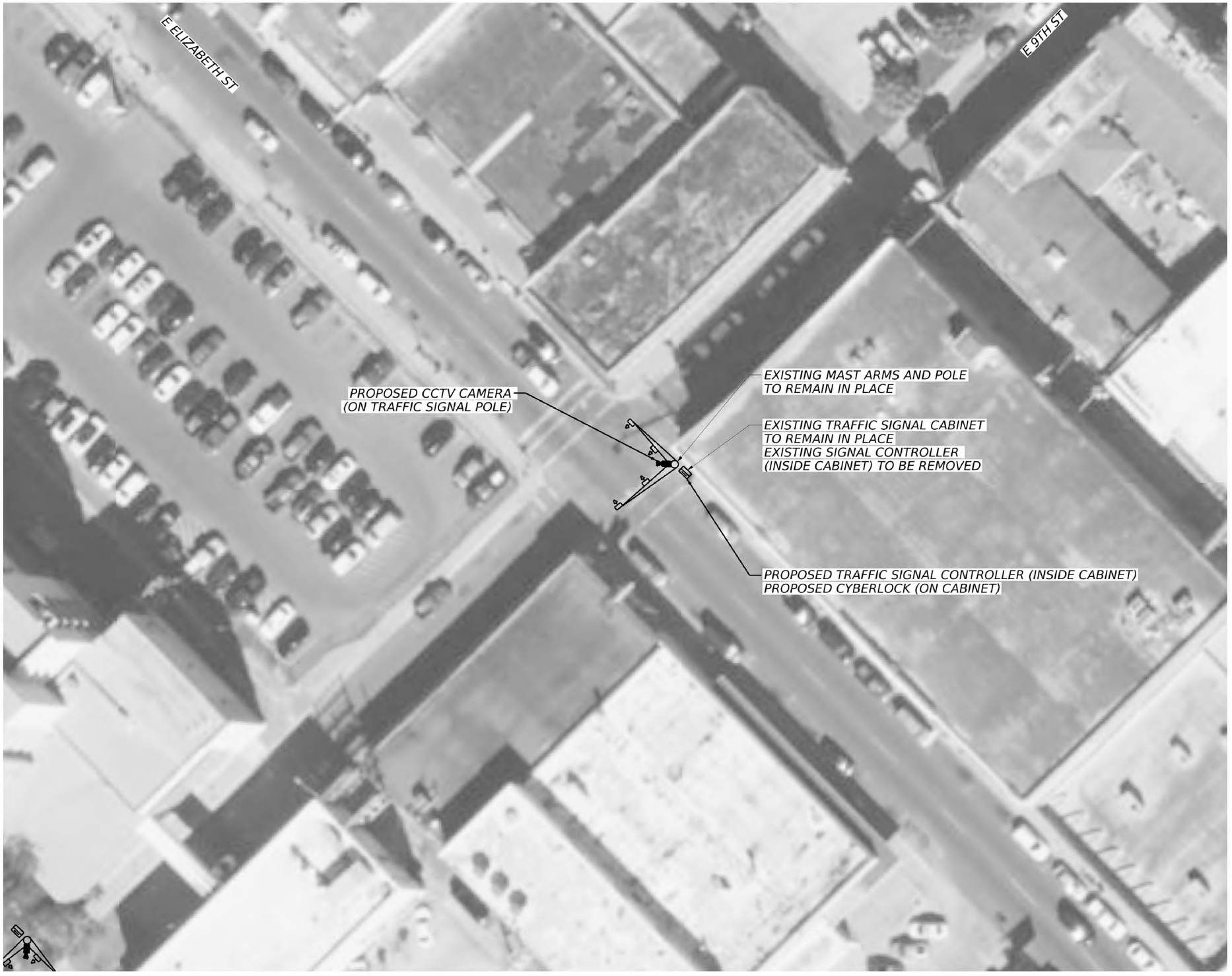
INTERSECTION 059

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	94

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PROP SIG 059 E ELIZABETH AT 8TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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STATE OF TEXAS
CARRIE A. JAEGER
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LICENSED PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E ELIZABETH ST AT
E 9TH ST

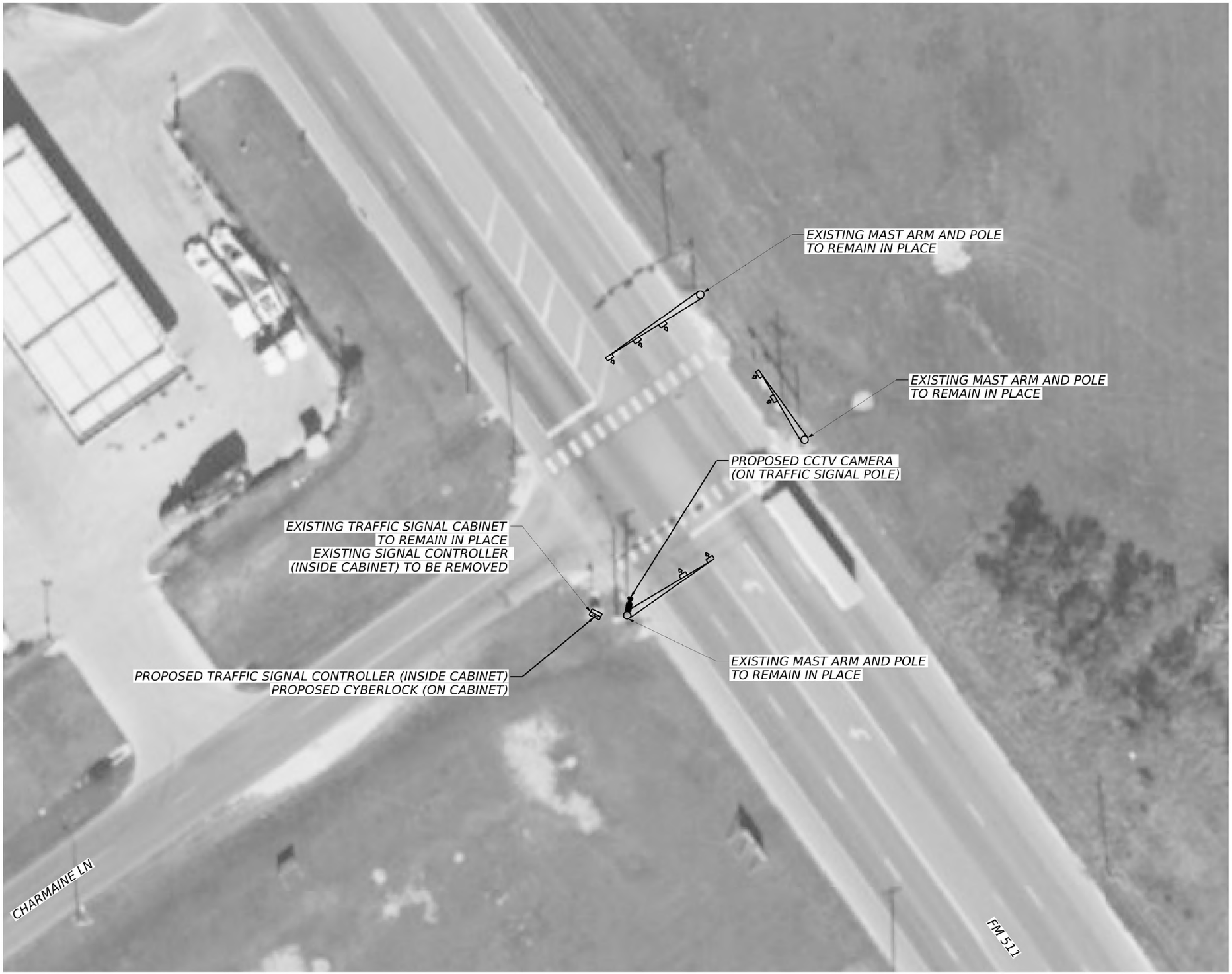
INTERSECTION 060

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	95

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PROP SIG 060 E ELIZABETH AT 9TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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STATE OF TEXAS
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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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FM 511 AT
CHARMAINE LN

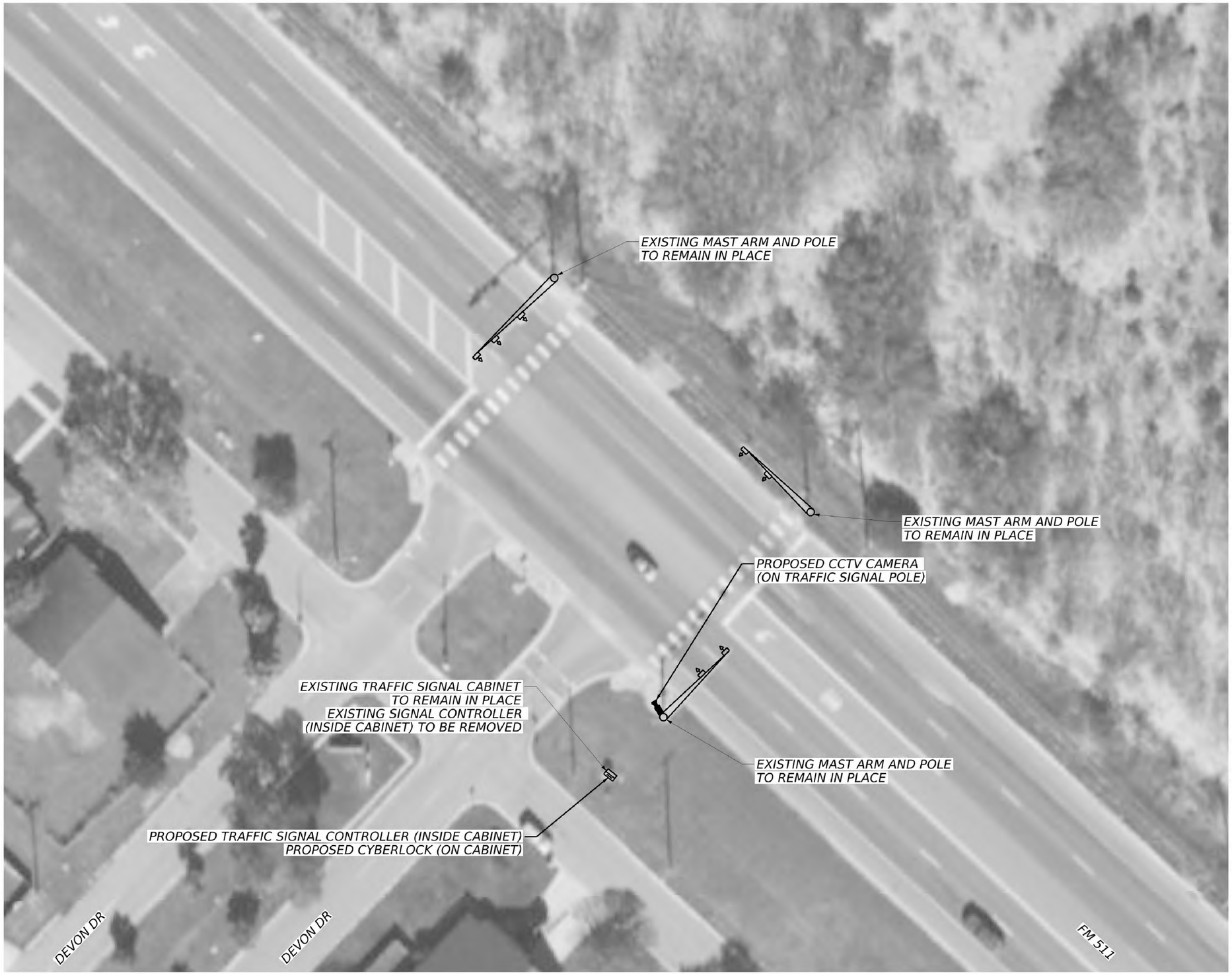
INTERSECTION 061

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	96

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PROP SIG 061 FM 511 AT CHARMAINE LN CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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03/06/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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FM 511 AT DEVON DR

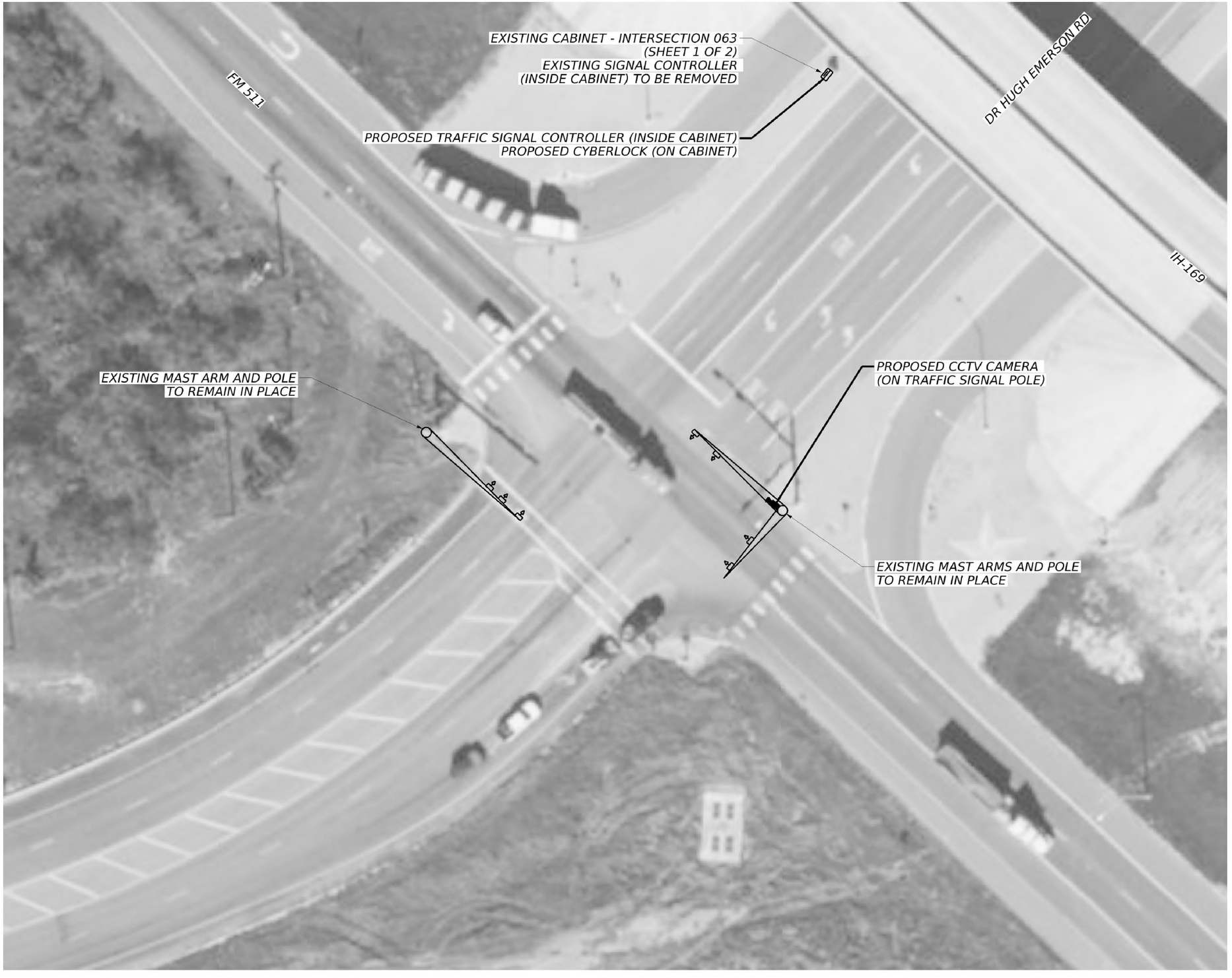
INTERSECTION 062

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	97

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PROP SIG 062 FM 511 AT DEVON DR CSJ 400.dgn



LEGEND

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STATE OF TEXAS
CARRIE A. JAEGER
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LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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FM 511 AT
DR HUGH EMERSON RD (EAST)

INTERSECTION 063

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	98

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PROP SIG 063A FM 511 AT DR HUGH EMERSON RD (EAST FRONTAGE) CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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CARRIE A. JAEGER
132489
LICENSED
PROFESSIONAL ENGINEER
03/06/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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FM 511 AT DR HUGH EMERSON RD (WEST)

INTERSECTION 063

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	99

3/5/2026 10:30:08 AM
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PROP SIG 063B FM 511 AT DR HUGH EMERSON RD (WEST FRONTAGE) CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40
1" = 40'

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03/06/2026

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Land Surveying Firm No. 10046700

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FM 511 AT
RUBEN M TORRES BLVD (FM 802)
INTERSECTION 064
SHEET 1 OF 1

FED.RD DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	100

3/5/2026 9:06:13 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-T04 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 064 FM 511 AT FM 802 CSJ 400.dgn

PROP SIG 064 FM 511 AT FM 802 CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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FM 511 AT OLD ALICE RD (SOUTH)

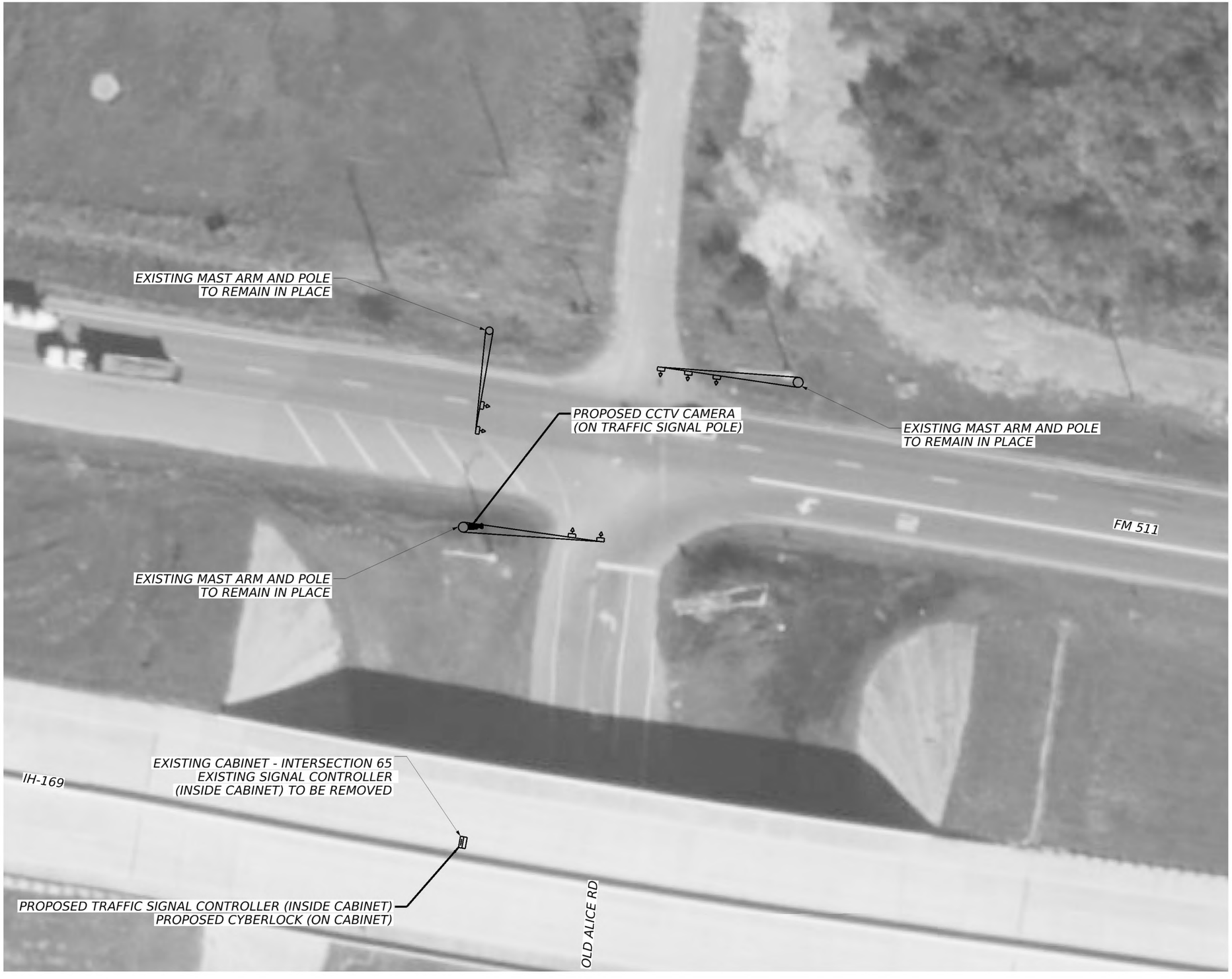
INTERSECTION 065

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	101

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PROP SIG 065A FM 511 AT OLD ALICE RD (EAST FRONTAGE) CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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Land Surveying Firm No. 10046700

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FM 511 AT OLD ALICE RD (NORTH)

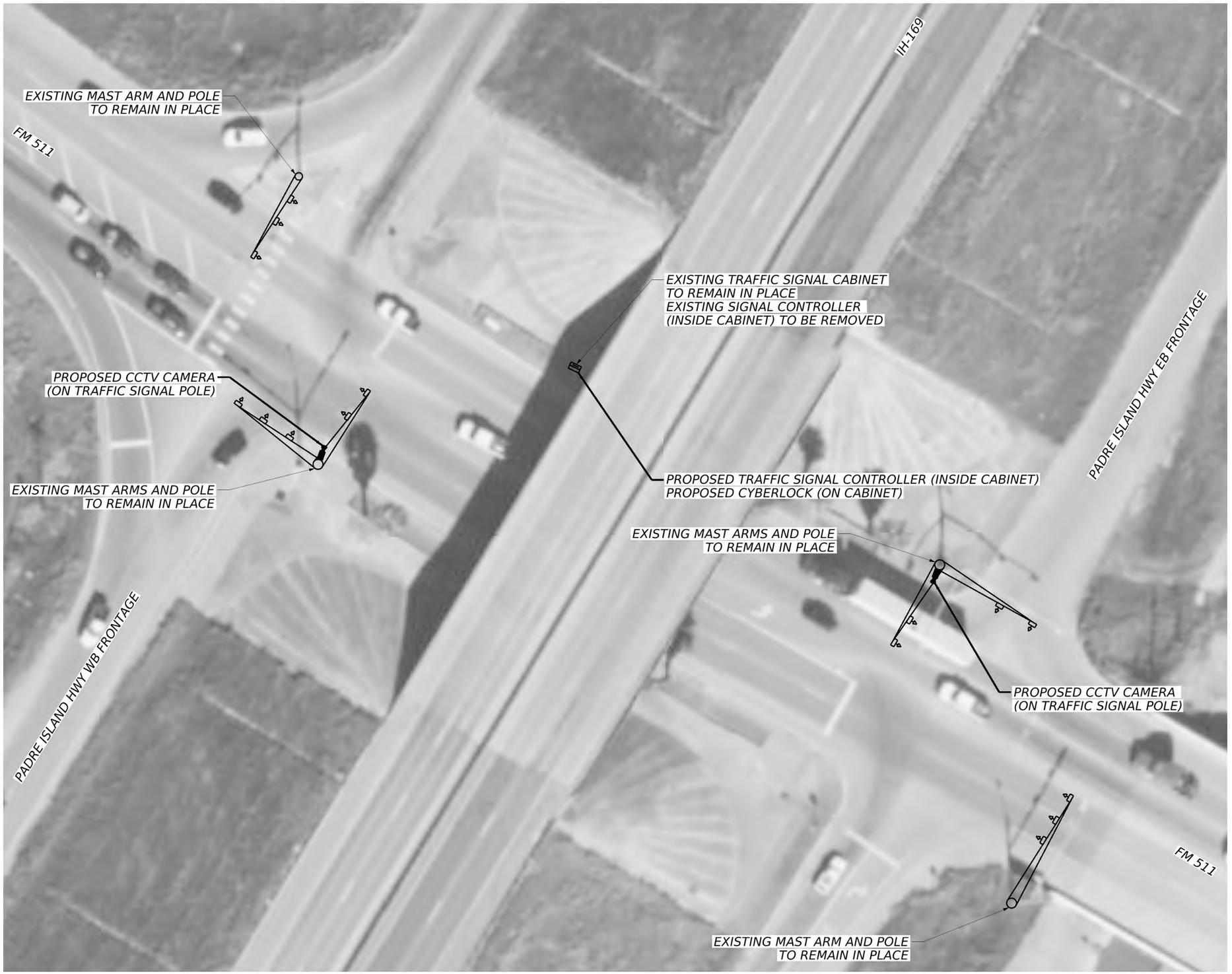
INTERSECTION 065

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	102

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PROP SIG 065B FM 511 AT OLD ALICE RD (WEST FRONTAGE) CSJ 400.dgn



LEGEND

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Land Surveying Firm No. 10046700

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FM 511 AT PADRE ISLAND HWY

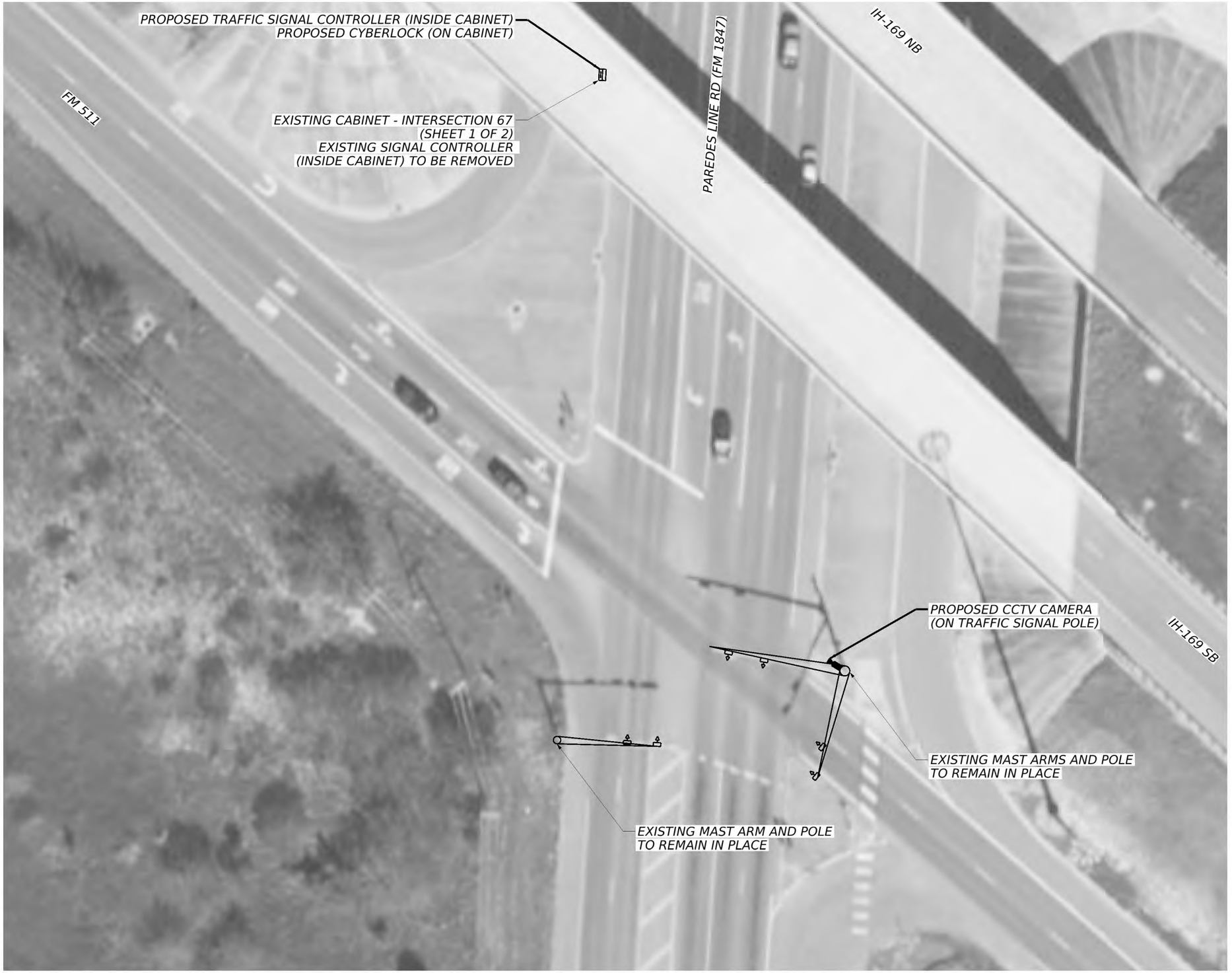
INTERSECTION 066

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	103

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PROP SIG 066 FM 511 AT PADRE ISLAND HWY CSJ 400.dgn



LEGEND

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3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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FM 511 AT PAREDES LINE RD (FM 1847) (SOUTH)

INTERSECTION 067

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	104

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PROP SIG 067A FM 511 AT PAREDES LINE ROAD (EAST FRONTAGE) CSJ 400.dgn



LEGEND

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LICENSED
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BROWNSVILLE

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Land Surveying Firm No. 10046700

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FM 511 AT PAREDES LINE RD (FM 1847) (NORTH)

INTERSECTION 067

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	105

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PROP SIG 067B FM 511 AT PAREDES LINE ROAD (WEST FRONTAGE) CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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- EXISTING TRAFFIC SIGNAL HEAD
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3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802) AT CENTRAL AVENUE

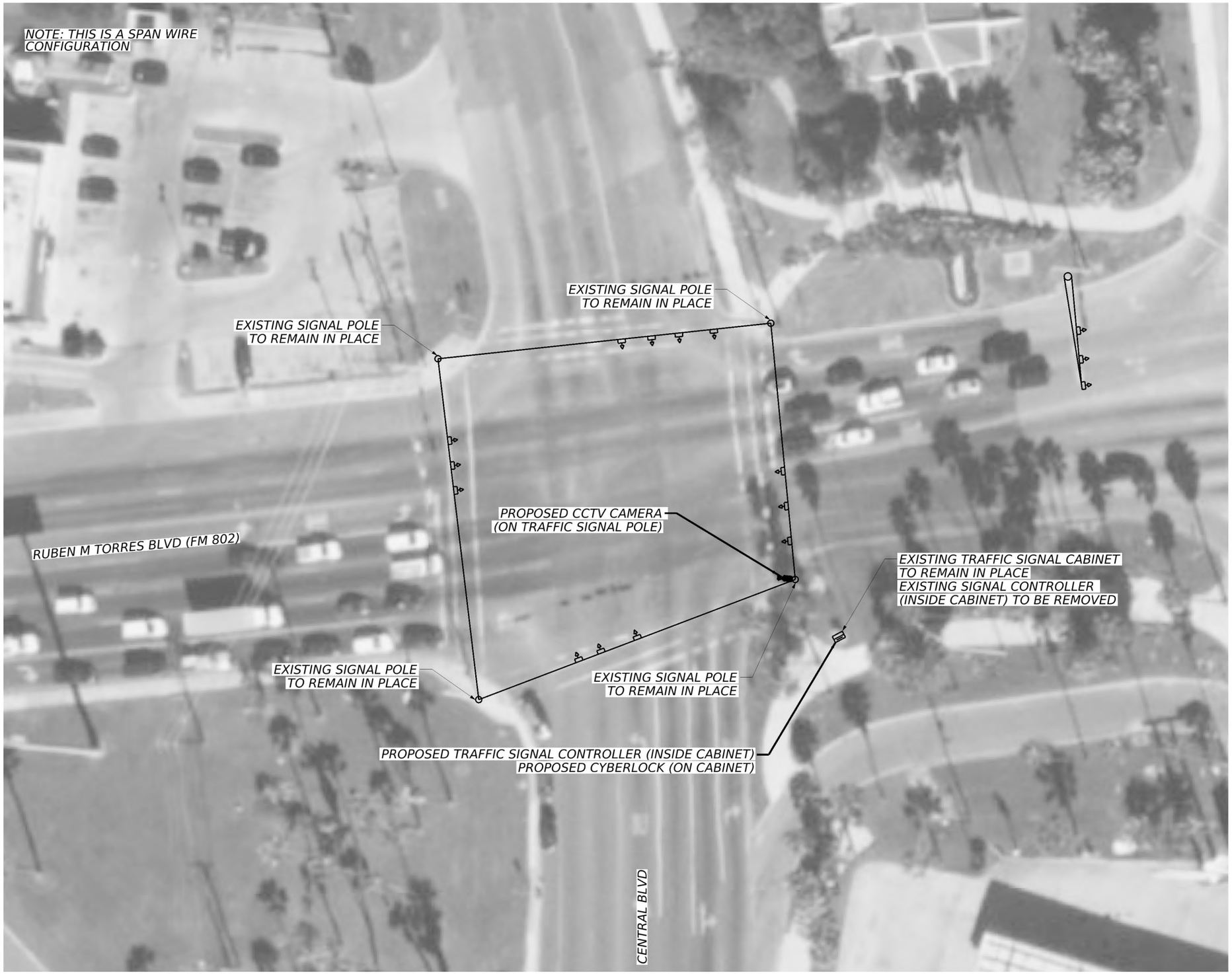
INTERSECTION 069

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	106

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PROP SIG 069 FM 802 AT CENTRAL AVENUE CSJ 400.dgn



LEGEND

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3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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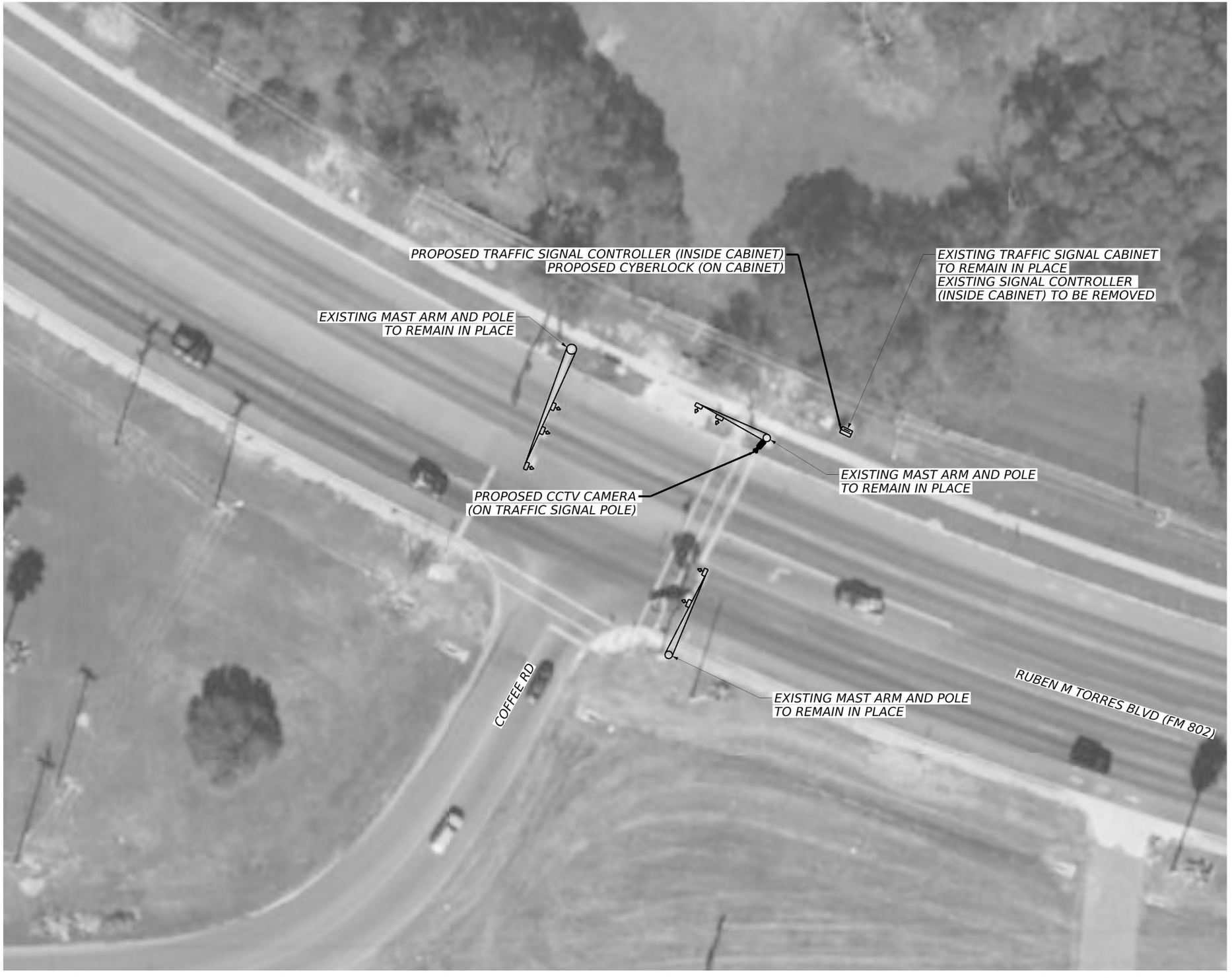
RUBEN M TORRES BLVD (FM 802)
AT CENTRAL BLVD
INTERSECTION 070

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	107

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PROP SIG 070 FM 802 AT CENTRAL BLVD CSJ 400.dgn



LEGEND

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BROWNSVILLE

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Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT COFFEE RD

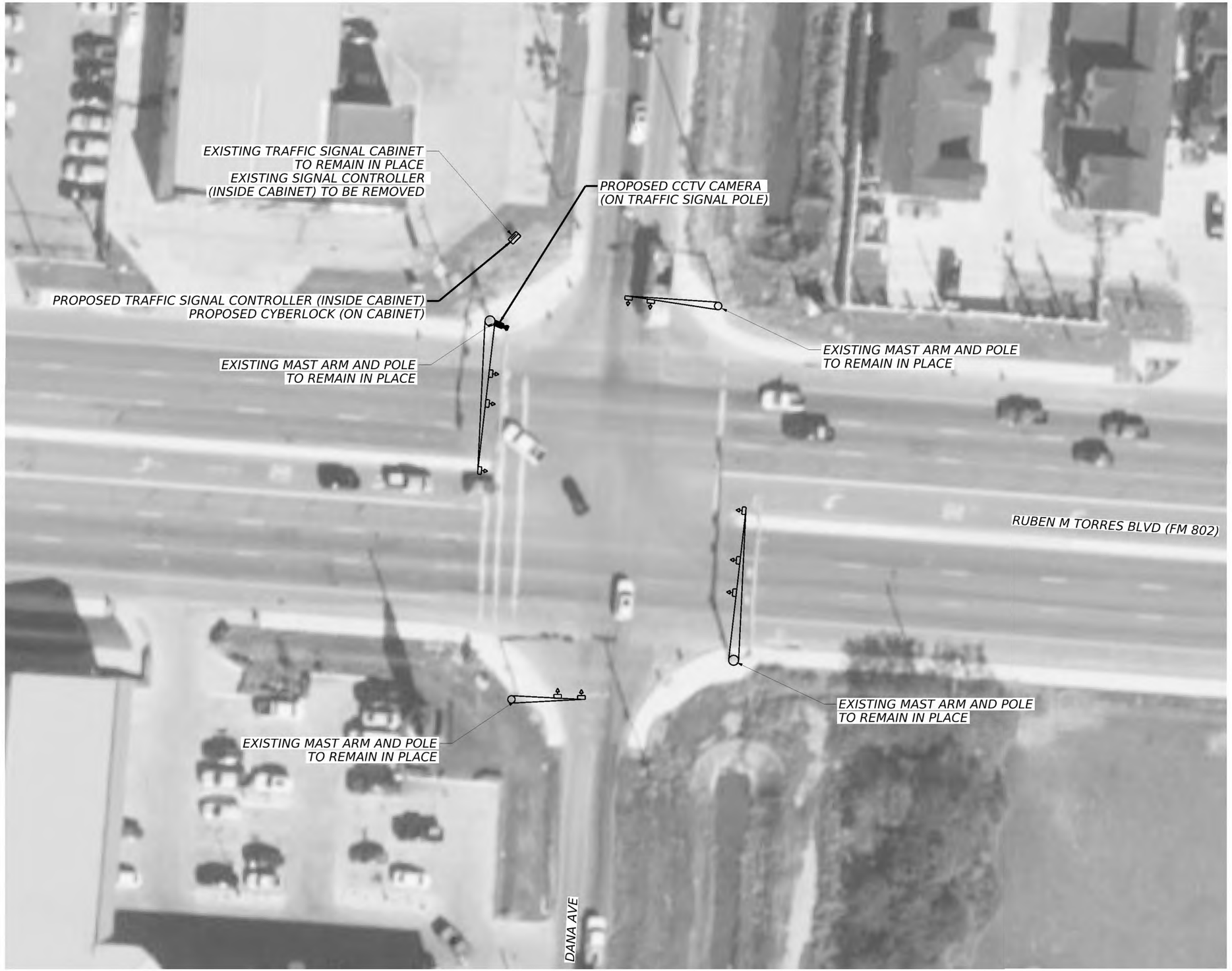
INTERSECTION 071

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	108

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PROP SIG 071 FM 802 AT COFFEE RD CSJ 400.dgn



LEGEND

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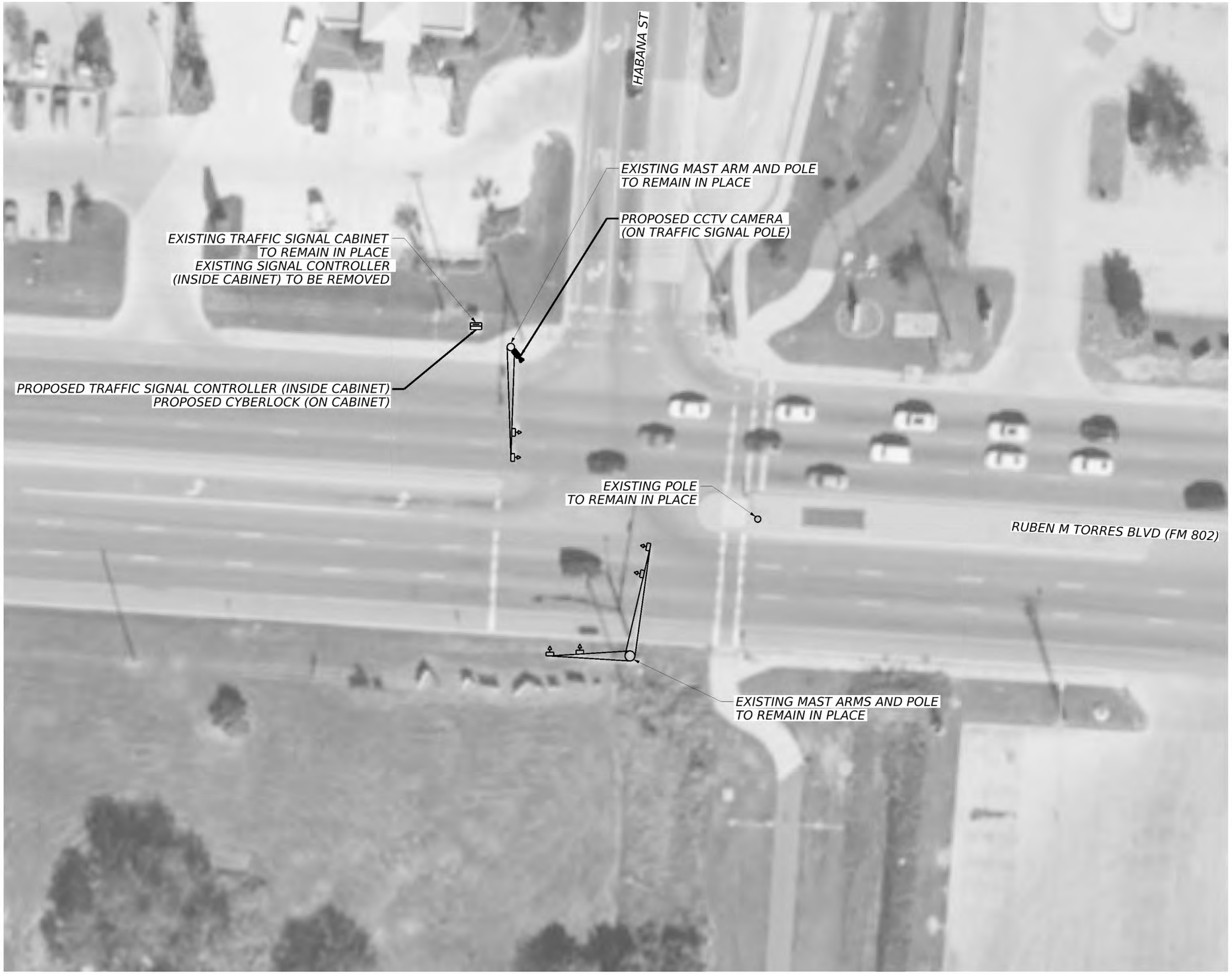
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RUBEN M TORRES BLVD (FM 802)
AT DANA AVE
INTERSECTION 072
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	109

3/5/2026 9:08:46 AM pw://cobfen.pw.bentley.com:cobfen.pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 072 FM 802 AT DANA AVE CSJ 400.dgn

PROP SIG 072 FM 802 AT DANA AVE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
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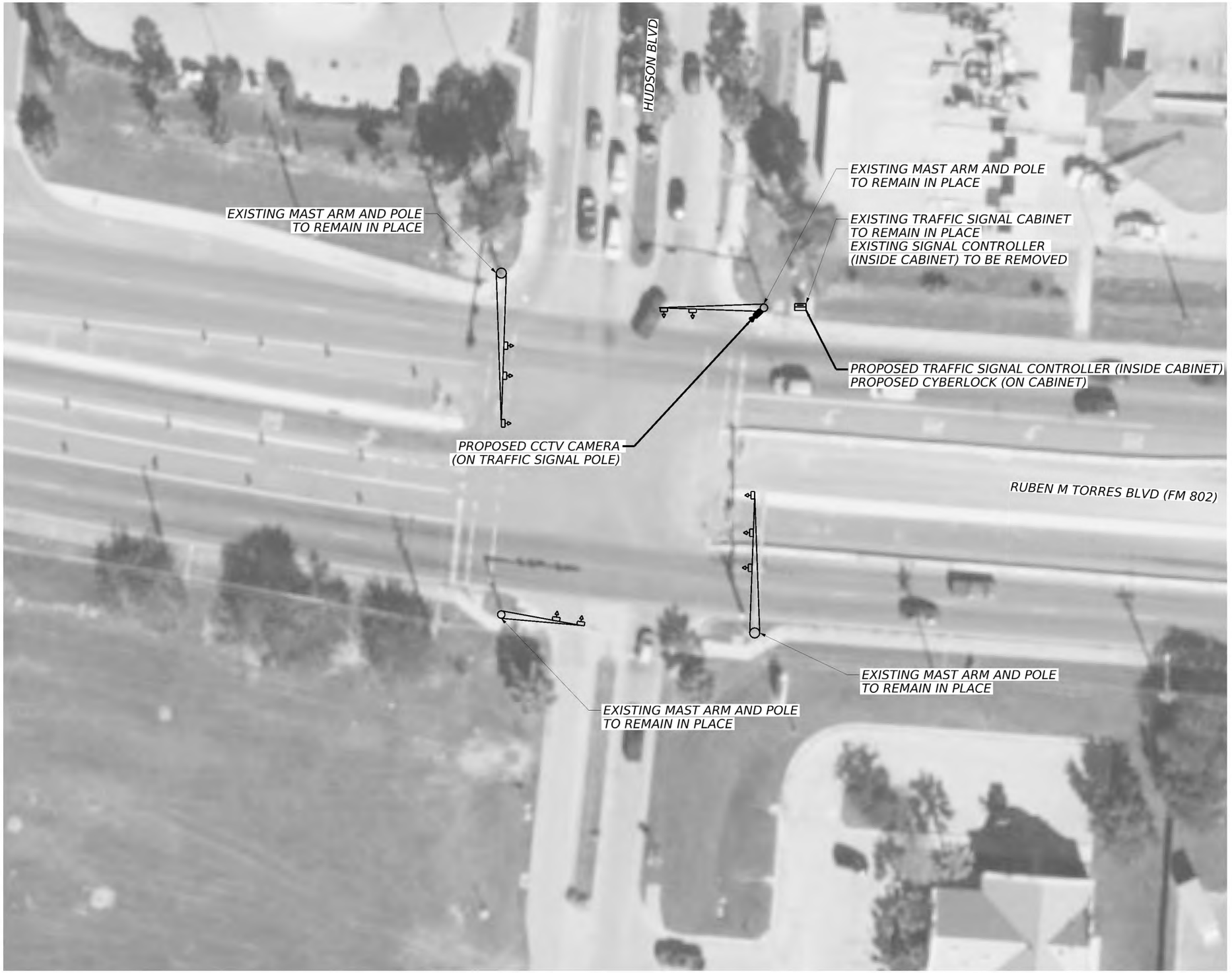
RUBEN M TORRES BLVD (FM 802)
AT HABANA ST
INTERSECTION 073

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	110

3/5/2026 9:09:03 AM
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PROP SIG 073 FM 802 AT HABANA ST CSJ 400.dgn



LEGEND

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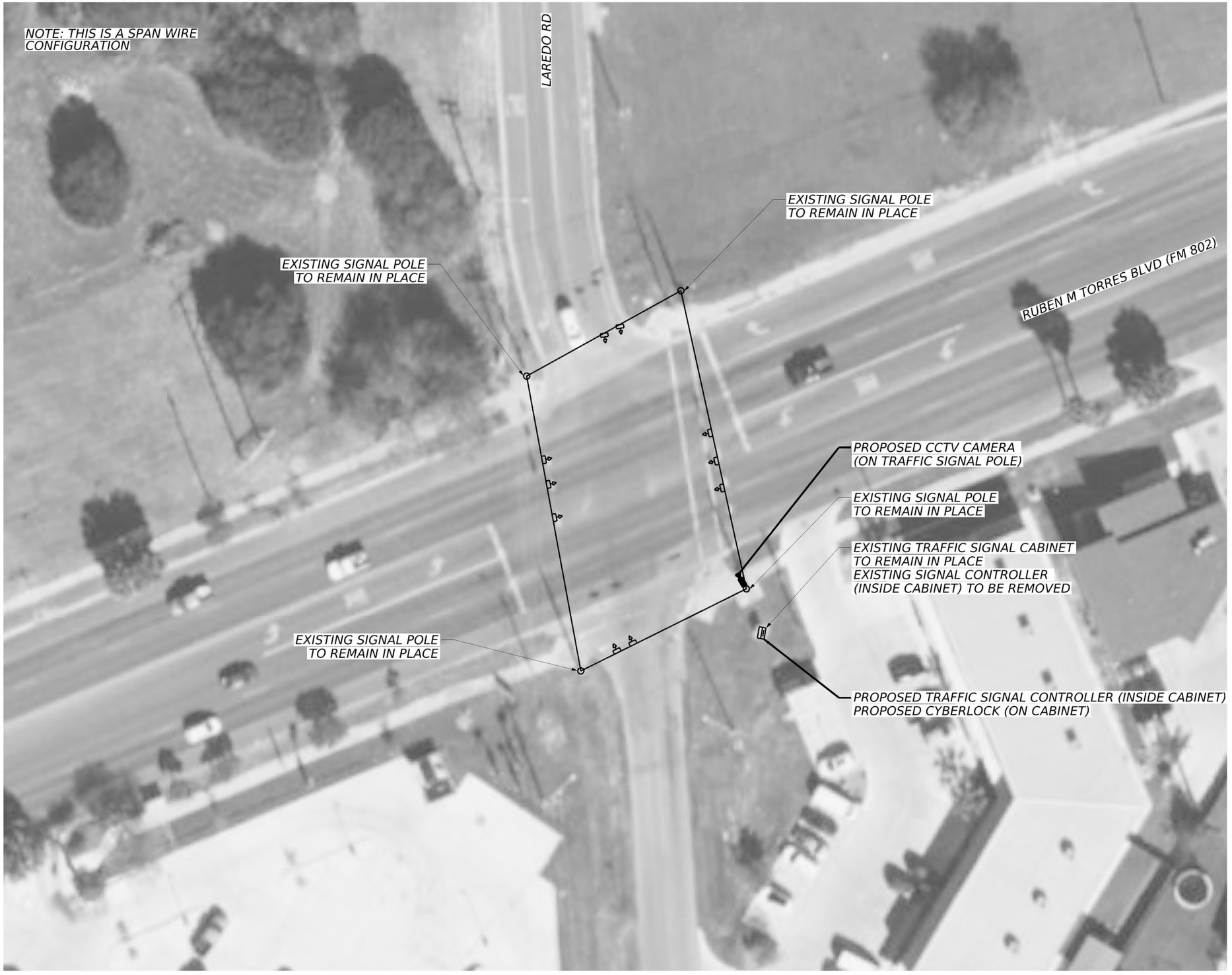
RUBEN M TORRES BLVD (FM 802)
AT HUDSON BLVD
INTERSECTION 074

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	111

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PROP SIG 074 FM 802 AT HUDSON BLVD CSJ 400.dgn



LEGEND

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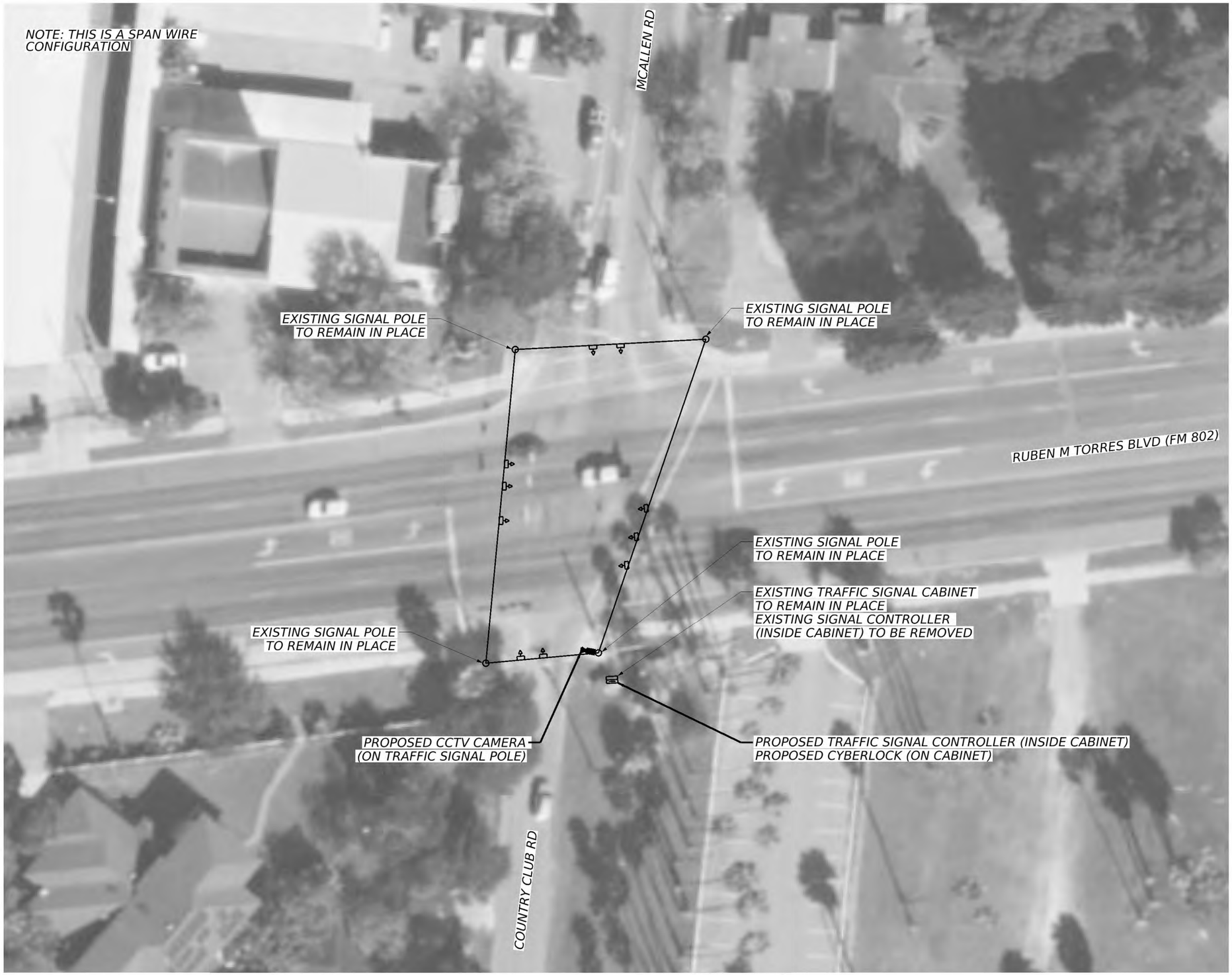
RUBEN M TORRES BLVD (FM 802)
AT LAREDO RD
INTERSECTION 075

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	112

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PROP SIG 075 FM 802 AT LAREDO RD CSJ 400.dgn



LEGEND

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Lanc Surveying Firm No. 10046700

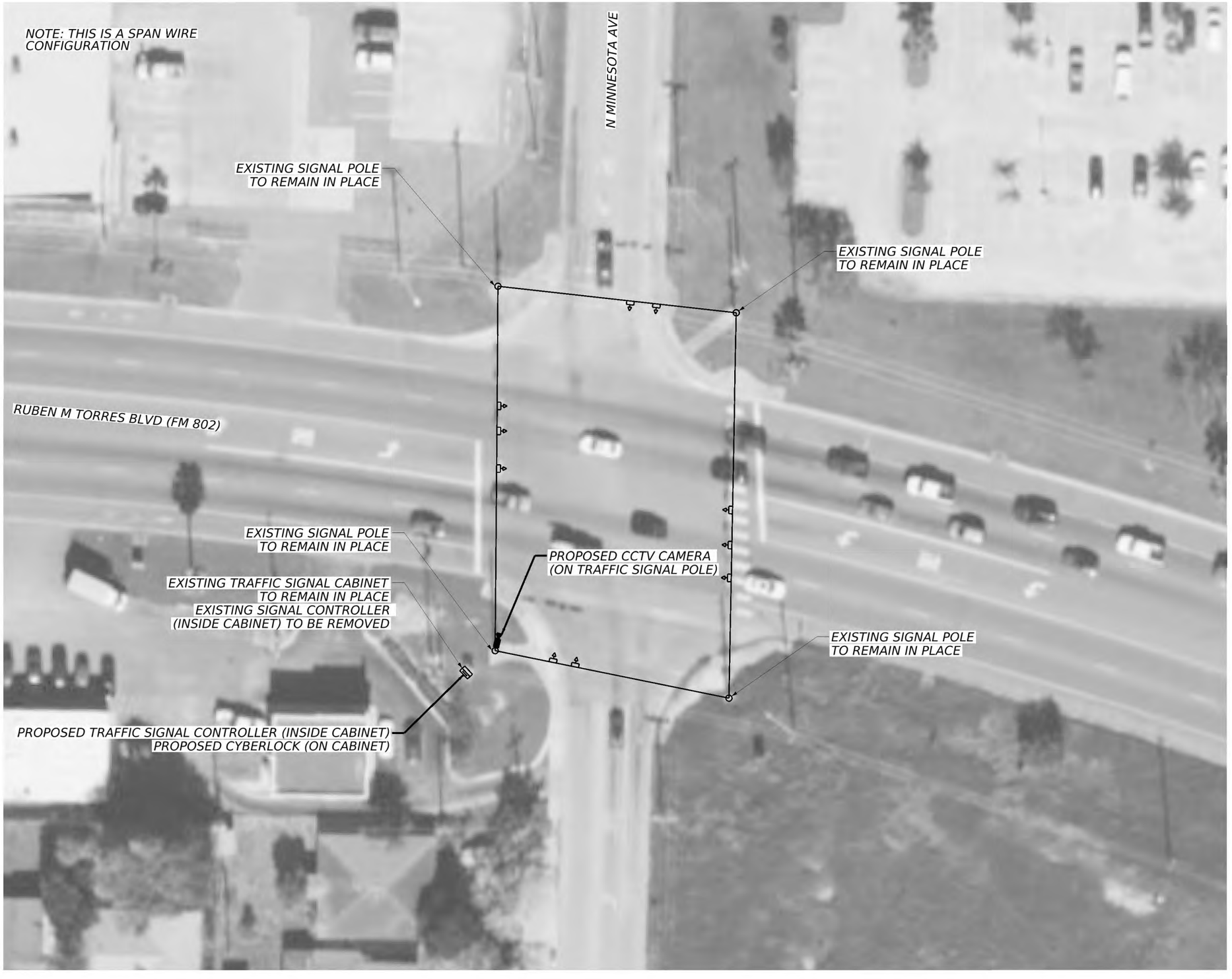
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RUBEN M TORRES BLVD (FM 802)
AT MCALLEN RD - COUNTRY CLUB R
INTERSECTION 076
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	113

3/6/2026 4:41:16 PM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TG4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 076 FM 802 AT MCALLEN CSJ 400.dgn

PROP SIG 076 FM 802 AT MCALLEN CSJ 400.dgn



LEGEND

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802) AT N MINNESOTA AVE

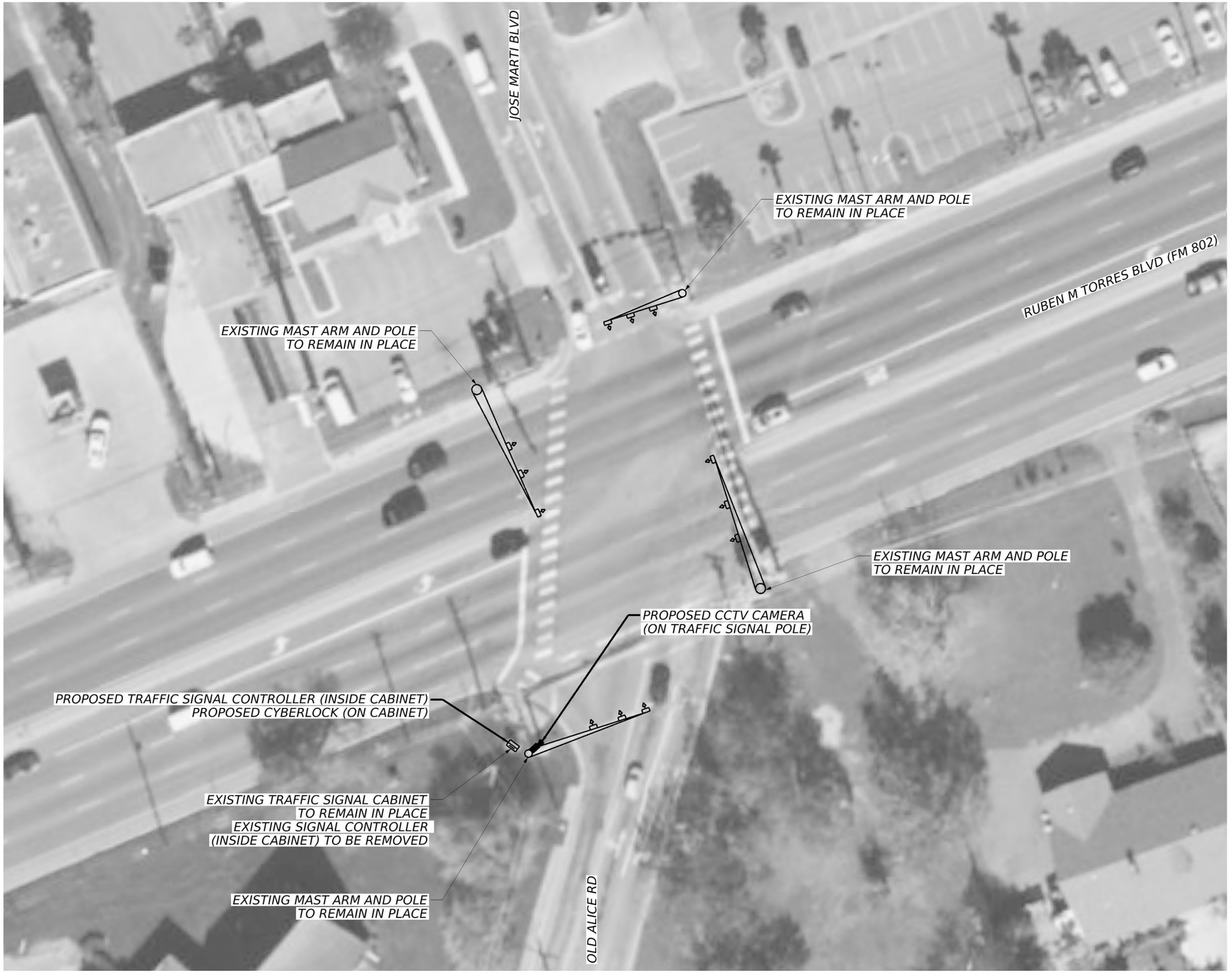
INTERSECTION 077

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	114

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PROP SIG 077 FM 802 AT MINNESOTA AVE CSJ 400.dgn



LEGEND

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Land Surveying Firm No. 10046700

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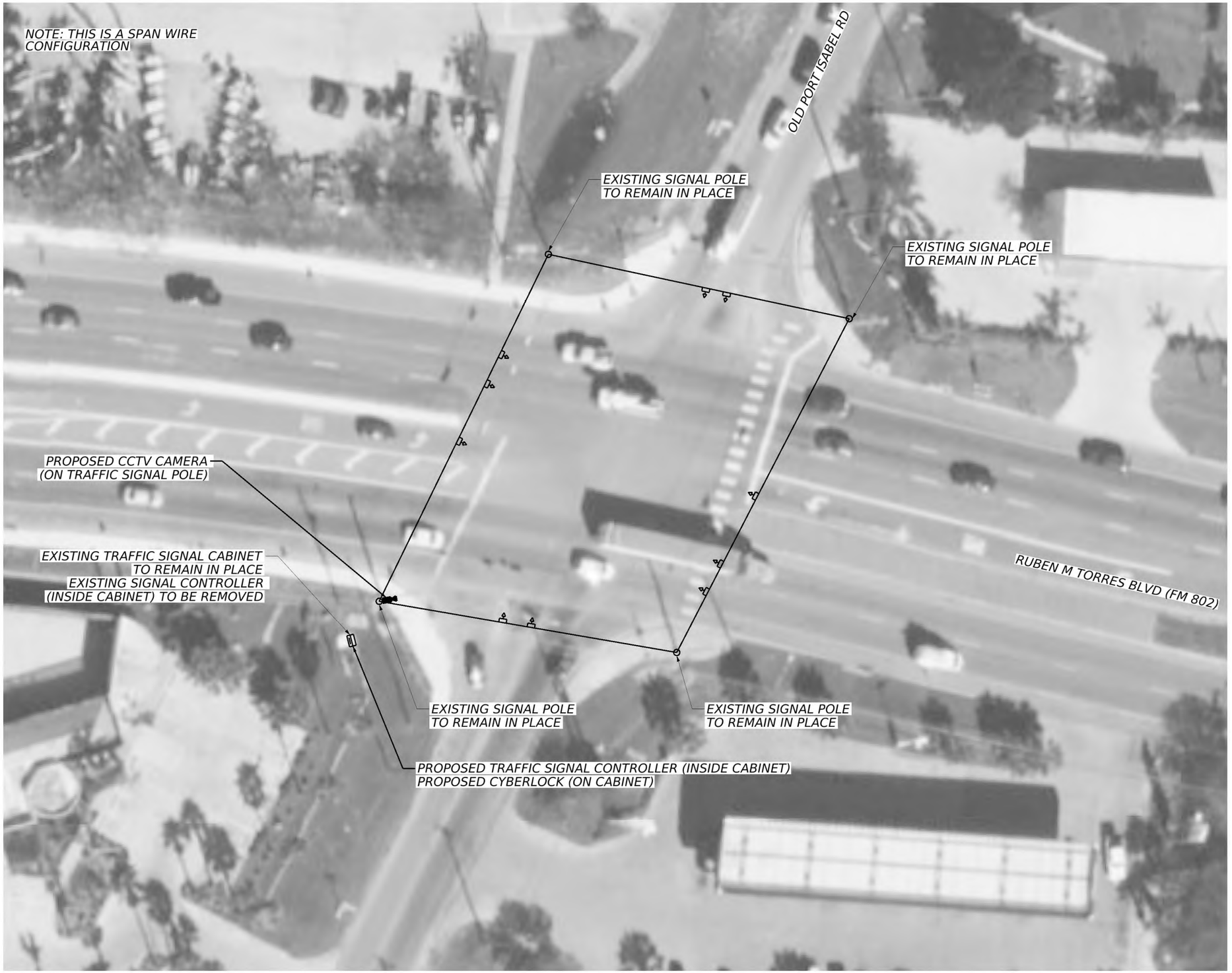
RUBEN M TORRES BLVD (FM 802)
AT OLD ALICE RD / JOSE MARTI B
INTERSECTION 078

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	115

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PROP SIG 078 FM 802 AT OLD ALICE RD CSJ 400.dgn



LEGEND

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RUBEN M TORRES BLVD (FM 802)
AT OLD PORT ISABEL RD

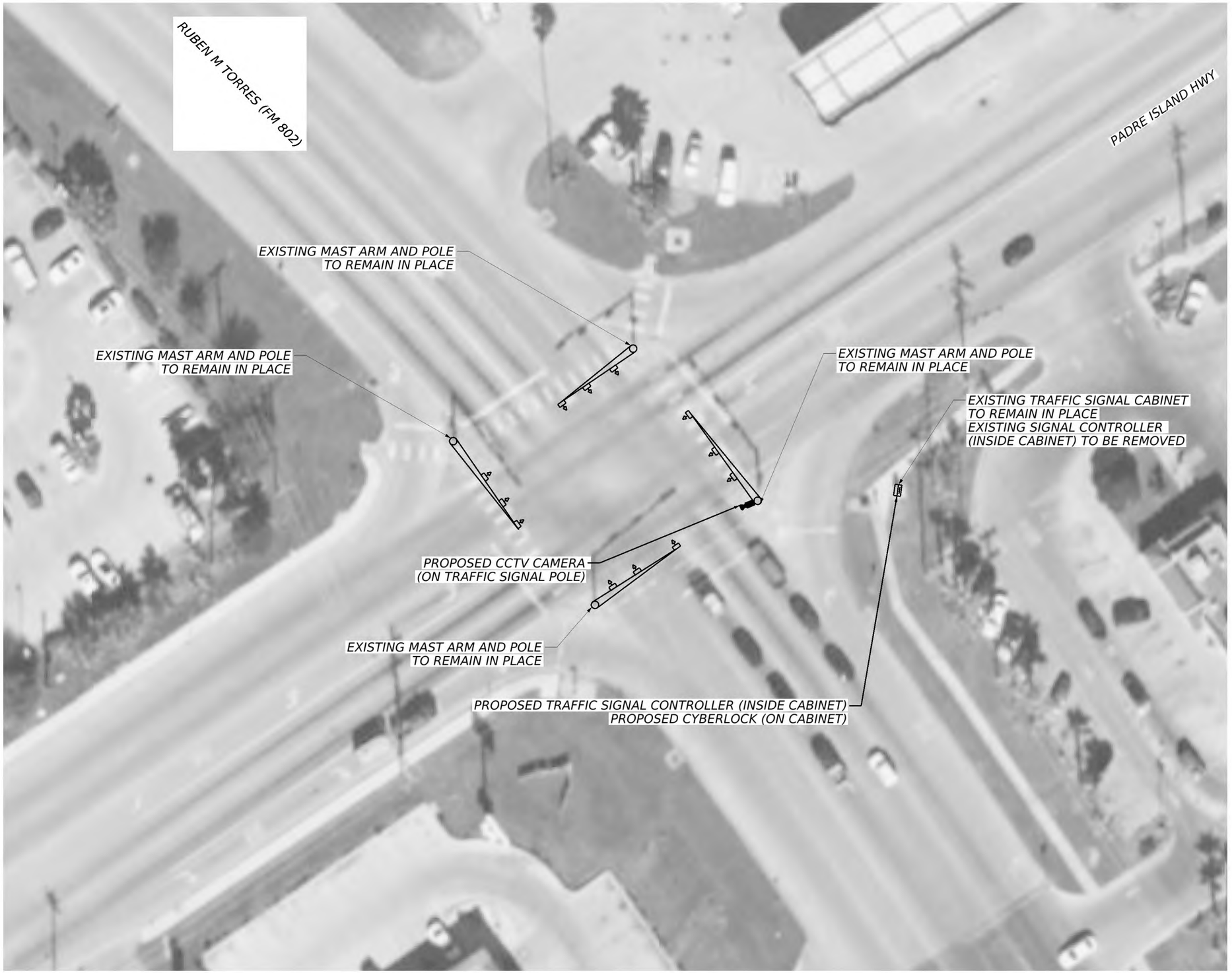
INTERSECTION 079

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	116

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PROP SIG 079 FM 802 AT OLD PORT ISABEL RD CSJ 400.dgn



LEGEND

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RUBEN M TORRES BLVD (FM 802)
AT PADRE ISLAND HWY
INTERSECTION 080

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	117

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PROP SIG 080 FM 802 AT PADRE ISLAND HWY CSJ 400.dgn



LEGEND

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RUBEN M TORRES BLVD (FM 802) AT PAREDES LINE RD (FM 1847)

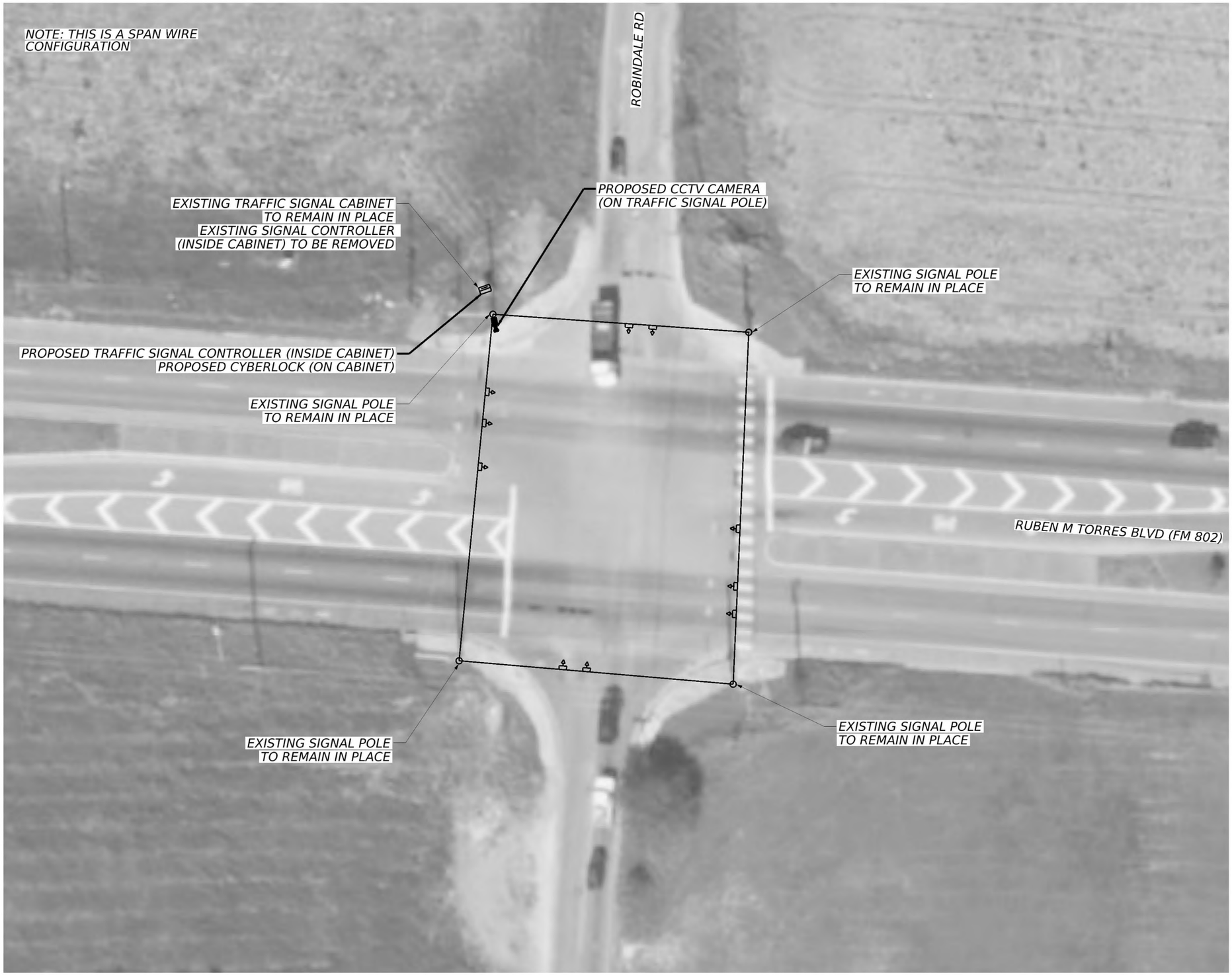
INTERSECTION 081

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	118

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PROP SIG 081 FM 802 AT PAREDES LINE ROAD CSJ 400.dgn



LEGEND

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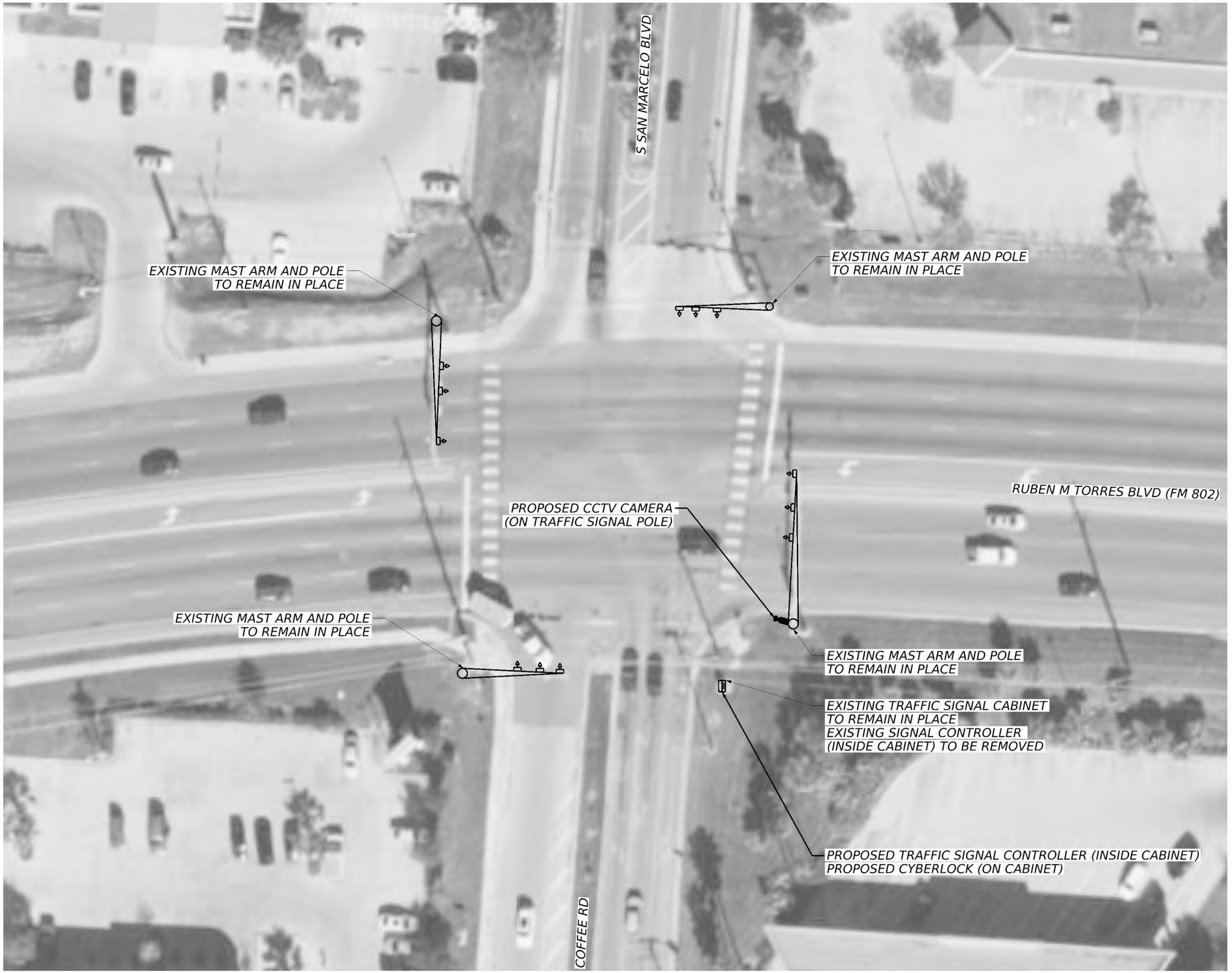
RUBEN M TORRES BLVD (FM 802)
AT ROBINDALE RD
INTERSECTION 082

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	119

3/5/2026 9:11:25 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 082 FM 802 AT ROBINDALE RD CSJ 400.dgn

PROP SIG 082 FM 802 AT ROBINDALE RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT S SAN MARCELO BLVD - COFFEE RD

INTERSECTION 083

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	120

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PROP SIG 083 FM 802 AT SAN MARCELO COFFEE RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
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3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT SEVILLE BLVD
INTERSECTION 084

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	121

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PROP SIG 084 FM 802 AT SEVILLE BLVD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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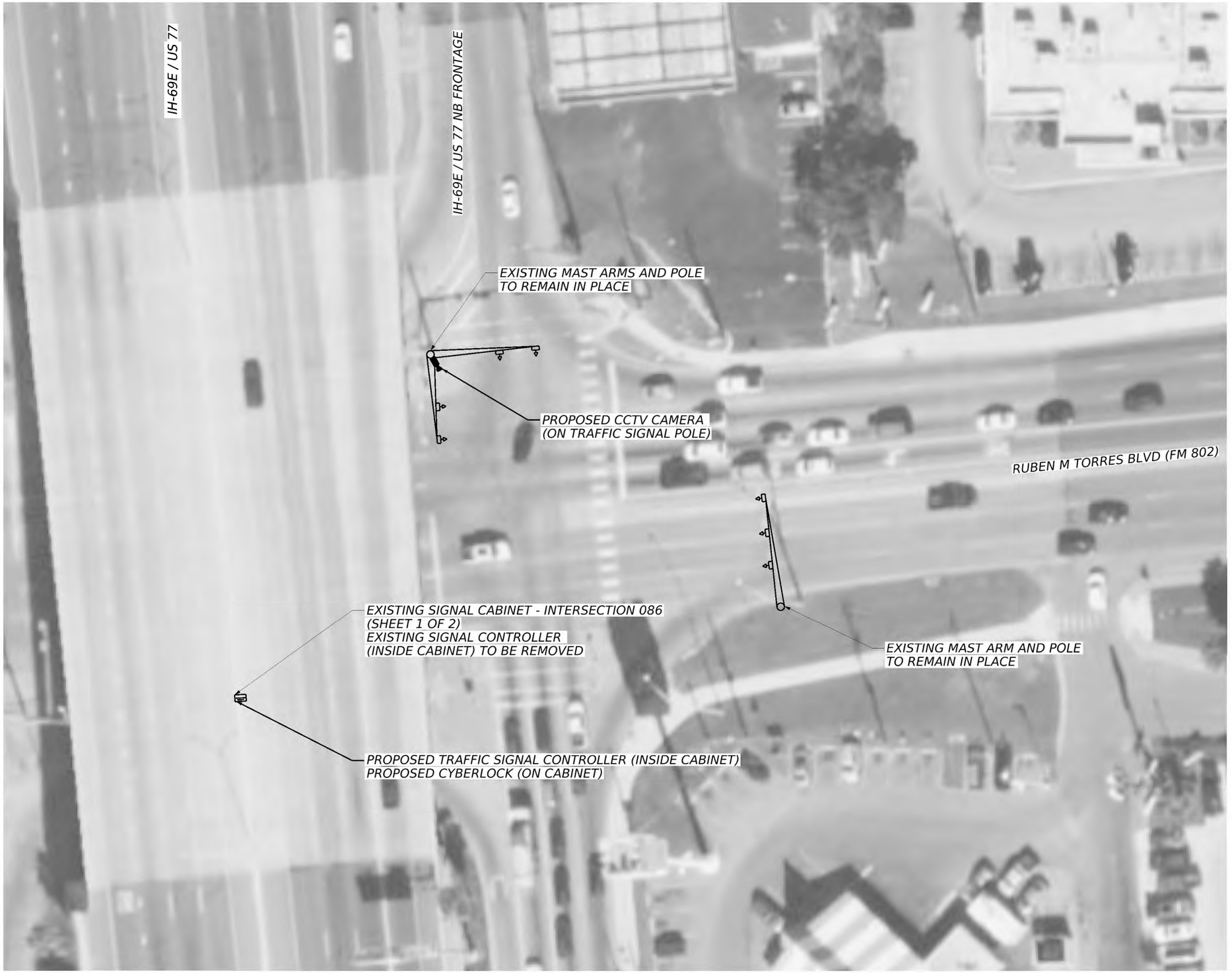
RUBEN M TORRES BLVD (FM 802)
AT SUNRISE MALL
INTERSECTION 085

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	122

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PROP SIG 085 FM 802 AT SUNRISE MALL EAST ENTRANCE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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- EXISTING CABINET
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STATE OF TEXAS
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LICENSED
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3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT IH-69E/US 77 NB FRONTAGE
INTERSECTION 086

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	123

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PROP SIG 086A FM 802 AT IH-69E - US 77 AT NORTH FRONTAGE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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0 10 20 40
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STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

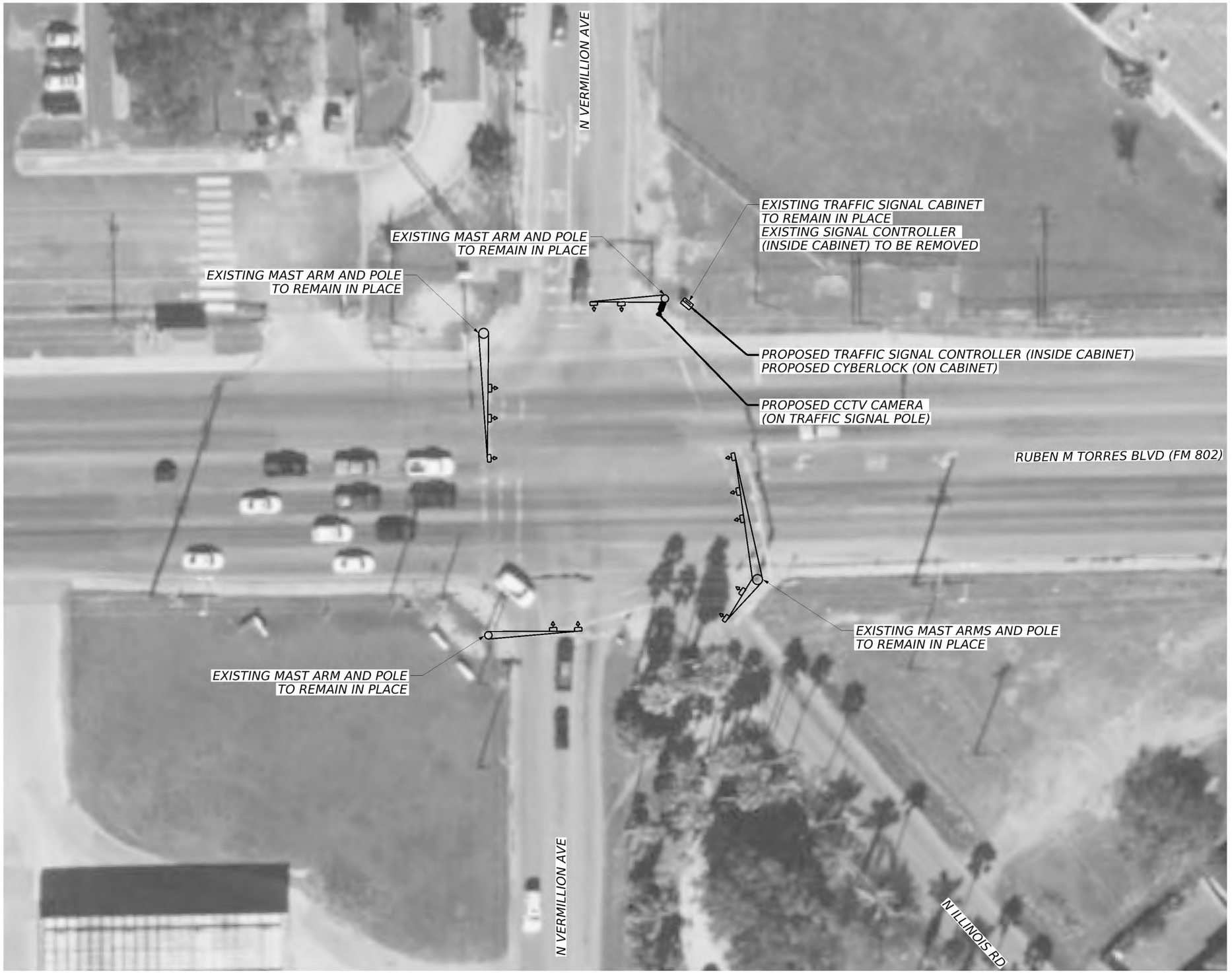
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RUBEN M TORRES BLVD (FM 802)
AT IH-69E/US 77 SB FRONTAGE
INTERSECTION 086
SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	124

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PROP SIG 086B FM 802 AT IH-69E - US 77 AT SOUTH FRONTAGE CSJ 400.dgn



LEGEND

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STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802)
AT N VERMILLION AVE / N ILLINOIS RD
INTERSECTION 087
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	125

3/5/2026 9:13:02 AM
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PROP SIG 087 FM 802 AT VERMILLION AVE-ILLINOIS RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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RUBEN M TORRES BLVD (FM 802) AT VILLAGE CENTER BLVD

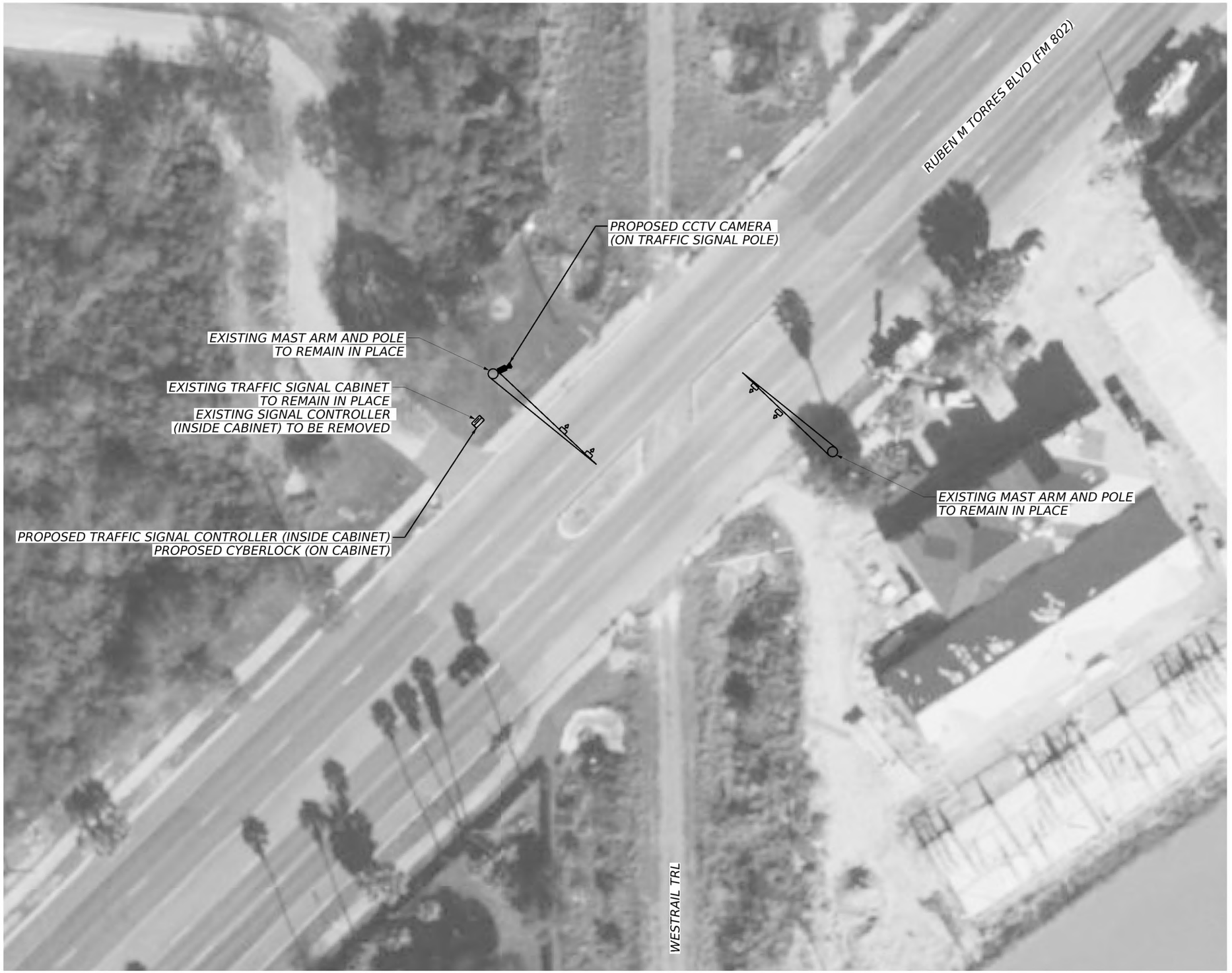
INTERSECTION 088

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	126

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PROP SIG 088 FM 802 AT VILLAGE CENTER DR CSJ 400.dgn



LEGEND

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3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

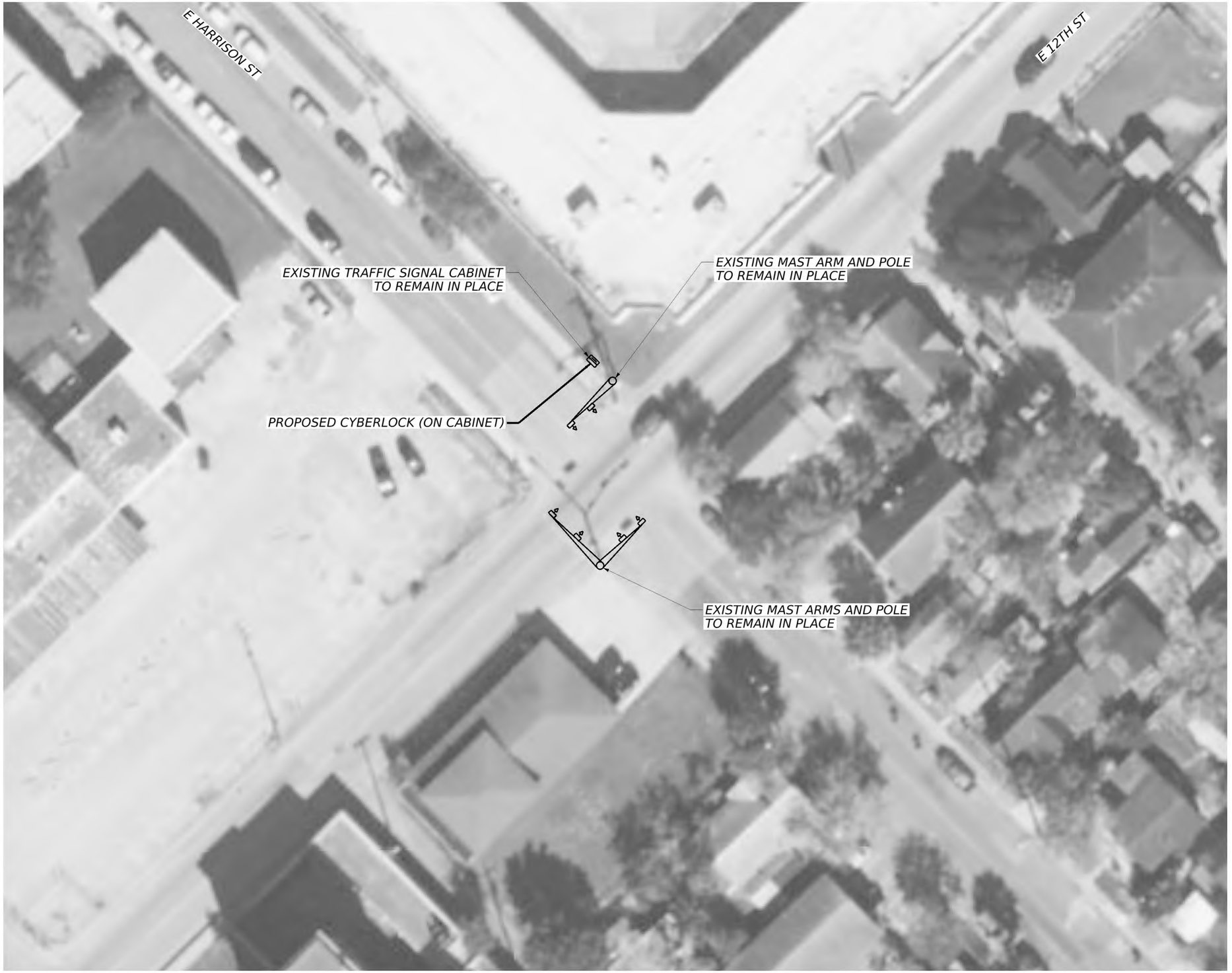
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RUBEN M TORRES BLVD (FM 802)
AT WESTRAIL TRL
INTERSECTION 089
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	127

3/5/2026 9:13:34 AM
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PROP SIG 089 FM 802 AT WEST RAIL TRAIL CSJ 400.dgn



LEGEND

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STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E HARRISON ST AT E 12TH ST

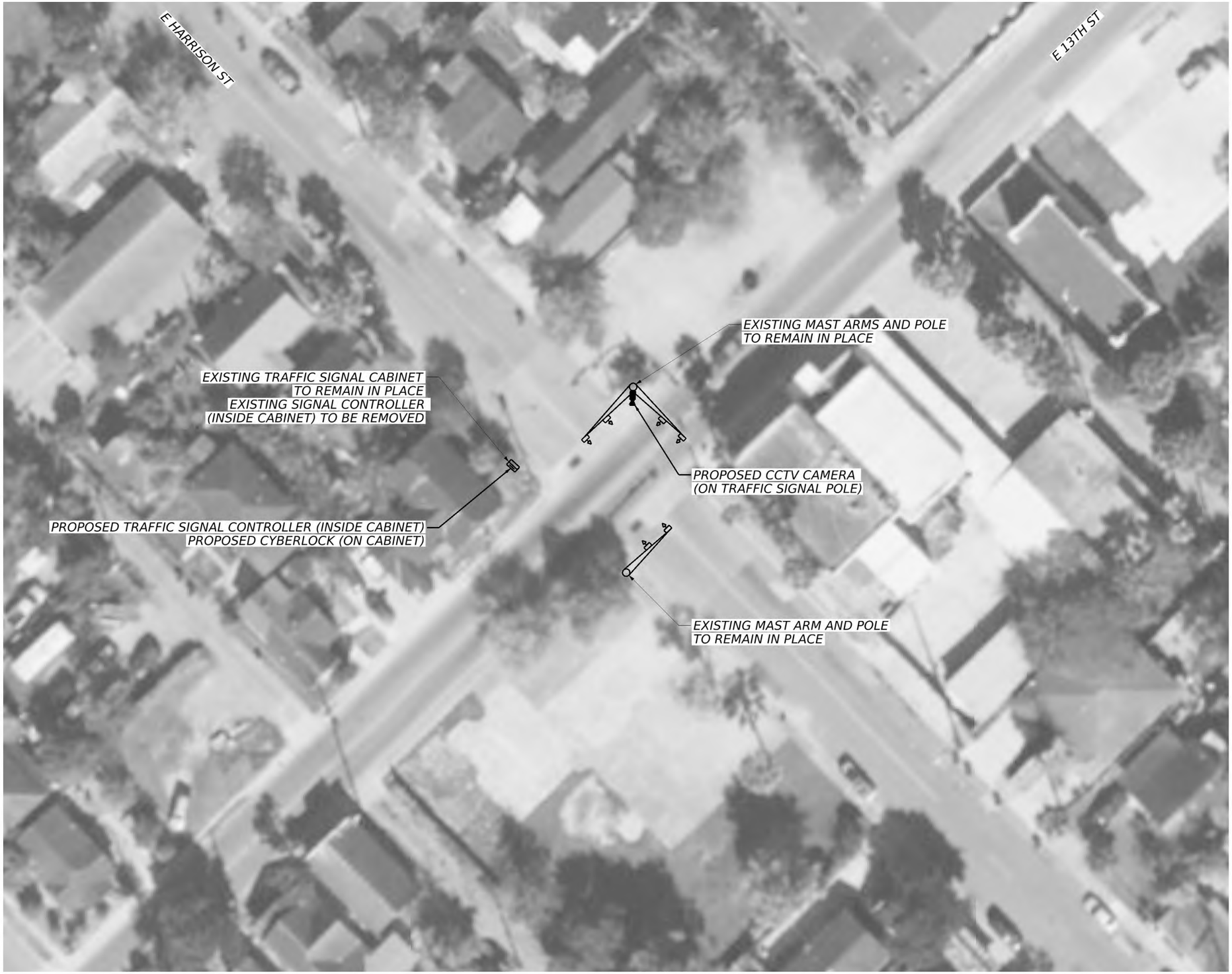
INTERSECTION 090

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	128

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PROP SIG 090 HARRISON ST AT 12TH ST CSJ 400.dgn



LEGEND

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E HARRISON ST AT E 13TH ST

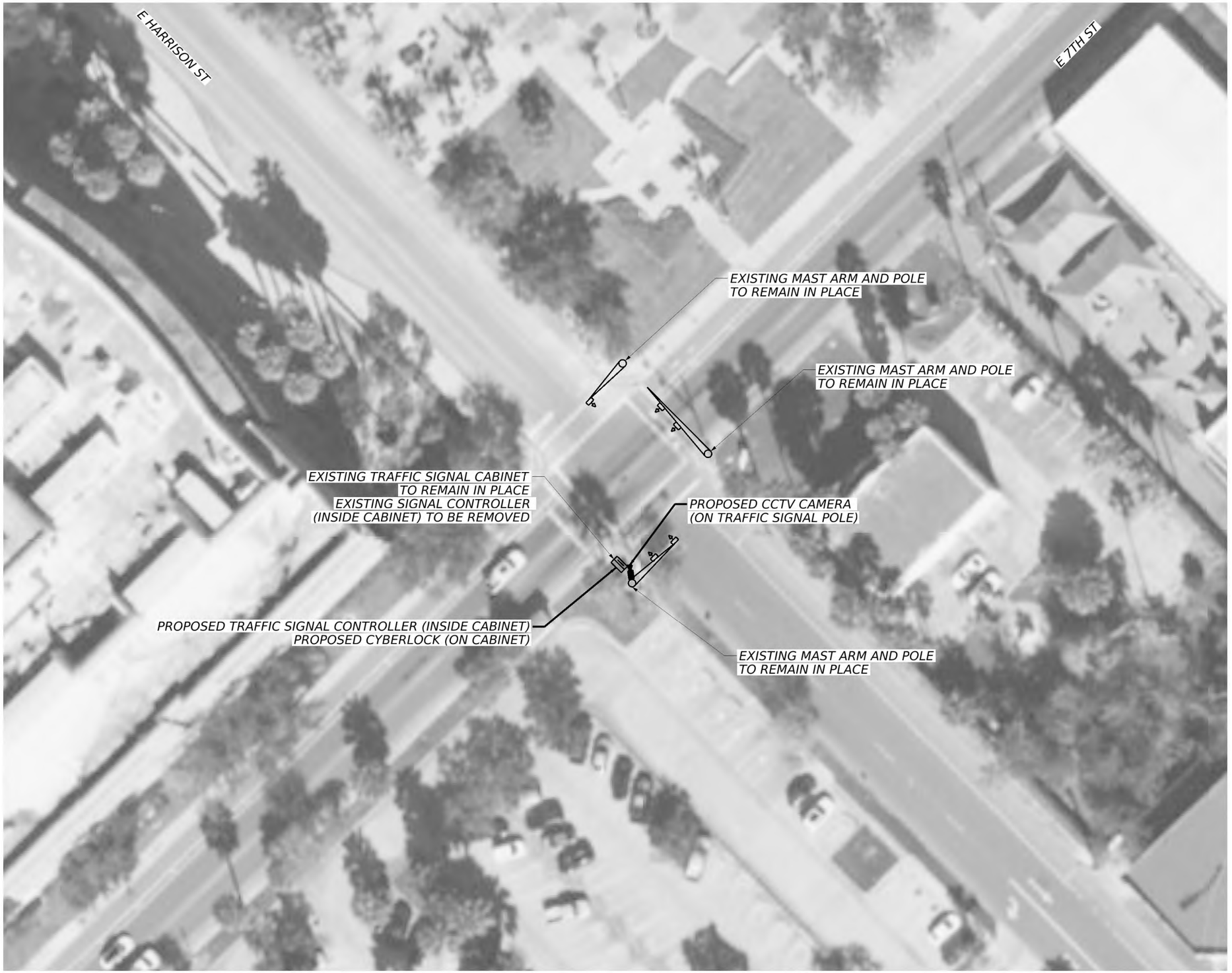
INTERSECTION 091

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	129

3/5/2026 9:14:09 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509.010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 091 HARRISON ST AT 13TH ST CSJ 400.dgn

PROP SIG 091 HARRISON ST AT 13TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E HARRISON ST AT
E 7TH ST

INTERSECTION 092

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	130

3/5/2026 9:14:26 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 092 HARRISON ST AT 7TH ST CSJ 400.dgn
PROP SIG 092 HARRISON ST AT 7TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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HORTENCIA ST AT
E 28TH ST

INTERSECTION 093

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	131

3/5/2026 9:14:44 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 093 HORTENCIA ST AT 28TH ST CSJ 400.dgn

PROP SIG 093 HORTENCIA ST AT 28TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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INTERNATIONAL BLVD AT E ADAMS ST

INTERSECTION 094

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	132

3/5/2026 9:15:02 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 094 INTERNATIONAL BLVD AT E ADAMS ST CSJ 400.dgn

PROP SIG 094 INTERNATIONAL BLVD AT E ADAMS ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
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LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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INTERNATIONAL BLVD AT CLEVELAND ST

INTERSECTION 095

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	133

3/5/2026 9:15:21 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 095 INTERNATIONAL BLVD AT CLEVELAND ST CSJ 400.dgn

PROP SIG 095 INTERNATIONAL BLVD AT CLEVELAND ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INTERNATIONAL BLVD AT E JACKSON ST - E 17TH ST

INTERSECTION 096

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	134

3/5/2026 9:15:39 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 096 INTERNATIONAL BLVD AT E JACKSON ST CSJ 400.dgn

PROP SIG 096 INTERNATIONAL BLVD AT E JACKSON ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
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INTERNATIONAL BLVD AT E JEFFERSON ST - MAY ST

INTERSECTION 097

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	135

3/5/2026 9:15:57 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 097 INTERNATIONAL BLVD AT E JEFFERSON ST AND MAY ST CSJ 400.dgn

PROP SIG 097 INTERNATIONAL BLVD AT E JEFFERSON ST AND MAY ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INTERNATIONAL BLVD AT E MONROE DR

INTERSECTION 098

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	136

3/5/2026 9:16:13 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 098 INTERNATIONAL BLVD AT MONROE DR CSJ 400.dgn
PROP SIG 098 INTERNATIONAL BLVD AT MONROE DR CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INTERNATIONAL BLVD AT E POLK ST

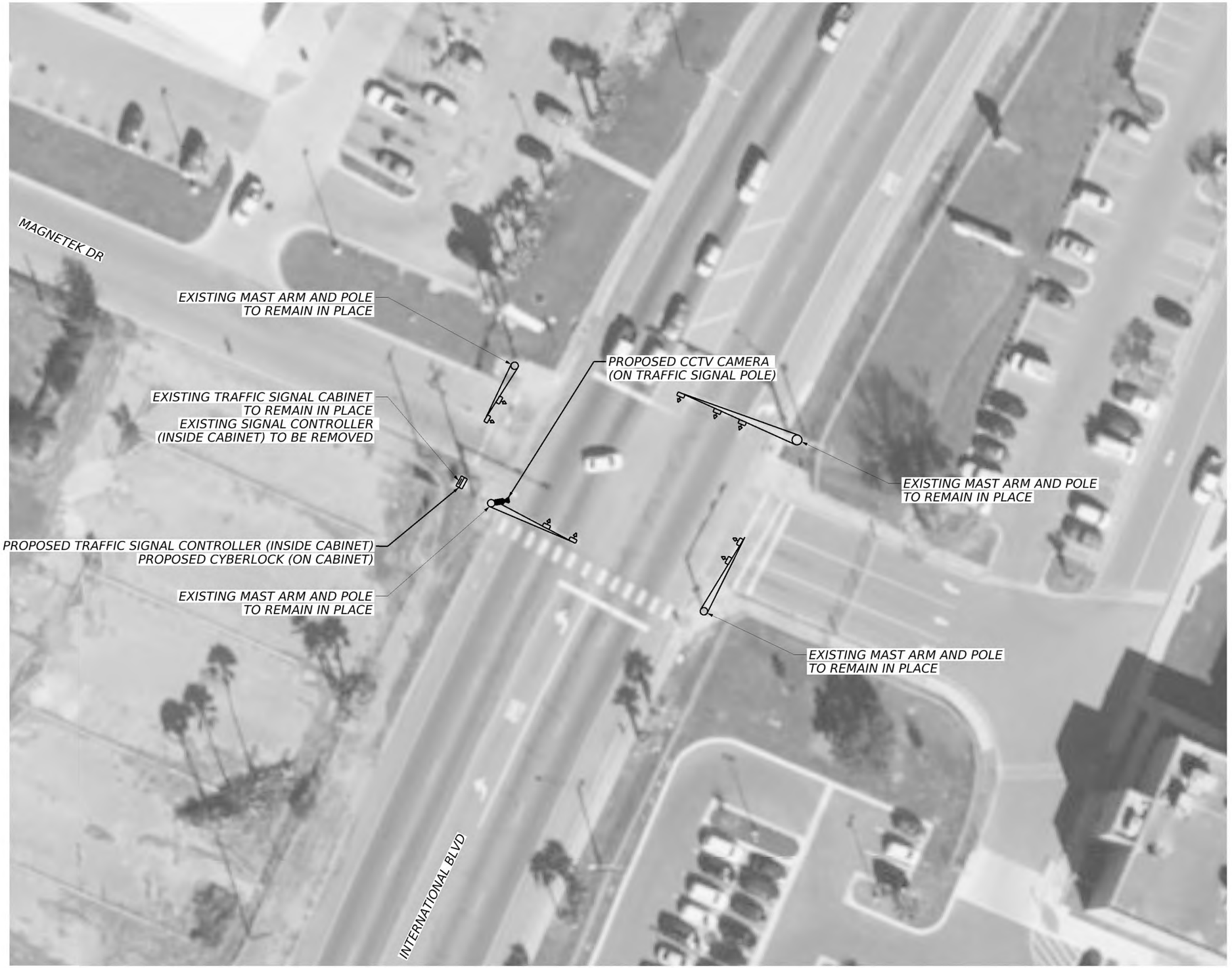
INTERSECTION 099

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	137

3/5/2026 9:16:30 AM
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PROP SIG 099 INTERNATIONAL BLVD AT E POLK ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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STATE OF TEXAS
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98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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INTERNATIONAL BLVD AT MAGNETEK DR

INTERSECTION 100

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	138

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PROP SIG 100 INTERNATIONAL BLVD AT MAGNETEK DR CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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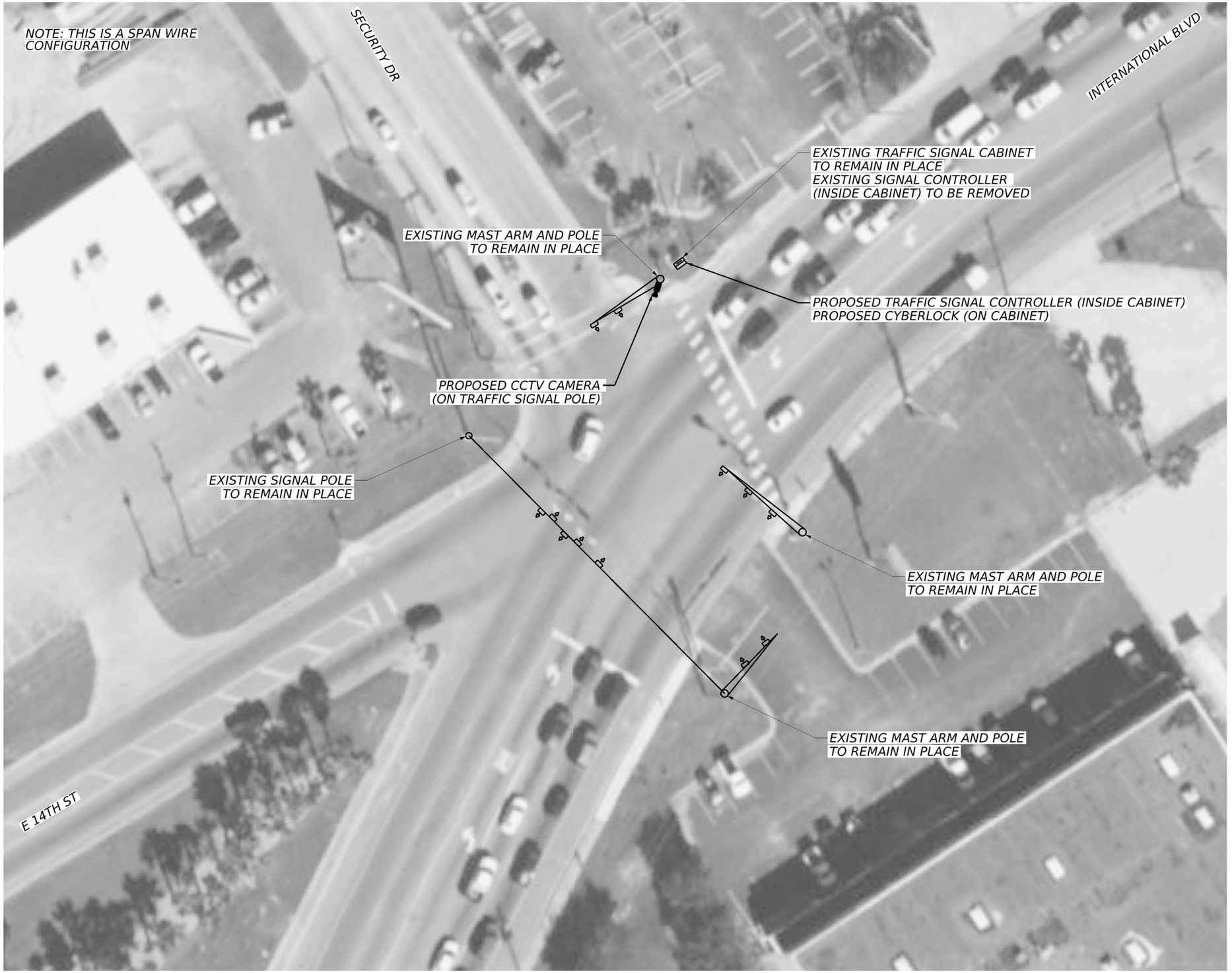
INTERNATIONAL BLVD AT ROOSEVELT ST

INTERSECTION 101

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	139

3/5/2026 9:32:13 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 101 INTERNATIONAL BLVD AT ROOSEVELT ST CSJ 400.dgn
PROP SIG 101 INTERNATIONAL BLVD AT ROOSEVELT ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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INTERNATIONAL BLVD AT SECURITY DR - E 14TH ST

INTERSECTION 102

SHEET 1 OF 1

FED.RD DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	140

3/6/2026 4:44:14 PM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 102 INTERNATIONAL BLVD AT SECURITY DR AND 14TH ST CSJ 400.dgn

PROP SIG 102 INTERNATIONAL BLVD AT SECURITY DR AND 14TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
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8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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INTERNATIONAL BLVD AT SOUTHMOST RD

INTERSECTION 103

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	141

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PROP SIG 103 INTERNATIONAL BLVD AT SOUTHMOST RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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INTERNATIONAL BLVD AT E TYLER ST

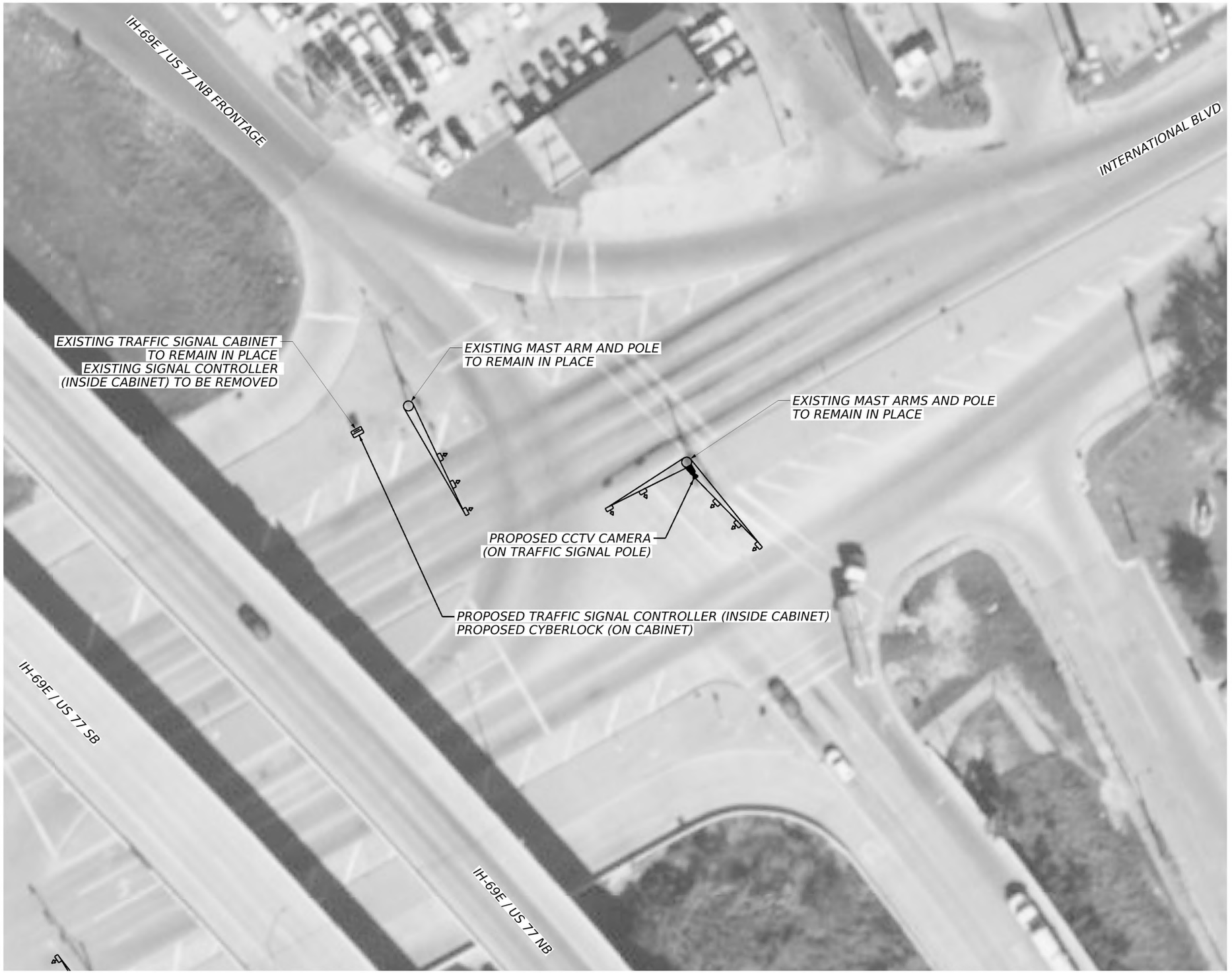
INTERSECTION 104

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	142

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PROP SIG 104 INTERNATIONAL BLVD AT TYLER ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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- EXISTING CABINET
- PROPOSED CCTV CAMERA

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INTERNATIONAL BLVD AT IH-69E / US 77 NB FRONTAGE

INTERSECTION 105

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	143

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PROP SIG 105A INTERNATIONAL BLVD AT IH-69E_US 77 NORTH FRONTAGE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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INTERNATIONAL BLVD AT IH-69E / US 77 SB FRONTAGE

INTERSECTION 105

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	144

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PROP SIG 105B INTERNATIONAL BLVD AT IH-69E_US 77 NORTH FRONTAGE CSJ 400.dgn



LEGEND

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3/6/26

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INTERNATIONAL BLVD AT E WASHINGTON ST

INTERSECTION 106

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	145

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PROP SIG 106 INTERNATIONAL BLVD AT WASHINGTON ST CSJ 400.dgn



LEGEND

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STATE OF TEXAS
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98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E JACKSON ST AT E 12TH ST

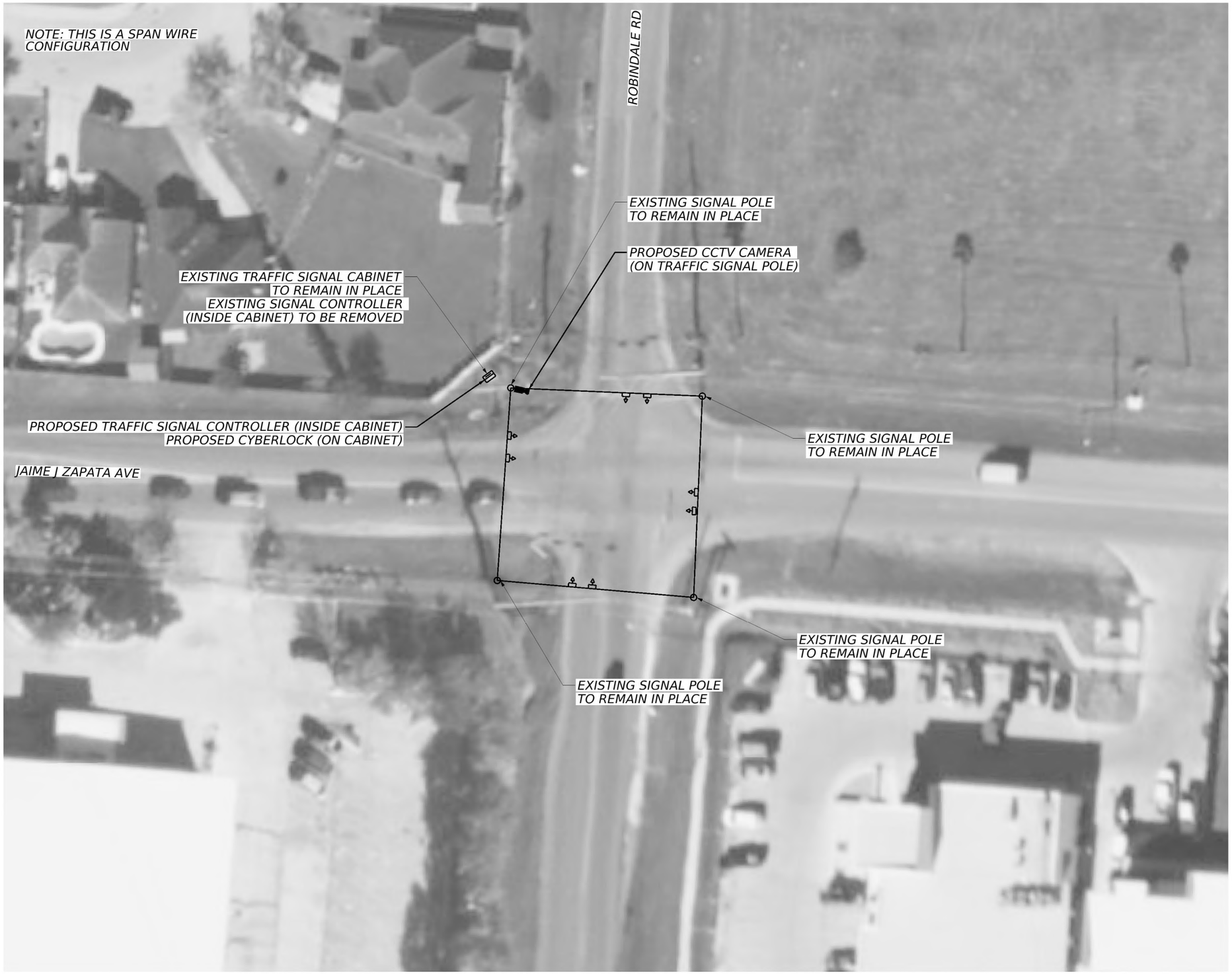
INTERSECTION 107

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	146

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PROP SIG 107 E JACKSON AT 12TH ST CSJ 400.dgn



LEGEND

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3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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JAIME J ZAPATA AVE AT ROBINDALE RD

INTERSECTION 108

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	147

3/5/2026 9:40:59 AM
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PROP SIG 108 JAIME J ZAPATA AVE AT ROBINDALE RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E JEFFERSON ST AT
E 12TH ST

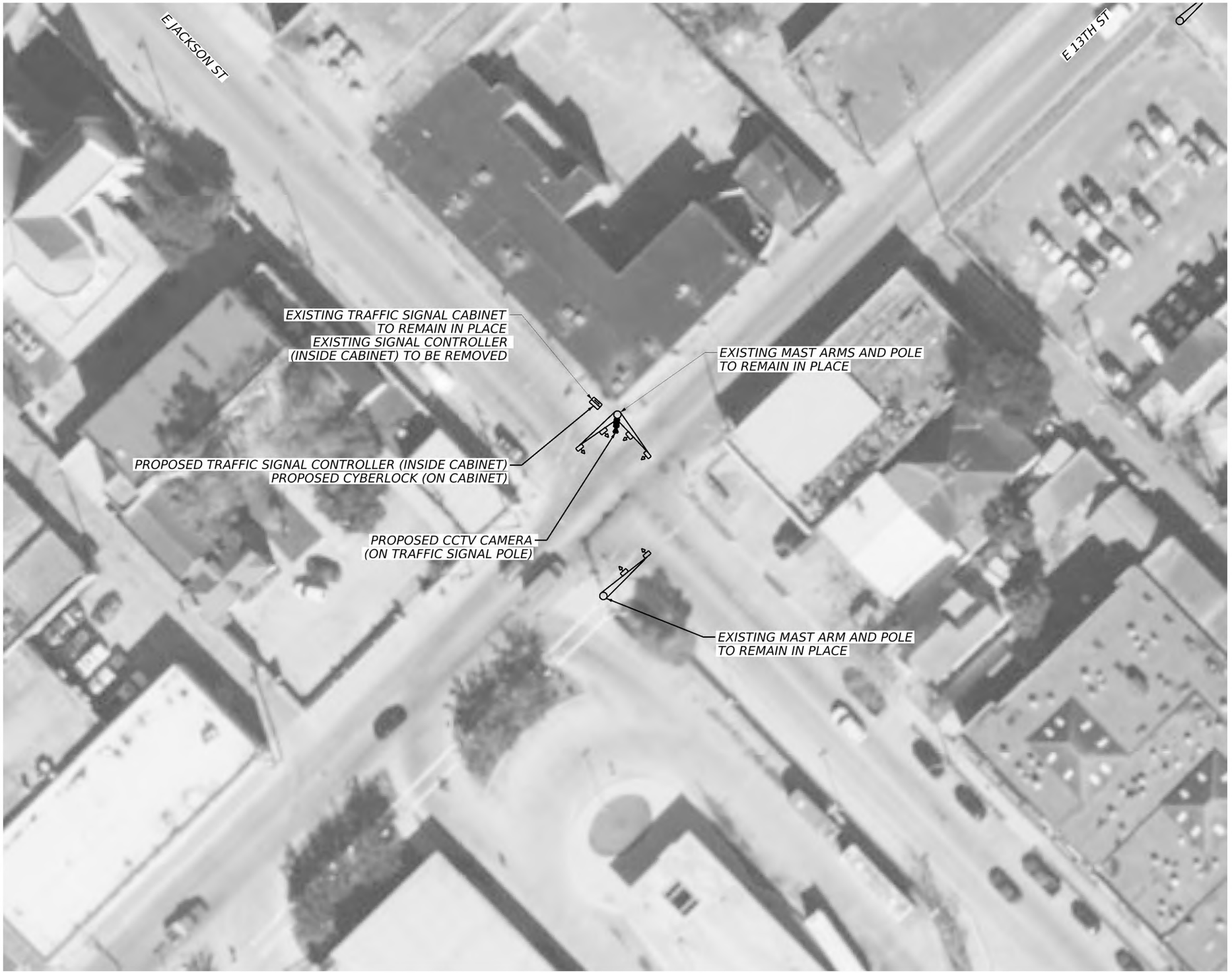
INTERSECTION 109

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	148

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PROP SIG 109 E JEFFERSON ST AT 12TH ST CSJ 400.dgn



LEGEND

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E JEFFERSON ST AT
E 13TH ST

INTERSECTION 110

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	149

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PROP SIG 110 E JEFFERSON ST AT 13TH ST CSJ 400.dgn



LEGEND

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E JEFFERSON ST AT E 14TH ST

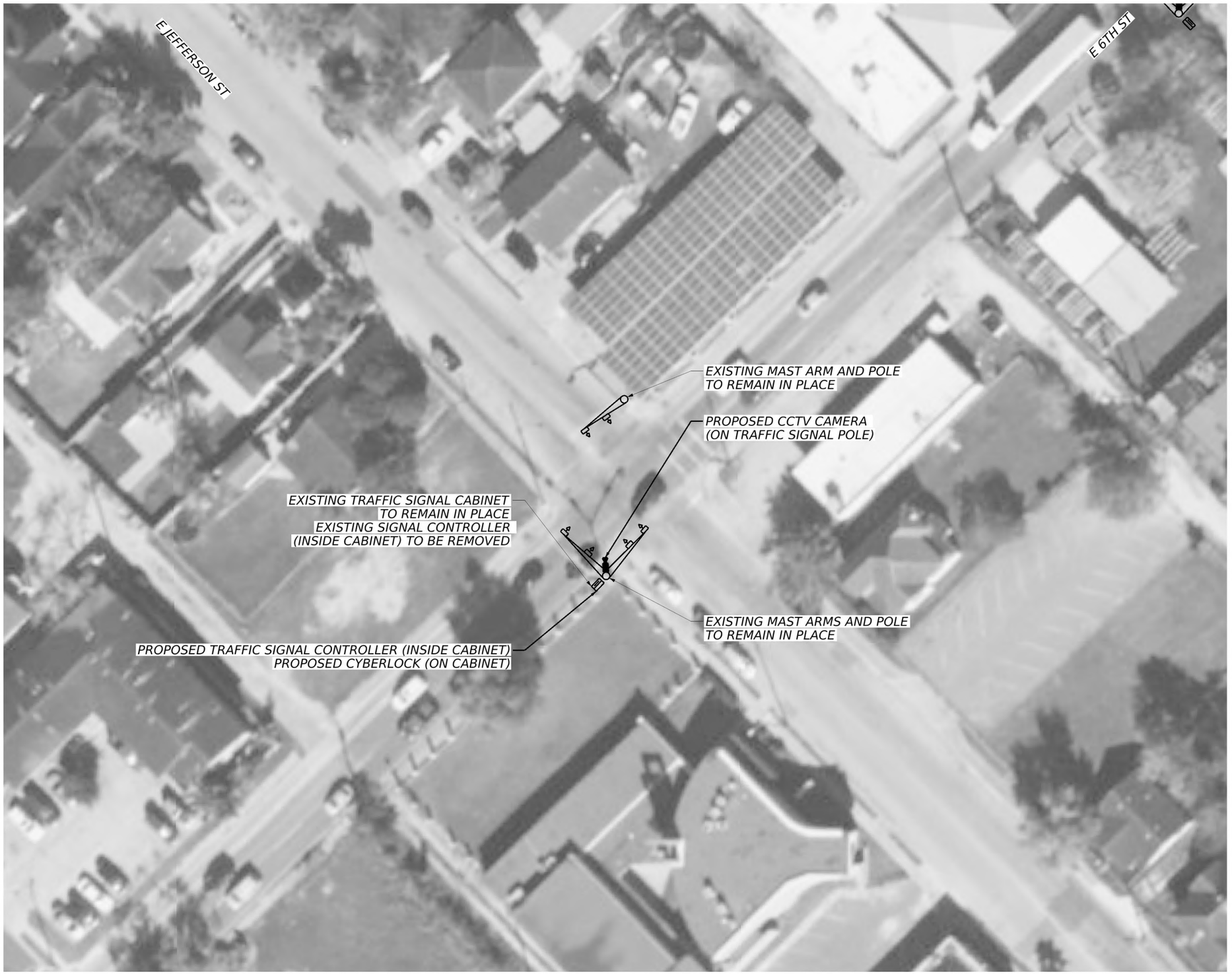
INTERSECTION 111

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	150

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PROP SIG 111 E JEFFERSON ST AT 14TH ST CSJ 400.dgn



LEGEND

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BROWNSVILLE

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E JEFFERSON ST AT E 6TH ST

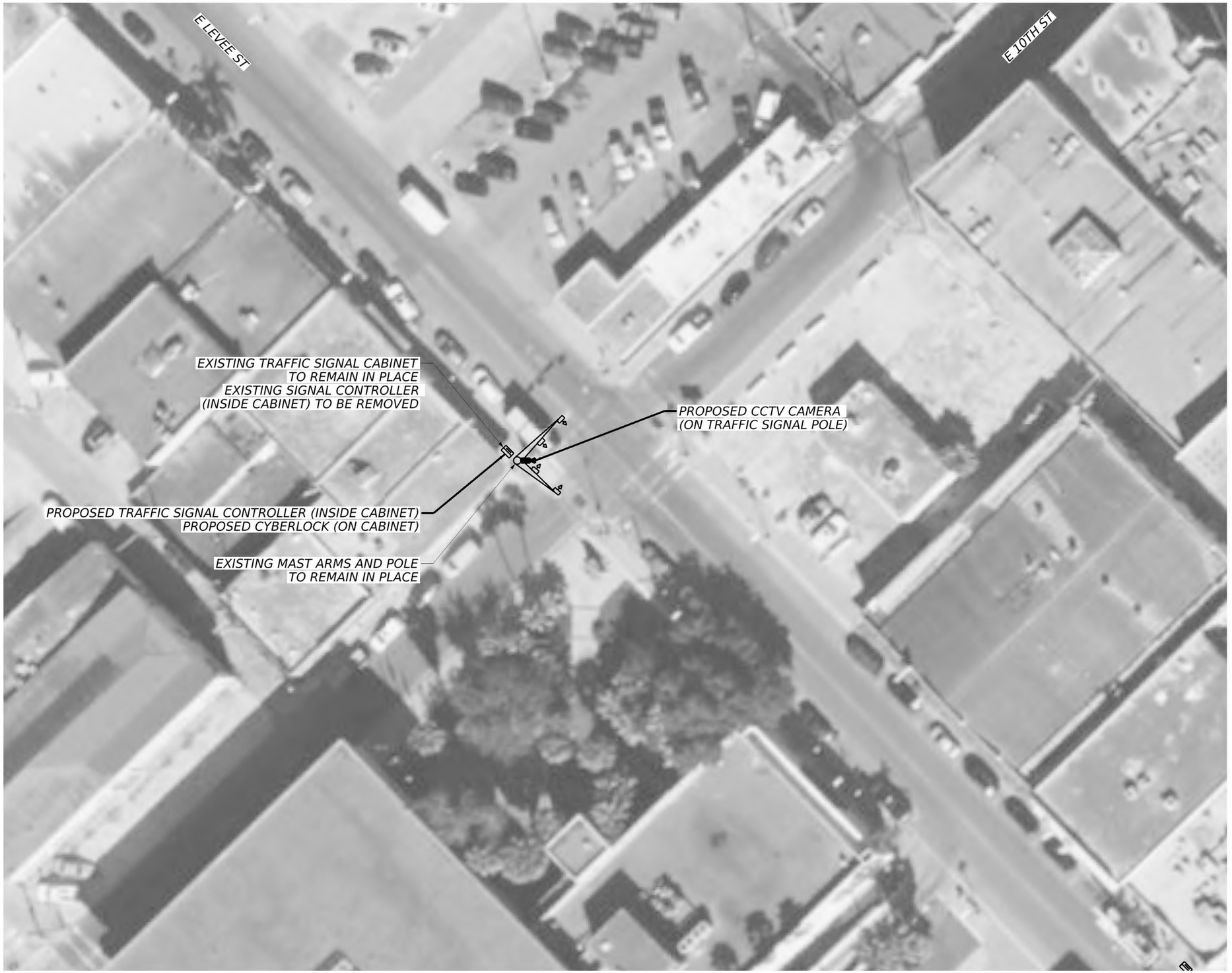
INTERSECTION 112

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	151

3/5/2026 9:45:16 AM pw://cobfen.pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 112 E JEFFERSON AT 6TH ST CSJ 400.dgn

PROP SIG 112 E JEFFERSON AT 6TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40
1" = 40'

N

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E LEVEE ST AT
E 10TH ST
INTERSECTION 113

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	152

3/5/2026 9:46:21 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 113 E LEVEE AT 10TH ST CSJ 400.dgn

PROP SIG 113 E LEVEE AT 10TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E LEVEE ST AT E 11TH ST

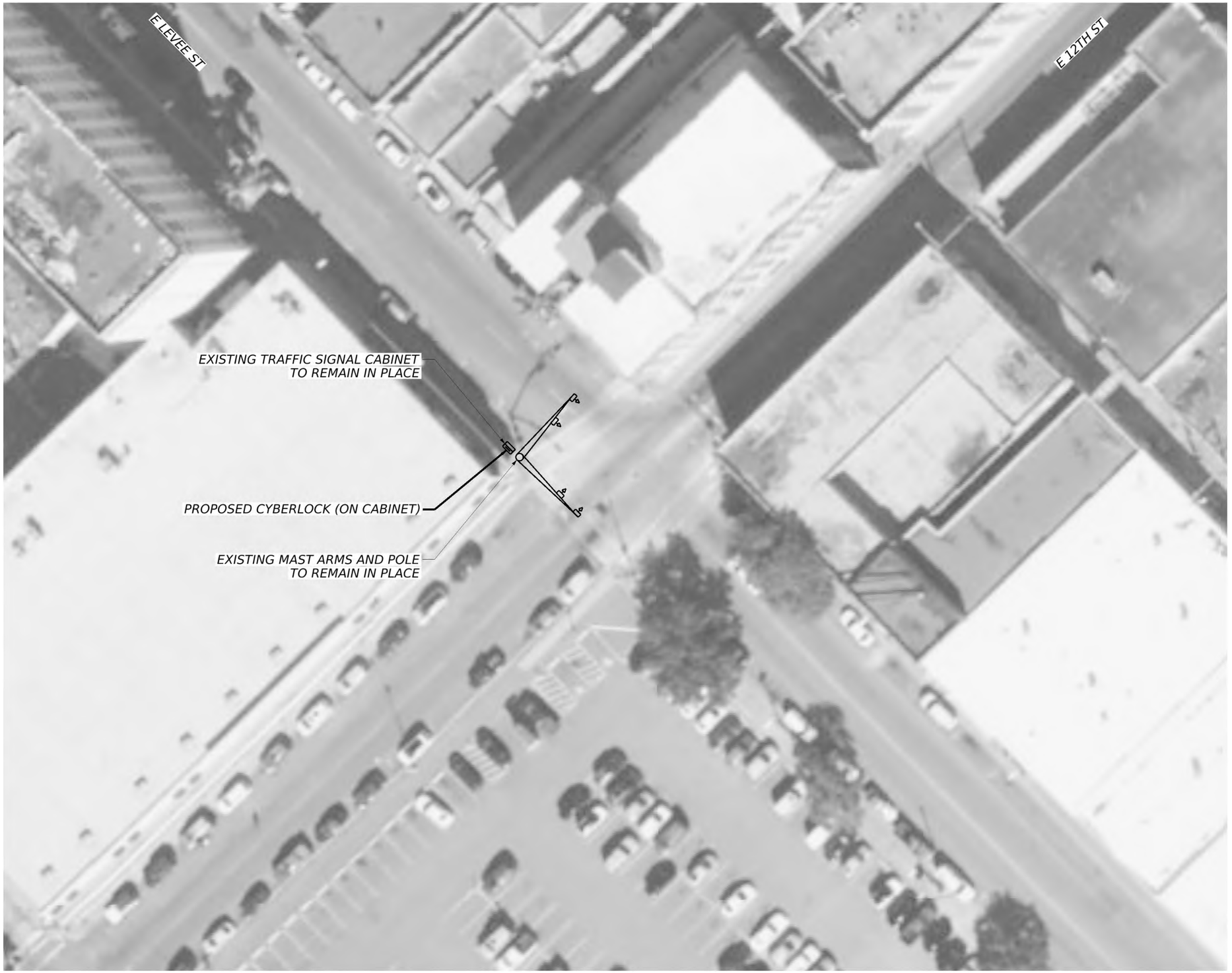
INTERSECTION 114

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	153

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PROP SIG 114 E LEVEE AT 11TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E LEVEE ST AT E 12TH ST

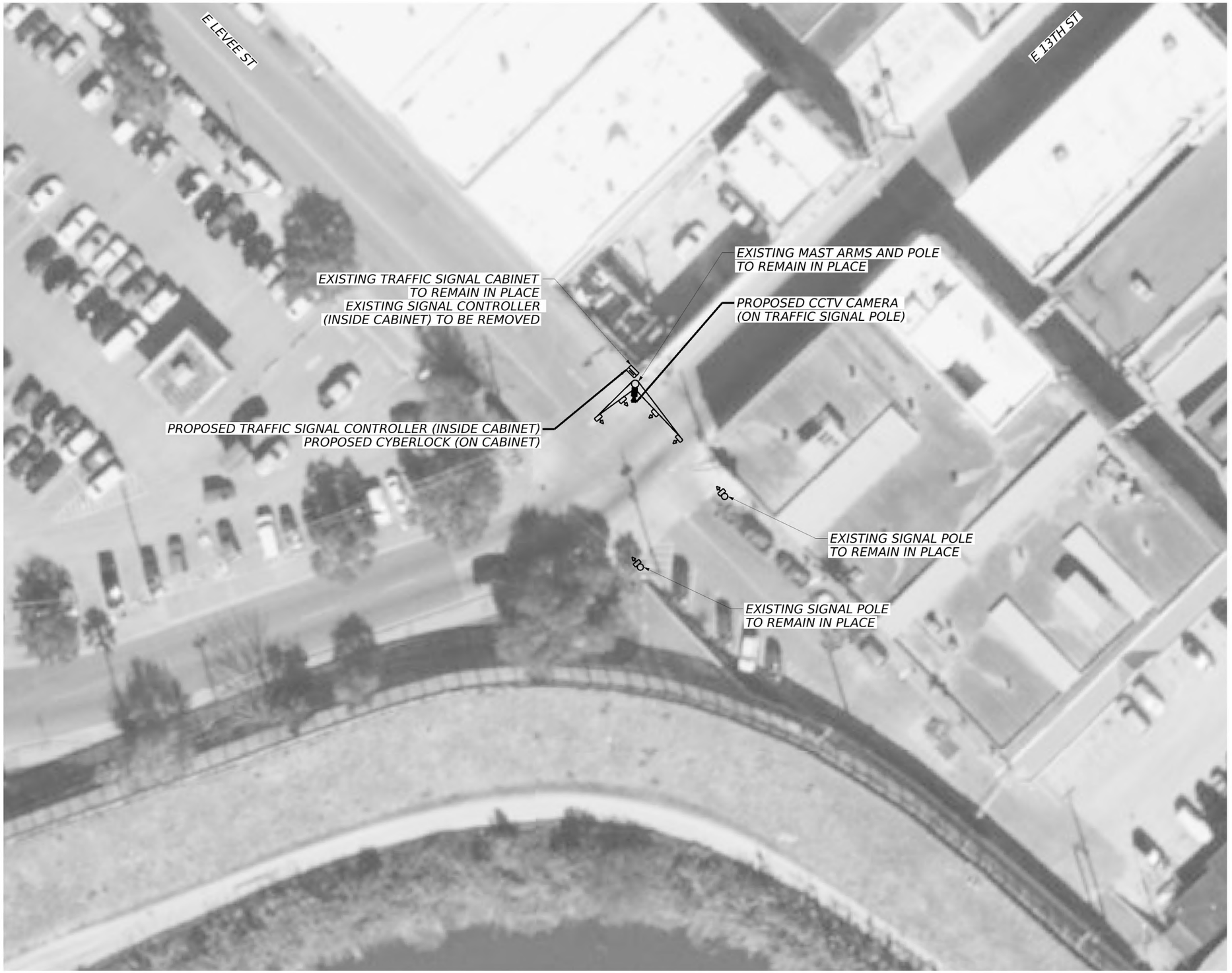
INTERSECTION 115

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	154

3/5/2026 9:48:30 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 115 E LEVEE AT 12TH ST CSJ 400.dgn

PROP SIG 115 E LEVEE AT 12TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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1" = 40'

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STATE OF TEXAS
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3/6/26

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E LEVEE ST AT E 13TH ST

INTERSECTION 116

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	155

3/5/2026 9:49:37 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 116 E LEVEE AT 13TH ST CSJ 400.dgn

PROP SIG 116 E LEVEE AT 13TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E LEVEE ST AT E 6TH ST

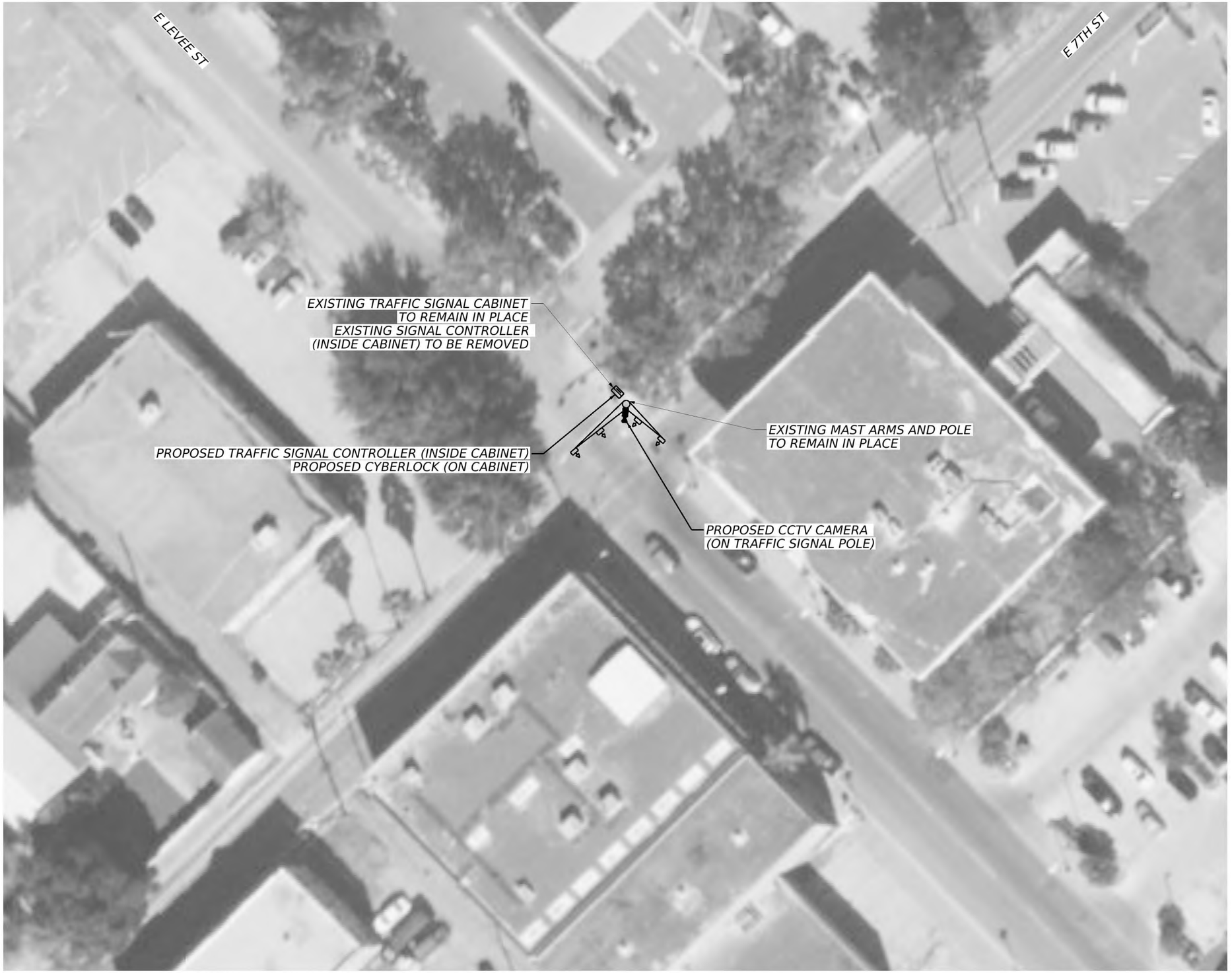
INTERSECTION 117

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	156

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PROP SIG 117 E LEVEE ST AT 6TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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STATE OF TEXAS
BRIAN G. CASTILLE
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LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E LEVEE ST AT E 7TH ST

INTERSECTION 118

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	157

3/5/2026 9:51:37 AM
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PROP SIG 118 E LEVEE ST AT 7TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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E LEVEE ST AT E 8TH ST

INTERSECTION 119

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	158

3/5/2026 9:52:41 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 119 E LEVEE ST AT 8TH ST CSJ 400.dgn

PROP SIG 119 E LEVEE ST AT 8TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E LEVEE ST AT E 9TH ST

INTERSECTION 120

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	159

3/5/2026 9:53:43 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 120 E LEVEE ST AT 9TH ST CSJ 400.dgn

PROP SIG 120 E LEVEE ST AT 9TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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E LOS EBANOS BLVD AT N CORIA ST

INTERSECTION 121

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	160

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PROP SIG 121 LOS EBANOS BLVD AT CORIA ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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N

STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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E LOS EBANOS BLVD AT OLD ALICE RD

INTERSECTION 122

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	161

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PROP SIG 122 LOS EBANOS BLVD AT OLD ALICE RD CSJ 400.dgn



LEGEND

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3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E MADISON ST AT E 11TH ST

INTERSECTION 123

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	162

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PROP SIG 123 MADISON AT 11TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
4/20/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E MADISON ST AT
E 12TH ST

INTERSECTION 124

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	163

4/20/2026 9:44:52 AM
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PROP SIG 124 MADISON AT 12TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

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6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

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STATE OF TEXAS
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98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E MADISON ST AT
E 13TH ST

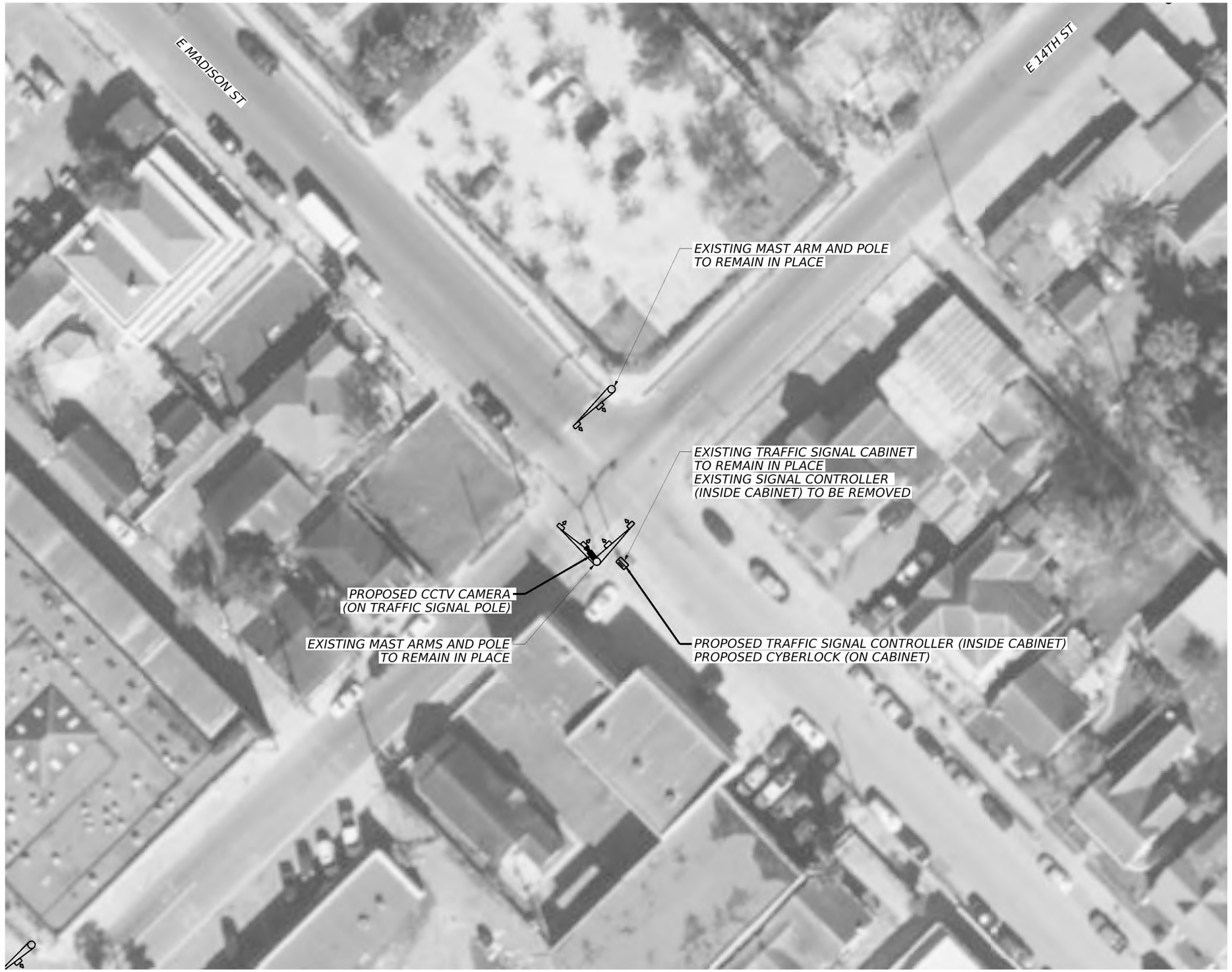
INTERSECTION 125

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	164

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PROP SIG 125 MADISON AT 13TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E MADISON ST AT
E 14TH ST

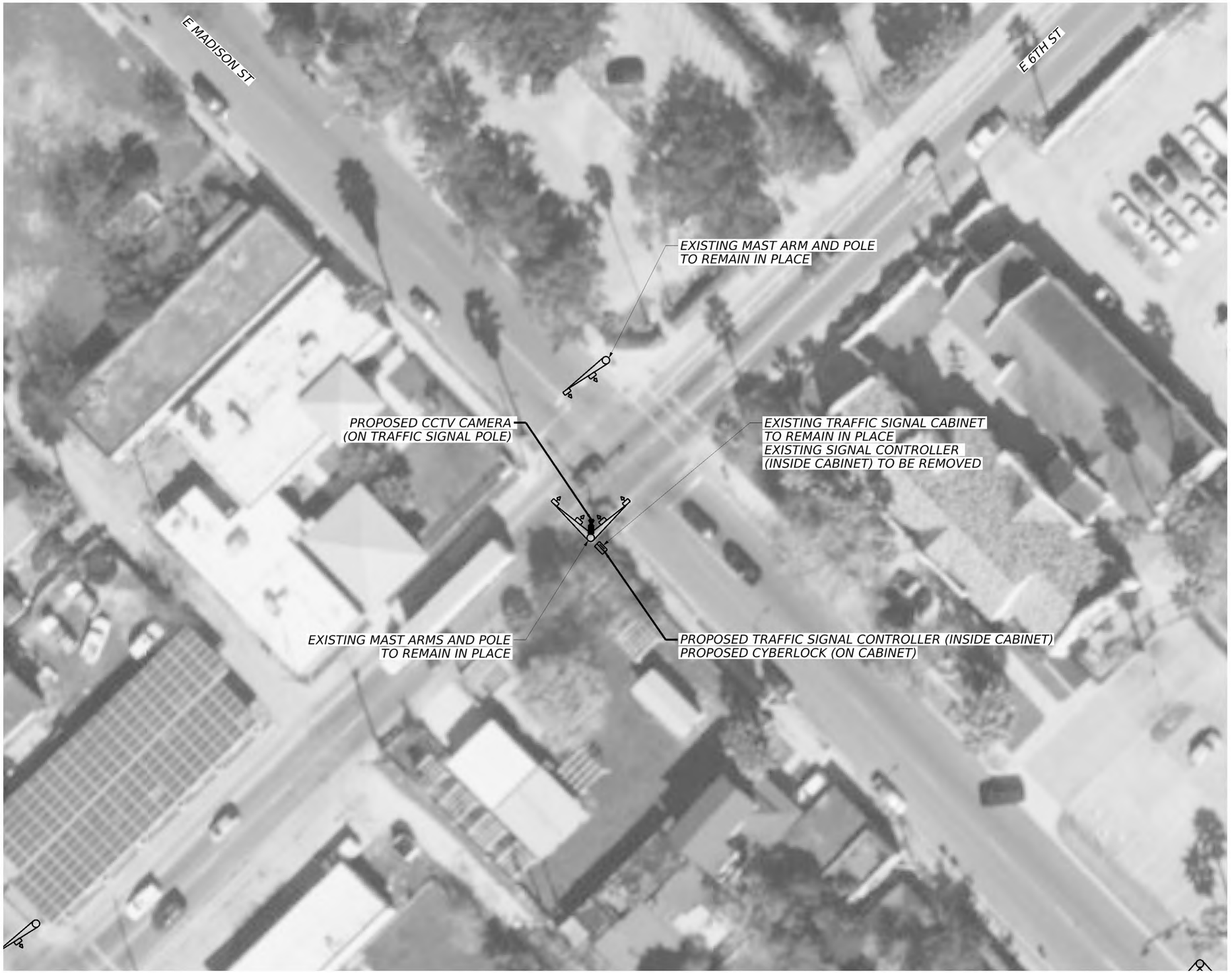
INTERSECTION 126

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	165

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PROP SIG 126 MADISON AT 14TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E MADISON ST AT
E 6TH ST

INTERSECTION 127

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	166

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PROP SIG 127 MADISON AT 6TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E MADISON ST AT E 7TH ST

INTERSECTION 128

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	167

3/5/2026 10:02:08 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 128 MADISON AT 7TH ST CSJ 400.dgn

PROP SIG 128 MADISON AT 7TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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IH-69E / US 77 NB FRONTAGE AT MCDAVITT BLVD - E 6TH ST

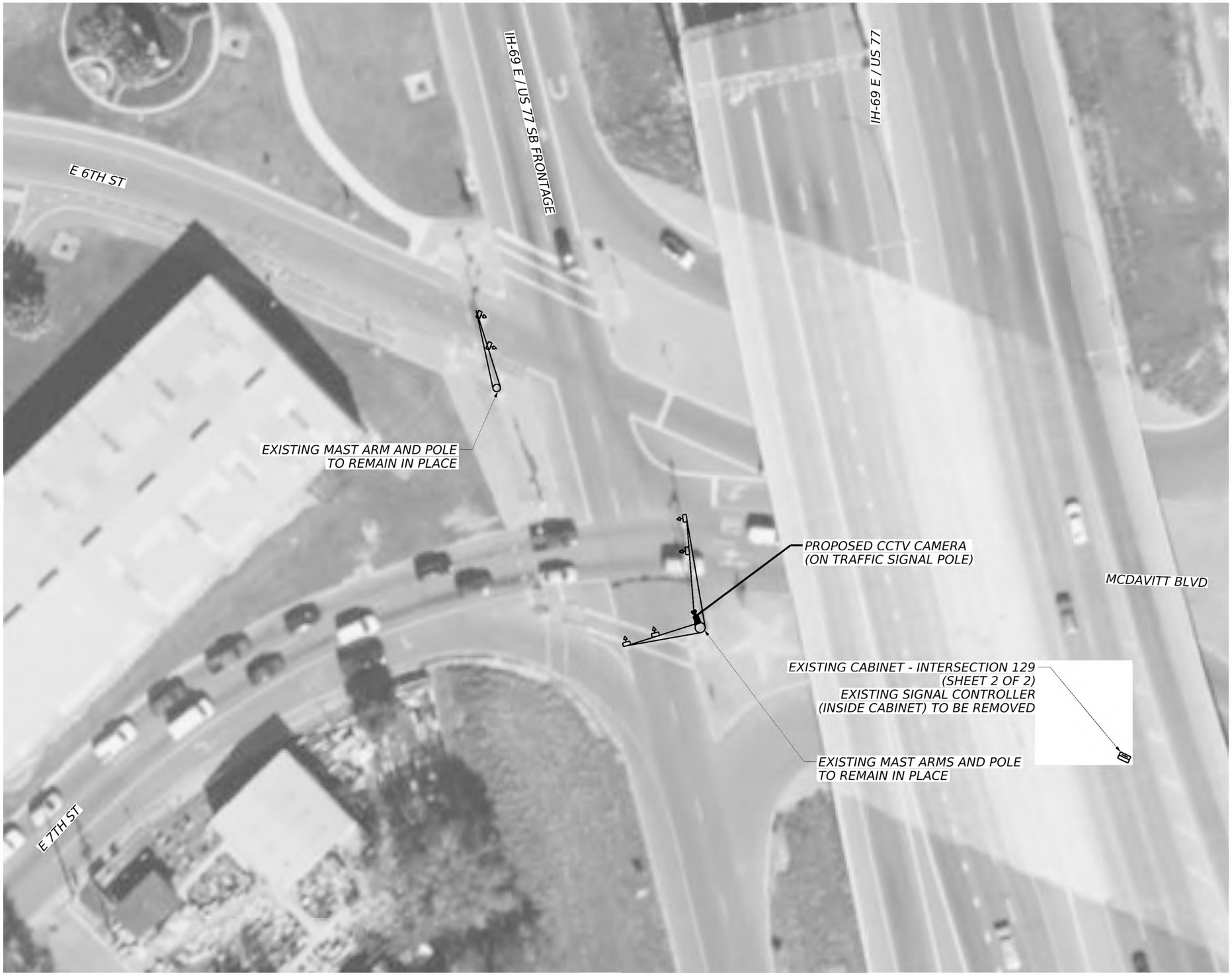
INTERSECTION 129

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	168

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PROP SIG 129A IH-69 E - US 77 AT MCDAVITT - 6TH & 7TH (NORTH FRONTAGE) CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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- PROPOSED CCTV CAMERA

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0 10 20 40
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STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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IH-69E/US 77 SOUTH FRONTAGE AT MCDAVITT BLVD - E 6TH ST & E 7TH ST

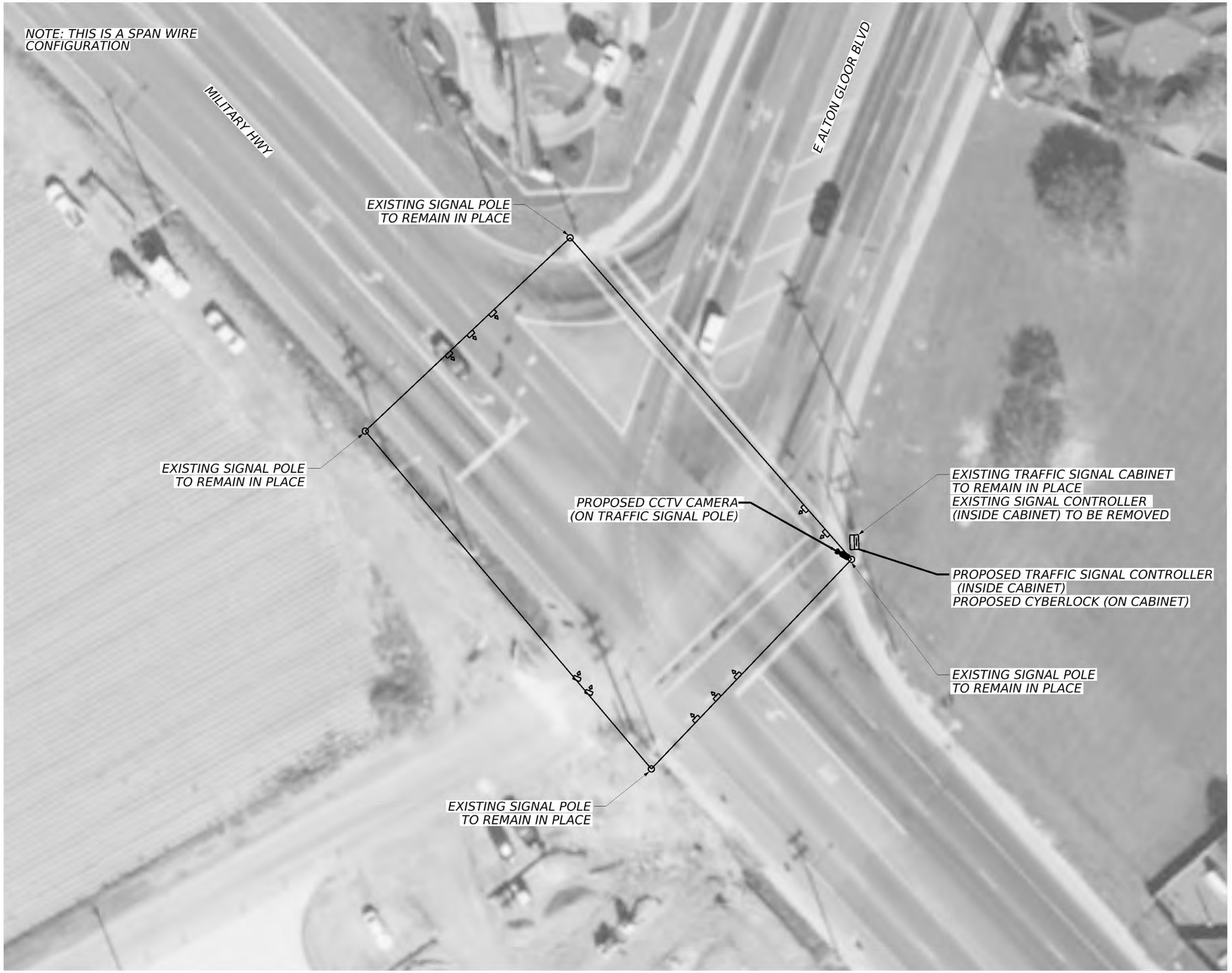
INTERSECTION 129

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	169

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PROP SIG 129B IH-69 E - US 77 AT MCDAVITT - 6TH & 7TH (SOUTH FRONTAGE) CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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STATE OF TEXAS
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3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MILITARY HWY AT E ALTON GLOOR BLVD

INTERSECTION 130

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	170

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PROP SIG 130 MILITARY HWY AT ALTON GLOOR BLVD CSJ 400.dgn



LEGEND

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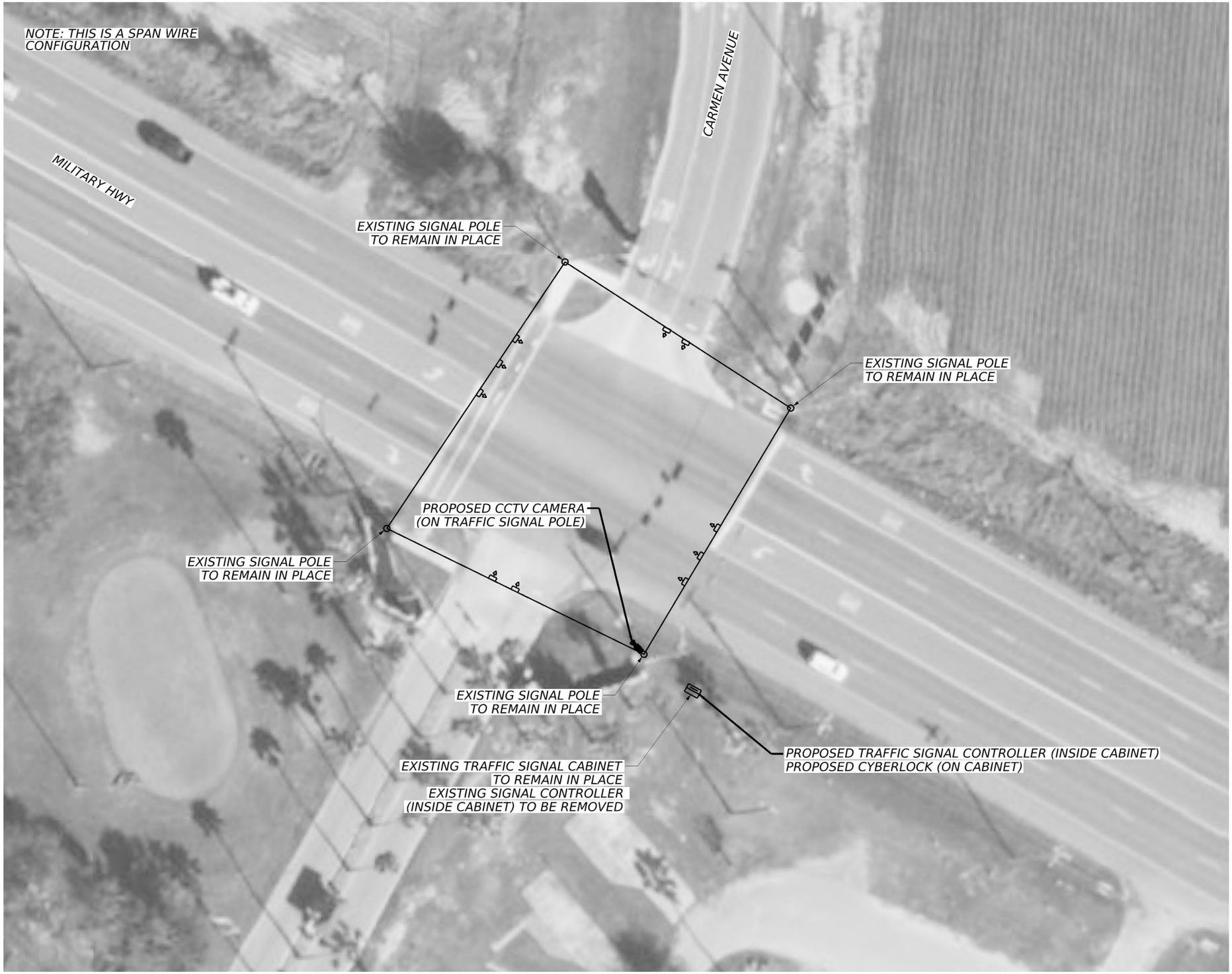
MILITARY HWY AT
CAPT BASLER AVE - CALLE PLUTON
INTERSECTION 131

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	171

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PROP SIG 131 MILITARY HWY AT CAPT BASLER AVE - CALLE PLUTON CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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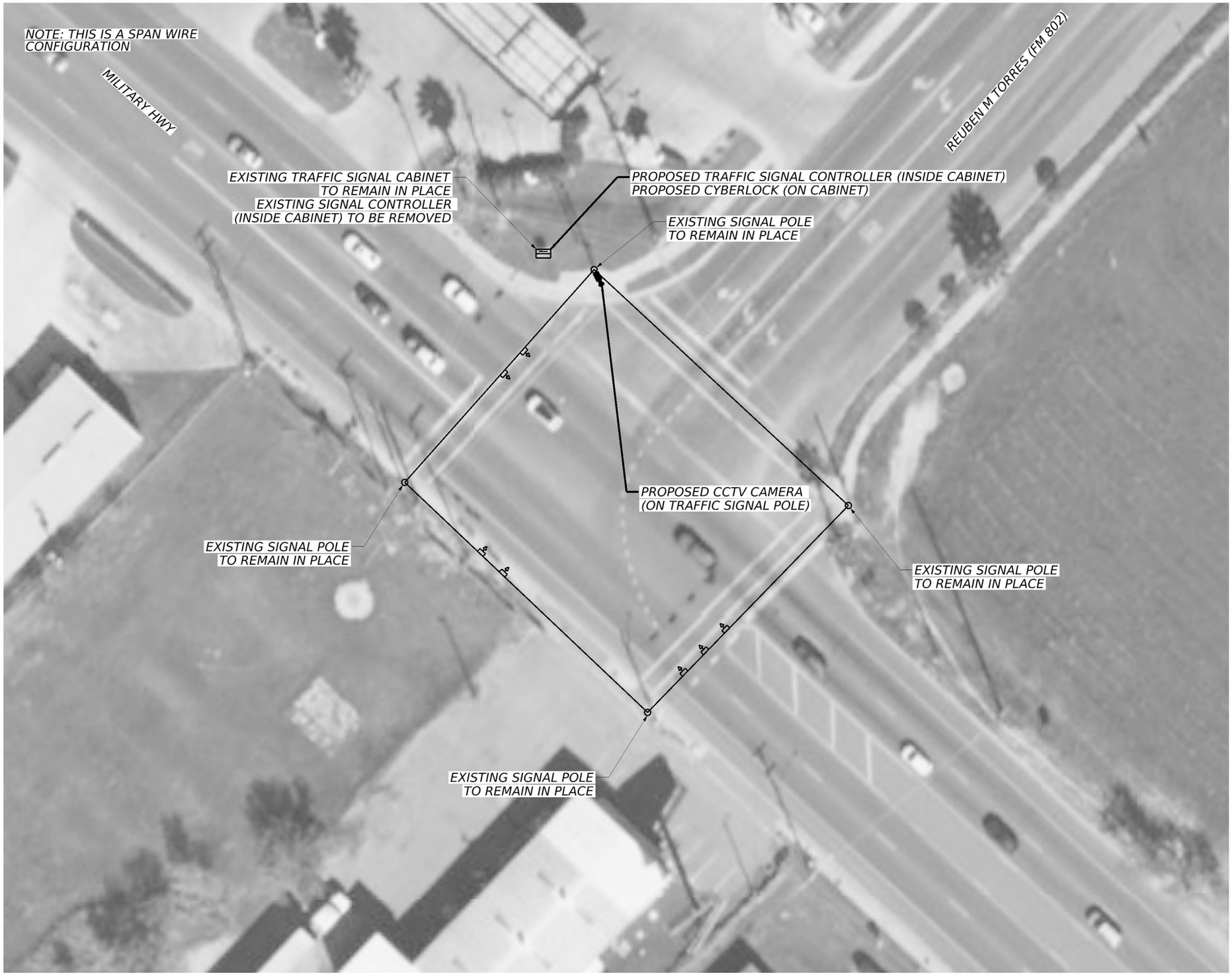
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MILITARY HWY AT CARMEN AVE
INTERSECTION 132
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	172

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PROP SIG 132 MILITARY HWY AT CARMEN AVENUE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MILITARY HWY AT
RUBEN M TORRES BLVD (FM 802)

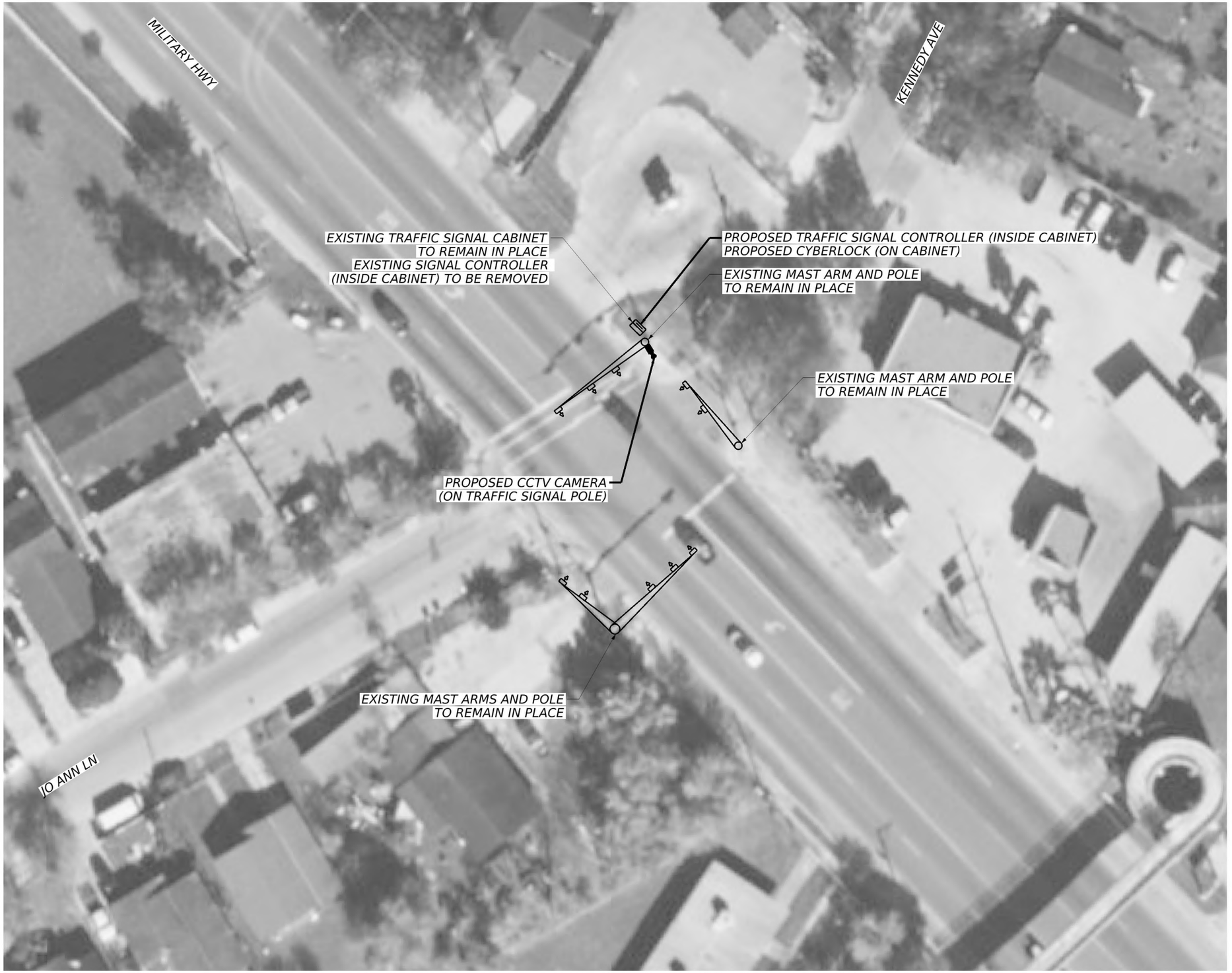
INTERSECTION 133

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	173

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pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 133 MILITARY HWY AT FM 802 CSJ 400.dgn

PROP SIG 133 MILITARY HWY AT FM 802 CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.

3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.

4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

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MILITARY HWY AT KENNEDY LN - JO ANNE LN

INTERSECTION 134

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	174

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PROP SIG 134 MILITARY HWY AT KENNEDY LN - JO ANNE LN CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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Land Surveying Firm No. 10046700

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N MINNESOTA AVE AT AUSTIN RD

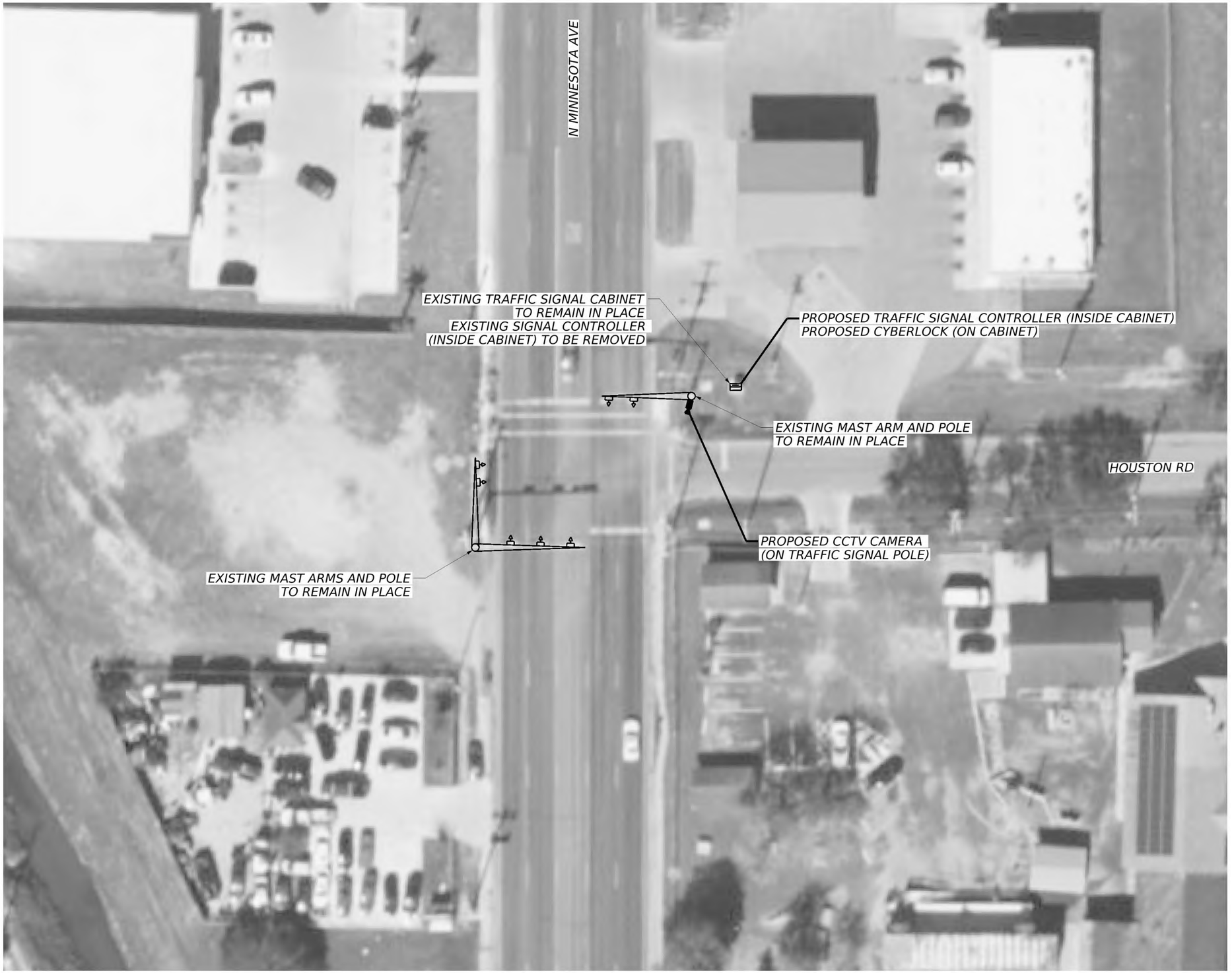
INTERSECTION 135

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	175

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PROP SIG 135 MINNESOTA AVE AT AUSTIN RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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Land Surveying Firm No. 10046700

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N MINNESOTA AVE AT HOUSTON RD

INTERSECTION 136

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	176

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PROP SIG 136 MINNESOTA AVE AT HOUSTON RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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N MINNESOTA AVE AT TRAVIS RD

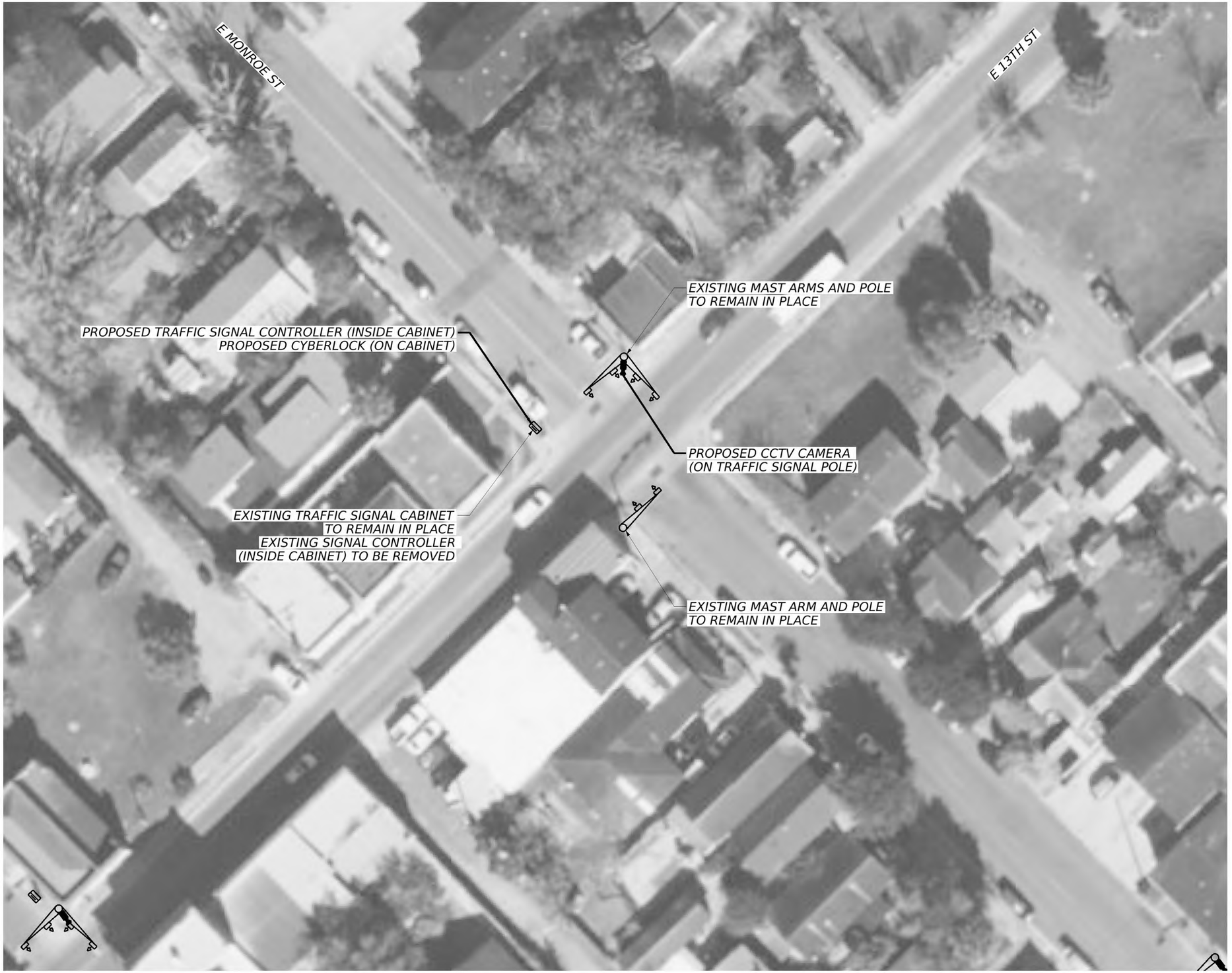
INTERSECTION 137

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	177

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PROP SIG 137 MINNESOTA AVE AT TRAVIS RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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3/6/26

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E MONROE ST AT E 13TH ST

INTERSECTION 138

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	178

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PROP SIG 138 MONROE AT 13TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

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STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E MONROE ST AT
E 14TH ST

INTERSECTION 139

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	179

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PROP SIG 139 MONROE AT 14TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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3/6/26

BROWNSVILLE

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MORNINGSIDE RD AT APOLLO AVE-JOSE COLUGNA JR ST

INTERSECTION 140

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	180

3/5/2026 10:16:00 AM
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PROP SIG 140 MORNINGSIDE RD AT APOLLO - JOSE COLUGNA JR (CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MORNINGSIDE RD AT
S CENTRAL AVE

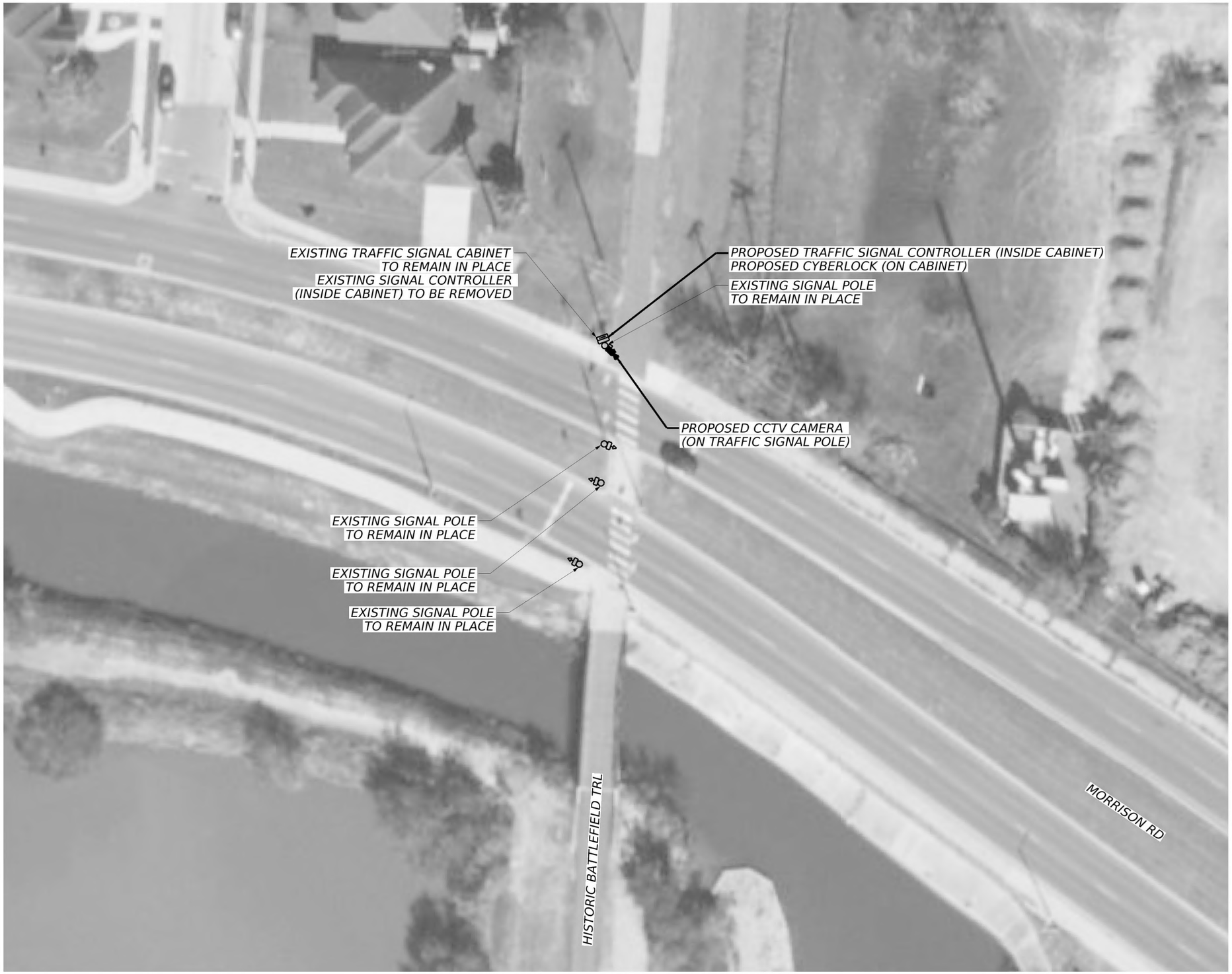
INTERSECTION 141

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	181

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PROP SIG 141 MORNINGSIDE RD AT CENTRAL AVE CSJ 400.dgn



LEGEND

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MORRISON RD AT
HISTORIC BATTLEFIELD TRL

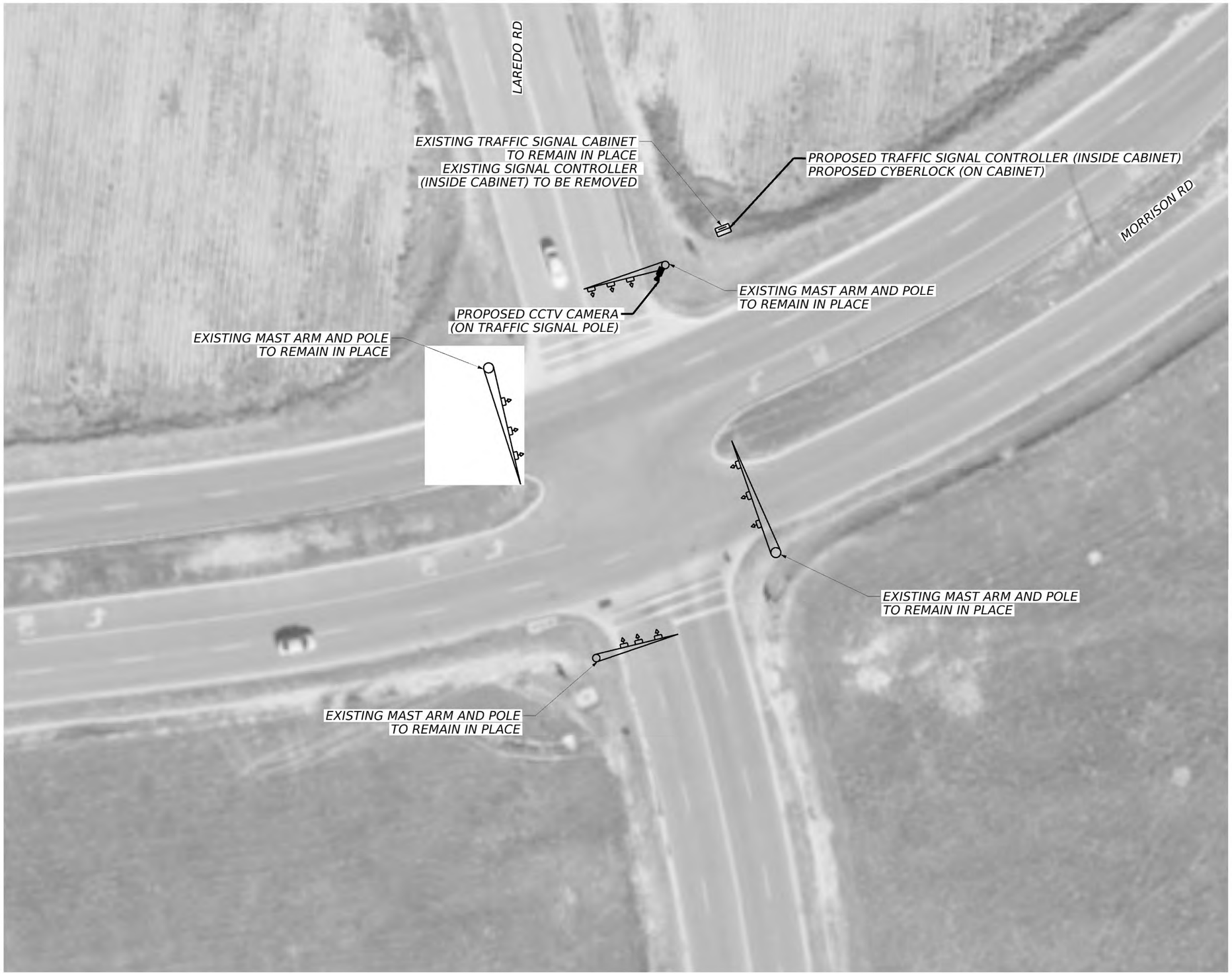
INTERSECTION 142

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	182

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PROP SIG 142 MORRISON RD AT HISTORICAL BATTLEFIELD TRAIL CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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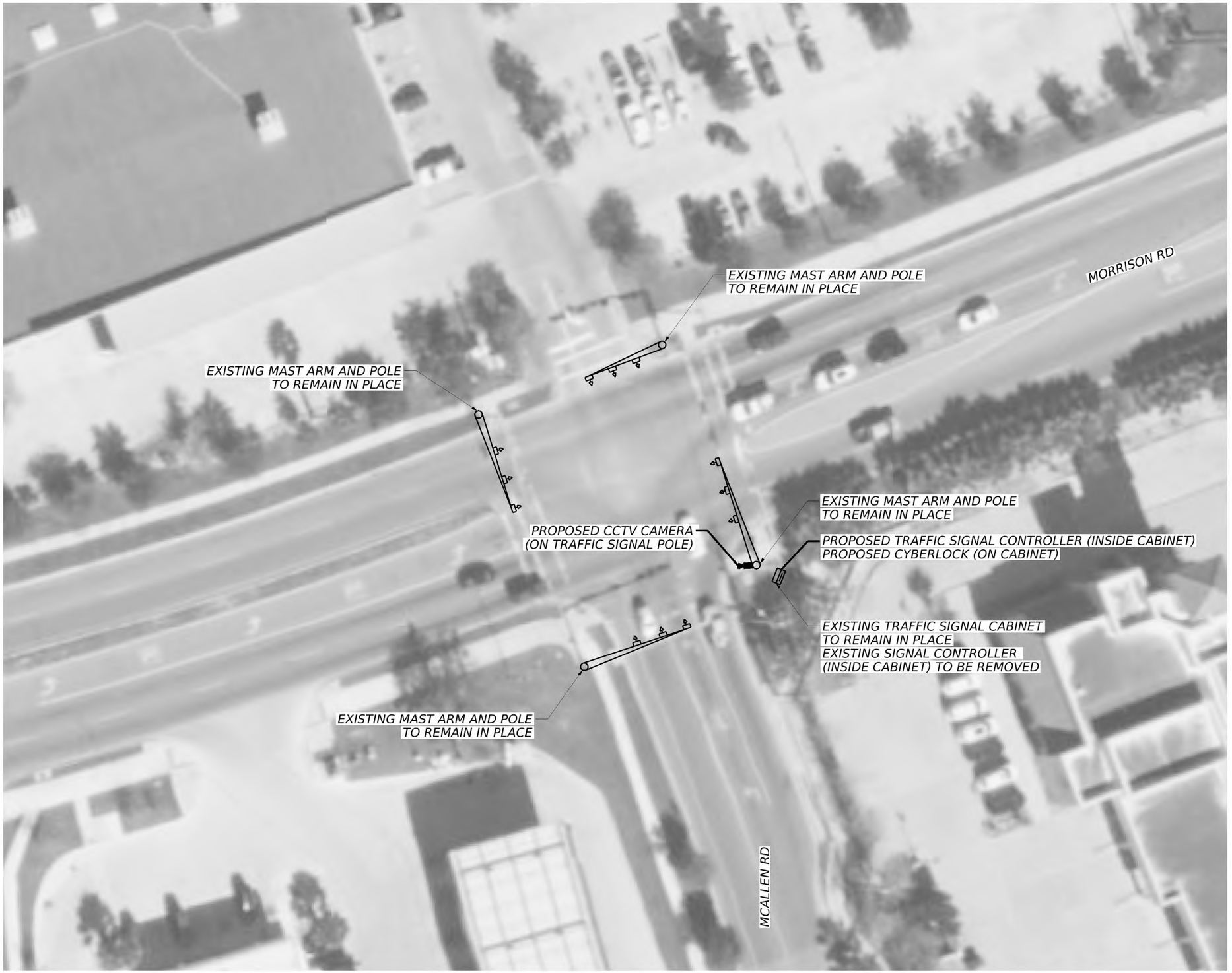
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MORRISON RD AT LAREDO RD
INTERSECTION 143
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	183

3/5/2026 10:19:13 AM
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PROP SIG 143 MORRISON RD AT LAREDO RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
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6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MORRISON RD AT MCALLEN RD

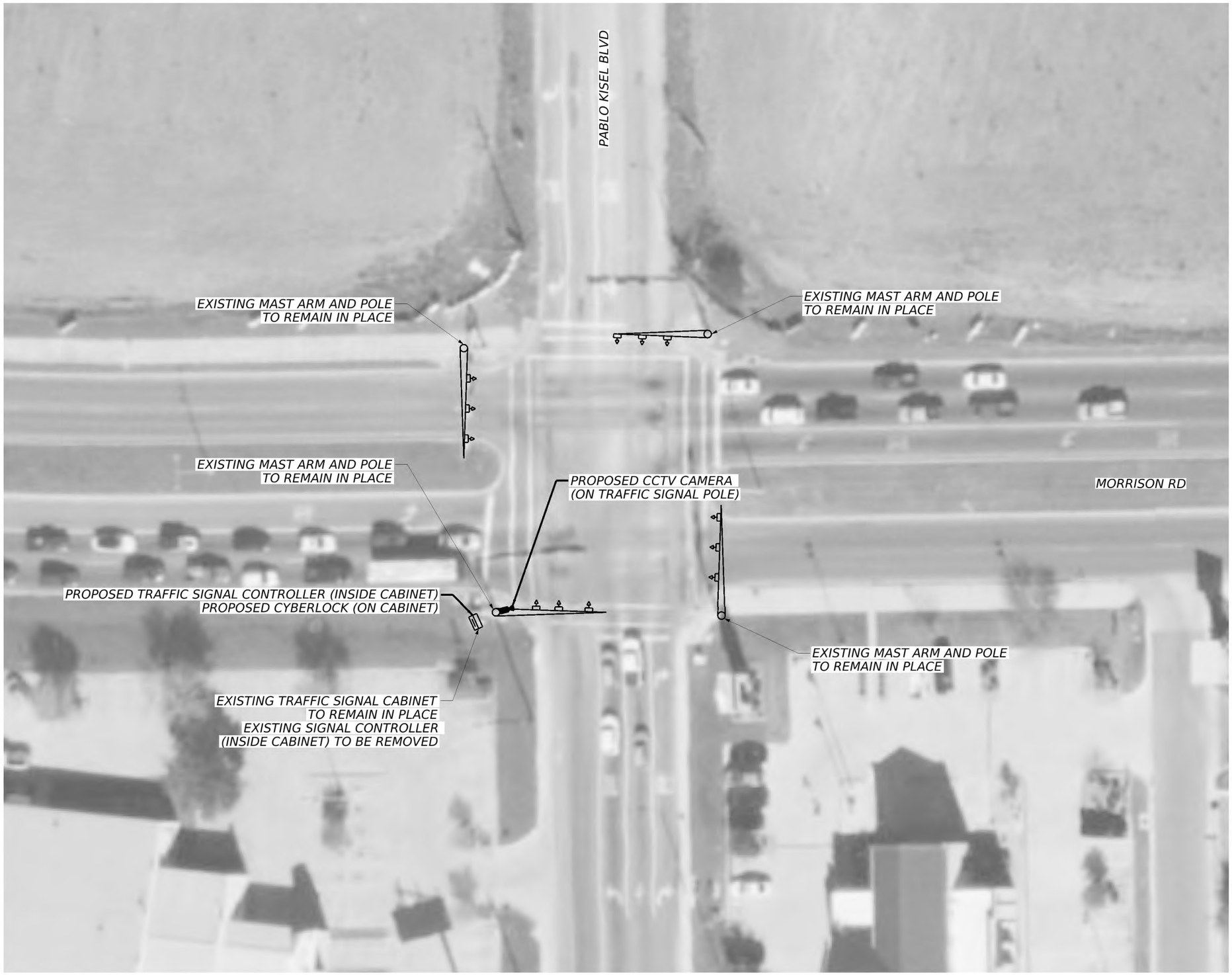
INTERSECTION 144

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	184

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PROP SIG 144 MORRISON RD AT MCALLEN RD CSJ 400.dgn



LEGEND

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- EXISTING SPAN WIRE AND STRAIN POLES
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MORRISON RD AT
PABLO KISEL BLVD

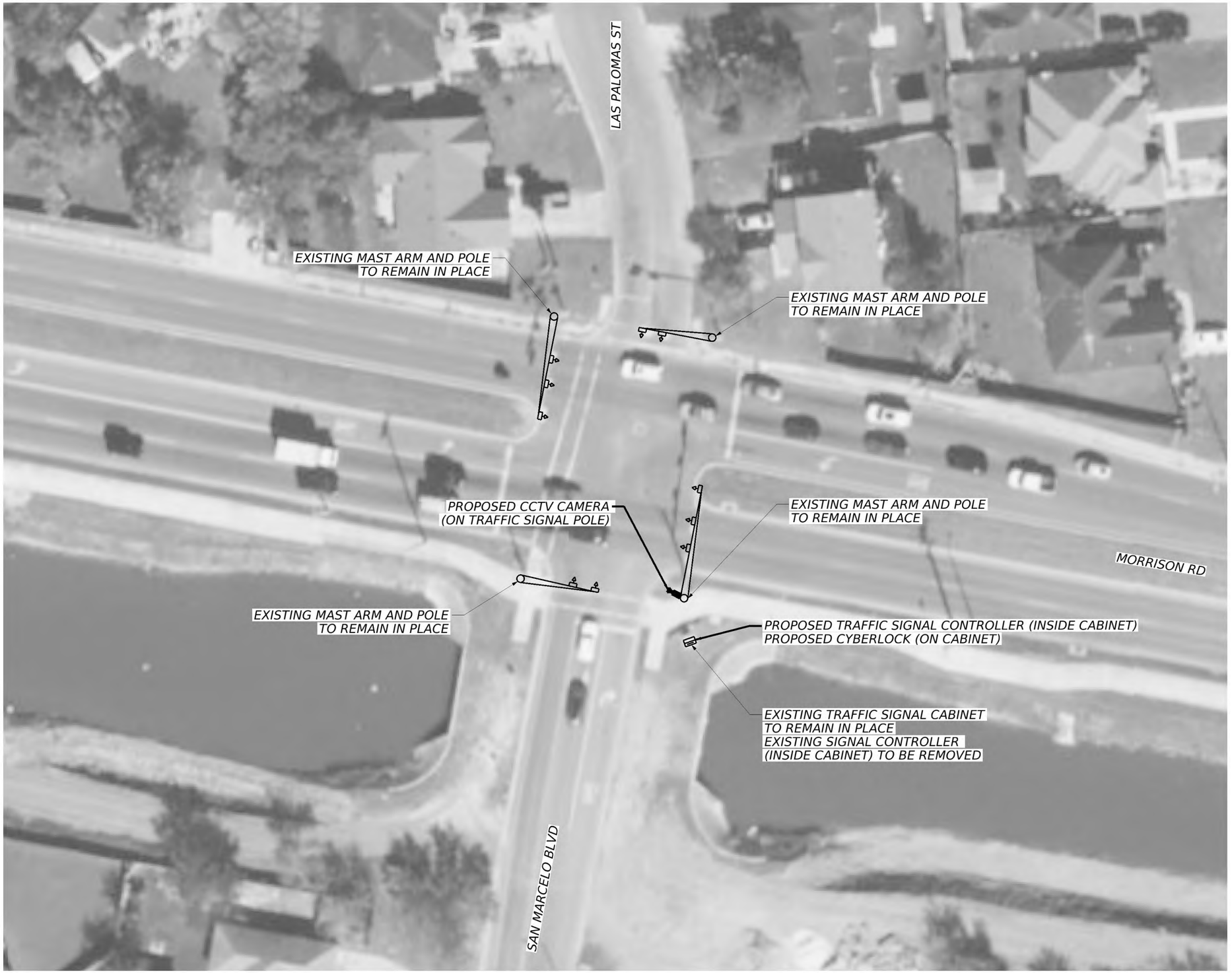
INTERSECTION 145

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	185

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PROP SIG 145 MORRISON RD AT PABLO KISEL BLVD CSJ 400.dgn



LEGEND

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BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

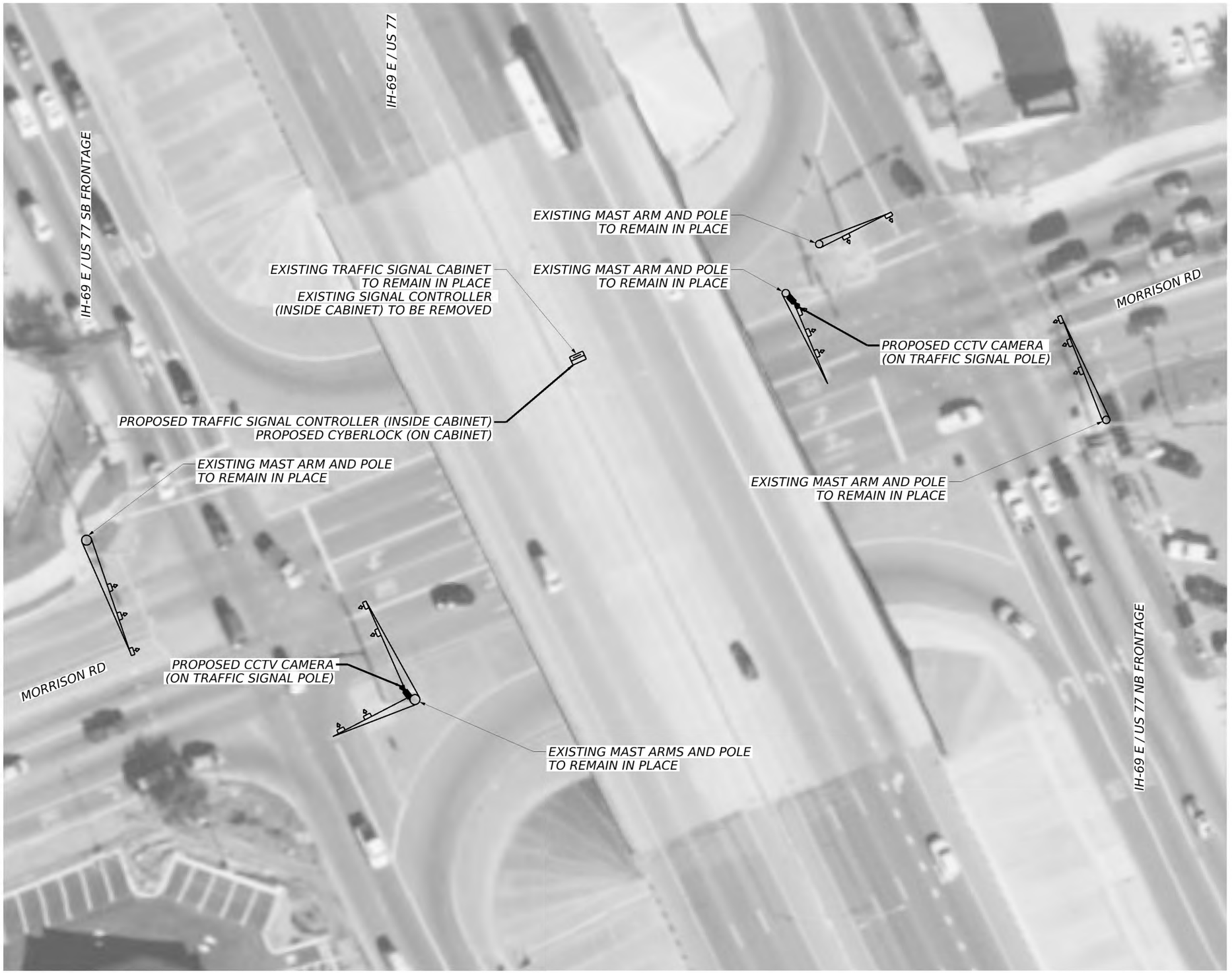
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MORRISON RD AT
SAN MARCELO BLVD - LAS PALOMAS ST
INTERSECTION 146

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	186

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PROP SIG 146 MORRISON RD AT SAN MARCELO BLVD - LAS PALOMAS CSJ 400.dgn



LEGEND

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3/6/26

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MORRISON RD AT
IH-69E / US 77
INTERSECTION 147

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	187

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PROP SIG 147 MORRISON RD AT IH-69 E - US 77 CSJ 400.dgn



LEGEND

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STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

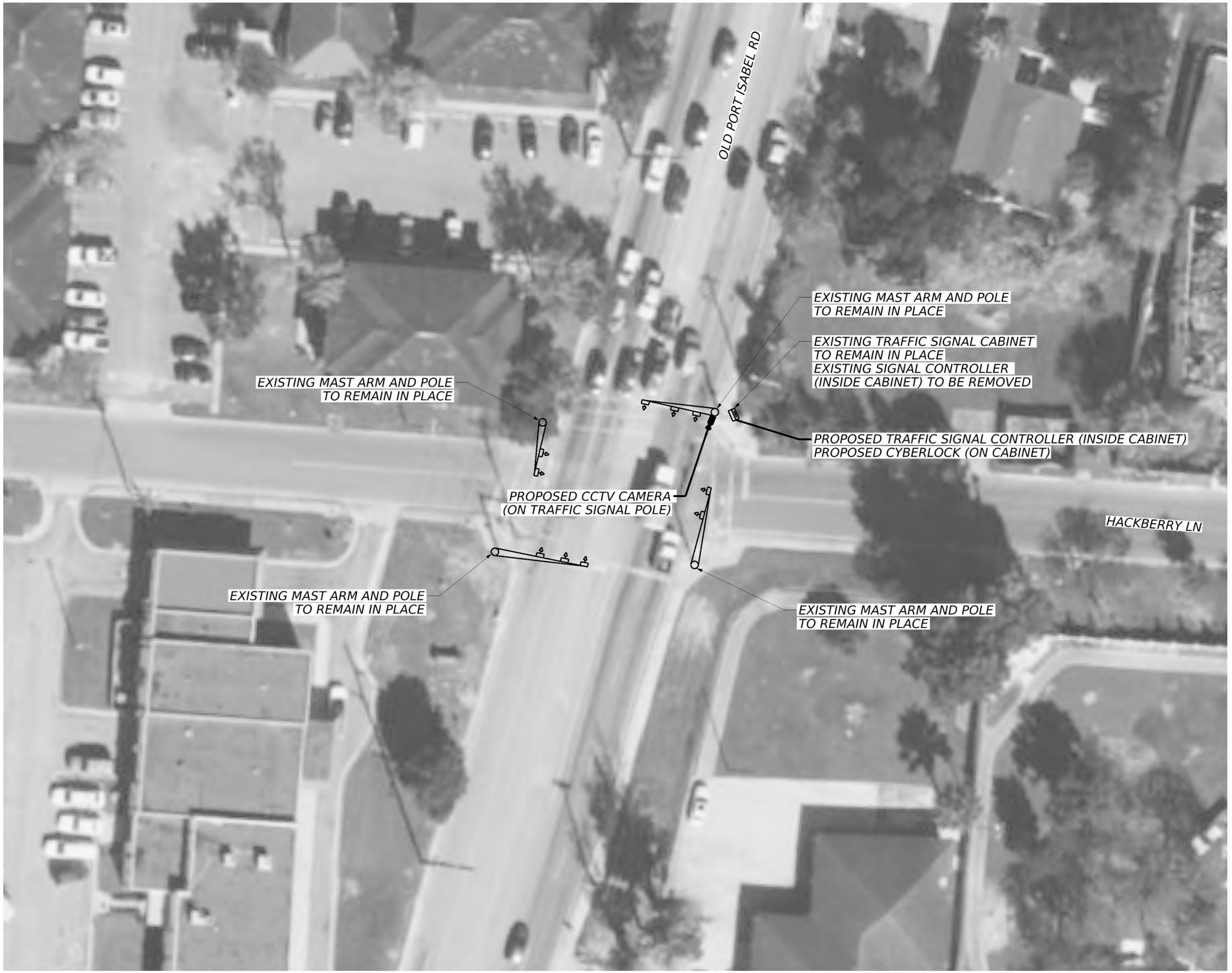
CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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MORRISON RD AT WESTRAIL TRL
INTERSECTION 148
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	188

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PROP SIG 148 MORRISON RD AT WEST RAIL TRAIL CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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OLD PORT ISABEL RD AT HACKBERRY LN

INTERSECTION 149

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	189

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PROP SIG 149 OLD PORT ISABEL RD AT HACKBERRY LN CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED
PROFESSIONAL ENGINEER
3/6/26

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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OLD PORT ISABEL RD AT ROBINHOOD DR

INTERSECTION 150

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	190

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PROP SIG 150 OLD PORT ISABEL RD AT ROBINHOOD DR CSJ 400.dgn



LEGEND

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0 10 20 40

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STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT AUSTIN RD

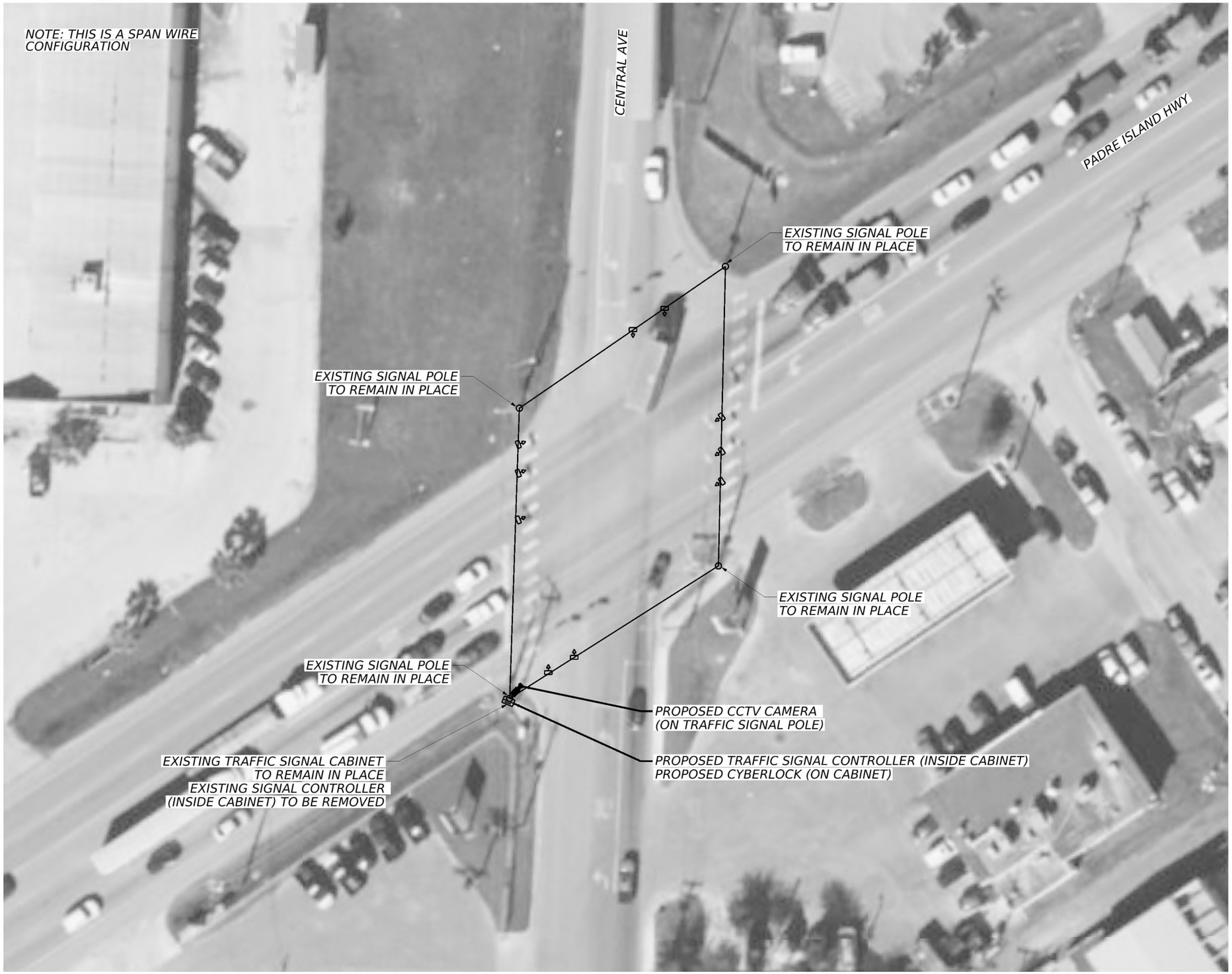
INTERSECTION 151

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	191

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PROP SIG 151 PADRE ISLAND HWY AT AUSTIN RD CSJ 400.dgn



LEGEND

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3/6/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT CENTRAL AVE

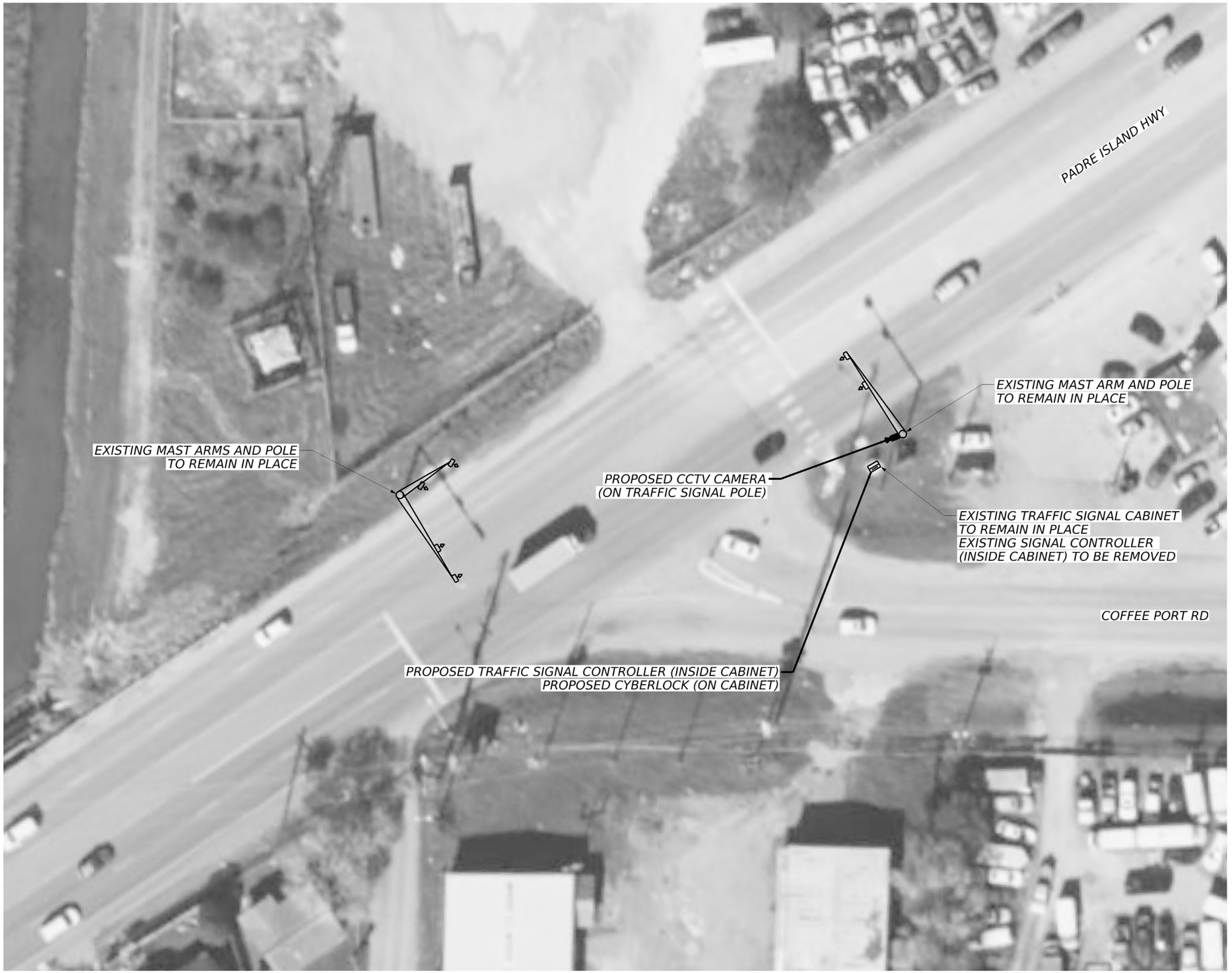
INTERSECTION 152

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	192

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PROP SIG 152 PADRE ISLAND HWY AT CENTRAL AVE CSJ 400.dgn



LEGEND

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PADRE ISLAND HWY AT COFFEE PORT RD

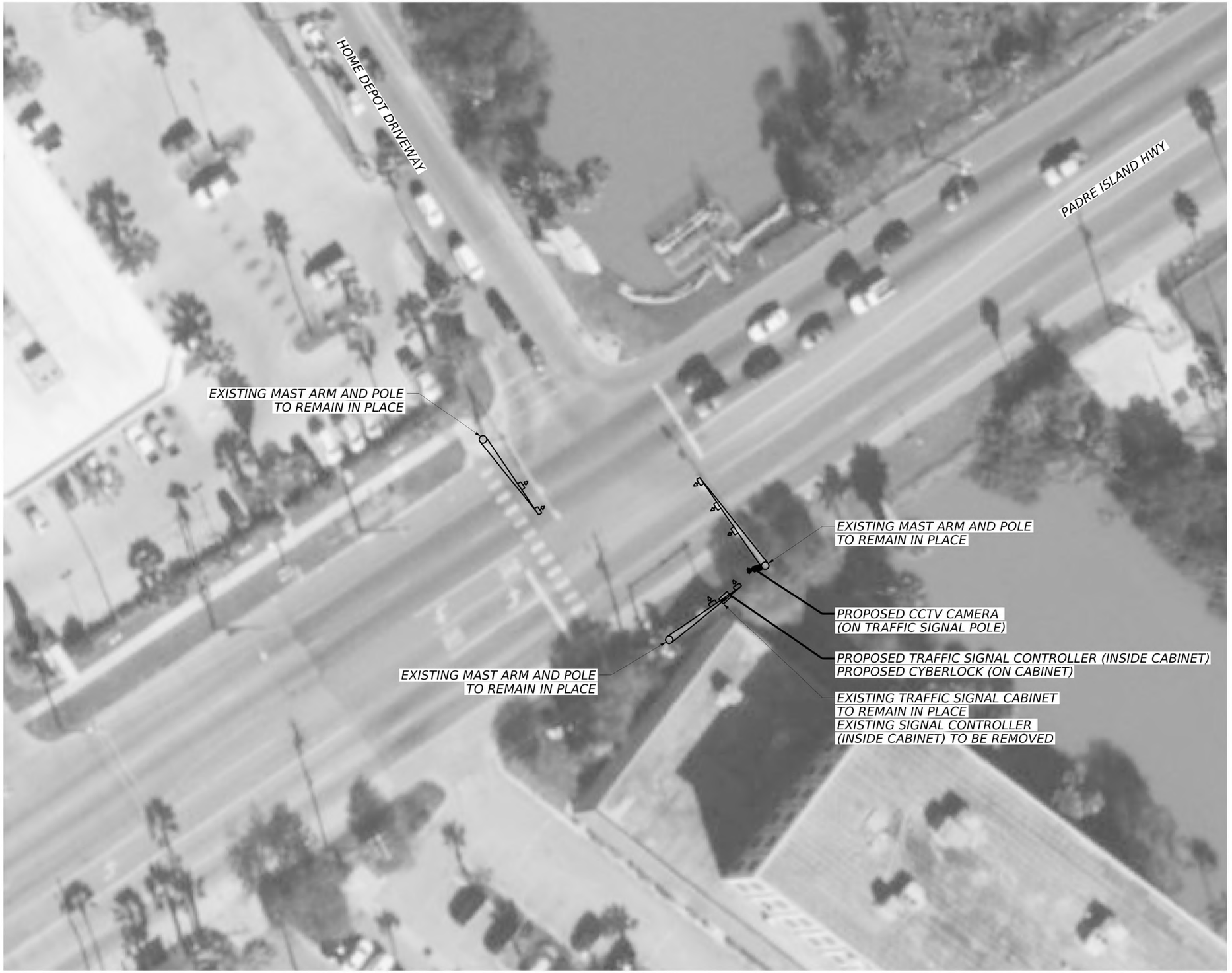
INTERSECTION 153

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	193

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PROP SIG 153 PADRE ISLAND HWY AT COFFEE PORT RD CSJ 400.dgn



LEGEND

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- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.

3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.

4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT HOME DEPOT DRIVEWAY

INTERSECTION 154

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	194

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PROP SIG 154 PADRE ISLAND HWY AT HOME DEPOT CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

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3/6/2026

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PADRE ISLAND HWY AT MCKENZIE RD

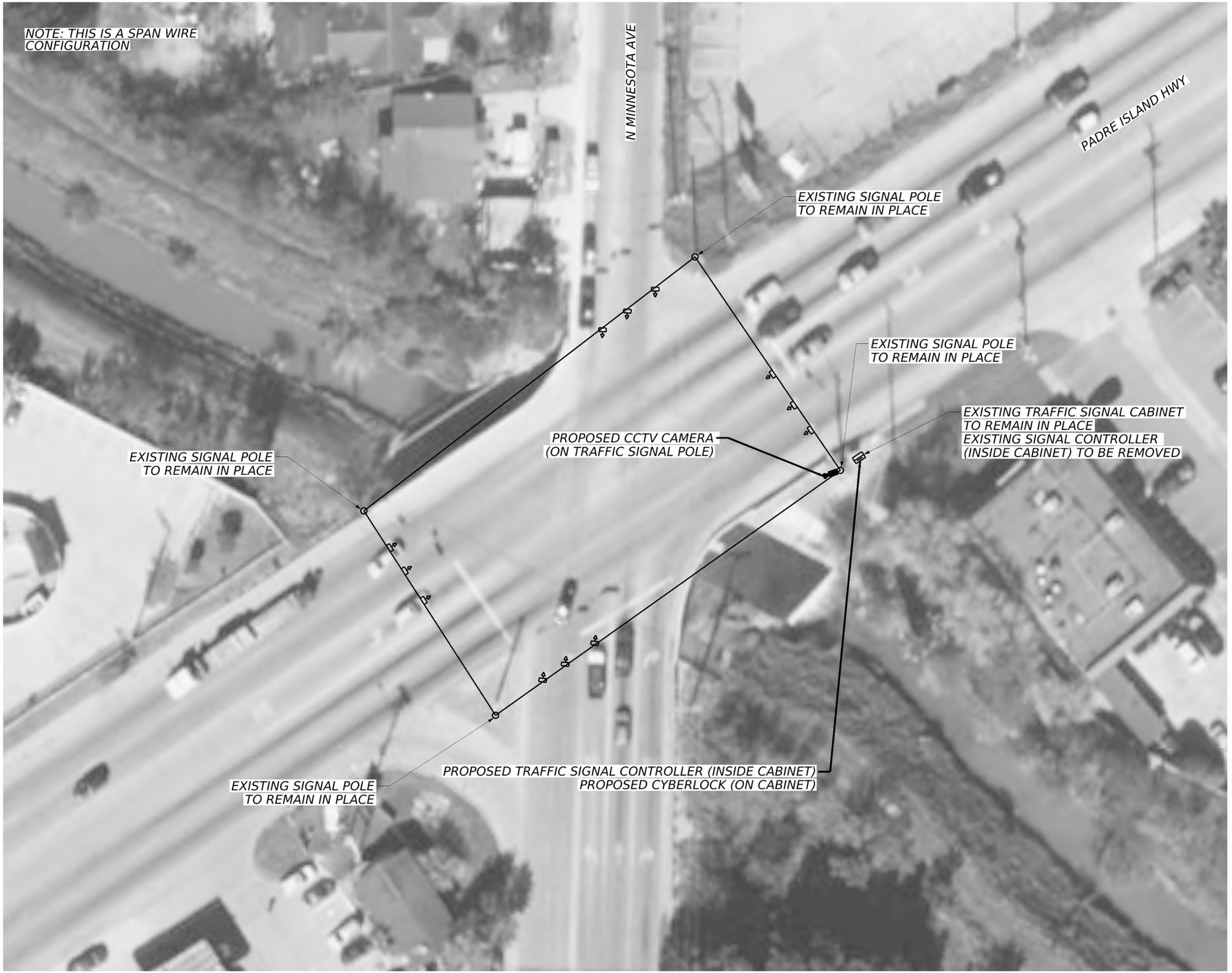
INTERSECTION 155

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
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PROP SIG 155 PADRE ISLAND HWY AT MCKENZIE RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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PADRE ISLAND HWY AT N MINNESOTA AVE

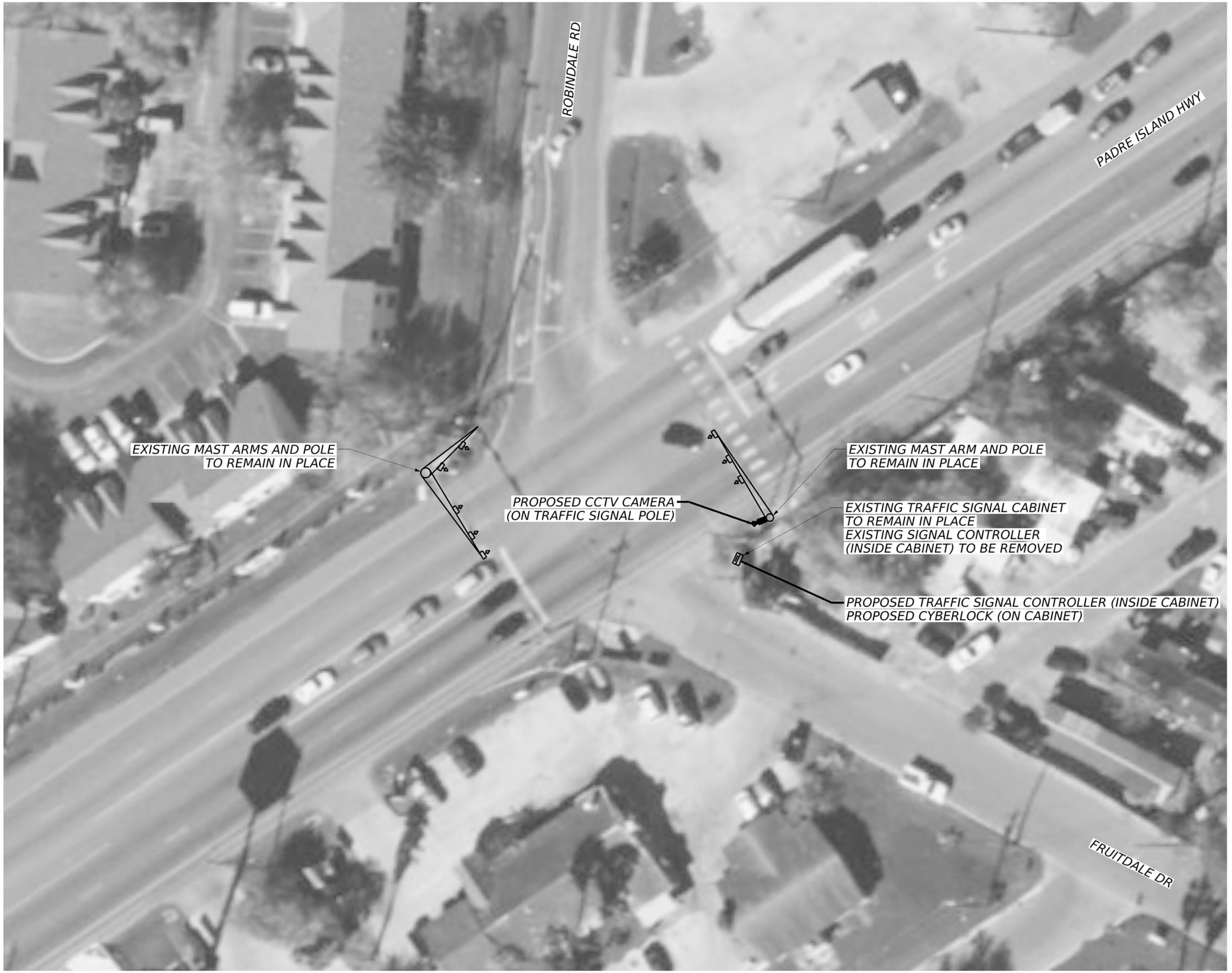
INTERSECTION 156

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	196

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PROP SIG 156 PADRE ISLAND HWY AT MINNESOTA AVE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT ROBINDALE RD - FRUITDALE DR

INTERSECTION 157

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	197

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PROP SIG 157 PADRE ISLAND HWY AT ROBINDALE AND FRUITDALE CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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3/6/2026

BROWNSVILLE

CobbFendley

TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PADRE ISLAND HWY AT WALMART DRIVEWAY

INTERSECTION 158

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	198

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PROP SIG 158 PADRE ISLAND HWY AT WALMART CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
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STATE OF TEXAS
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3/6/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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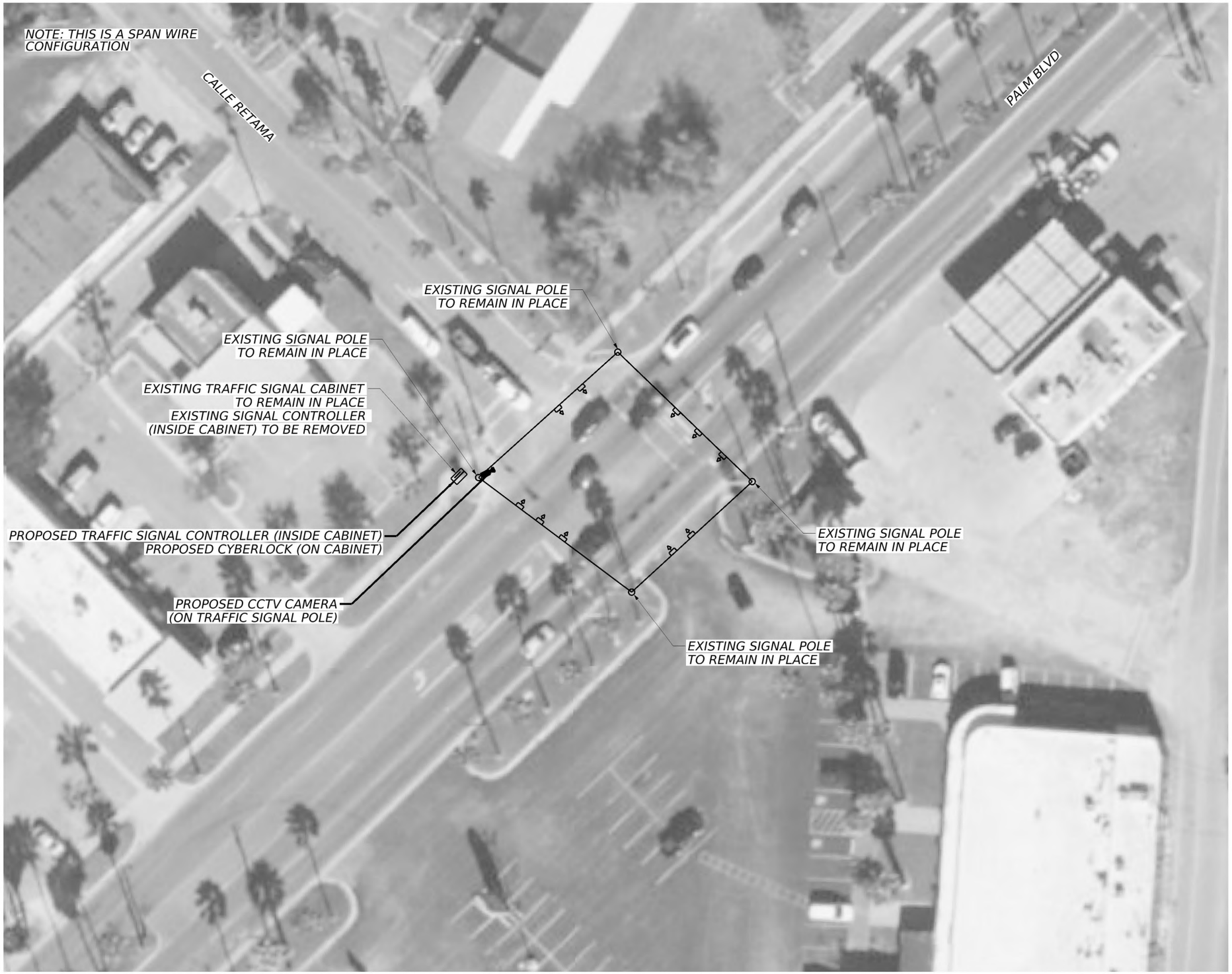
PADRE ISLAND HWY AT ZENA DR
INTERSECTION 159

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	199

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PROP SIG 159 PADRE ISLAND HWY AT ZENA DR CSJ 400.dgn



LEGEND

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- EXISTING TRAFFIC SIGNAL HEAD
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LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PALM BLVD AT CALLE RETAMA

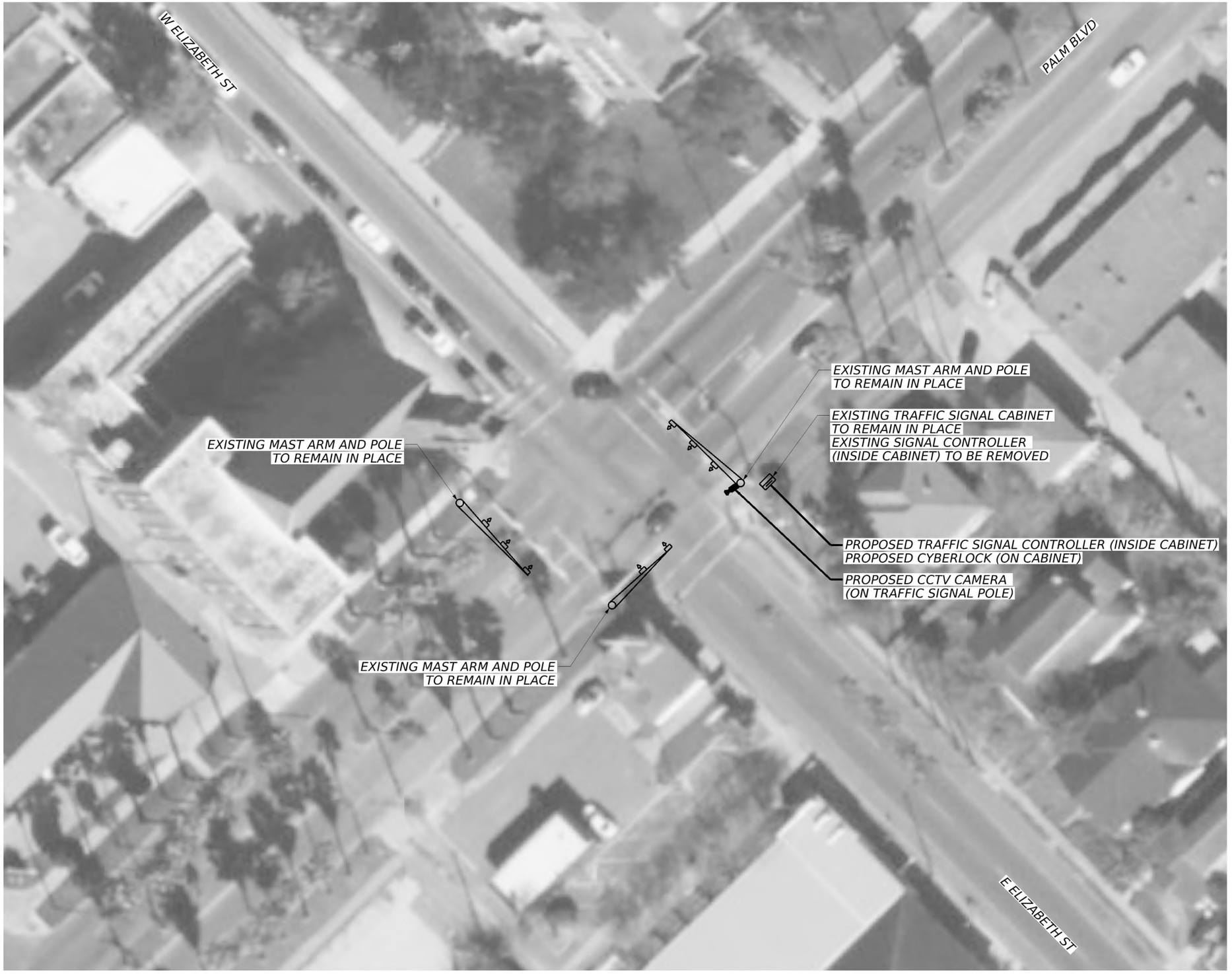
INTERSECTION 160

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	200

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PROP SIG 160 PALM BLVD AT CALLE RETAMA CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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BROWNSVILLE

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TBPELS Engineering Firm No. 274
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PALM BLVD AT ELIZABETH ST

INTERSECTION 161

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	201

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PROP SIG 161 PALM BLVD AT ELIZABETH ST CSJ 400.dgn



LEGEND

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3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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PALM BLVD AT FRONTON ST

INTERSECTION 162

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE
6	VAR			TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	202

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PROP SIG 162 PALM BLVD AT FRONTON ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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BROWNSVILLE

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Land Surveying Firm No. 10046700

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PALM BLVD AT JEFFERSON ST

INTERSECTION 163

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	203

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PROP SIG 163 PALM BLVD AT JEFFERSON ST CSJ 400.dgn



LEGEND

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TBPELS Engineering Firm No. 274;
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PALM BLVD AT LEVEE ST

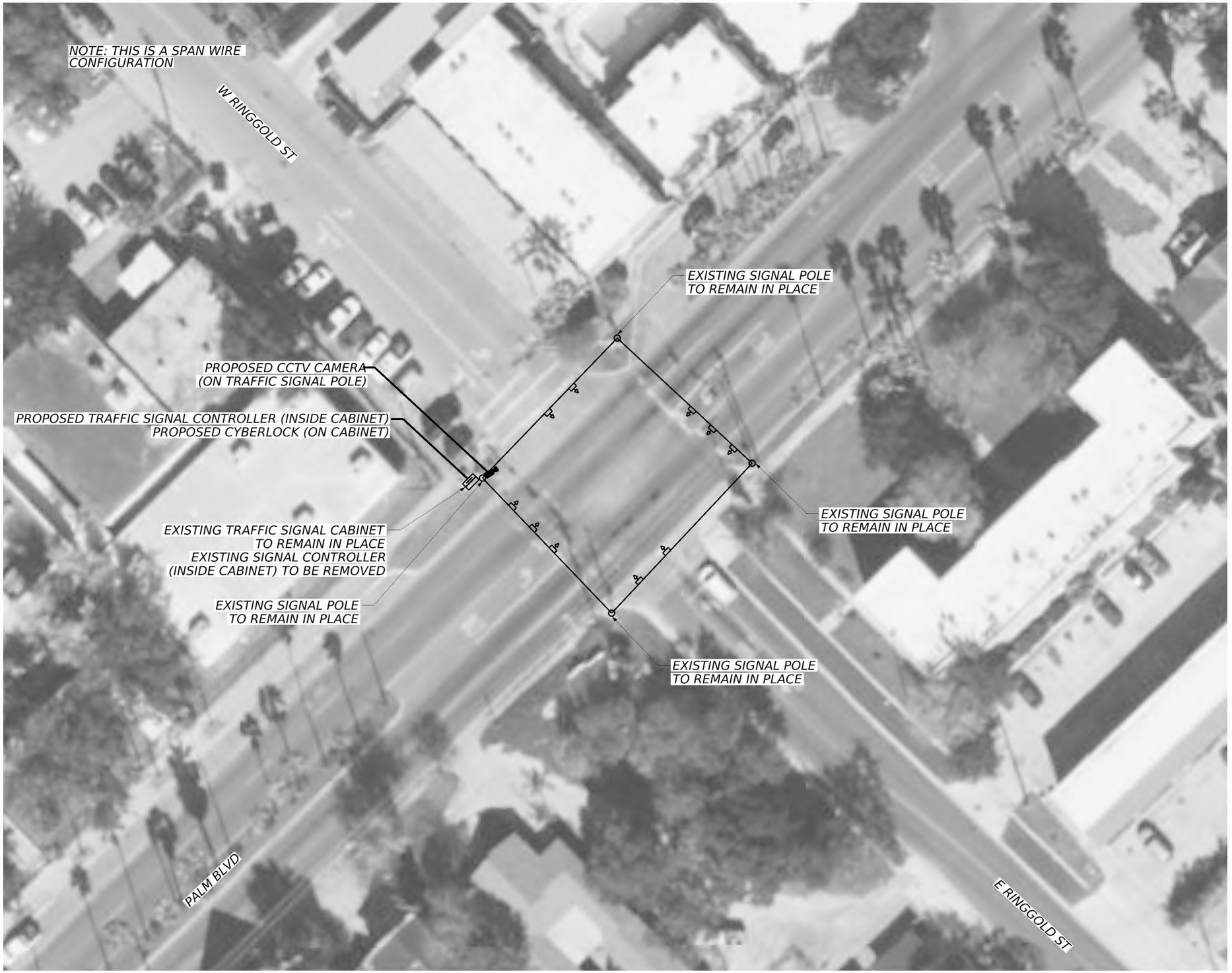
INTERSECTION 164

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	204

3/5/2026 9:27:17 AM pw://cobfen.pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 164 PALM BLVD AT LEVEE ST CSJ 400.dgn

PROP SIG 164 PALM BLVD AT LEVEE ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

THE STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PALM BLVD AT RINGGOLD ST

INTERSECTION 165

SHEET 1 OF 1

FED.RD DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	205

3/5/2026 9:27:43 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-T04 Traffic Monitoring\400_CAD\409_Traffic\02_Sheets\10-Signals\PROP SIG 165 PALM BLVD AT RINGGOLD ST CSJ 400.dgn

PROP SIG 165 PALM BLVD AT RINGGOLD ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PALM BLVD AT ST CHARLES ST

INTERSECTION 166

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	206

3/5/2026 9:28:07 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 166 PALM BLVD AT SAINT CHARLES ST CSJ 400.dgn

PROP SIG 166 PALM BLVD AT SAINT CHARLES ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

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4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Lanc Surveying Firm No. 10046700

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PALM BLVD AT
ST FRANCIS ST
INTERSECTION 167

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	207

3/5/2026 9:28:31 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 167 PALM BLVD AT SAINT FRANCIS ST CSJ 400.dgn

PROP SIG 167 PALM BLVD AT SAINT FRANCIS ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847) AT AVENIDA CARLOS

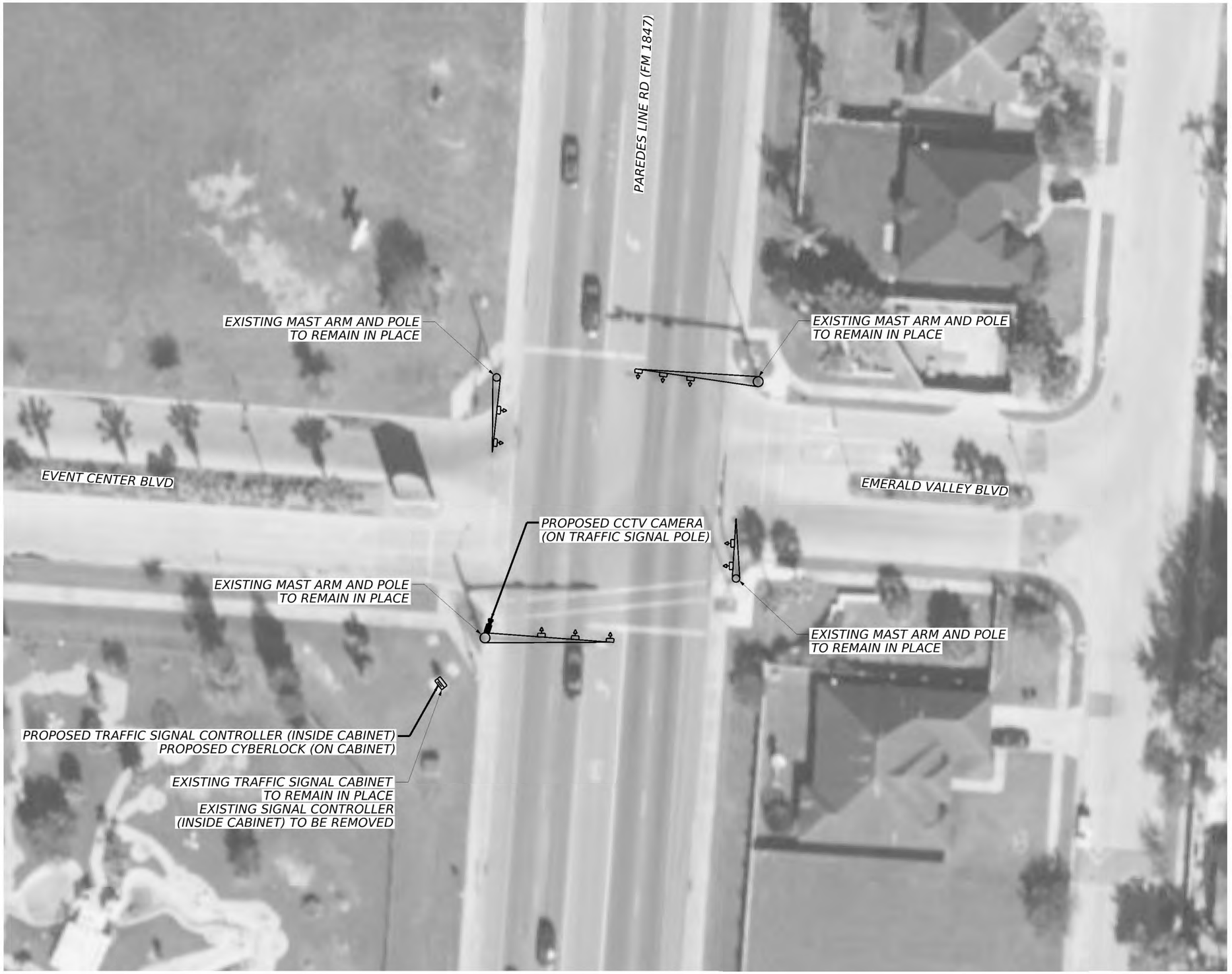
INTERSECTION 168

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	208

3/5/2026 9:28:57 AM pw://cobfen.pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 168 PAREDES LINE RD AT AVENIDA CARLOS CSJ 400.dgn

PROP SIG 168 PAREDES LINE RD AT AVENIDA CARLOS CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847)

AT EVENT CENTER BLVD - EMERALD VALLEY BLVD

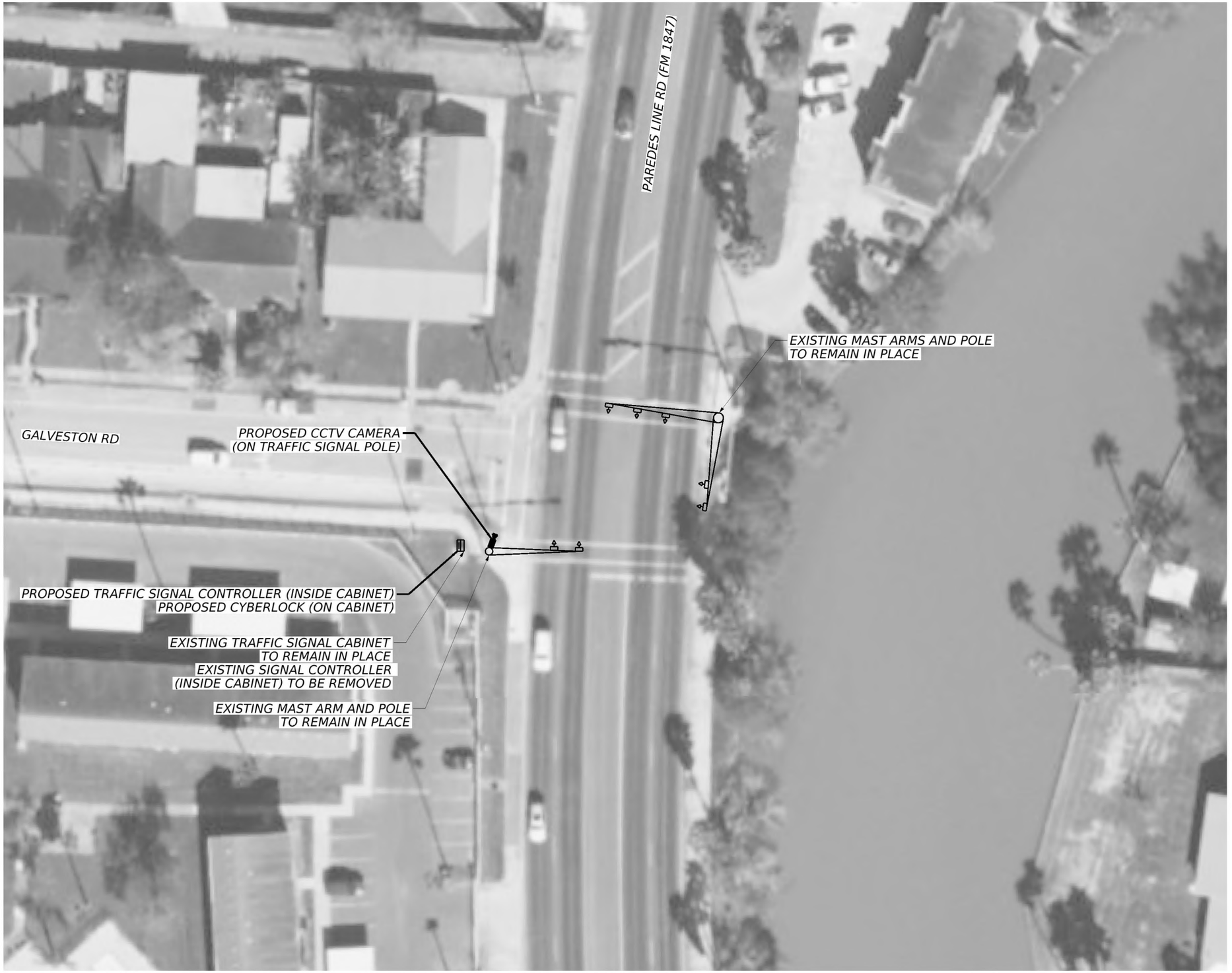
INTERSECTION 169

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	209

3/5/2026 9:29:22 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 169 PAREDES LINE RD AT EVENT CENTER AND EMERALD VALLEY BLVD CSJ 400.dgn

PROP SIG 169 PAREDES LINE RD AT EVENT CENTER AND EMERALD VALLEY BLVD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847)
AT GALVESTON RD
INTERSECTION 170

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	210

3/5/2026 9:29:47 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-T04 Traffic Monitoring\400_CAD\409_Traffic\02_Sheets\10-Signals\PROP SIG 170 PAREDES LINE RD AT GALVESTON RD CSJ 400.dgn

PROP SIG 170 PAREDES LINE RD AT GALVESTON RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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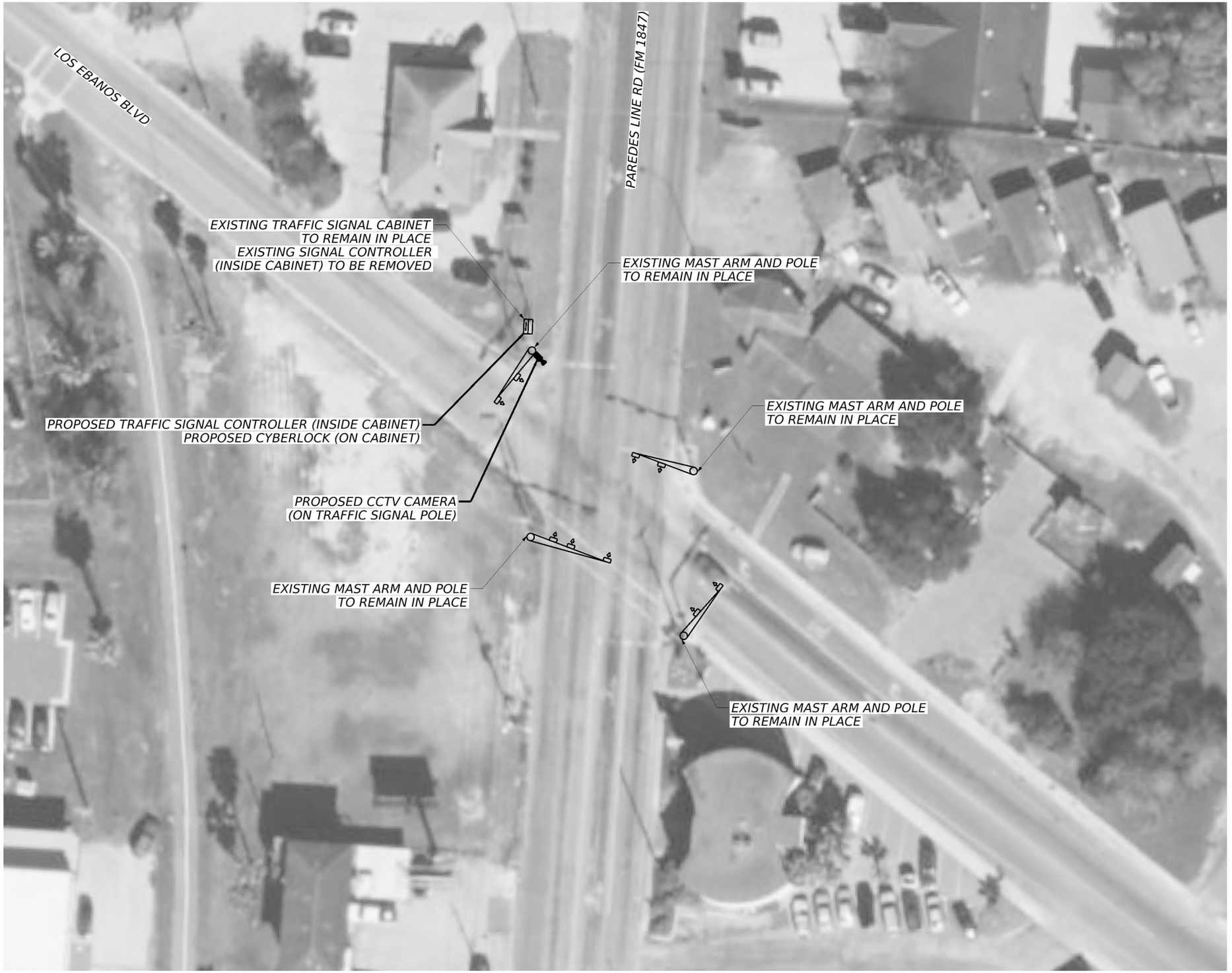
PAREDES LINE RD (FM 1847) AT CSR DR - HERITAGE TRL

INTERSECTION 171

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	211

3/5/2026 9:30:12 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 171 PAREDES LINE RD AT HERITAGE TRL CSJ 400.dgn
PROP SIG 171 PAREDES LINE RD AT HERITAGE TRL CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847)
AT LOS EBANOS BLVD
INTERSECTION 172
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	212

3/5/2026 9:30:34 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 172 PAREDES LINE RD AT LOS EBANOS BLVD CSJ 400.dgn

PROP SIG 172 PAREDES LINE RD AT LOS EBANOS BLVD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847) AT MAIN ST

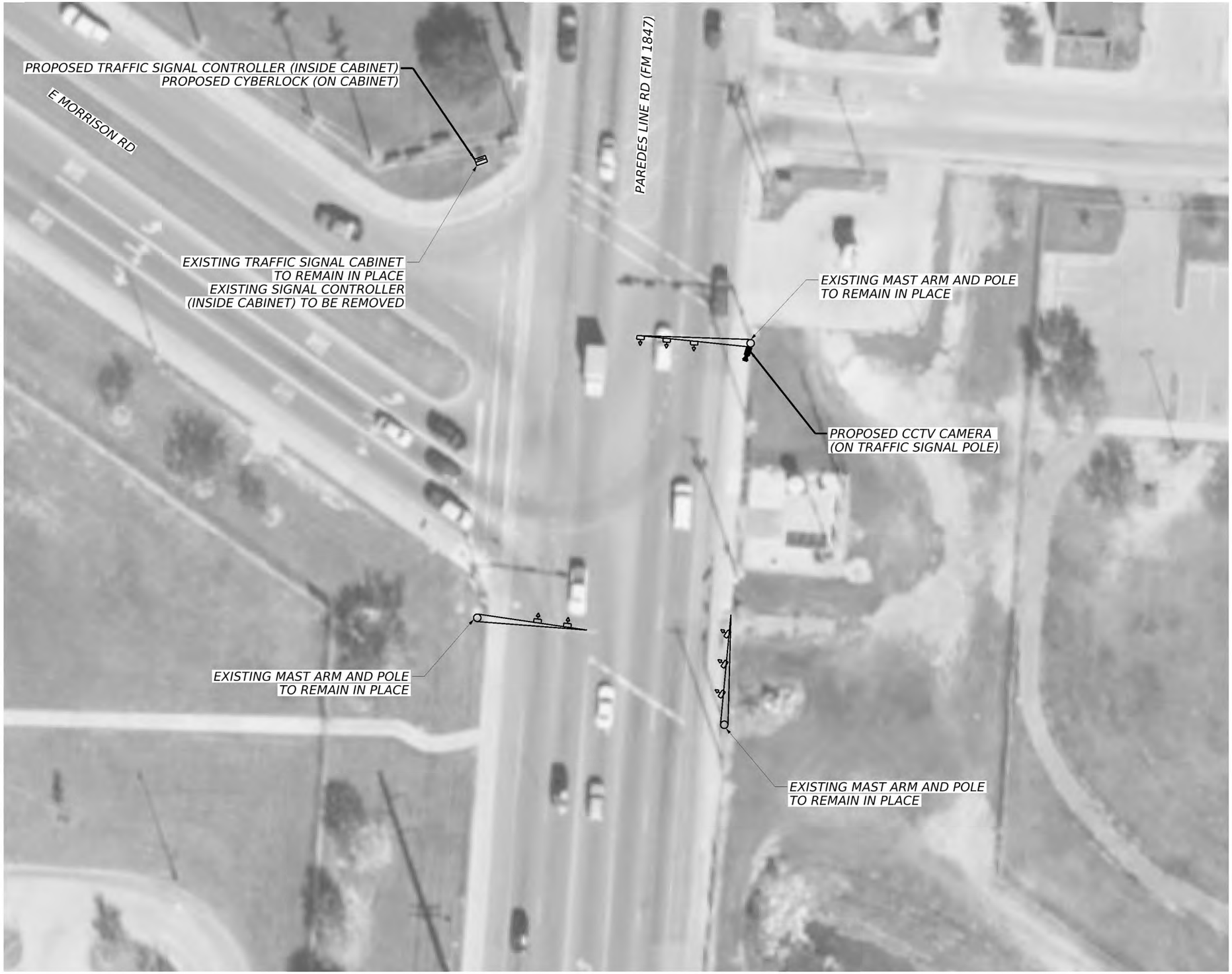
INTERSECTION 173

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	213

3/5/2026 9:30:57 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 173 PAREDES LINE RD AT MAIN ST CSJ 400.dgn

PROP SIG 173 PAREDES LINE RD AT MAIN ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
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1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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PAREDES LINE RD (FM 1847) AT E MORRISON RD

INTERSECTION 174

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	214

3/5/2026 9:31:21 AM
pw://cobfen.pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 174 PAREDES LINE RD AT MORRISON RD CSJ 400.dgn

PROP SIG 174 PAREDES LINE RD AT MORRISON RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E POLK ST AT E 24TH ST

INTERSECTION 175

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	215

3/5/2026 9:31:47 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 175 POLK ST AT 24TH ST CSJ 400.dgn

PROP SIG 175 POLK ST AT 24TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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W PRICE RD AT BARNARD RD

INTERSECTION 176

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	216

3/5/2026 9:32:13 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 176 PRICE RD AT BARNARD RD CSJ 400.dgn

PROP SIG 176 PRICE RD AT BARNARD RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.

3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.

4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.

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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER

3/6/2026

BROWNSVILLE

CobbFendley

TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT BISD DRIVEWAY

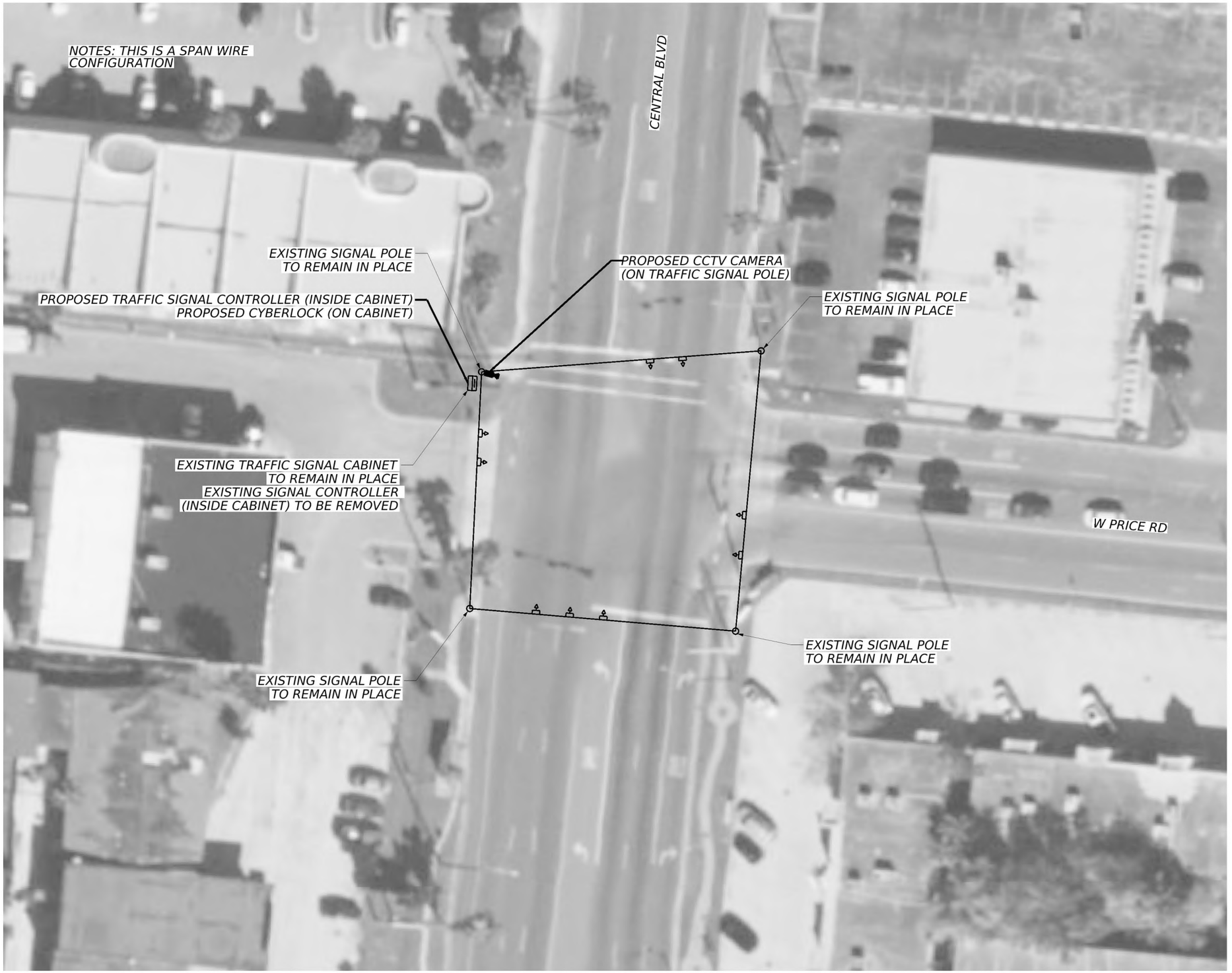
INTERSECTION 177

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	217

3/5/2026 9:32:38 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 177 PRICE RD AT BISD DRIVEWAY CSJ 400.dgn

PROP SIG 177 PRICE RD AT BISD DRIVEWAY CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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1" = 40'

N

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER

3/6/2026

BROWNSVILLE

CobbFendley

TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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W PRICE RD AT CENTRAL BLVD

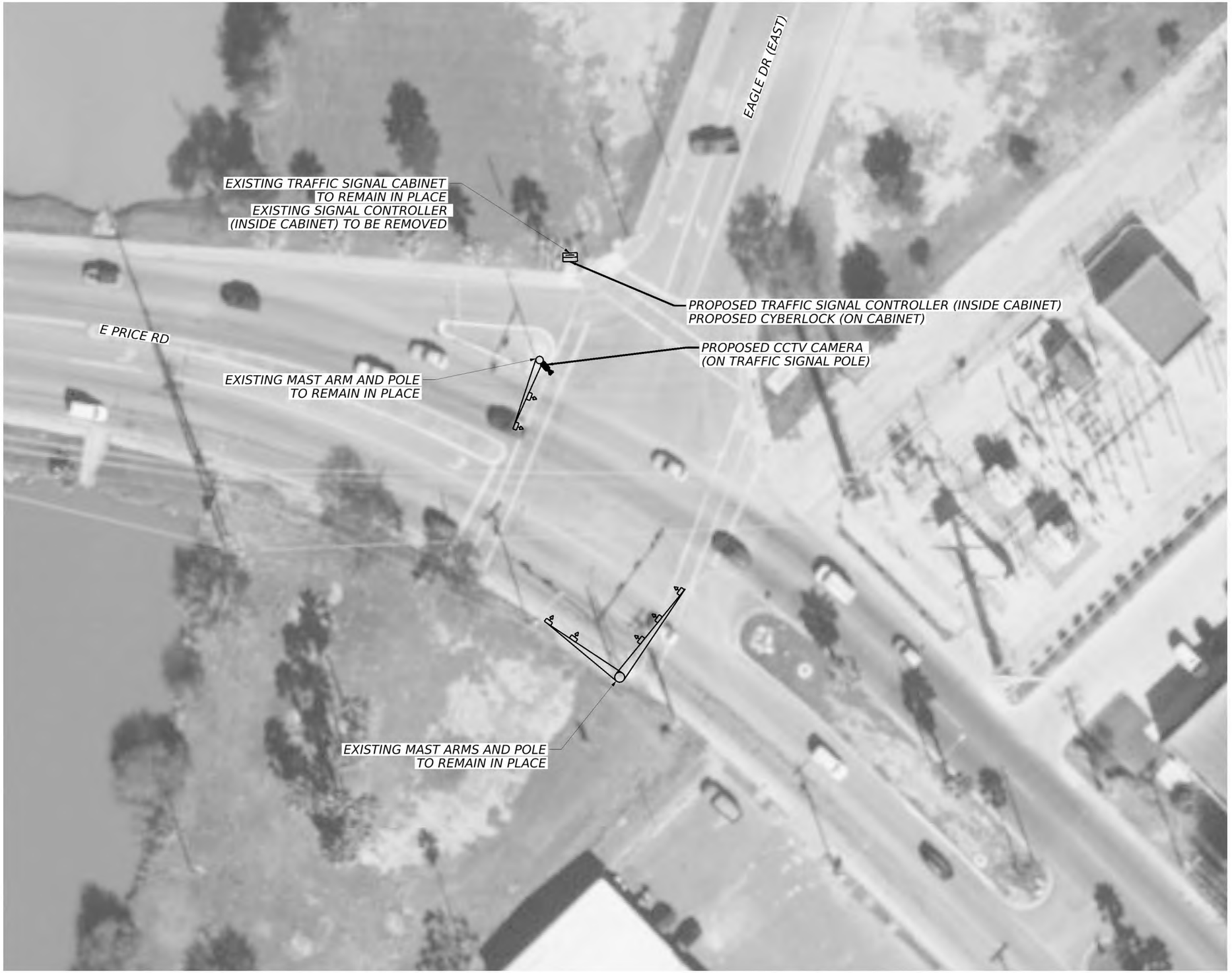
INTERSECTION 178

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	218

3/5/2026 9:33:05 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 178 PRICE RD AT CENTRAL BLVD CSJ 400.dgn

PROP SIG 178 PRICE RD AT CENTRAL BLVD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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1" = 40'

N

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER

3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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E PRICE RD AT EAGLE DR (EAST)

INTERSECTION 179

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	219

3/5/2026 9:33:30 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 179 PRICE RD AT EAGLE DR (EAST) CSJ 400.dgn
PROP SIG 179 PRICE RD AT EAGLE DR (EAST) CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT EAGLE DR (WEST)

INTERSECTION 180

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	220

3/5/2026 9:33:56 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 180 PRICE RD AT EAGLE DR (WEST) CSJ 400.dgn

PROP SIG 180 PRICE RD AT EAGLE DR (WEST) CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT OLD PORT ISABEL RD

INTERSECTION 181

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	221

3/5/2026 9:34:23 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 181 PRICE RD AT OLD PORT ISABEL RD CSJ 400.dgn

PROP SIG 181 PRICE RD AT OLD PORT ISABEL RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

N

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT PADRE ISLAND HWY

INTERSECTION 182

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	222

3/5/2026 9:34:47 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring\400_CAD\409_Traffic\02_Sheets\10-Signals\PROP SIG 182 PRICE RD AT PADRE ISLAND HWY CSJ 400.dgn
PROP SIG 182 PRICE RD AT PADRE ISLAND HWY CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

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4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT PAREDES LINE RD (FM 1847)

INTERSECTION 183

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	223

3/5/2026 9:35:10 AM
pw://cobfen.pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 183 PRICE RD AT PAREDES LINE RD CSJ 400.dgn
PROP SIG 183 PRICE RD AT PAREDES LINE RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT SLOSS DR

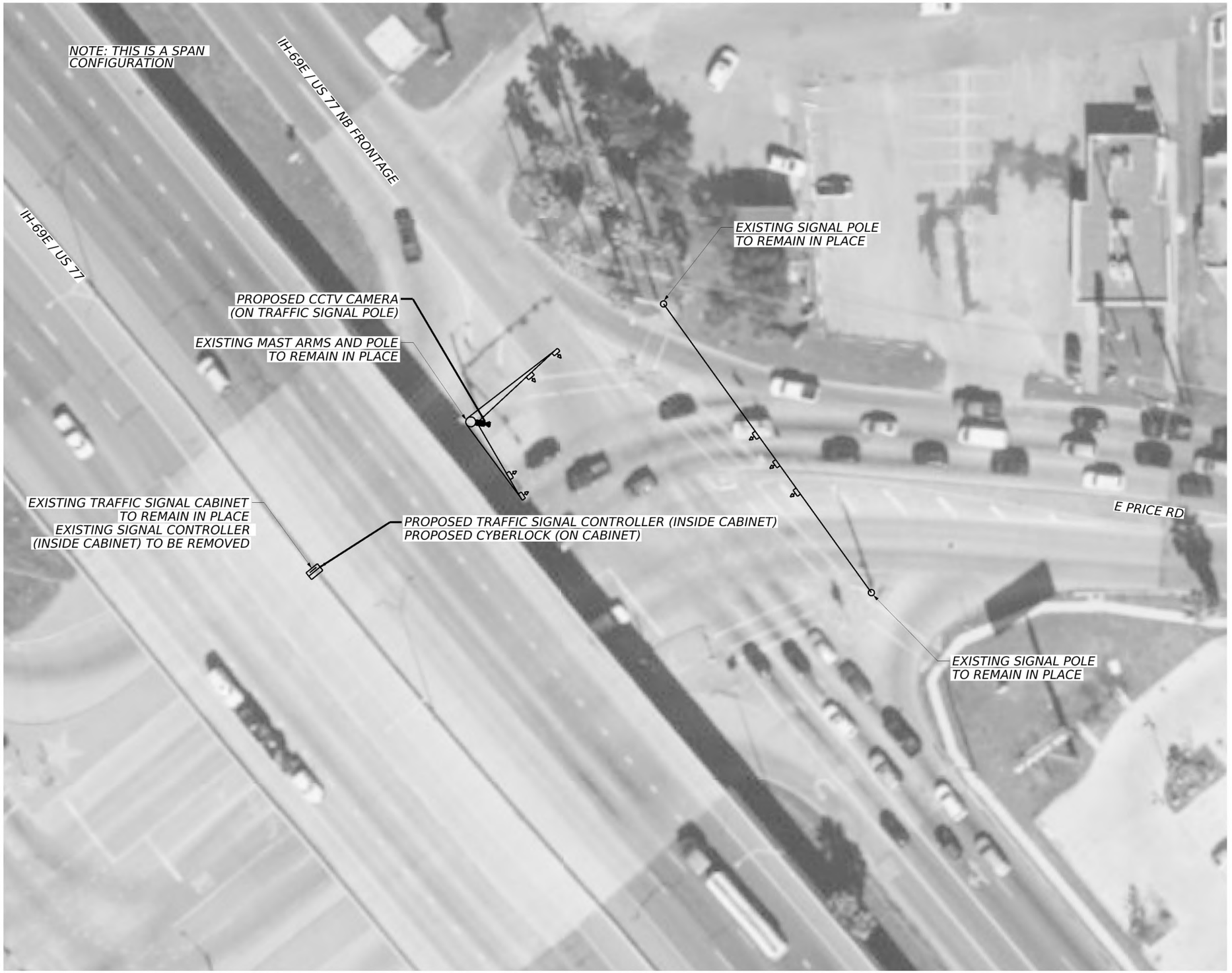
INTERSECTION 184

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	224

3/5/2026 9:35:35 AM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 184 PRICE RD AT SLOSS DRIVE CSJ 400.dgn

PROP SIG 184 PRICE RD AT SLOSS DRIVE CSJ 400.dgn



LEGEND

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STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT IH-69E / US 77 NB FRONTAGE

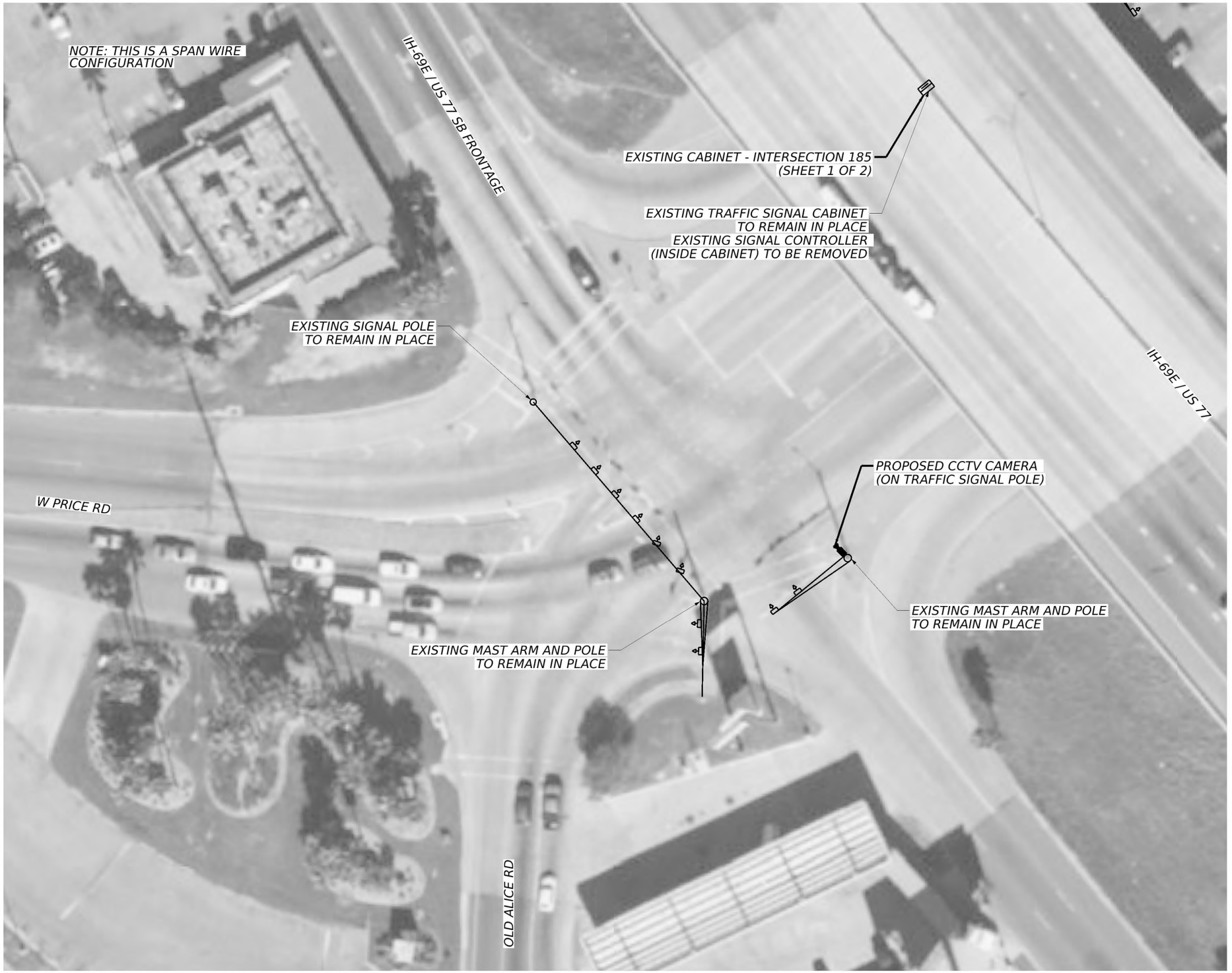
INTERSECTION 185

SHEET 1 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	225

3/6/2026 6:00:24 PM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 185A PRICE RD AT IH-69E - US 77 - US 83 (NORTH FRONTAGE) CSJ 400.dgn

PROP SIG 185A PRICE RD AT IH-69E - US 77 - US 83 (NORTH FRONTAGE) CSJ 400.dgn



LEGEND

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STATE OF TEXAS
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LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E PRICE RD AT IH-69E / US 77 SB FRONTAGE & OLD ALICE RD

INTERSECTION 185

SHEET 2 OF 2

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	226

3/6/2026 4:49:33 PM
pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring\400_CAD\409_Traffic\02_Sheets\10-Signals\PROP SIG 1858 PRICE RD AT IH-69E - US 77 - US 83 (SOUTH FRONTAGE) CSJ 400.dgn

PROP SIG 1858 PRICE RD AT IH-69E - US 77 - US 83 (SOUTH FRONTAGE) CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.

3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.

4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.

5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.

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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E RINGGOLD ST AT
E 12TH ST

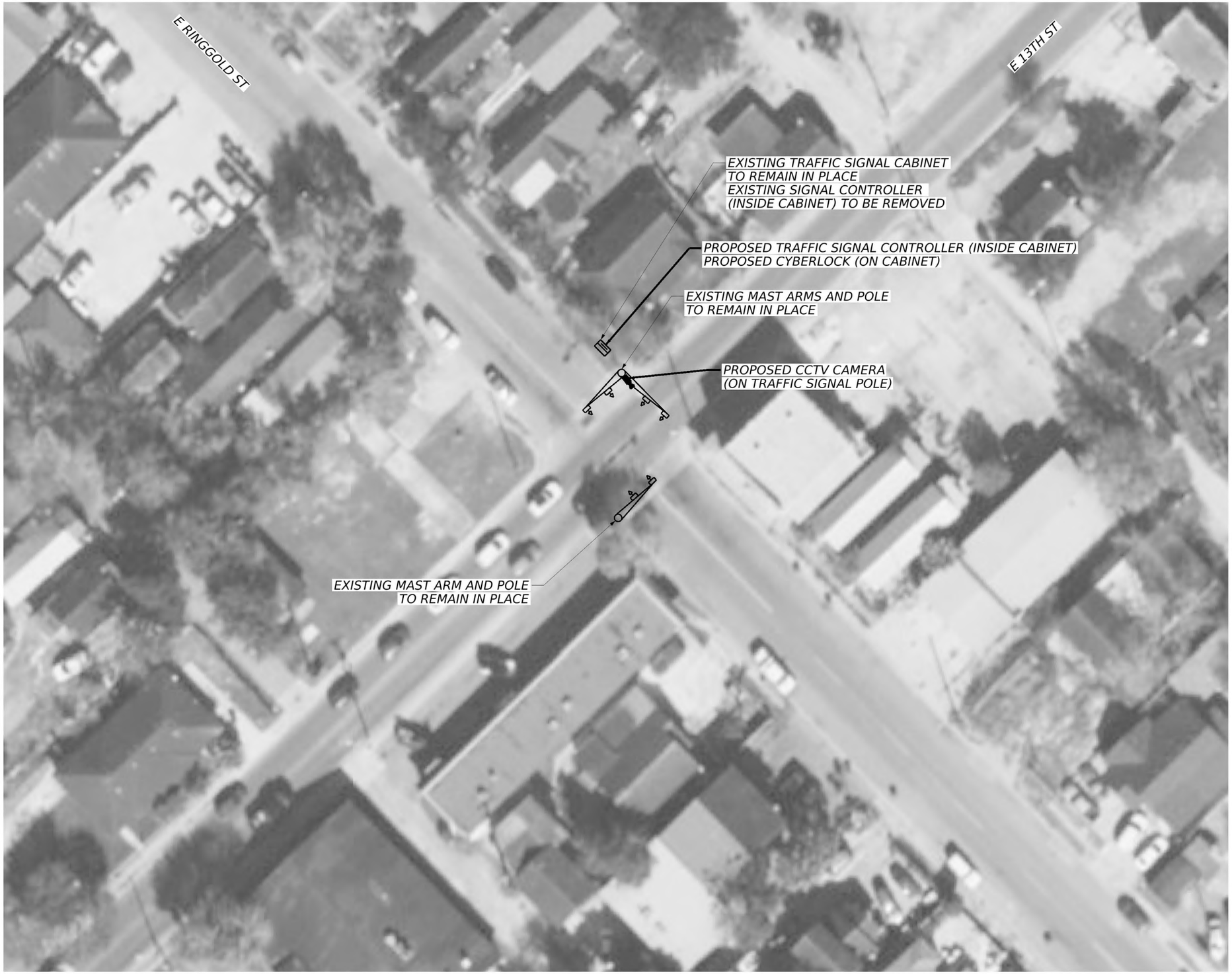
INTERSECTION 186

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	227

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PROP SIG 186 RINGGOLD ST AT 12TH CSJ 400.dgn



LEGEND

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E RINGGOLD ST AT E 13TH ST

INTERSECTION 187

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	228

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pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 187 RINGGOLD ST AT 13TH CSJ 400.dgn

PROP SIG 187 RINGGOLD ST AT 13TH CSJ 400.dgn



LEGEND

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BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E RINGGOLD ST AT E 6TH ST

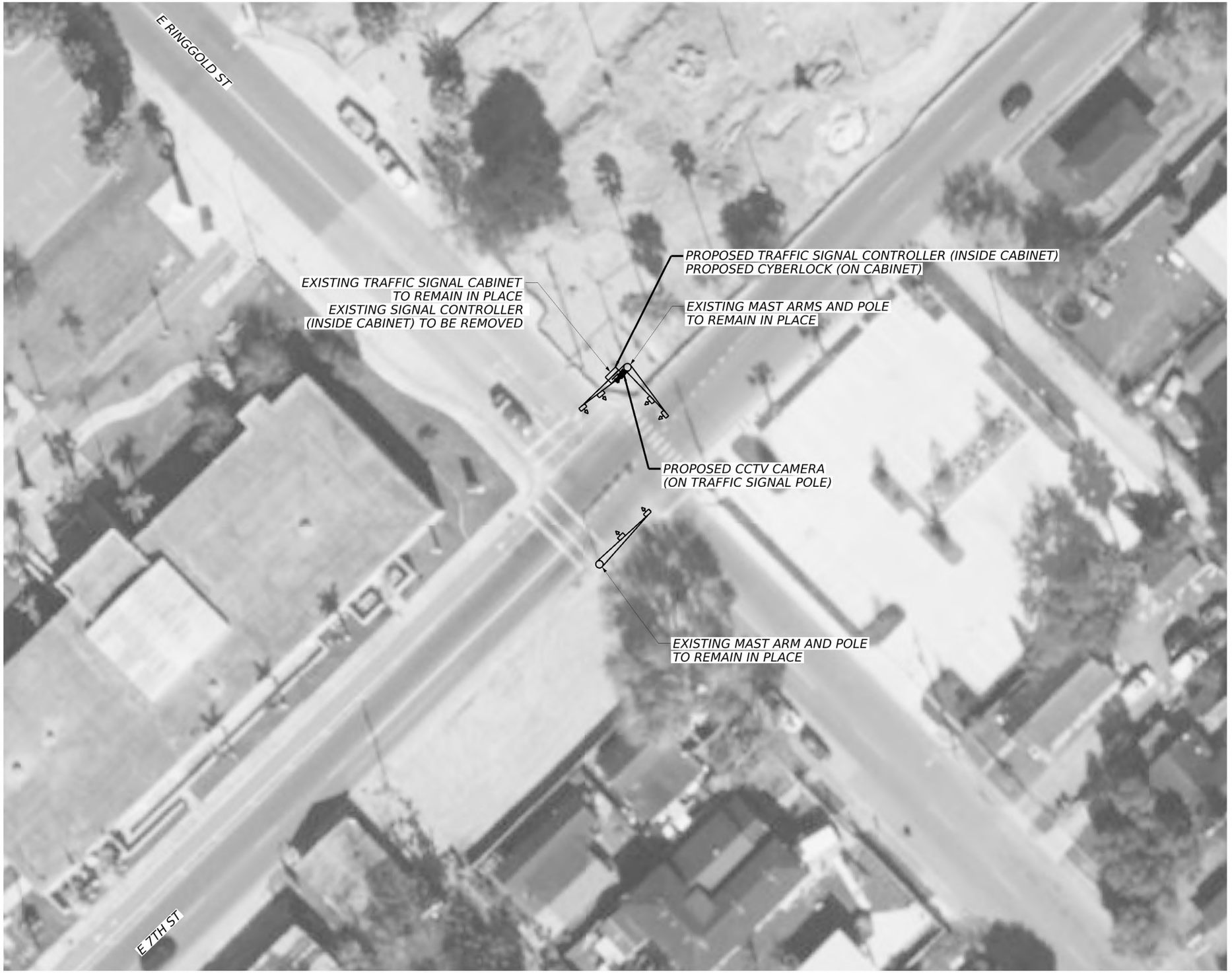
INTERSECTION 188

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	229

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PROP SIG 188 RINGGOLD ST AT 6TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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PROFESSIONAL ENGINEER
3/6/2026

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E RINGGOLD ST AT
E 7TH ST

INTERSECTION 189

SHEET 1 OF 1

FED.RD DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	230

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PROP SIG 189 RINGGOLD ST AT 7TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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ROOSEVELT ST AT E 13TH ST

INTERSECTION 190

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	231

3/5/2026 9:38:25 AM pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 190 ROOSEVELT ST AT 13TH CSJ 400.dgn

PROP SIG 190 ROOSEVELT ST AT 13TH CSJ 400.dgn



LEGEND

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3/6/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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ROOSEVELT ST AT E 14TH ST

INTERSECTION 191

SHEET 1 OF 1

HIGHWAY					STATE
VAR					TEXAS
COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.	
CAMERON	0921	06	400	232	

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PROP SIG 191 ROOSEVELT ST AT 14TH CSJ 400.dgn

NOTE: THIS IS A SPAN WIRE CONFIGURATION

OAK ST

PROPOSED CCTV CAMERA (ON TRAFFIC SIGNAL POLE)

EXISTING MAST ARMS AND POLE TO REMAIN IN PLACE

PROPOSED TRAFFIC SIGNAL CONTROLLER (INSIDE CABINET)
PROPOSED CYBERLOCK (ON CABINET)

EXISTING TRAFFIC SIGNAL CABINET TO REMAIN IN PLACE
EXISTING SIGNAL CONTROLLER (INSIDE CABINET) TO BE REMOVED

EXISTING MAST ARM AND POLE TO REMAIN IN PLACE

EXISTING MAST ARM AND POLE TO REMAIN IN PLACE

EXISTING MAST ARM AND POLE TO REMAIN IN PLACE

EXISTING SIGNAL POLE TO REMAIN IN PLACE

MC DAVITT BLVD

ROOSEVELT ST

LEGEND

- EXISTING MAST ARM AND POLE
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1" = 40'

N

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
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ROOSEVELT ST AT
MCDAVITT BLVD - OAK ST

INTERSECTION 192

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	233

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PROP SIG 192 ROOSEVELT ST AT MCDAVITT BLVD - OAK ST CSJ 400.dgn



LEGEND

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E ST CHARLES ST AT E 12TH ST - SAM PEARL BLVD

INTERSECTION 193

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	234

3/5/2026 9:39:44 AM pw://cobfen.pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TO4 Traffic Monitoring/400_CAD/409_Traffic/02_Sheets/10-Signals/PROP SIG 193 SAINT CHARLES AT 12TH - SAM PEARL BLVD CSJ 400.dgn

PROP SIG 193 SAINT CHARLES AT 12TH - SAM PEARL BLVD CSJ 400.dgn



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BROWNSVILLE

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Land Surveying Firm No. 10046700

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E ST CHARLES ST AT
E 6TH ST

INTERSECTION 194

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY			STATE	
6	VAR			TEXAS	
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	235

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PROP SIG 194 SAINT CHARLES AT 6TH CSJ 400.dgn



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SOUTHMOST RD AT E 14TH ST

INTERSECTION 195

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	236

3/5/2026 9:40:35 AM
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PROP SIG 195 SOUTHMOST RD AT 14TH ST CSJ 400.dgn



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SOUTHMOST RD AT
E 23RD ST
INTERSECTION 196
SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	237

3/5/2026 9:41:04 AM
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PROP SIG 196 SOUTHMOST RD AT 23RD ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
3. PROVIDE REMOVED CABINET LOCK AND CONTROLLER TO THE CITY OF BROWNSVILLE. CONTACT CAESAR FLORES AT 956-455-3848 TO MAKE ARRANGEMENTS.
4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
6. INSTALL PROPOSED CYBERLOCK ON EXISTING TRAFFIC SIGNAL CABINET.
7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER

3/6/2026

BROWNSVILLE

CobbFendley

TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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SOUTHMOST RD AT E 26TH ST

INTERSECTION 197

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	238

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PROP SIG 197 SOUTHMOST RD AT 26TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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KARL F. ROTHERMEL
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PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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SOUTHMOST RD AT E 30TH ST

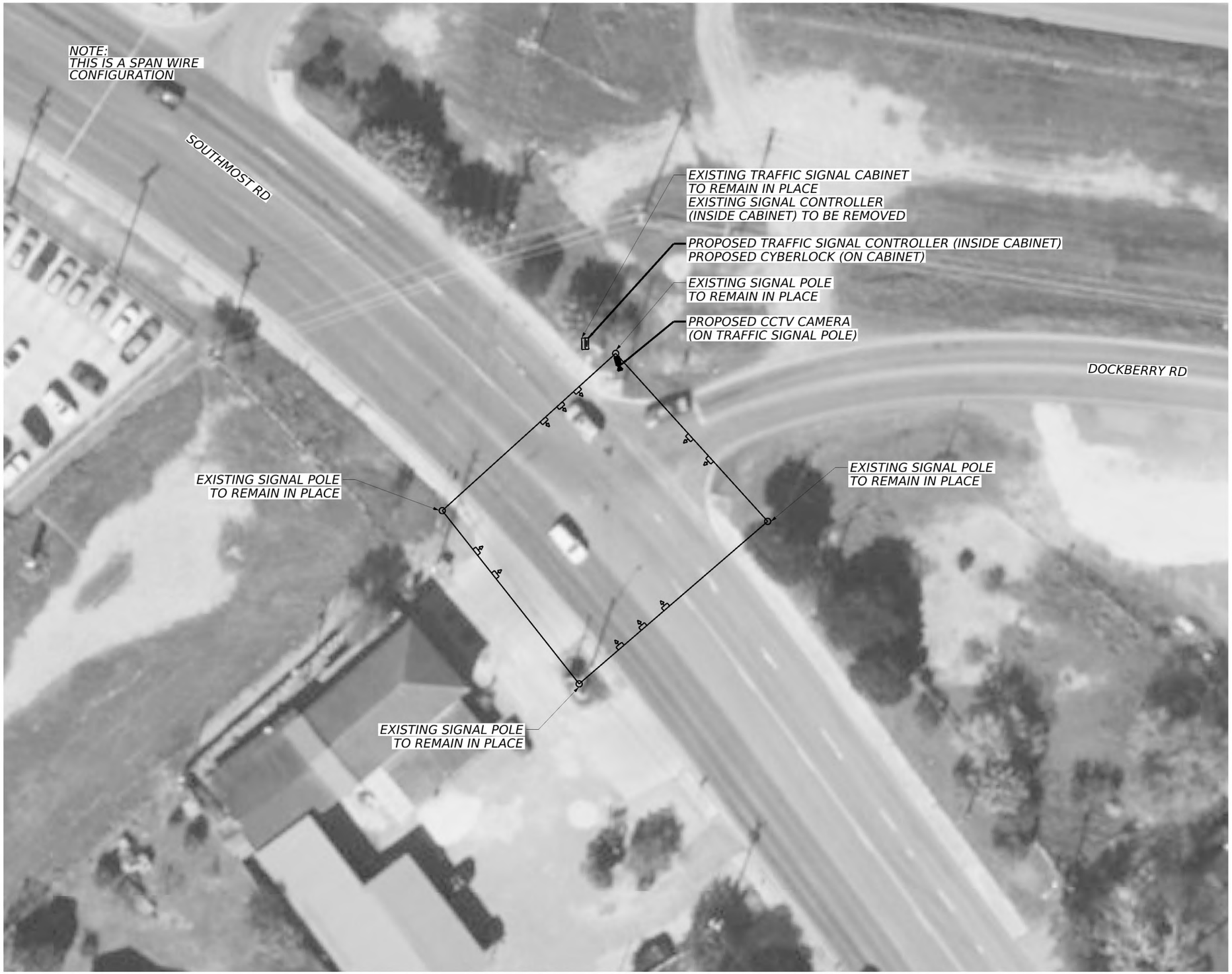
INTERSECTION 198

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	239

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PROP SIG 198 SOUTHMOST RD AT 30TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER
3/6/2026

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Land Surveying Firm No. 10046700

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SOUTHMOST RD AT DOCKBERRY RD

INTERSECTION 199

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	240

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PROP SIG 199 SOUTHMOST RD AT DOCKBERRY RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

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SOUTHMOST RD AT
ESPERANZA RD - MORNINGSIDE RD

INTERSECTION 200

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	241

3/5/2026 9:42:50 AM
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PROP SIG 200 SOUTHMOST RD AT ESPERANZA RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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SOUTHMOST RD AT MORNINGSIDE RD

INTERSECTION 201

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	242

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PROP SIG 201 SOUTHMOST RD AT MORNINGSIDE RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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SOUTHMOST RD AT TULIPAN ST

INTERSECTION 202

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	243

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PROP SIG 202 SOUTHMOST RD AT TULIPAN ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER

3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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UNIVERSITY BLVD AT PARKING LOT DRIVEWAY

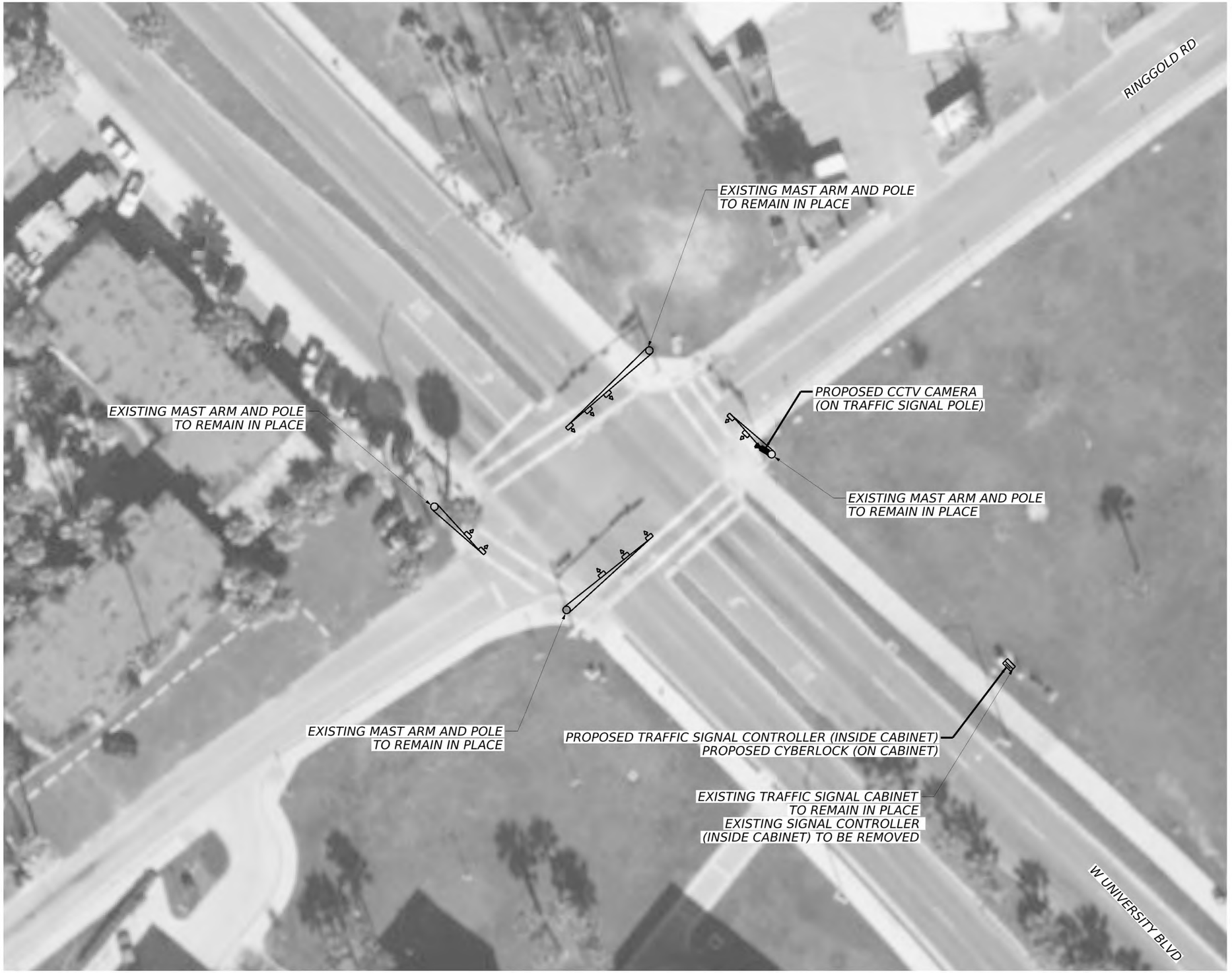
INTERSECTION 203

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	244

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PROP SIG 203 UNIVERSITY BLVD AT PARKING LOT CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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W UNIVERSITY BLVD AT RINGGOLD RD

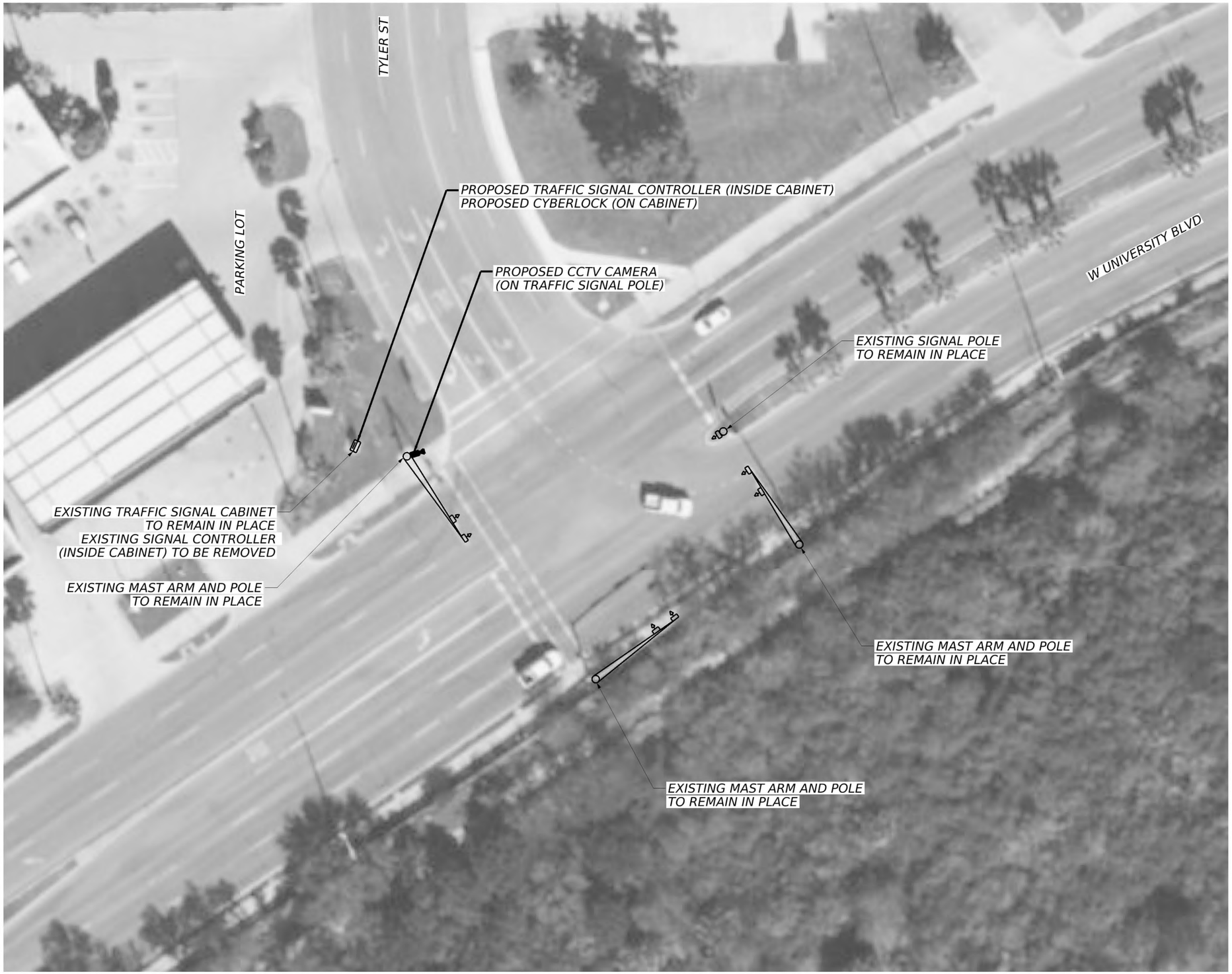
INTERSECTION 204

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	245

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PROP SIG 204 UNIVERSITY BLVD AT RINGGOLD RD CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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3/6/2026

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W UNIVERSITY BLVD AT TYLER ST

INTERSECTION 205

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	246

3/5/2026 10:50:56 AM
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PROP SIG 205 UNIVERSITY BLVD AT TYLER ST_POLK ST CSJ 400.dgn



LEGEND

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0 10 20 40
1" = 40'

THE STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

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TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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UNIVERSITY BLVD AT IH-69E / US 77

INTERSECTION 206

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	247

3/5/2026 11:21:26 AM
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PROP SIG 206 UNIVERSITY BLVD AT IH-69E - US 77 CSJ 400.dgn



LEGEND

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3/6/2026

BROWNSVILLE

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Land Surveying Firm No. 10046700

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IH-69E / US 77 AT E 13TH ST

INTERSECTION 207

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	248

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PROP SIG 207 IH-69 E - US 77 AT 13TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

NOTES:

1. THE LOCATIONS OF UTILITIES ARE APPROXIMATE AND SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.
2. REMOVE EXISTING CABINET LOCK AND EXISTING CONTROLLER.
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4. INSTALL PROPOSED CCTV CAMERA ON EXISTING TRAFFIC SIGNAL POLE.
5. INSTALL PROPOSED TRAFFIC SIGNAL CONTROLLER INSIDE OF EXISTING TRAFFIC SIGNAL CABINET.
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7. UTILIZE EXISTING CONDUIT AND GROUND BOXES FOR PROPOSED CCTV CAMERA CABLE CONNECTION TO THE EXISTING TRAFFIC SIGNAL CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF THE EXISTING TRAFFIC SIGNAL. ANY DAMAGE THAT OCCURS DUE TO CONSTRUCTION SHALL BE REPAIRED AT NO EXPENSE TO THE CITY OR TXDOT.

0 10 20 40

1" = 40'

THE STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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IH-69E / US 77 AT E 14TH ST

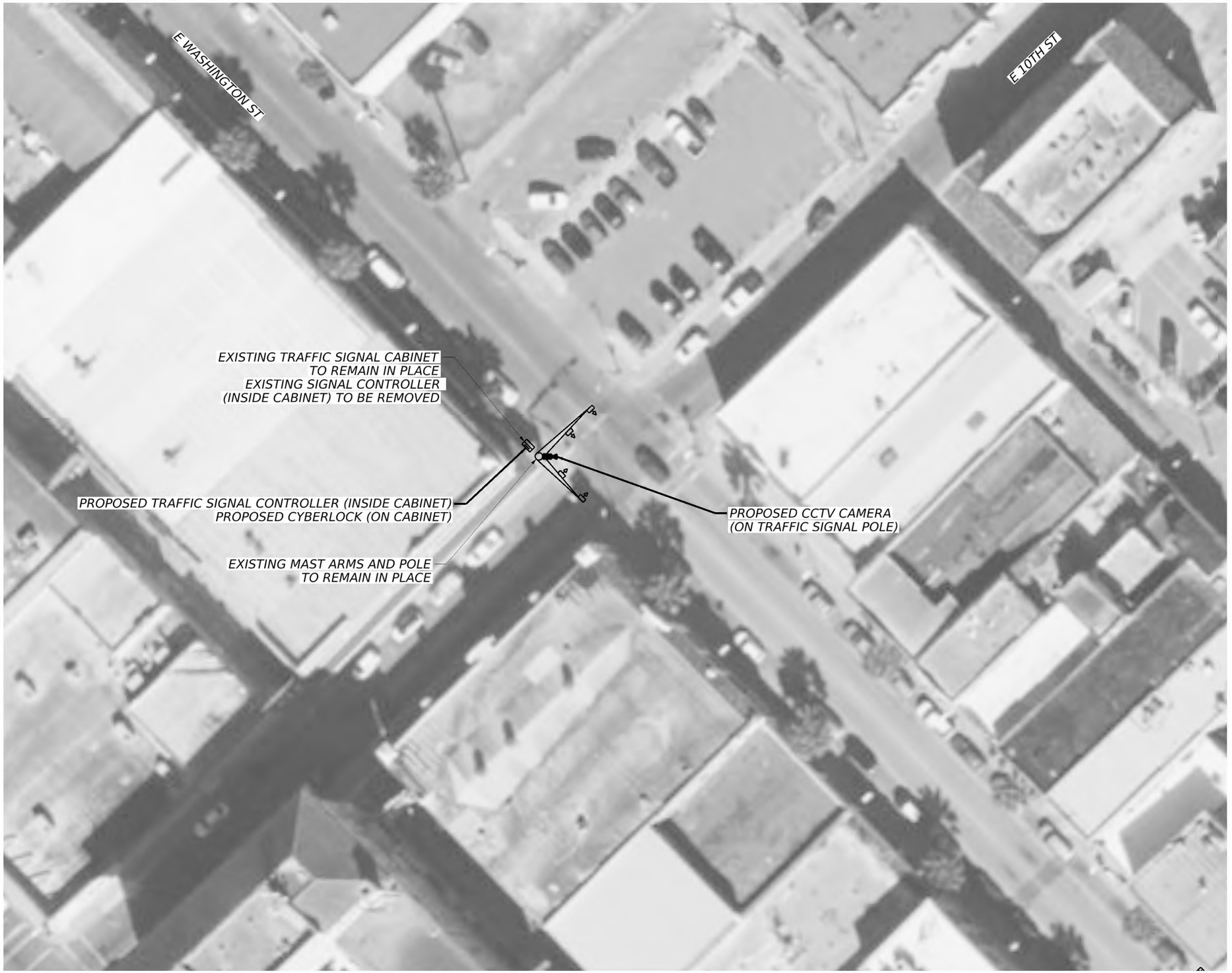
INTERSECTION 208

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	249

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PROP SIG 208 IH-69 E - US 77 AT 14TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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- EXISTING TRAFFIC SIGNAL HEAD
- EXISTING CABINET
- PROPOSED CCTV CAMERA

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E WASHINGTON ST AT
E 10TH ST

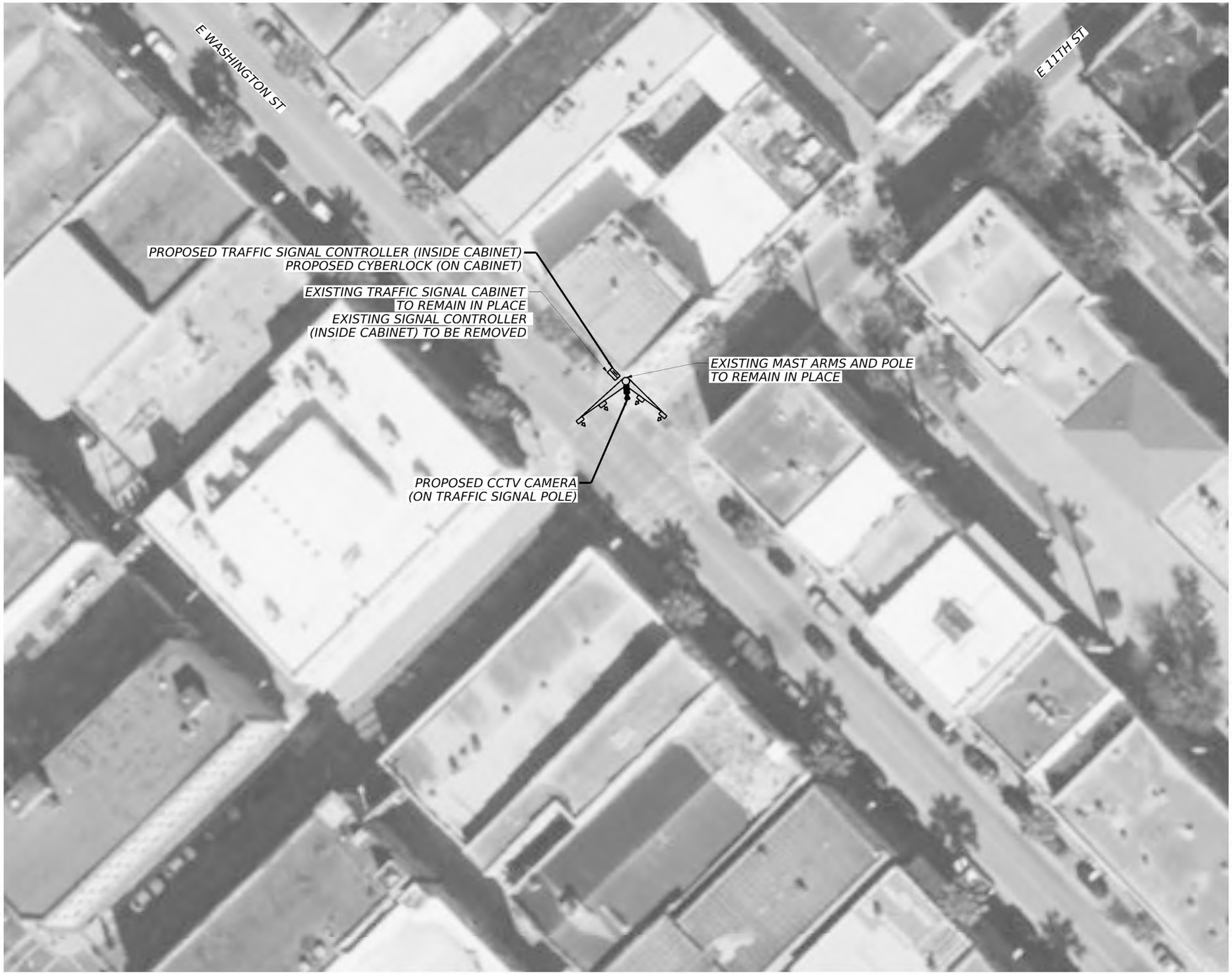
INTERSECTION 210

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	250

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PROP SIG 210 E WASHINGTON AT E 10TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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- EXISTING TRAFFIC SIGNAL HEAD
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3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E WASHINGTON ST AT E 11TH ST

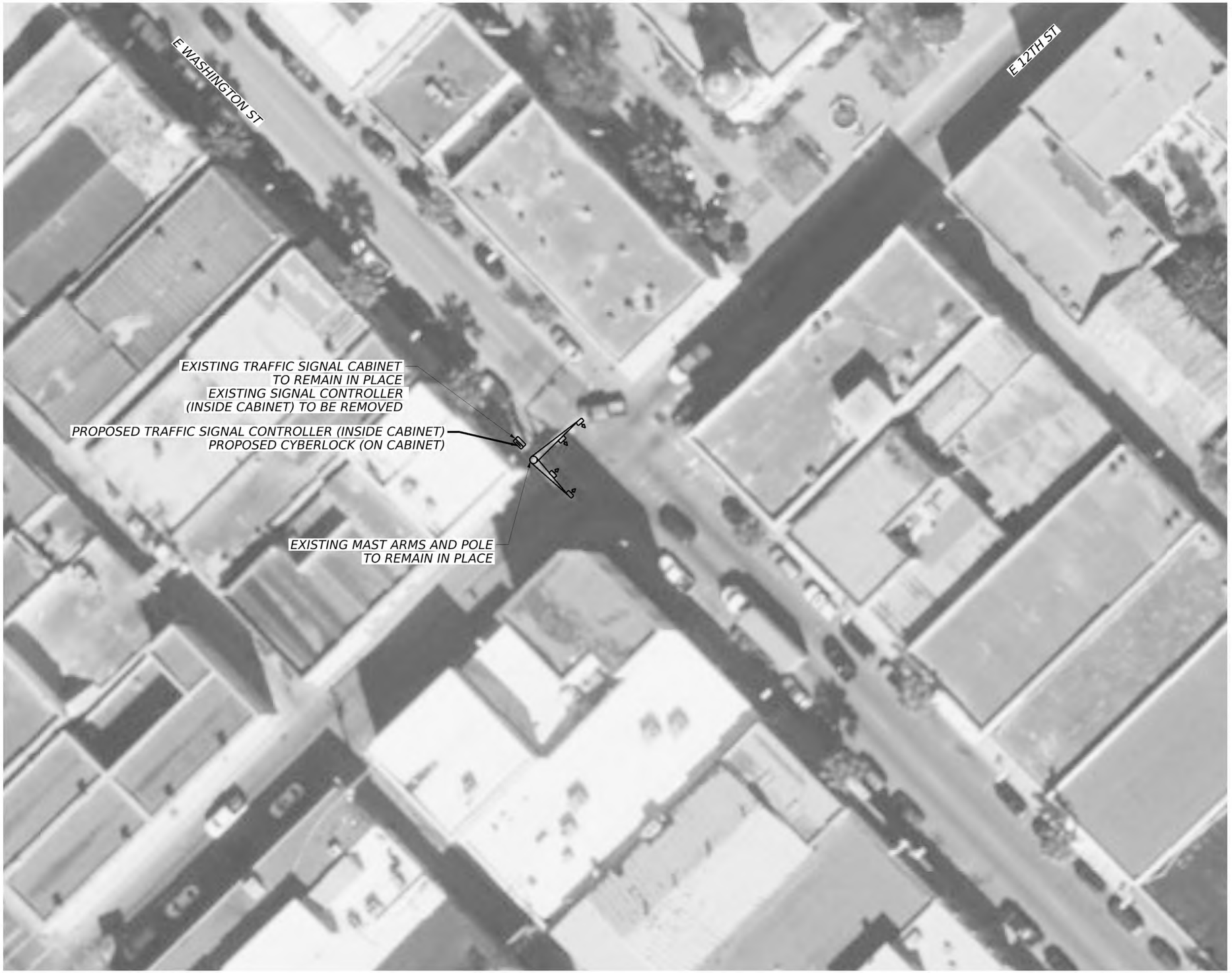
INTERSECTION 211

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	251

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PROP SIG 211 E WASHINGTON AT E 11TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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1" = 40'

STATE OF TEXAS
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PROFESSIONAL ENGINEER
3/6/2026

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E WASHINGTON ST AT E 12TH ST

INTERSECTION 212

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	252

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PROP SIG 212 E WASHINGTON AT E 12TH CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
- EXISTING SPAN WIRE AND STRAIN POLES
- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40

1" = 40'

THE STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED
PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E WASHINGTON ST AT E 13TH ST

INTERSECTION 213

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	253

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PROP SIG 213 E WASHINGTON AT E 13TH CSJ 400.dgn



LEGEND

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- EXISTING SPAN WIRE AND STRAIN POLES
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0 10 20 40

1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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E WASHINGTON ST AT E 14TH ST

INTERSECTION 214

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	254

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PROP SIG 214 E WASHINGTON AT E 14TH CSJ 400.dgn



LEGEND

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- EXISTING TRAFFIC SIGNAL HEAD
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0 10 20 40
1" = 40'

STATE OF TEXAS
KARL F. ROTHERMEL
116355
LICENSED PROFESSIONAL ENGINEER
3/6/2026

BROWNSVILLE

CobbFendley
TBPELS Engineering Firm No. 274;
Land Surveying Firm No. 10046700

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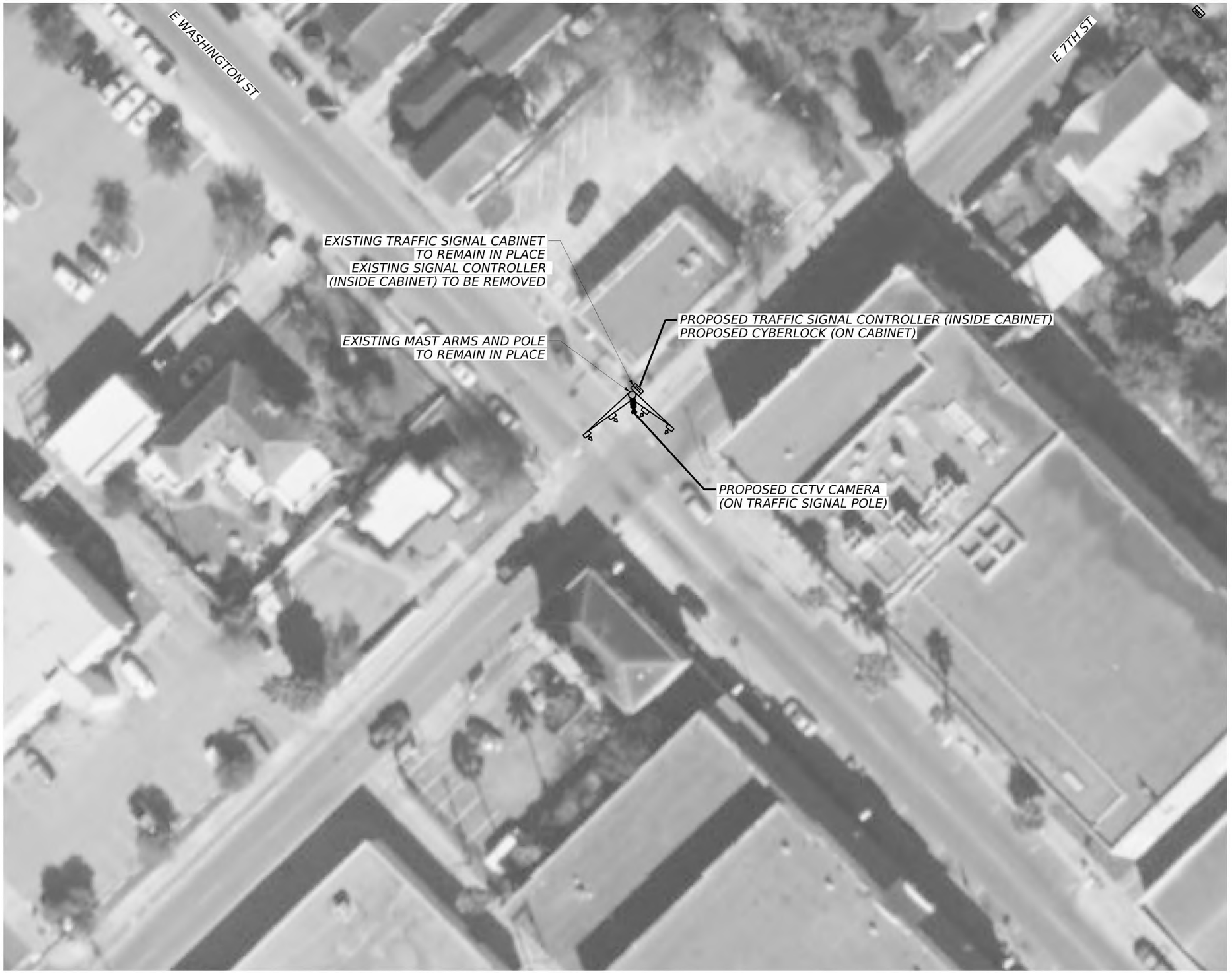
E WASHINGTON ST AT E 6TH ST

INTERSECTION 215

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	255

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PROP SIG 215 E WASHINGTON AT EAST 6TH ST CSJ 400.dgn



LEGEND

- EXISTING MAST ARM AND POLE
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BROWNSVILLE

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Land Surveying Firm No. 10046700

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E WASHINGTON ST AT
E 7TH ST

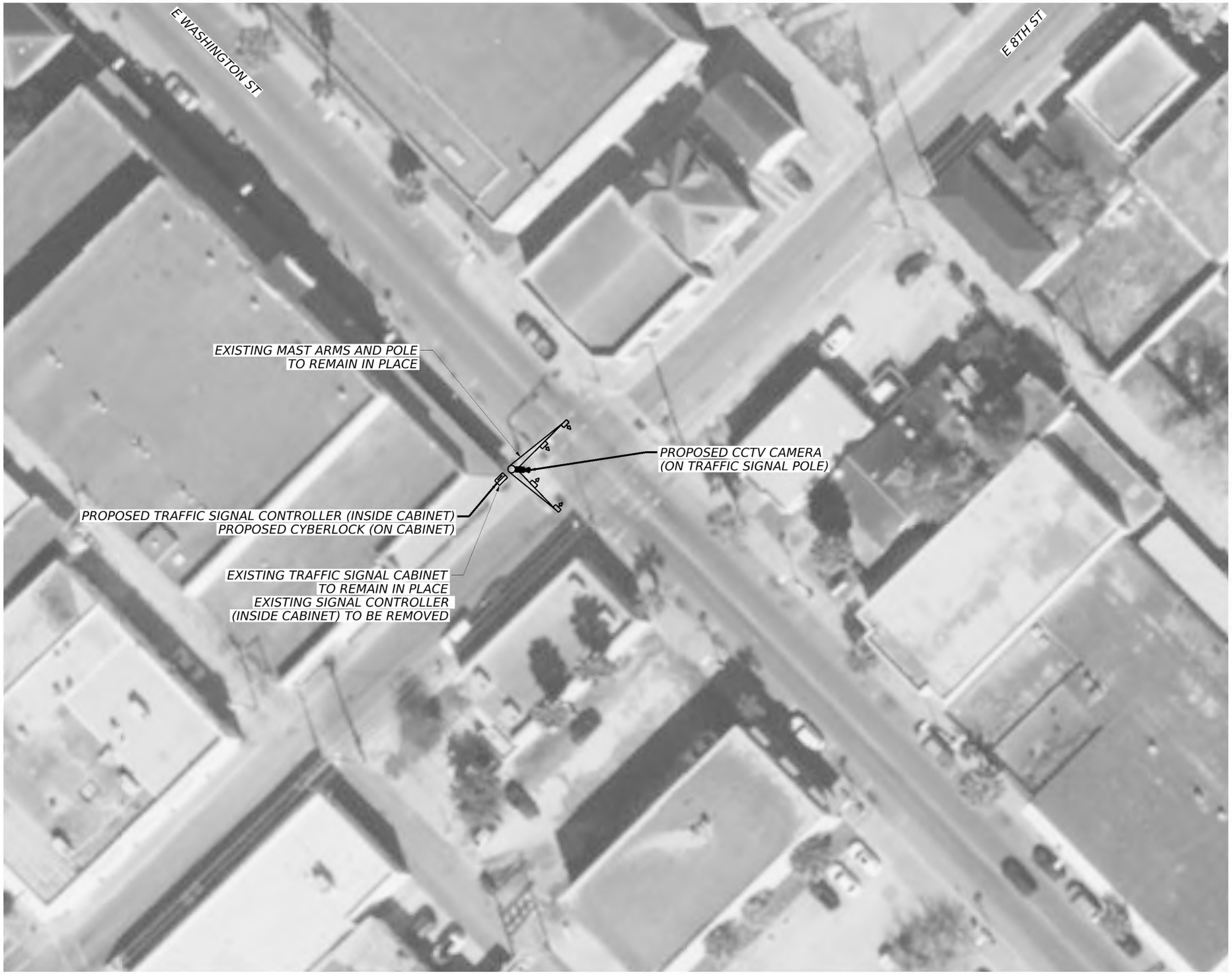
INTERSECTION 216

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	256

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PROP SIG 216 E WASHINGTON AT E 7TH CSJ 400.dgn



LEGEND

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3/6/2026

BROWNSVILLE

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E WASHINGTON ST AT
E 8TH ST

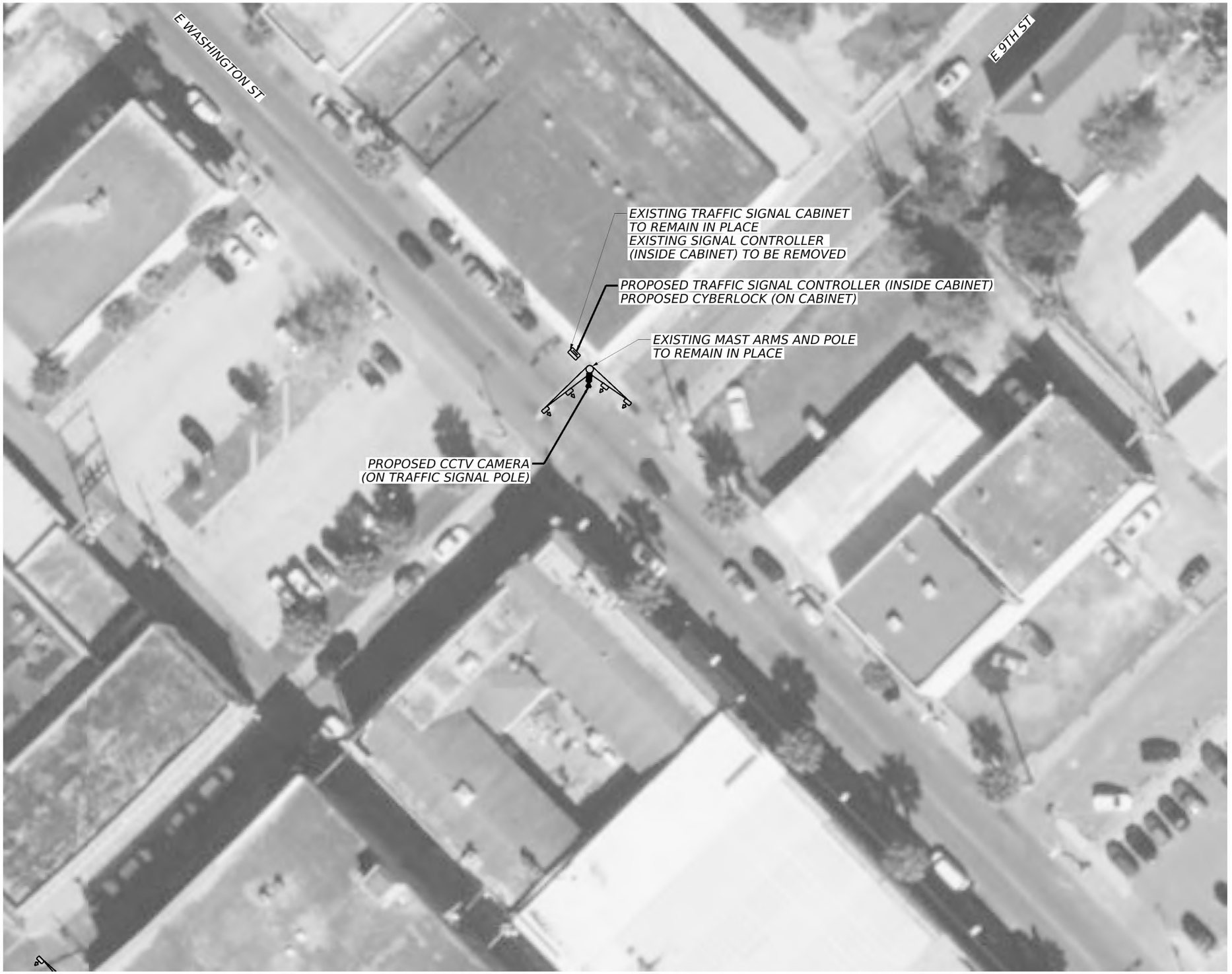
INTERSECTION 217

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	257

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PROP SIG 217 E WASHINGTON AT E 8TH CSJ 400.dgn



LEGEND

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E WASHINGTON ST AT E 9TH ST

INTERSECTION 218

SHEET 1 OF 1

FED.RD. DIV.NO.	HIGHWAY				STATE
6	VAR				TEXAS
STATE DISTRICT	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
PHR	CAMERON	0921	06	400	258

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PROP SIG 218 E WASHINGTON AT E 9TH CSJ 400.dgn

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DATE: 3/6/2026 7:57:22 PM
FILE: pw://cobfen-pw.bentley.com:cobfen-pw-01/Documents/2025/2509-010-02-TxDOT Standards/Standards/Electrical/Standards/ed1-25.dgn

GENERAL NOTES FOR ALL ELECTRICAL WORK

1. The location of all conduits, junction boxes, ground boxes, and electrical services is diagrammatic and may be shifted to accommodate field conditions.

2. Provide new, unused, and undamaged materials. Ensure that all materials and installations comply with the National Electrical Code (NEC), TxDOT standards and specifications, National Electrical Manufacturers Association (NEMA), and are listed by Underwriters Laboratories (UL) or a Nationally Recognized Testing Lab (NRTL). NRTLs such as CSA Group, Intertek Testing Services, or FM Approvals can be considered equivalent to UL. Where reference is made to NEMA listed devices, International Electrotechnical Commission (IEC) listed devices will not be considered an acceptable equal to NEMA. Faulty fabrication or poor workmanship in any material, equipment, or installation is justification for rejection. Replace or reinstall rejected material or equipment at no additional cost to the Department.

3. Miscellaneous nuts, bolts, and hardware, except for high strength bolts, may be stainless steel when plans specify galvanized, provided the bolt size is 1/2 in. or less in diameter.

4. Provide the following test equipment as required by the Engineer to confirm compliance with the contract and the NEC: voltmeter, ammeter, megohm meter (1000 volt DC), ground resistance tester, torque wrenches, and torque screwdrivers. Ensure all equipment has been properly calibrated within the last year. Provide calibration certification to the Engineer upon request. Operate test equipment during inspection as requested by the Engineer.

5. Install grounding as shown on the plans and in accordance with the NEC. Ensure all metallic conduits, metal poles, luminaires, and metal enclosures are bonded to an equipment grounding conductor. Provide stranded bare copper or green insulated grounding conductors. Ground rods, connectors, and bonding jumpers are subsidiary to the various bid items.

6. When required by the Engineer, notify the Department in writing of materials from the Material Producer List (MPL) intended for use on each project. Prequalified materials are listed on the MPL on TxDOT's website under "Roadway Illumination and Electrical Supplies." No substitutions will be allowed for materials on this list.

CONDUIT

A. MATERIALS

1. Provide conduit, junction boxes, fittings, and hardware per TxDOT Departmental Material Specification DMS-11030, "Conduit" and Item 618, "Conduit" of TxDOT's "Standard Specifications for Construction and Maintenance of Highways, Streets, And Bridges," latest edition. Provide conduits listed under Item 618 on the MPL under "Roadway Illumination and Electrical Supplies." Provide conduit types according to the descriptive code or as shown on the plans. Do not substitute other types of conduits for those shown. Provide Liquidtight Flexible Metal Conduit (LFMC) when flexible conduit is called for on galvanized steel Rigid Metal Conduit (RMC) systems. Provide Liquidtight Flexible Nonmetallic Conduit (LFNC) when flexible conduit is called for on Polyvinyl Chloride (PVC) systems.

2. Provide galvanized steel RMC for all exposed conduits, unless otherwise shown on the plans. Properly bond all metal conduits.

3. Unless otherwise shown on the plans, provide junction boxes with a minimum size as shown in the following table, which applies to the greatest number of conductors entering the box through one conduit with no more than four conduits per box. When a mixture of conductor sizes are present, count the conductors as if all are of the larger size. For situations not applicable to this table, size junction boxes per the NEC.

JUNCTION BOX SIZES

AWG	3 CONDUCTORS	5 CONDUCTORS	7 CONDUCTORS
#1	10" x 10" x 4"	12" x 12" x 4"	16" x 16" x 4"
#2	8" x 8" x 4"	10" x 10" x 4"	12" x 12" x 4"
#4	8" x 8" x 4"	10" x 10" x 4"	10" x 10" x 4"
#6	8" x 8" x 4"	8" x 8" x 4"	10" x 10" x 4"
#8	8" x 8" x 4"	8" x 8" x 4"	8" x 8" x 4"

4. Junction boxes with internal volumes up to 100 cu. in. and that are supported by entering raceways must have threaded entries or hubs identified for the intended purpose and be supported by connection of two or more rigid metal conduits. Secure conduit within 3 ft. of the box or within 18 in. of the box if all conduit entries are on the same side. Mechanically secure all junction boxes with an internal volume greater than 100 cu. in.

5. Provide hot dipped galvanized cast iron or sand cast aluminum outlet boxes for junction boxes containing only 10 AWG or 12 AWG conductors. Do not use die cast aluminum boxes. Size outlet boxes according to the NEC.

6. Do not use Intermediate Metal Conduit (IMC) or Electrical Metallic Tubing (EMT) unless specifically required by the plan sheets. When EMT is called for, provide junction boxes sized as directed above, listed and approved for outdoor use, unless otherwise noted on the plans. Provide junction boxes for IMC conduit systems that meet the same requirements for junction boxes used with RMC systems.

7. Provide PVC junction boxes intended for outdoor use on PVC conduit systems, unless otherwise noted on the plans.

8. Provide PVC elbows, unless otherwise shown in the plans. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the PVC conduit system.

A. MATERIALS (CONTINUED)

9. When galvanized steel RMC elbows are specifically called for in the plans and any portion of the RMC elbow is buried less than 18 in. below grade or bottom of the ground box, ground the RMC elbow with a grounding bushing on a rigid metal extension. Grounding of the rigid metal elbow is not required if the entire RMC elbow is encased in a minimum of 2 in. of concrete. PVC extensions are allowed on these concrete encased rigid metal elbows. Elbows are subsidiary to various bid items.

10. When required, provide High-Density Polyethylene (HDPE) conduit with factory installed internal conductors according to DMS-11060, "Duct Cable." At the Contractor's request and with approval by the Engineer, substitute HDPE conduit with no conductors according to DMS-11030 for PVC conduit bid under Item 618. Provide conduit of the size and schedule as shown on the plans. Do not extend HDPE conduit into ground boxes or foundations. Provide PVC elbows at all ground boxes and foundations.

11. Use two-hole straps or strut straps when supporting 2 in. and larger conduits. On electrical service poles, properly sized stainless steel or hot dipped galvanized strut straps or stand-off straps are allowed on the service riser conduit.

B. CONSTRUCTION METHODS

1. Provide and install expansion joint conduit fittings on all structure-mounted conduits at the structure's expansion joints to allow for movement of the conduit. In addition, provide and install expansion joint fittings on all continuous runs of galvanized steel RMC conduit externally exposed on structures such as bridges at maximum intervals of 150 ft. When requested by the project Engineer, supply manufacturer's specification sheet for expansion joint conduit fittings. Repair or replace expansion joint fittings that do not allow for movement at no additional cost to the Department. Provide the method of determining the amount of expansion to the Engineer upon request. Do not use LFMC or LFNC as a substitute for the required expansion conduit fittings.

2. Space all conduit supports at maximum intervals of 5 ft. Install conduit spacers when attaching metal conduit to surfaces of concrete structures. See "Conduit Mounting Options" on ED(2). Install conduit supports within 3 ft. of all enclosures and conduit terminations.

3. Do not attach conduit supports directly to pre-stressed concrete beams, except as shown specifically in the plans or as approved by the Engineer.

4. Unless otherwise shown on the plans, jack or bore conduit placed beneath existing roadways, driveways, sidewalks, or after the base or surfacing operation has begun. Backfill and compact the bore pits below the conduit per Item 476 "Jacking, Boring, or Tunneling Pipe or Box" prior to installing conduit or duct cable to prevent bending of the connections.

5. When placing conduit in the subgrade of new roadways, backfill all trenches with excavated material unless otherwise noted on the plans. When placing conduit in the subbase of new roadways, backfill all trenches with cement-stabilized base as per requirements of Items: 110, "Excavation;" 400, "Excavation and Backfill for Structures;" 401, "Flowable Backfill;" 402, "Trench Excavation Protection;" and 403, "Temporary Special Shoring."

6. During construction, temporarily cap or plug open ends of all conduit and raceways immediately after installation to prevent entry of dirt, debris and animals. Temporary caps constructed of durable duct tape are allowed. Tightly affix the tape to the conduit opening. Clean out the conduit and prove it clear in accordance with Item 618 prior to installing any conductors.

7. Ensure conduit entry into the top of an enclosure is waterproof by installing conduit sealing hubs or using boxes with threaded bosses. This includes surface mounted safety switches, meter cans, service enclosures, auxiliary enclosures and junction boxes. Grounding bushings on water tight sealing hubs are not required.

8. Fit the ends of all PVC conduit terminations with bushings or bell end fittings. Provide and install a grounding bushing on all metal conduit terminations.

9. Install a bonding jumper from each grounding bushing to the nearest ground rod, grounding lug, or equipment grounding conductor. Ensure all bonding jumpers are the same size as the equipment grounding conductor. Bonding of conduit used as a casing under roadways for duct cable is not required, if the duct extends the full length through the casing.

10. Place conduits entering ground boxes so that the conduit openings are between 3 in. and 6 in. from the bottom of the box. See the ground box detail on sheet ED(4).

11. After completion of conductor installation, immediately seal ends of all conduits emerging from ground with duct seal, expandable foam, or other methods approved by the Engineer. Do not use silicone caulking. Do not use duct tape as a permanent seal.

12. File smooth the cut ends of all mounting strut and conduit. To avoid overspray, paint the field cut ends of all mounting strut and RMC (threaded or non-threaded) with zinc rich paint (94% min. zinc content as specified on DMS-8103 and listed on the MPL for Galvanizing Repair Paints) before installing. Use zinc rich paint to touch up galvanized material as allowed under Item 445 "Galvanizing." Do not paint non-galvanized material with zinc rich paint as an alternative for materials required to be galvanized.

13. For all conduits, ensure the burial depth is 18" min. For conduits placed under a roadway, ensure the burial depth is 24" min.

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS CONDUITS & NOTES

ED(1)-25

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		PHR	CAMERON		259

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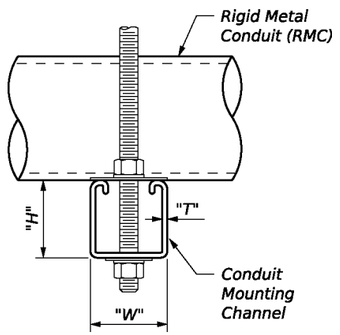
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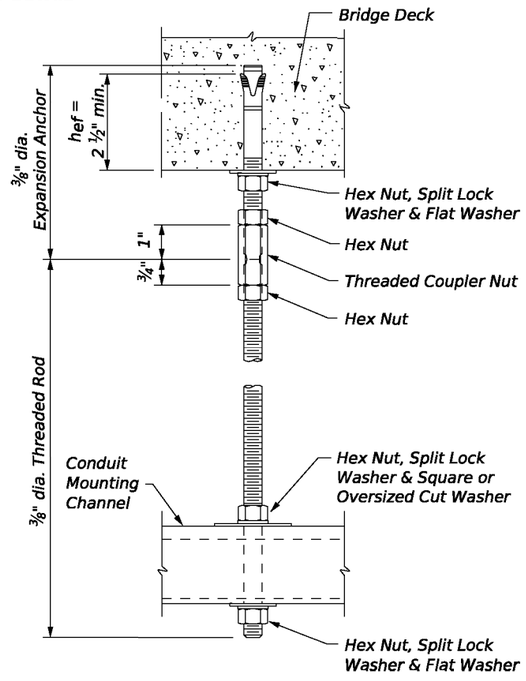
ELECTRIC CONDUIT TO BRIDGE DECK ATTACHMENT

HANGER ASSEMBLY DETAIL

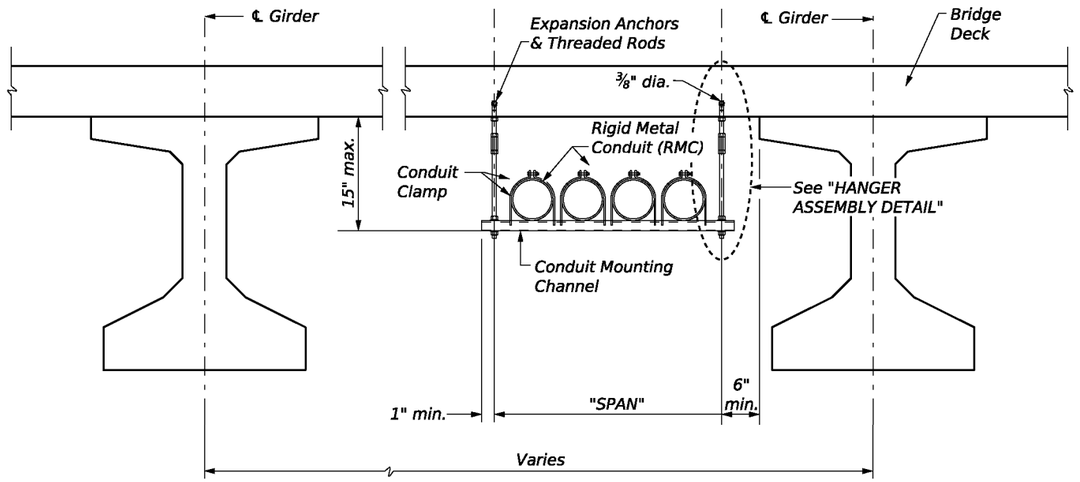
CONDUIT MOUNTING CHANNEL		
"SPAN"	"W" x "H"	"T"
less than 2'	1 5/8" x 1 3/8"	12 ga.
2'-0" to 2'-6"	1 5/8" x 1 5/8"	12 ga.
>2'-6" to 3'-0"	1 5/8" x 2 7/16"	12 ga.

NOTE: Channels with round or short slotted hole patterns are allowed, provided the load carrying capacity is not reduced by more than 15%.



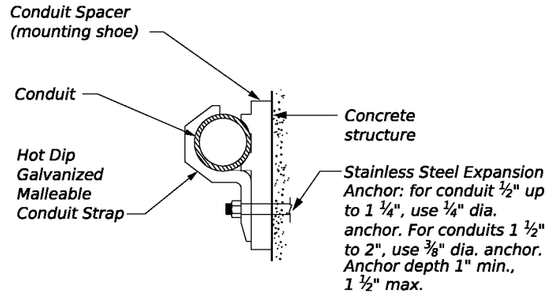


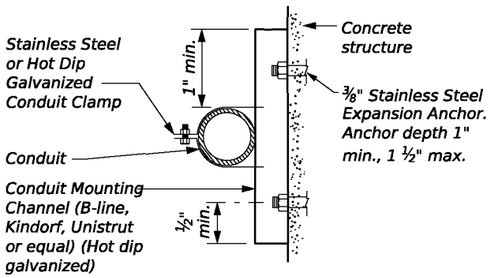
CONDUIT HANGING DETAIL



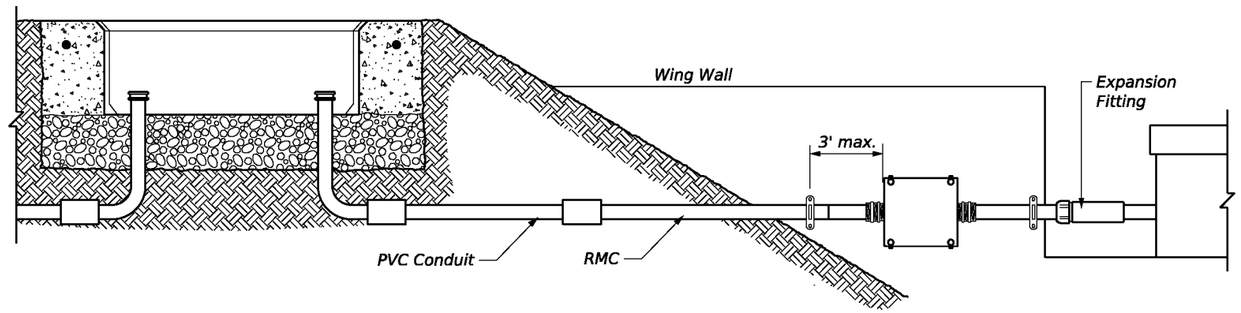
CONDUIT MOUNTING OPTIONS

ATTACHMENT TO CONCRETE SURFACES - SEE ED(1), CONDUIT, NOTE B.2





TYPICAL CONDUIT ENTRY TO BRIDGE STRUCTURE DETAIL



EXPANSION ANCHOR NOTES FOR BRIDGE DECK ATTACHMENT:

1. Use torque controlled mechanical expansion anchors that are approved for use in cracked concrete by the International Code Council, Evaluation Service (ICC-ES). The chosen anchor product shall have a designated ICC-ES Evaluation Report number, and its approval status shall be maintained on the ICC-ES website under Division 031600 for Concrete Anchors.
2. Unless otherwise approved by the Engineer: do not use adhesive anchors; do not use expansion anchors that are not included in the ICC-ES approval list; and do not use expansion anchors that are only approved for use in uncracked concrete.
3. Use anchors manufactured with stainless steel expansion wedges. Anchors manufactured with carbon steel expansion wedges are not allowed. Anchor bodies can be either zinc-plated carbon steel or stainless steel. Provide only stainless steel anchor bodies and expansion wedges for applications in marine environments.
4. Install anchors as shown on the plans and in accordance with the anchor manufacturer's published installation instructions. Arrange a field demonstration test to evaluate the procedures and tools. The test shall be witnessed and approved by the Engineer prior to furnishing anchors on the structure.
5. Prior to hole drilling, use rebar locator to ensure clearing of existing deck strands or reinforcement. Install anchors to ensure a minimum effective embedment depth, (h_{ef}), as shown. Increase (h_{ef}) as needed to ensure sufficient thread length for proper torquing and tightening of anchors.
6. Use anchors of at least 1600 lbs. tensile capacity (minimum of steel, concrete breakout, and concrete pullout strengths as determined by ACI 318 Appendix D) at the required minimum embedment depth (h_{ef}). No lateral loads shall be introduced after conduit installation.

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ELECTRICAL DETAILS CONDUIT SUPPORTS

ED(2)-25

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ELECTRICAL CONDUCTORS

A. MATERIAL INFORMATION

1. Provide Type XHHW insulated copper conductors in accordance with Departmental Material Specification DMS-11040, "Conductors" and Item 620, "Electrical Conductors." Provide conductors as listed on the Material Producer List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies" Item 620.

2. Identify grounded (neutral) conductors with white insulation. Identify grounding conductors (ground wires) with green insulation or bare conductors. Identify ungrounded (hot) conductors with any color insulation except green, white, or gray. Keep color scheme consistent throughout the wiring system. Identify conductors 6 American Wire Gauge (AWG) and smaller by continuous color jacket. Identify electrical conductors 4 AWG and larger by continuous color jacket or by colored tape. When identifying conductors with colored tape, mark at least 6 in. of the conductor's insulation with half laps of tape at each accessible location.

3. Insulated grounding conductors may be substituted for bare conductors, unless otherwise shown in the plans. Insulated grounding conductors must be color coded green in accordance with Note 2.

4. Provide a 6 AWG bare solid copper grounding electrode conductor to bond the electrical service equipment to the concrete encased grounding electrode or the ground rod at the service location. Connect the grounding electrode conductor to the ground rod with a UL listed connector in accordance with DMS-11040. Connect the grounding electrode conductor to the concrete encased grounding electrode as shown in the plans.

5. Where two or more circuits are present in one conduit or enclosure, permanently label the conductors of each branch circuit by attaching a non-metallic, weather resistant tag around both circuit conductors at each accessible location. Provide one-piece tags with two $\frac{3}{16}$" straps, large enough to indicate circuit number, letter, or other identification as shown in the plans. Print circuit identification on the tag with a permanent marker.

6. Use listed compression connectors, mechanical lugs, terminal blocks, or split bolt connectors for splicing as specified in DMS-11040. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Provide UL listed gel-filled insulating splice covers. Splicing materials, insulating materials, breakaway disconnects, splice covers, and fuse holders are subsidiary to various bid items.

B. CONSTRUCTION METHODS

1. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the conduit system.

2. Leave 2 ft. to 3 ft. of length for each conductor up to the splice in ground boxes. Leave 3 ft. to 4 ft. of length for each conductor in ground boxes when pulled through with no splice. Leave 1 ft. to 1.5 ft. of length for each conductor at enclosures and pole bases. Leave 1.5 ft. to 3 ft. of length as required by electric utility for conductors exiting weatherheads.

3. Make splices only in junction boxes, ground boxes, pole bases, or electrical enclosures and use only listed compression connectors, mechanical lugs, terminal blocks, or split bolt connectors. Insulate splices with heavy wall heat shrink tubing or gel-filled insulating splice covers to provide a watertight splice. Overlap conductor insulation with heat shrink tubing a minimum of 2 in. past both sides of the splice. Where heat shrink tubing may not shrink sufficiently to provide a watertight seal around the individual conductors, prior to heating the tubing, increase the diameter of the conductor insulation using hot melt adhesive tape to provide a watertight seal between each conductor and the heat shrink tubing. Ensure the tape extends past the heat shrink tubing. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Heat shrink tubing that appears to have been burned or overheated is considered defective and must be replaced.

4. Size and install gel-filled insulating splice covers according to manufacturer's specifications when used in place of heat shrink tubing.

5. Wire nuts with factory applied waterproof sealant may be used for 8 AWG or smaller conductors in above ground junction boxes, but not in pole bases or ground boxes. Install wire nuts in an upright position to prevent the accumulation of water.

6. Support conductors in illumination poles with a J-hook at the top of the pole.

7. When terminating conductors, remove the insulation and jacketing material without nicking the individual strands of the conductor. Conductors with nicked individual conductor strands or removed strands will be considered damaged.

8. Replace conductors and cables that are damaged or that fail an insulation resistance test at no additional cost to the Department.

9. Do not repair damaged conductors with duct tape, electrical tape, or wire nuts. Use only approved splicing methods.

B. CONSTRUCTION METHODS (CONTINUED)

10. Do not terminate more than one conductor under a single lug unless it is rated for multiple conductors. Do not exceed the lug's listing for maximum number and size of conductors allowed.

11. Follow manufacturer's instructions when terminating conductors to breakaway connectors. Properly torque threaded connections. Proper terminations are critical to the safe operation of breakaway devices. Trim waterproofing boots on breakaway connectors to fit snugly around the conductor to ensure a waterproof connection. Only one conductor may enter a single opening in a boot. Provide waterproof boots with the correct number of openings. Leave unused openings factory sealed. Use prequalified breakaway connectors as shown on the MPL.

12. Provide and install a separate stranded equipment grounding conductor (EGC) in all conduits that contain circuit wiring of 50 volts or more. Unless shown elsewhere, size the EGC to be the same size as the largest current carrying conductor in the conduit. Bond all EGCs together at every accessible location. For ITS installations, bond and ground metal ground box covers and other metal equipment as shown on ITS standards.

C. TEMPORARY WIRING

1. Install temporary conductors and electrical equipment in accordance with the NEC article "Temporary Installations" and Department standard sheets.

2. Provide a ground fault circuit interrupter (GFCI) for powering portable electrical equipment, power tools, ice machines, ice storage bins and refrigerators located outdoors at grade. GFCI may be any one of the following: molded cord and plug set, receptacle, or circuit breaker type.

3. Use listed wire nuts with factory applied sealant for temporary wiring where approved.

4. Enclose conductor splices within a listed enclosure or ground box, or ensure the splices are more than 10 ft. above grade vertically and more than 5 ft. horizontally from any metal structure. When installing temporary conductors in areas subject to vehicle traffic or mobile construction equipment, ensure the vertical clearance to ground is at least 18 ft. when measured at the lowest point. Ground messenger wires that support power conductors in conformance with the NEC.

5. Protect and when necessary repair any existing electrical conduits uncovered during the construction process in a timely manner and in conformance with the NEC.

GROUND RODS & GROUNDING ELECTRODES

A. MATERIAL INFORMATION

1. Provide and install a grounding electrode at electrical services. Provide ground rods according to DMS-11040 and the plans. Larger diameter or longer length rods may be called for in some locations. Concrete encased grounding electrodes may be called for in some locations including electrical services — see plan sheets.

B. CONSTRUCTION METHODS

1. Furnish and install ground rods in soil, concrete, or both, as called for in the plans. For ground rods installed in concrete, ensure the connection of the conductor to the ground rod is readily accessible for inspection or repairs. For ground rods installed in soil, ensure that the upper end is between 2 to 4 in. below finished grade.

2. Do not place ground rods in the same drilled hole as a timber or concrete pole.

3. Install ground rods so the imprinted part number is at the upper end of the rod.

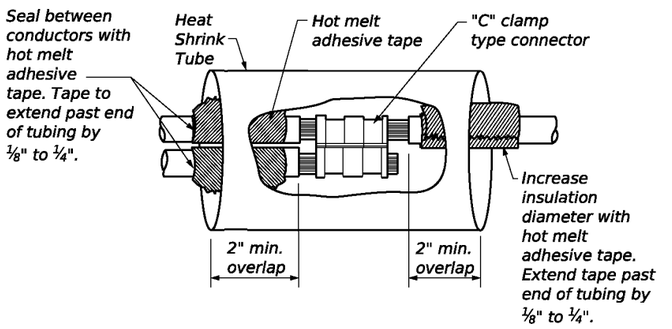
4. Remove all non-conductive material such as concrete splatter from the rod at the clamp location.

5. Route all conductors as short and straight as possible for connection to lightning protection ground rods. When a bend is required, ensure a minimum radius bend of 4 in.

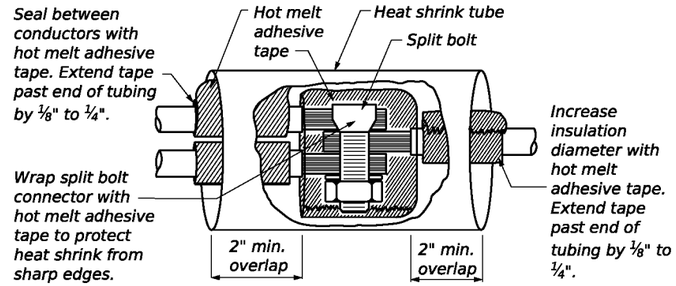
6. Unless otherwise called for in the plans, protect grounding electrode conductors with non-metallic conduit. When protecting grounding electrode conductors with metal conduit, provide and install a grounding bushing and properly sized bonding jumper on each end of the metal conduit.

7. Written authorization is required before installing a ground rod in a horizontal trench for rocky soil or a solid rock bottom.

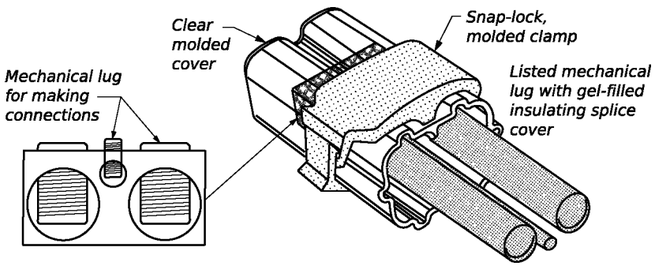
COMPRESSION SPLICE
OPTION 1



SPLIT BOLT SPLICE
OPTION 2



GEL-FILLED INSULATED SPLICE
OPTION 3



Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS CONDUCTORS

ED(3)-25

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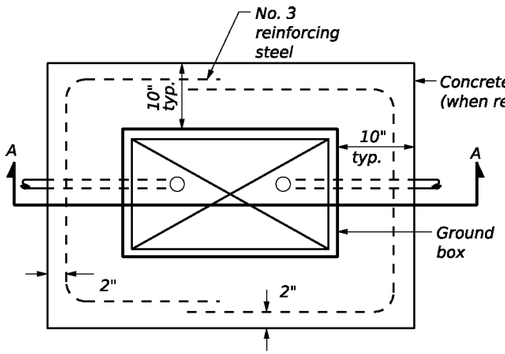
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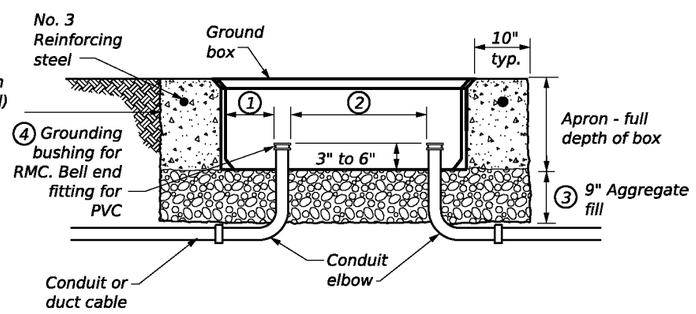
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APRON FOR GROUND BOX

PLAN VIEW



SECTION A - A



SECTION A - A NOTES:

1. *Uniformly space ends of conduits within the ground box. Position ends of conduits so that ground box walls do not interfere with the installation of grounding bushings or bell end fittings.*
2. *Maintain sufficient space between conduits to allow for proper installation of bushing.*
3. *Place aggregate under the box, not in the box. Aggregate should not encroach on the interior volume of the box.*
4. *Install a grounding bushing on the upper end of all RMC terminating in a ground box. Ground RMC elbows when any part of the elbow is less than 18 in. below the bottom of the ground box. Install a PVC bushing or bell end fitting on the upper end of all PVC conduits terminating in a ground box.*

GROUND BOXES	
TYPE	OUTSIDE DIMENSIONS (Width x Length X Depth)
A	12" X 23" X 11"
B	12" X 23" X 22"
C	16" X 29" X 11"
D	16" X 29" X 22"
E	12" X 23" X 17"

NOTES:

A. MATERIALS

1. *Provide polymer concrete ground boxes measuring 16 in. x 30 in. x 24 in. (W x L x D) or smaller in accordance with Departmental Material Specification DMS-11070, "Ground Boxes" and Item 624, "Ground Boxes."*
2. *Provide Type A, B, C, D, and E ground boxes as shown in the plans and as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Item 624.*
3. *Ensure ground box cover is correctly labeled in accordance with DMS-11070.*
4. *Provide larger ground boxes in accordance with Item 624 and as shown in the plans.*

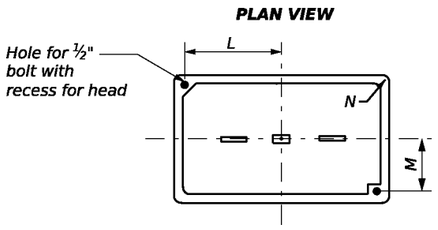
B. CONSTRUCTION METHODS

1. *Before setting ground box and after placing and capping conduits, lay an aggregate bed a minimum of 9 in. deep that extends 10 in. beyond the sides of the ground box. Provide coarse aggregate sized 3/4 in. to 2 in., with no more than 20% material passing through a no. 8 sieve, and as defined by the current ASTM C33/33M standard. Clean aggregate and dirt from conduits according to Item 618.*
2. *Cast ground box aprons in place. Reinforcing steel may be field bent. Ensure the depth of concrete for the apron extends from finished grade to the top of the aggregate bed under the box. Ground box aprons, including concrete and reinforcing steel, are subsidiary to ground boxes when called for by descriptive code.*
3. *Keep bolt holes in the box clear of dirt. Bolt covers down when not working in ground boxes.*
4. *Install all conduits and elbows in a professional and skillful manner. Uniformly space conduits so grounding bushings and bell end fittings can easily be installed.*
5. *Temporarily seal all conduits in the ground box until conductors are installed.*
6. *Permanently seal conduits immediately after the completion of conductor installation. Permanently seal the ends of all conduits with duct seal, expandable foam, or other method as approved. Do not use duct tape as a permanent conduit seal. Do not use silicone caulk as a sealant.*
7. *Bond all equipment grounding conductors in a ground box together with listed connectors.*
8. *When a Type B or D ground box is stacked to meet volume requirements, an appropriately sized hole may be cut for conduit entry in the side wall at least 18 in. below grade.*
9. *If an existing ground box in the contract has a metal cover, bond the cover to the equipment grounding conductor with a 3 ft. long stranded bonding jumper that is the same size as the grounding conductor. The bonding jumper is subsidiary to various bid items. Verify existing ground boxes with metal covers are shown on the plans, with notes fully describing the work required.*
10. *If other ground boxes with metal covers are within the project limits but are not part of the contract, the Engineer may direct the Contractor to bond the metal covers, identifying the specific boxes in writing. This work will be paid for separately.*
11. *Bond metal ground box covers to the grounding conductor with a tank ground type lug.*

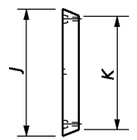
GROUND BOX COVERS								
TYPE	DIMENSIONS							
	H	I	J	K	L	M	N	P
A, B & E	23 ¼"	23"	13 ¾"	13 ½"	9 ⅞"	5 ⅛"	1 ⅜"	2"
C & D	30 ½"	30 ¼"	17 ½"	17 ¼"	13 ¼"	6 ¾"	1 ⅜"	2"

GROUND BOX COVER

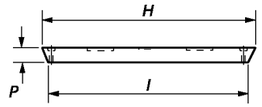
PLAN VIEW



END



SIDE



Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS GROUND BOXES

ED(4)-25

FILE: ed4-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2025	CONT	SECT	JOB	HIGHWAY
REVISIONS	0921	06	400	VAR
1-92 3-03 4-25 4-98 5-03 12-00 10-14	DIST	COUNTY		SHEET NO.
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71D

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ELECTRICAL SERVICES NOTES

1. Provide electrical services in accordance with Electrical Details standard sheets, Departmental Material Specification (DMS)-11080, "Electrical Services" and Item 628, "Electrical Services." Provide electrical service types A, C, and D, as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Item 628. Provide other service types as detailed on the plans.

2. Coordinate with the Engineer and the utility provider for metering and compliance with utility requirements. Primary line extensions, connection charges, meter charges, and other charges by the utility company to provide power to the location are paid for in accordance with Item 628. Get approval for the costs associated with these charges prior to engaging the utility company to do the work. Consult with the utility provider to determine costs and requirements, and coordinate the work as approved.

3. Provide a Master Lock, Model No. 2, M1, or 6121, keyed to code 2195. Master Lock 2195 keys and locks become property of the Department. Unless otherwise approved, do not energize electrical service equipment until locks are installed.

4. Enclosures with external disconnects that de-energize all equipment inside the enclosure do not need a dead front trim. Protect incoming line terminations from incidental contact as required by the NEC.

5. When galvanized is specified for nuts, screws, bolts or miscellaneous hardware, stainless steel may be used.

6. Provide wiring and electrical components rated for 75°C. Provide red, black, and white colored XHHW service entrance conductors of minimum size 6 American Wire Gauge (AWG). Identify conductors per ED(3). Ensure each service entrance conductor exits through a separately bushed non-metallic opening in the weatherhead. The lengths of the conductors outside the weatherhead are to be 1.5 ft. to 3 ft. as required by electric utility.

7. Provide rigid metal conduit (RMC) for all conduits on service, except for the ½ in. PVC conduit containing the electrical service grounding electrode conductor. Size the service entrance conduit as shown in the plans. Ensure conduit for branch circuit entry to enclosure is the same size as shown on the layout sheets for branch circuit conduit. Extend all rigid metal conduits a minimum of 6 in. underground and then couple to the type and schedule of the conduit shown on the plans. Install a grounding bushing on the RMC where it terminates in the service enclosure.

8. Use of liquidtight flexible metal conduit (LFMC) is allowed between the meter and service enclosure when they are mounted 90 to 180 degrees from each other. Size this LFMC the same size as the service entrance conduit. LFMC must not exceed 3 ft. in length. Strap LFMC within 1 ft. of each end. Terminate each end of the LFMC with a grounding bushing or fitting. The LFMC must contain a grounded (neutral) conductor. Ensure bends in LFMC do not exceed 180 degrees. A pull test is required on all installed conductors, with at least 6 in. of free conductor movement demonstrated to the satisfaction of the Engineer.

9. Ensure all mounting hardware and installation details of services conform to utility company specifications.

10. Provide the following documents in the electrical service document pocket: schematic drawing unique to the service from the UL 508 shop; plan sheet showing Electrical Service Data Chart for the service; plan sheets for the circuits powered by the service; and red lined plan sheets if installation differs from the original design. Reduce larger sheets to 8 ½ in. x 11 in. and laminate all documents.

11. When providing an "Off The Shelf" Type D or Type T service, provide laminated plan sheets detailing equipment and branch circuits supplied by that service. Reduce 11 in. x 17 in. plan sheets to 8 ½ in. x 11 in. before laminating. When the enclosure has no door pocket, deliver these drawings to the Engineer before completion of the work.

12. Do not install conduit in the back wall of a service enclosure where it would penetrate the equipment mounting panel inside the enclosure. Provide grounding bushings on all metal conduits, and terminate bonding jumpers to grounding bus. Grounding bushings are not required when the end of the metal conduit is fitted with a watertight conduit hub or meter hub.

MAIN DISCONNECT & BRANCH CIRCUIT BREAKERS

1. Field drill flange-mounted remote operator handle, if needed, to ensure handle is lockable in both the "On" and "Off" positions.

2. When the utility company provides a transformer larger than 50 KVA, verify that the available fault current is less than the circuit breaker's ampere interrupting capacity (AIC) rating and provide documentation from the electric utility provider to the Engineer.

PHOTOELECTRIC CONTROL

1. Provide photocell as listed on the MPL. Move, adjust, or shield the photocell from stray or ambient night time light to ensure proper operation. Mount photocell facing north when practical. Mount top of pole photocells as shown on Top Mounted Photocell Detail.

ELECTRICAL SERVICE DATA (EXAMPLE) *

ELEC. SERVICE ID	PLAN SHEET NUMBER	ELECTRICAL SERVICE DESCRIPTION	SERVICE CONDUIT SIZE **	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN CKT. BKR. POLE/AMPS	LIGHTING CONTACTOR AMPS	PANELBOARD/ LOADCENTER AMP RATING	BRANCH CIRCUIT ID	BRANCH CKT. BKR. POLE/AMPS	BRANCH CIRCUIT AMPS	KVA LOAD
SB 183	289	ELC SRV TY A 240/480 100(SS)AL(E)SF(U)	2"	3/#2	100	2P/100	2P/100	N/A	Lighting NB	2P/40	26	28.1
									Lighting SB	2P/40	25	
									Underpass	1P/20	15	
NB Access	30	ELC SRV TY D 120/240 060(NS)SS(E)TS(O)	1 ¼"	3/#6	N/A	2P/60	2P/30	100	Sig. Controller	1P/30	23	5.3
									Luminaires	2P/20	9	
									CCTV	1P/20	3	
2nd & Main	58	ELC SRV TY T 120/240 000(NS)GS(N)SP(O)	1 ¼"	3/#6	N/A	N/A	N/A	70	Flashing Beacon 1	1P/20	4	1.0
									Flashing Beacon 2	1P/20	4	

* Example only, not for construction. All new electrical services must have electrical service data chart specific to that service as shown in the plans.

** Verify service conduit size with utility. Size may change due to utility meter requirements. Ensure conduit size meets the National Electrical Code.

ELECTRICAL SERVICE BID ITEM DESCRIPTIONS

ELEC SERV TY X XXX/XXX XXX(XX)XX(X)XX(X)

SCHEMATIC TYPE

SERVICE VOLTAGE

DISCONNECT AMP RATING
NOTE: 000 indicates main lug only, typically Type T

SAFETY SWITCH
(SS) = Safety Switch Ahead of Meter - Check with Utility
(NS) = No Safety Switch Ahead of Meter - Check with Utility

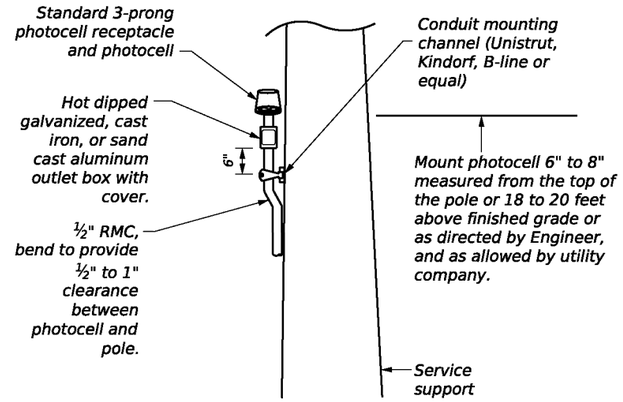
ENCLOSURE TYPE
GS = Galvanized steel ("off the shelf")
SS = Stainless steel (Custom Enclosure) - See MPL
AL = Aluminum (Custom Enclosure) - See MPL

PHOTOCELL MOUNTING LOCATION
(E) = Inside Service/Enclosure Mounted
(T) = Top of pole
(L) = Luminaire mounted
(N) = None - No Photocell or Lighting Contactor Required

SERVICE SUPPORT TYPE
GC = Granite concrete
OC = Other concrete
TP = Timber pole
SP = Steel pole
SF = Steel frame
OT = Pole by others or paid for separately
EX = Existing pole
TS = Service on traffic signal pole
PS = Pedestal Service

SERIVCE FEED
O = Overhead Service Feed from Utility
U = Underground Service Feed from Utility

TOP MOUNTED PHOTOCELL



Install conduit strap maximum 3 ft. from box. Spacing between straps supporting conduit is 5 ft. maximum.

Texas Department of Transportation

Traffic Safety Division Standard

ELECTRICAL DETAILS SERVICE NOTES & DATA

ED(5)-25

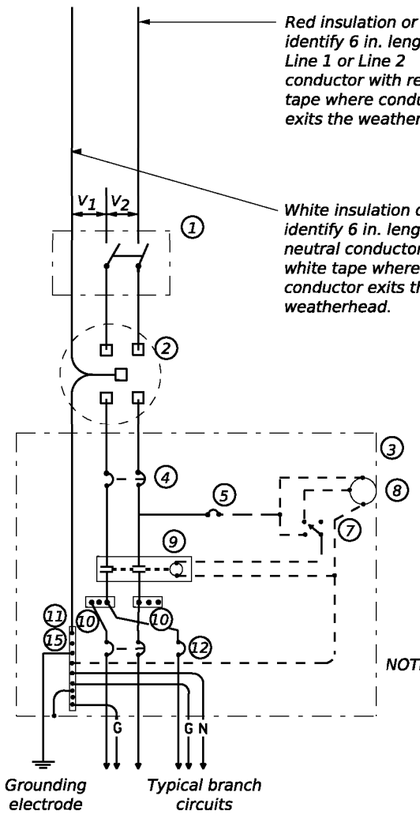
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©TxDOT	April 2025	CONT	SECT	JOB	HIGHWAY
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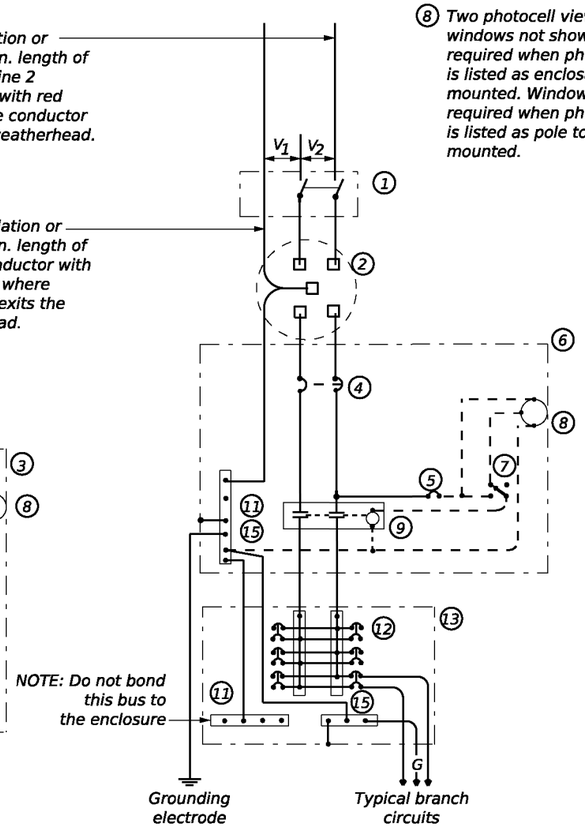
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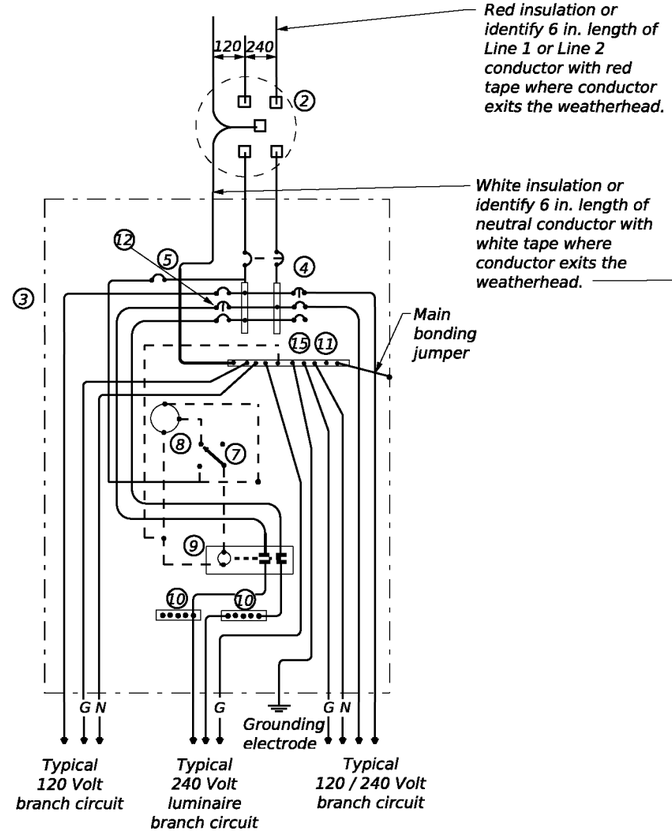
TYPE A
THREE WIRE



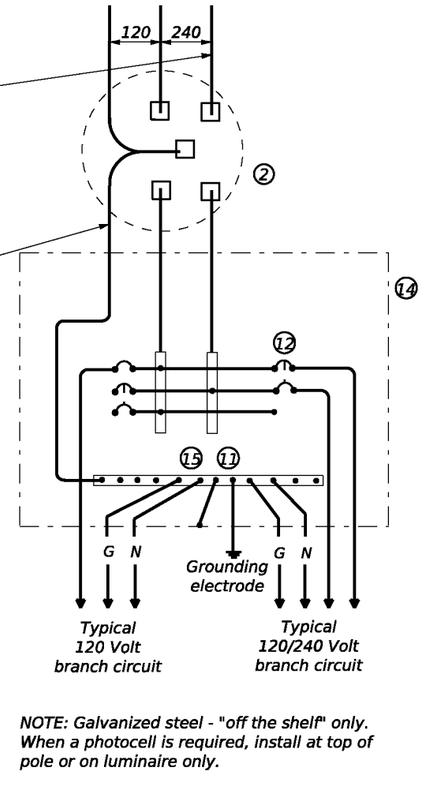
TYPE C
THREE WIRE



TYPE D - CUSTOM
120/240 VOLTS - THREE WIRE



TYPE T
120/240 VOLTS - THREE WIRE



NOTE: Galvanized steel - "off the shelf" only. When a photocell is required, install at top of pole or on luminaire only.

WIRING LEGEND	
———	Power Wiring
– – – –	Control Wiring
—N—	Neutral Conductor
—G—	Equipment grounding conductor (always required)

SCHEMATIC NOTES:

1. Safety Switch (when required)
2. Meter (when required - verify with electric utility provider)
3. Service Assembly Enclosure
4. Main Disconnect Breaker (See Electrical Service Data)
5. Circuit Breaker, 15 Amp (Control Circuit)
6. Auxiliary Enclosure
7. Control Station ("H-O-A" Switch)
8. Photo Electric Control (enclosure-mounted shown)
9. Lighting Contactor
10. Power Distribution Terminal Blocks
11. Neutral Bus
12. Branch Circuit Breaker (See Electrical Service Data)
13. Separate Circuit Breaker Panelboard
14. Load Center
15. Ground Bus

Texas Department of Transportation | Traffic Safety Division Standard

ELECTRICAL DETAILS SERVICE SCHEMATICS AND NOTES

ED(6)-25

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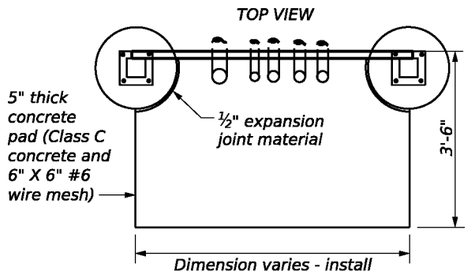
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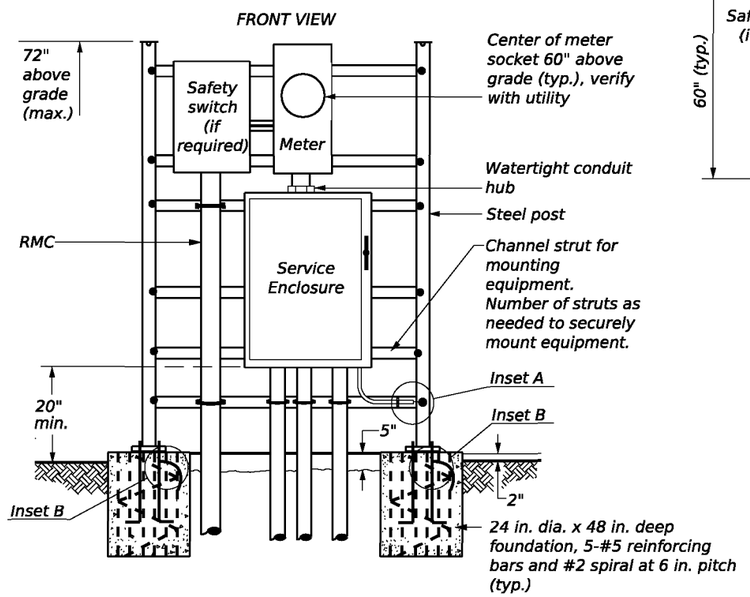
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SUPPORT TYPE STEEL POLE (SP) AND STEEL FRAME (SF) NOTES:

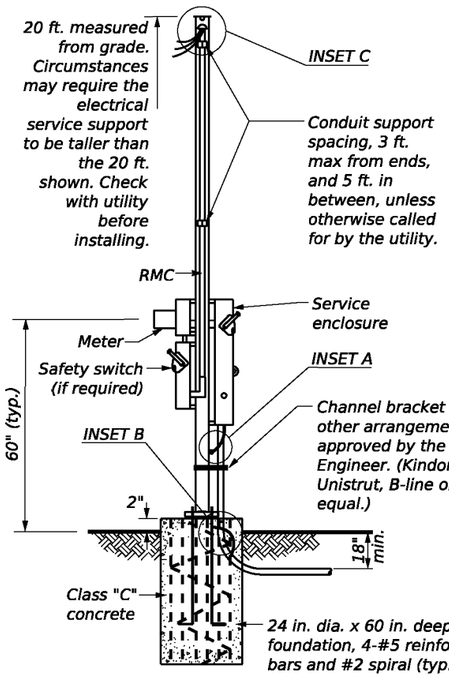
1. Provide steel pole and steel frame supports as per TxDOT Departmental Material Specification DMS-11080, "Electrical Services." Mount all equipment and conduit on 12 gauge galvanized steel or stainless steel channel strut, 1 ½ in. or 1 ⅝ in. wide by 1 in. to 3 ¾ in. deep Unistrut, Kindorf, B-line or equal. Drill, tap, and bolt or weld all channel and hardware to vertical members as approved. Do not stack channel. File smooth and paint field-cut ends of all channel with zinc-rich paint before installing.
2. Install a one point rack or eye bolt bracket 6 in. to 12 in. below the weatherhead as an overhead service drop anchoring point for the electric utility. Attaching bolt must pass through the pole and use a nut, washer, and locking washer on the other size. Self-tapping screws or lag bolts are not allowed.
3. Provide and install galvanized ¾ in. x 18 in. x 4 in. (dia. x length x hook length) anchor bolts for underground service supports. Provide and install galvanized ¾ in. x 56 in. x 4 in. anchor bolts for overhead service supports. Ensure anchor bolts have 3 in. of thread, with 3 ¼ in. to 3 ½ in. of the exposed anchor bolt projecting above finished foundation. Provide and install leveling nuts for all anchor bolts.
4. Use Class C concrete for foundations. Ensure reinforcing steel is Grade 60 with 3 in. of unobstructed concrete cover.
5. Shop drawings are not required for service support structure unless specifically stated elsewhere or directed by the Engineer.
6. Avoid contact of the service drop and service entrance conductors with the metal pole to prevent abrasion of the insulated conductors.
7. Placement of the meter and service enclosure may vary based on the installation of a safety switch.
8. Drill and tap steel poles and frames for ½ in. x 13 UNC tank ground fitting. For steel pole service supports, provide and install tank ground fitting 4 in. to 6 in. directly below the electrical service enclosure. Provide properly sized hole through the bottom of the enclosure for the service grounding electrode conductor. Ensure electrical service grounding electrode conductor is as short and straight as possible from the enclosure to the tank ground fitting.
9. For steel frame service supports, provide and install tank ground fitting on steel frame post. Install service grounding electrode conductor in a non-metallic conduit or tubing from the enclosure to the steel frame post. Connect electrical service grounding electrode conductor to the tank ground fitting. See SF, SP details and Inset A for more information.
10. Provide and install grounding bushings where RMC terminates in the enclosure. Grounding bushings are not required when RMC is fitted into a watertight conduit hub or meter hub.
11. If steel pole or frame is painted, bond each separate painted piece with a bonding jumper and lugs screwed into tapped holes.
12. Provide ¼ in. x 20 UNC machine screws for bonding. Do not use sheet metal screws. Remove all non-conductive material at contact points. Terminate bonding jumpers with listed devices. Install 6 AWG or larger stranded copper bonding jumpers. Make up all threaded bonding connections wrench-tight.
13. Bond one of the anchor bolts to the rebar cage with 6 AWG bare stranded copper conductor. Use listed mechanical connectors rated for embedment in concrete. See Inset B.

TYPE SF(U)
UNDERGROUND SERVICE

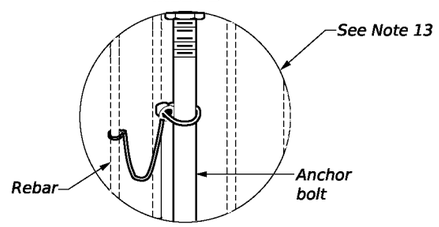




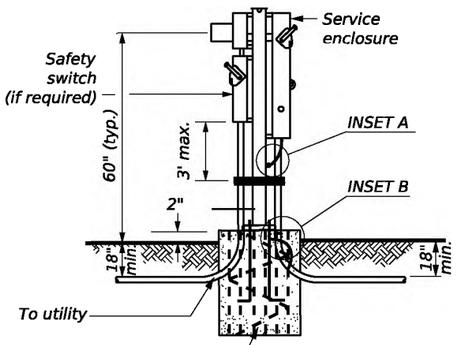
TYPE SP(O)
OVERHEAD SERVICE



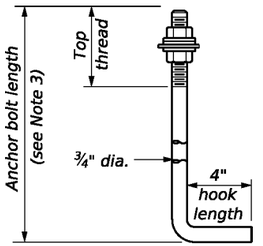
INSET B



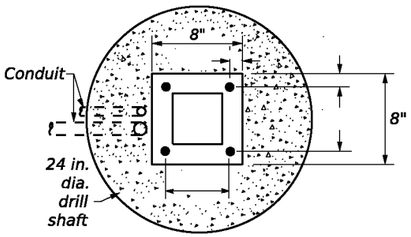
TYPE SP(U)



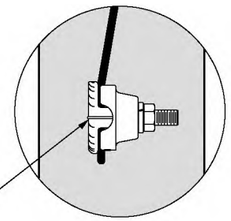
HOOKED ANCHOR DETAIL



BASE PLATE DETAIL

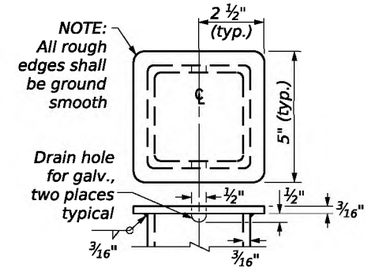


INSET A
FRONT VIEW

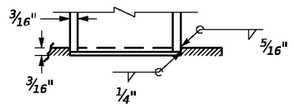


Drill, tap, and thread ½" x 13 UNC. Install tank ground fitting, connect electrical service grounding electrode conductor. See Note 8.

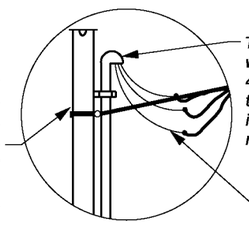
POLE TOP PLATE DETAIL



BOTTOM OF POLE DETAIL
TYPES SF & SP



INSET C
SIDE VIEW



Identify conductors red, black, and white as specified in ED(3), Electrical Conductors, Note A.2. Provide 1.5 ft. to 3 ft. of conductor length as required by electric utility.

Texas Department of Transportation | Traffic Safety Division Standard

ELECTRICAL DETAILS SERVICE SUPPORT TYPES SF & SP

ED(7)-25

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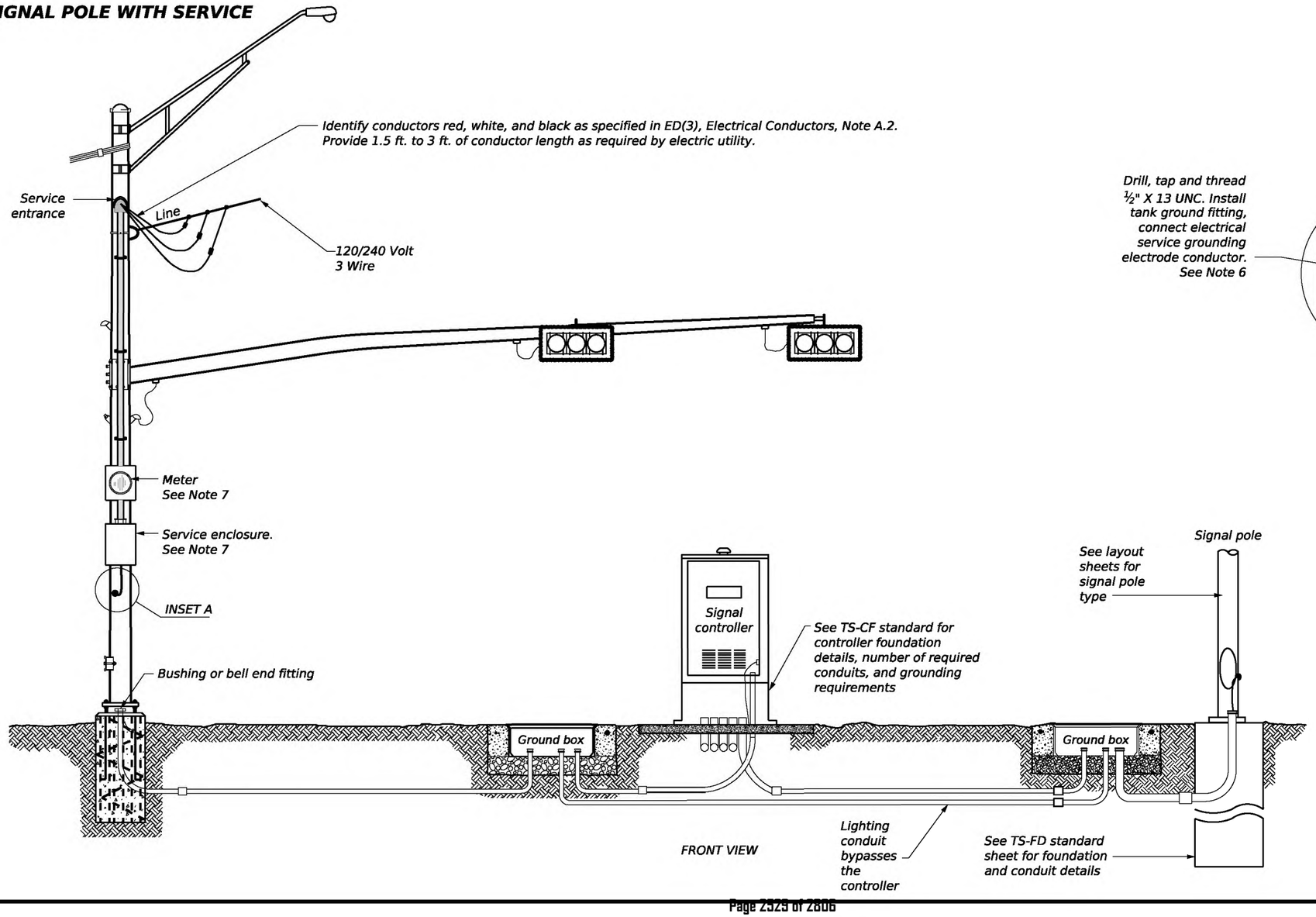
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NOTES:

1. *Do not pass luminaire conductors through the signal controller cabinet.*
2. *Include an equipment grounding conductor in all conduits throughout the electrical system. Bond all exposed metal parts to the grounding conductor.*
3. *Provide roadway luminaires, when required, in accordance with Item 610, "Roadway Illumination Assemblies," except for performance testing of luminaires. Test installed roadway luminaires for proper operation as a part of the associated traffic signal system test.*
4. *Ground internally lighted street name (ILSN) signs to the pole with a 12 AWG green XHHW conductor.*
5. *Bond anchor bolts to rebar cage in two locations using #3 bars or 6 AWG stranded copper conductors. Use listed mechanical connectors rated for embedment in concrete. See TXDOT standard TS-FD for further details.*
6. *Drill and tap signal poles for ½ in. x 13 UNC tank ground fitting. Provide and install tank ground fitting 4 in. to 6 in. directly below electrical service enclosure. Provide properly sized hole through the bottom of the enclosure for the service grounding electrode conductor. Connect the electrical service grounding electrode conductor to the tank ground fitting. Ensure electrical service grounding electrode conductor is as short and straight as possible from the enclosure to the tank ground fitting. See Inset A detail for further information. Size service entrance conduit and branch circuit conduit as shown in the plans.*
7. *Mount electrical service enclosure and meter to signal pole with stainless steel bands. Ensure bands are at least ¾ in. wide. Secure enclosures to bands using two-bolt brackets. Install brackets near top and bottom of each enclosure. Install properly sized stainless steel washers on each bolt in the enclosure. Band or drill and tap properly sized stand-off straps to signal pole for attaching conduit.*
8. *Lock all enclosures and bolt down all ground box covers before applying power to the signal installation.*
9. *Terminate conduits entering the top of enclosures with a watertight conduit hub or meter hub. Install a grounding bushing on all metal conduits not connected to conduit-sealing hub or threaded boss. Bond the grounding bushing to the ground bus with a bonding jumper. Seal all conduits entering enclosures with duct seal or expanding foam. Do not use silicone to seal conduit ends.*

SIGNAL POLE WITH SERVICE



INSET A

Texas Department of Transportation | Traffic Safety Division Standard

ELECTRICAL DETAILS TYPICAL TRAFFIC SIGNAL SYSTEM DETAILS

ED(8)-25

FILE: ed8-25.dgn	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
©TxDOT April 2025	CONT	SECT	JOB	HIGHWAY
REVISIONS 1-92 3-03 4-25 4-98 5-03 12-00 10-14	0921	06	400	VAR
	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		266

71H

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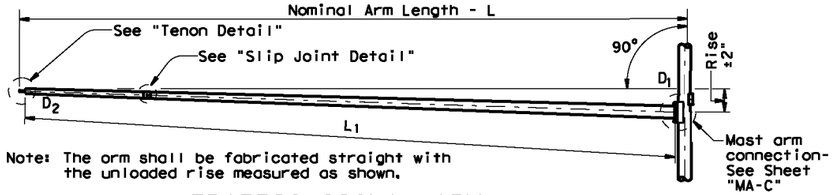
Arm Length	ROUND POLES					POLYGONAL POLES					Foundation Type
	D_B	D_{19}	D_{24}	D_{30}	① thk	D_B	D_{19}	D_{24}	D_{30}	① thk	
ft.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
20	12.0	9.3	8.6	7.8	.239	12.5	9.5	8.7	7.8	.239	36-A
24	12.0	9.3	8.6	7.8	.239	13.0	10.0	9.2	8.3	.239	36-A
28	12.0	9.3	8.6	7.8	.239	13.5	10.5	9.7	8.8	.239	36-A
32	13.0	10.3	9.6	8.8	.239	14.0	11.0	10.2	9.3	.239	36-A
36	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
40	14.0	11.3	10.6	9.8	.239	16.0	13.0	12.2	11.3	.239	36-B
44	14.5	11.8	11.1	10.3	.239	16.5	13.5	12.7	11.8	.239	36-B

Arm Length	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	① thk	Rise	L_1	D_1	② D_2	① thk	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	8.0	5.3	.179	1'-8"	19.1	8.0	3.5	.179	1'-7"
24	23.1	9.0	5.8	.179	1'-9"	23.1	9.0	3.5	.179	1'-8"
28	27.1	9.5	5.7	.179	1'-10"	27.1	10.0	3.5	.179	1'-9"
32	31.0	9.5	5.2	.239	1'-11"	31.0	9.5	3.5	.239	1'-10"
36	35.0	10.0	5.1	.239	2'-0"	35.0	10.0	3.5	.239	1'-11"
40	39.0	10.5	5.1	.239	2'-3"	39.0	11.0	3.5	.239	2'-1"
44	43.0	11.0	5.1	.239	2'-8"	43.0	11.5	4.0	.239	2'-3"

D_B = Pole Base O.D.
D_{19} = Pole Top O.D. with no Luminaire and no ILSN
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L = Nominal Arm Length

① Thickness shown are minimums, thicker materials may be used.

② D_2 may be increased by up to 1" for polygonal arms.



Note: The orm shall be fabricated straight with the unloaded rise measured as shown.

TRAFFIC SIGNAL ARM

(Fixed Mount)

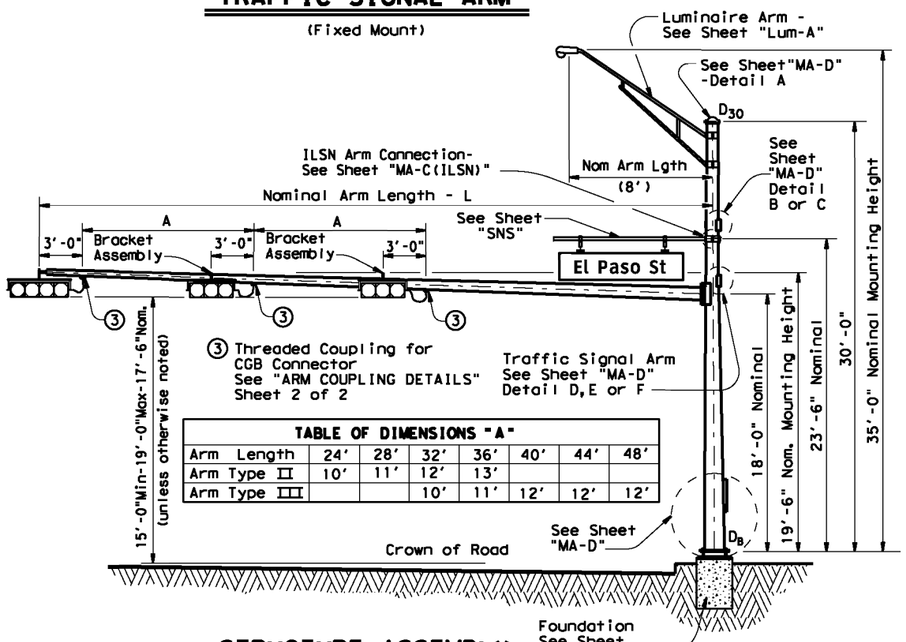


TABLE OF DIMENSIONS "A"

Arm Length	24'	28'	32'	36'	40'	44'	48'
Arm Type II	10'	11'	12'	13'			
Arm Type III			10'	11'	12'	12'	12'

STRUCTURE ASSEMBLY

SHIPPING PARTS LIST

Ship each pole with the following attached: enlarged hand hole, pole cap, fixed-arm connection bolts and washers and any additional hardware listed in the table.

Nominal Arm Length	30' Poles With Luminaire		24' Poles With ILSN		19' Poles With No Luminaire and No ILSN	
	Above hardware plus: One (or two if ILSN attached) small hand hole, clamp-on simplex		Above hardware plus one small hand hole		See note above	
ft	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20L-100		20S-100		20-100	
24	24L-100		24S-100		24-100	
28	28L-100		28S-100		28-100	
32	32L-100		32S-100		32-100	
36	36L-100		36S-100		36-100	
40	40L-100		40S-100		40-100	
44	44L-100		44S-100		44-100	

Traffic Signal Arms (1 per pole) Ship each arm with the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal)		Type II Arm (2 Signals)		Type III Arm (3 Signals)	
	1 CGB connector		1 Bracket Assembly and 2 CGB Connectors		2 Bracket Assemblies and 3 CGB Connectors	
ft	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100			
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100		36III-100	
40					40III-100	
44					44III-100	

Luminaire Arms (1 per 30' pole)

Nominal Arm Length	Quantity
8' Arm	

ILSN Arm (Max. 2 per pole) Ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7' Arm	
9' Arm	

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
1 ½"	3'-4"	
1 ¾"	3'-10"	
2"	4'-3"	

Each anchor bolt assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Templates may be removed for shipment.

SHEET 1 OF 2

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES

SINGLE MAST ARM ASSEMBLY

(100 MPH WIND ZONE)

SMA-100(1)-12

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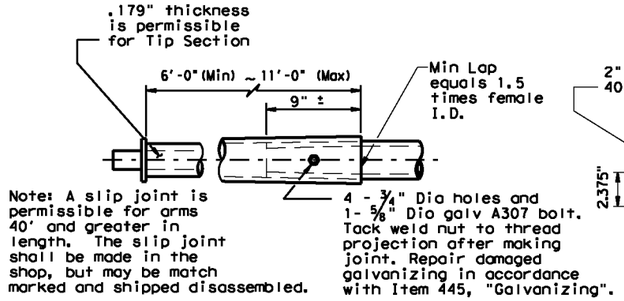
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DIST	COUNTY		SHEET NO.
PHR	CAMERON		267

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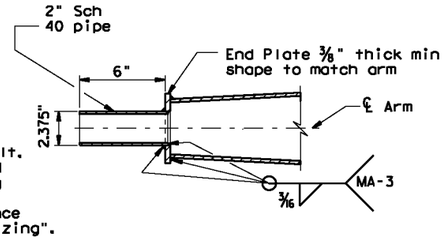
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SLIP JOINT DETAIL



TENON DETAIL

VIBRATION WARNING

Mast Arms of SMA and DMA structures and clamp-on Arms of LMA structures of approximately 40 ft or longer are subject to harmonic vertical vibrations in light wind conditions due to the aeroelastic characteristics of a few of the myriads of possible combinations of the following: signal numbers, weights and positions; existence/solidity of backplates; presence of additional attachments to the arm, such as signs and cameras; arm-wind orientation; and arm-pole stiffness.

Such vibrations may cause fatigue damage to the structure and may lead to galloping in moderate wind conditions which may further damage the structure and alarm the public. Tests have indicated that when wind is blowing toward the back side of signal heads having un-vented backplates attached the probability of unacceptable harmonic vibration and/or galloping is rather high.

If backplates are not required for improved visibility they should not be applied to the signal heads or, if they must be applied, they should be vented as a first and inexpensive measure to mitigate vibrations.

The traffic signal mast arms shall be visually inspected in 5 to 20 mph wind conditions after installation of signal heads and any attachments, including any required backpates. If vertical movements with a total excursion (maximum upward excursion to maximum downward excursion) of more than approximately 8" are observed at the arm tip, a damping plate shall be fitted to the arm. See "Damping Plate Mounting Details" on standard sheet, MA-DPD-10.

This visual inspection shall be repeated after each modification of the structure that could affect its aeroelastic response. Excessive vibrations shall not be allowed to continue for more than two days.

Stainless steel bands (or Cables) and cast bracket os in "Astro-Brac", "Sky Bracket" or "Easy Bracket" with 1 ½" Dia Threaded Coupling.

BRACKET ASSEMBLY

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 100 mph plus a 1.3 gust factor.

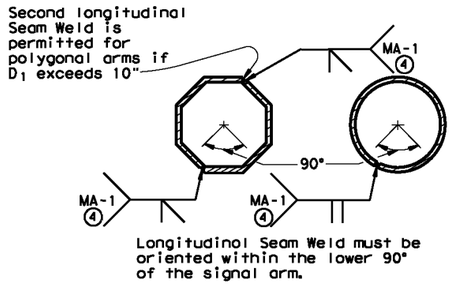
Poles are designed to support one 8'-0" luminaire arm, one 9'-0" internally lighted street name sign and one traffic signal arm with a length as tabulated. The specified luminaire load applied at the end of the luminaire arm equals 60 lbs vertical dead load plus the horizontal wind load on an effective projected area of 1.6 sq ft. The specified internally lighted street name sign load applied 4.5 ft from the centerline of the pole equals 85 lbs vertical dead load plus horizontal wind load on an effective projected area of 11.5 sq ft. The specified signal load applied at the end of the traffic signal arm equals 180 lbs vertical dead load plus the horizontal wind load on an effective projected area of 32.4 sq ft (actual area times drag coefficient).

See Standard Sheet "MA-D" for pole details, "MA-C" for traffic signal arm connection details, "MA-C (ILSN)" for internally lighted street name sign arm connection details, "LUM-A" for luminaire arm and connection details, "SNS" for internally lighted street name sign details, and "TS-FD" for anchor bolt and foundation details. See "MA-C" for material specifications.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

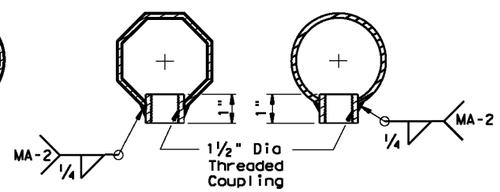
Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing", after fabrication.

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.



ARM WELD DETAIL

④ 60% Min. penetration
100% pemetration within 6" of circumferential base welds.



ARM COUPLING DETAILS

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES

SINGLE MAST ARM ASSEMBLY

(100 MPH WIND ZONE)

SMA-100(2)-12

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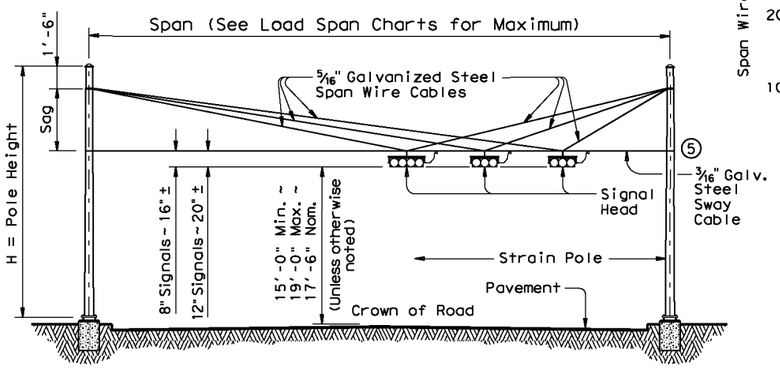
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DIST	COUNTY		SHEET NO.
PHR	CAMERON		268

123B

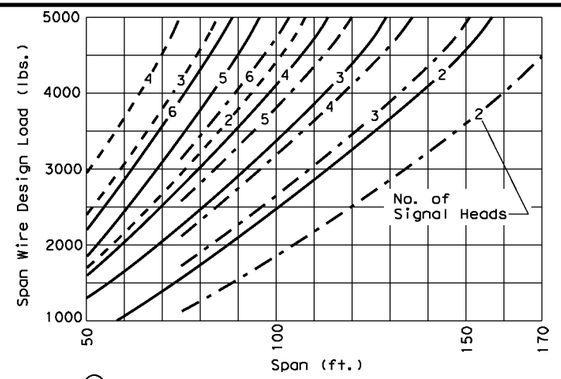
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STRAIN POLE DESCRIPTION	Pole Type	Foundation Type	Maximum Permissible Span Wire Load (lbs.)
26' Pole	A	36-A	4900
30' Pole	B	36-A	4300
30' Pole with Lum.	B	36-A	4000
30' Pole with 20' Mast Arm	C	36-B	4400
30' Pole with 24' Mast Arm	C	36-B	4000
30' Pole with 28' Mast Arm	C	36-B	3600
30' Pole with 32' Mast Arm	C	36-B	3300
30' Pole with 36' Mast Arm	C	36-B	2900
30' Pole with 20' Mast Arm & Lum.	C	36-B	4100
30' Pole with 24' Mast Arm & Lum.	C	36-B	3800
30' Pole with 28' Mast Arm & Lum.	C	36-B	3400
30' Pole with 32' Mast Arm & Lum.	C	36-B	3000
30' Pole with 36' Mast Arm & Lum.	C	36-B	2500
34' Pole	D	36-B	5200
34' Pole with Lum.	D	36-B	4900

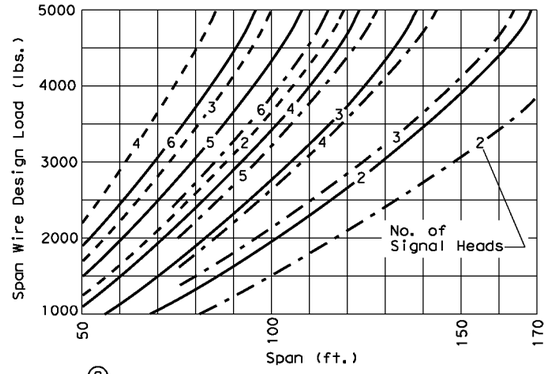
② Numbers on Load Span Charts indicate the number of signal heads on the span. The total span wire design load is based on one 5-section head and one or more additional 3-section head(s). Design wind pressures on cables are assumed as 1.6 lb/ft. Weight of span wire cables (one per signal head) is assumed as 0.65 lb/ft which includes an allowance for conductor cables and miscellaneous hardware. The effect of the sway cable on load distribution is ignored as it is assumed to break at design wind conditions. When a pole supports 2 spans, the span wire design loads for both spans should be added vectorially to determine the design load for that pole.



STRAIN POLE ELEVATIONS HORIZONTAL SIGNALS



② SIGNALS WITH 12-INCH LENS

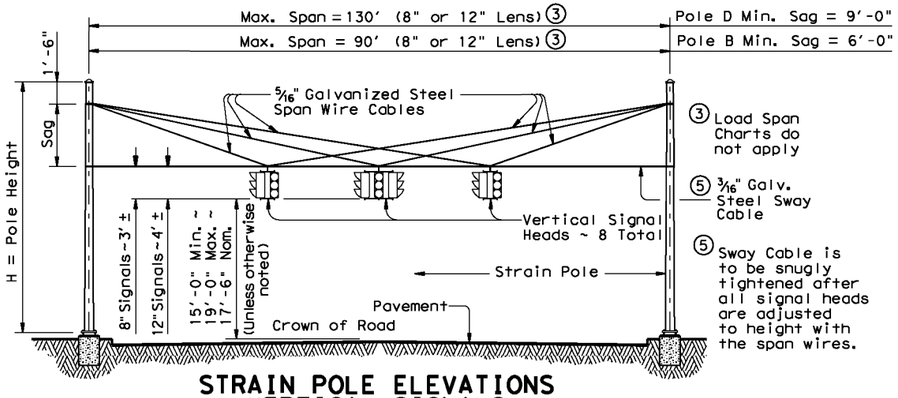


② SIGNALS WITH 8-INCH LENS

Signal Head Type	Wt. Per Head	Wind Area ◆
5-Section, 12" Lens	125 lbs	9.6 sq. ft.
5-Section, 8" Lens	70 lbs	4.8 sq. ft.
3-Section, 12" Lens	75 lbs	5.64 sq. ft.
3-Section, 8" Lens	45 lbs	3.0 sq. ft.

◆ Effective projected design wind area (actual area times drag coefficient)

- - - - - - - Sag = 4'-6" (26' or 30' Pole)
——————— Sag = 8'-0" (30' or 34' Pole)
— — — — — Sag = 11'-6" (34' Pole)



STRAIN POLE ELEVATIONS VERTICAL SIGNALS

(Mast arms are not used with vertical signals)

Pole Type	ROUND POLES D_B in.	ROUND POLES D_T in.	ROUND POLES (4)thk in.	ROUND POLES H ft.	POLYGONAL POLES D_B in.	POLYGONAL POLES D_T in.	POLYGONAL POLES (4)thk in.	POLYGONAL POLES H ft.
A	12.5	8.9	.239	26	13.0	9.0	.239	26
B	13.5	9.3	.239	30	14.0	9.0	.239	30
C	15.5	11.3	.239	30	16.0	11.0	.239	30
D	15.5	10.7	.239	34	16.0	11.0	.239	34

D_B = Pole Base O.D. D_T = Pole Top O.D. H = Pole Height

④ Thickness shown are minimum, thicker materials may be used.

SHIPPING PARTS LIST

Poles (Without Traffic Signal Arm)

Pole Type	Strain poles with Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap, 2 clamp-on simplex and 1 pipe plug.			Strain poles without Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap and 1 pipe plug.		
	Description	Designation	Quantity	Description	Designation	Quantity
A				26' Strain Pole	SP 26 A-100	
B	30' Strain Pole	SPL 30 B-100		30' Strain Pole	SP 30 B-100	
D	34' Strain Pole	SPL 34 D-100		34' Strain Pole	SP 34 D-100	

Poles (With Traffic Signal Arm)

Pole Type	Strain poles with Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap, clamp-on simplex and 3 pipe plugs.			Strain poles without Luminaire: Ship each pole with the following hardware attached: handhole at base, pole cap and 3 pipe plugs.		
	Description	Designation	Quantity	Description	Designation	Quantity
C	30' SPw/TS Arm	SPL 30 C-100		30' SPw/TS Arm	SP 30 C-100	

Traffic Signal Arms (For Type C poles)

Nominal Arm Length	Type I Arm (1 Signal): Ship each Type I Arm with the following hardware attached: 2 CGB Connectors, 1 clamp with bolts and washers		Type II Arm (2 Signals): Ship each Type II Arm with the following hardware attached: ① 1 Bracket Assembly, 3 CGB Connectors and 1 clamp with bolts and washers		Type III Arm (3 Signals): Ship each Type III Arm with the following hardware attached: ① 2 Bracket Assemblies, 4 CGB Connectors and 1 clamp with bolts and washers	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24 II -100			
28	28I-100		28 II -100			
32			32 II -100		32 III -100	
36			36 II -100		36 III -100	

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Templates may be removed for shipment. Quantity
1 3/4"	3'-10"	
2"	4'-3"	

Each Anchor Bolt Assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Luminaire Arms

Nominal Arm Length	Quantity
8' Arm	

① See Sheet "DMA-100"

SHEET 1 OF 2

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES STRAIN POLE ASSEMBLIES

(100 MPH WIND ZONE)

SP-100(1)-12

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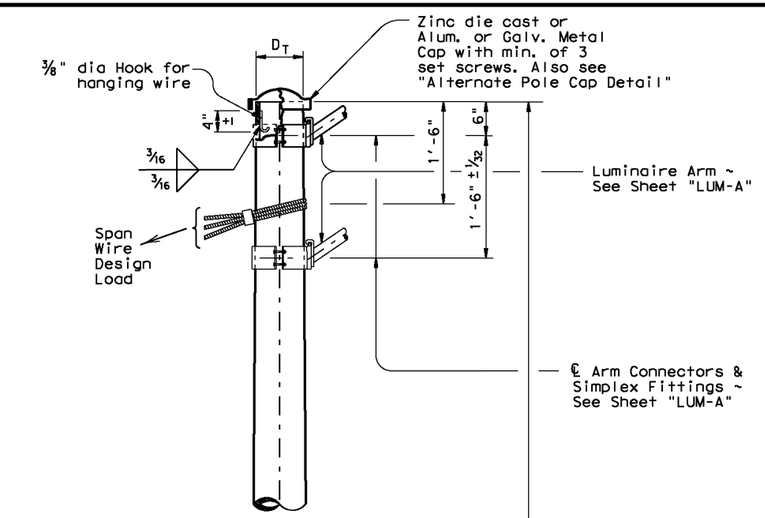
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DIST	COUNTY	SHEET NO.
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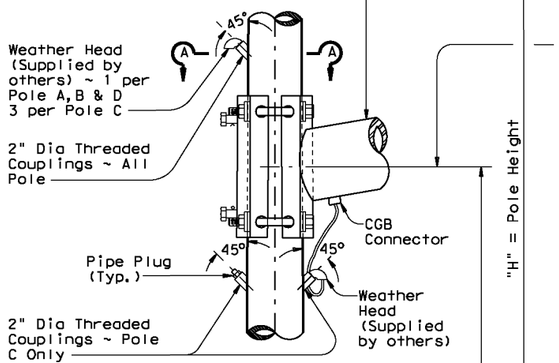
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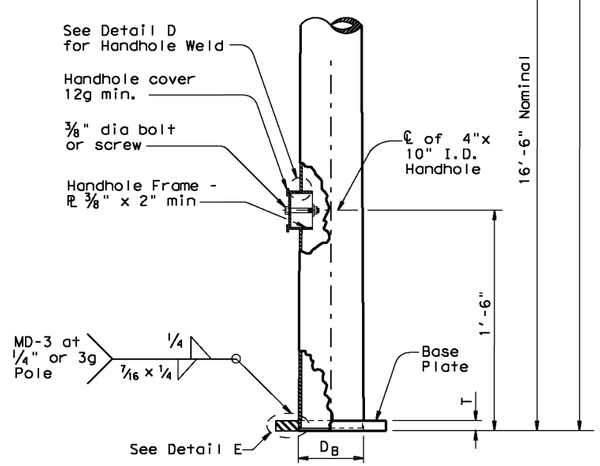
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DETAIL A

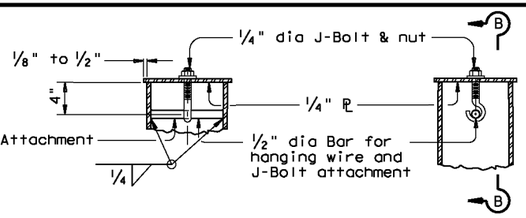


DETAIL B



DETAIL C

POLE ELEVATION



SECTION B-B

ALTERNATE POLE CAP DETAIL

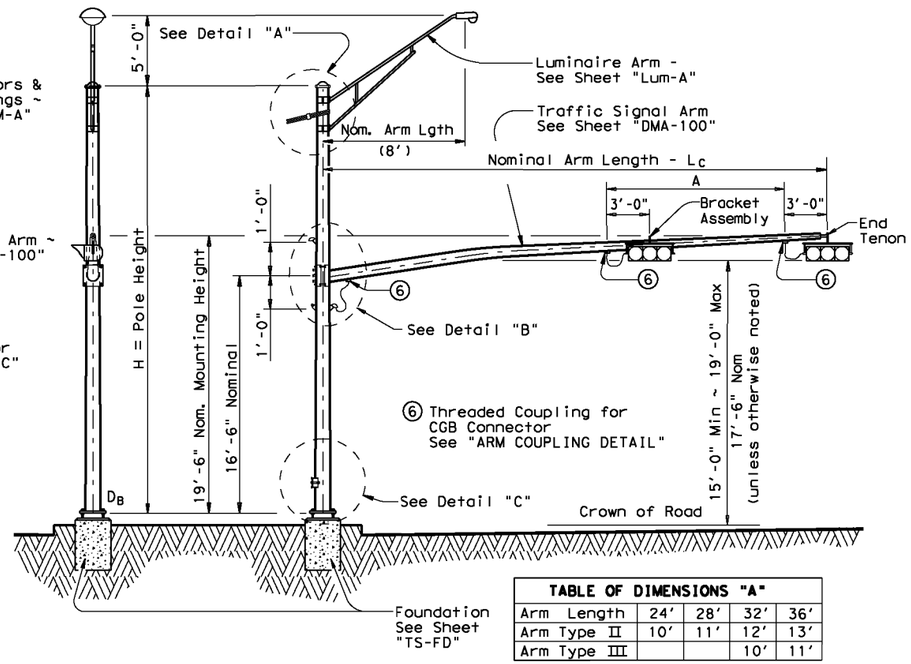
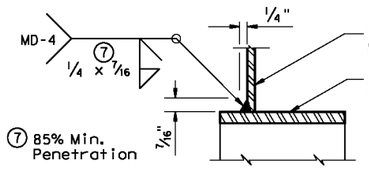
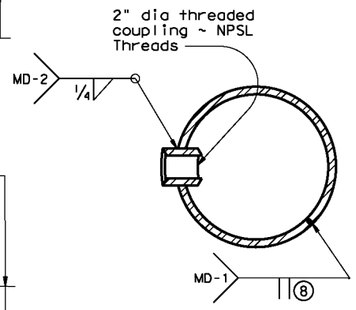


TABLE OF DIMENSIONS "A"				
Arm Length	24'	28'	32'	36'
Arm Type II	10'	11'	12'	13'
Arm Type III			10'	11'

STRUCTURE ASSEMBLY

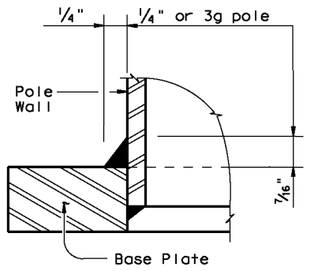


DETAIL D



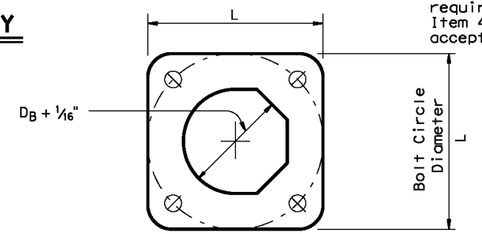
SECTION A-A

(Pole Coupling and Seam Weld Details)

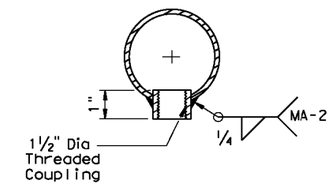


DETAIL E

8 60% Min. penetration, except 100% penetration within 6" of circumferential base welds.



BASE PLATE PLAN



ARM COUPLING DETAIL

MATERIALS	
Round Shafts or Polygonal Shafts 9	ASTM A595 Gr.A, A588, A1008 HSLAS Gr.50 Class 2, A1011 HSLAS Gr.50 Class 2, A572 Gr.50 or A1011 SS Gr.50 10
Plates 9	ASTM A36, A588, or A572 Gr.50
Connection Bolts	ASTM A325 except where noted
Pin Bolts	ASTM A325
Pipe 9	ASTM A53 Gr.B, A501, A1008 HSLAS-F Gr.50, A1011 HSLAS-F Gr.50
Steel Cable	ASTM A475, 7 Wire Utilities Grade
Misc. Hardware	Galvanized steel or stainless steel or as noted

9 ASTM A572, A1008 HSLAS, A1011 HSLAS, A1008 HSLAS-F, A1011 HSLAS-F, or A1011 SS may have higher yield strengths but shall not have less elongation than the grade indicated.

10 ASTM A1011 SS Gr.50 shall also have a minimum elongation of 18 percent in 8 inches or 23 percent in 2 inches. Material thickness in excess of those stipulated under A1011 SS will be acceptable providing the material meets all other A1011 SS requirements and the requirements of this item.

GENERAL NOTES

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 100 mph plus a 1.3 gust factor. The maximum permissible span wire design loads tabulated are calculated at a stress load of 1.4 times the basic allowable stress. A simultaneous wind on the pole, mast arm, and luminaire is also included.

See standard sheet "DMA-100" for details of clamp-on traffic signal arms, sheet "MA-C" for traffic signal arm connection details, sheet "LUM-A" for luminaire arm and connection details, and sheet "TS-FD" for anchor bolt and foundation details.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing", after fabrication.

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

Foundation Type	Anchor Bolt Diameter	Bolt Hole Diameter	Bolt Circle Diameter	Base ℄ Dim. L x T
36-A	1 3/4"	2"	19"	19" x 1 3/4"
36-B	2"	2 1/4"	21"	21" x 2"

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES STRAIN POLE ASSEMBLIES

(100 MPH WIND ZONE)

SP-100(2)-12

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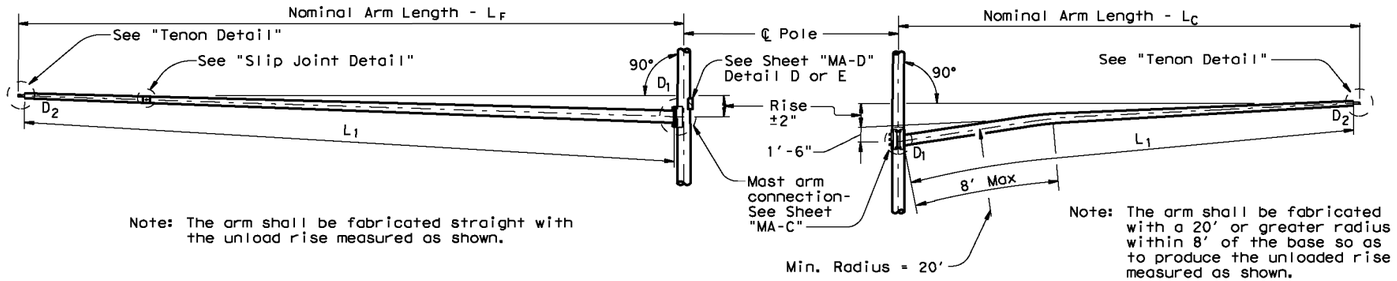
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6-96 1-12	CONT	SECT	JOB	HIGHWAY
	0921	06	400	VAR
	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		270

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121B

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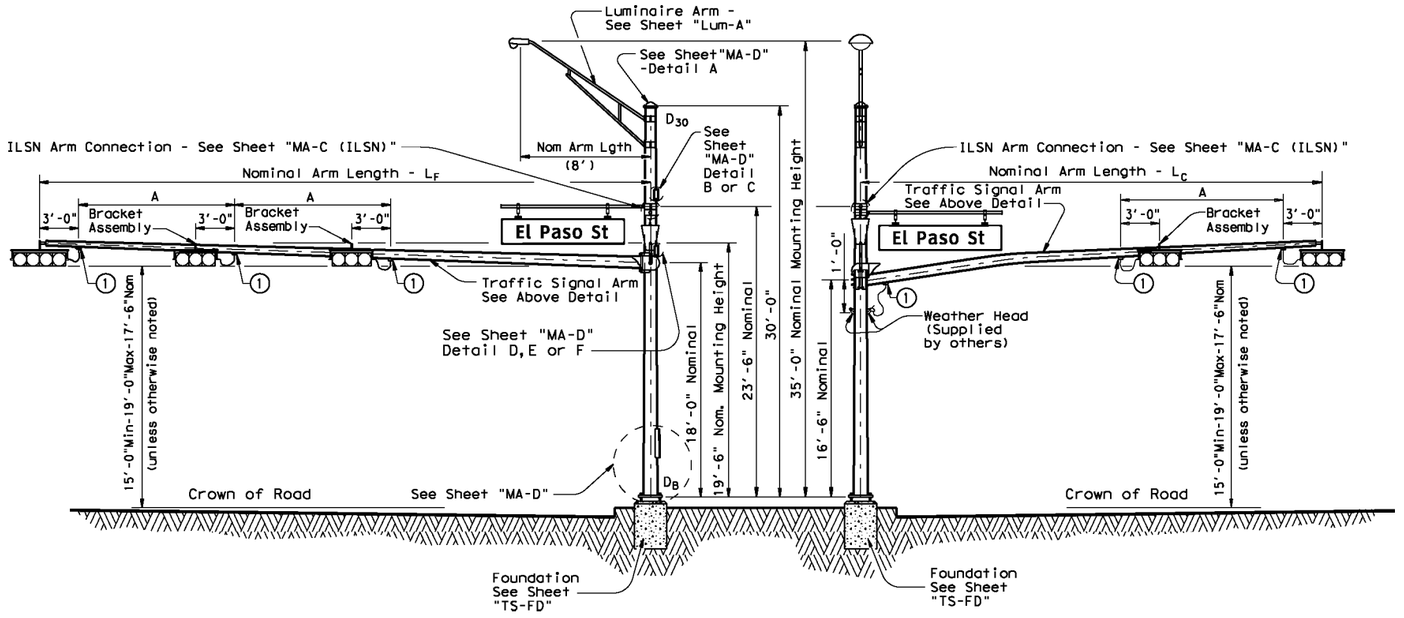


Note: The arm shall be fabricated straight with the unload rise measured as shown.

Note: The arm shall be fabricated with a 20' or greater radius within 8' of the base so as to produce the unloaded rise measured as shown.

FIXED MOUNT TRAFFIC SIGNAL ARM

CLAMP-ON TRAFFIC SIGNAL ARM



ELEVATION

(Showing fixed mount arm)

STRUCTURE ASSEMBLY

① Threaded Coupling for CGB Connector See "ARM COUPLING DETAILS" Sheet 2 of 3

ELEVATION

(Showing clamp mount arm)

TABLE OF DIMENSIONS "A"						
Arm Length	24'	28'	32'	36'	40'	44'
Arm Type II	10'	11'	12'	13'		
Arm Type III			10'	11'	12'	12'

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and Interim Specifications thereto. Design Wind Speed equals 100 mph plus a 1.3 gust factor. Designs are based on an arm included angle of 90 degrees or more. Angles of less than approximately 75 degrees will require a special design.

Poles are designed to support one 8'-0" luminaire arm, two 9'-0" internally lighted street name signs and two traffic signal arms with length combinations as tabulated. The specified luminaire load applied at the end of luminaire arm equals 60 lbs vertical dead load plus the horizontal wind load on an effective projected area of 1.6 sq ft. The specified internally lighted street name sign applied 4'-6" from the centerline of the pole equals 85 lbs vertical dead load plus the horizontal wind load on an effective projected area of 11.5 sq ft. The specified signal load applied at the end of the traffic signal arm equals 180 lbs vertical dead load plus the horizontal wind load on an effective projected area of 32.4 sq ft (actual area times drag coefficient).

See Standard Sheet "MA-D" for pole details, "MA-C" for traffic signal arm connection details, "MA-C (ILSN)" for internally lighted street name sign arm connection details, "LUM-A" for luminaire arm and connection details, "SNS" for internally lighted street name sign details, and "TS-FD" for anchor bolt and foundation details. See "MA-C" for material specifications.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Materials, fabrication tolerances, and shipping practices shall meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing", after fabrication.

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

SHEET 1 OF 3

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
DUAL MAST ARM ASSEMBLY
(100 MPH WIND ZONE)
DMA-100 (1)-12

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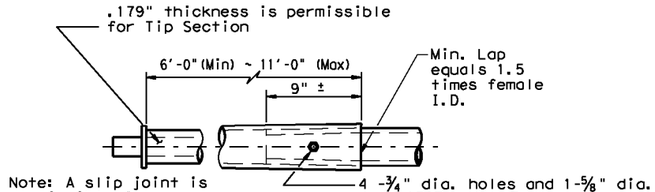
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REVISIONS
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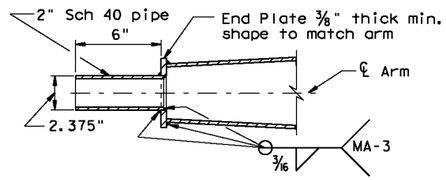
CONT	SECT	JOB	HIGHWAY
0921	06	400	VAR
DIST	COUNTY		SHEET NO.
PHR	CAMERON		271

125A

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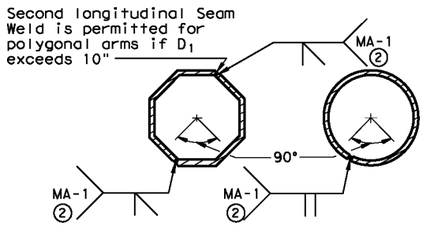
SLIP JOINT DETAIL



TENON DETAIL

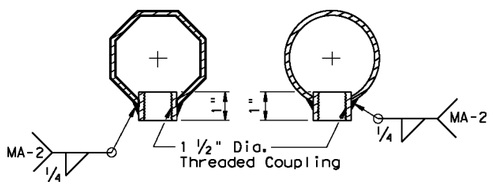
Stainless steel bands (or Cables) and cast bracket as in "Astro-Brac", "Sky Bracket" or "Easy Bracket" with 1 ½" Dia Threaded Coupling.

BRACKET ASSEMBLY



ARM WELD DETAIL

②60% Min. penetration
100% pemetration within 6" of circumferential base welds.



ARM COUPLING DETAILS

VIBRATION WARNING

Mast Arms of SMA and DMA structures and clamp-on Arms of LMA structures of approximately 40 ft or longer are subject to harmonic vertical vibrations in light wind conditions due to the aeroelastic characteristics of a few of the myriads of possible combinations of the following: signal numbers, weights and positions; existence/solidity of backplates; presence of additional attachments to the arm, such as signs and cameras; arm-wind orientation; and arm-pole stiffness.

Such vibrations may cause fatigue damage to the structure and may lead to galloping in moderate wind conditions which may further damage the structure and alarm the public. Tests have indicated that when wind is blowing toward the back side of signal heads having un-vented backplates attached the probability of unacceptable harmonic vibration and/or galloping is rather high.

If backplates are not required for improved visibility they should not be applied to the signal heads or, if they must be applied, they should be vented as a first and inexpensive measure to mitigate vibrations.

The traffic signal mast arms shall be visually inspected in 5 to 20 mph wind conditions after installation of signal heads and any attachments, including any required backpates. If vertical movements with a total excursion (maximum upward excursion to maximum downward excursion) of more than approximately 8" are observed at the arm tip, a damping plate shall be fitted to the arm. See "Damping Plate Mounting Details" on standard sheet, MA-DPD-10.

This visual inspection shall be repeated after each modification of the structure that could affect its aeroelastic response. Excessive vibrations shall not be allowed to continue for more than two days.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
DUAL MAST ARM ASSEMBLY
(100 MPH WIND ZONE)
DMA-100 (2)-12

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05-96
1-12

CONT	SECT	JOB	HIGHWAY
0921	06	400	VAR
DIST	COUNTY		SHEET NO.
PHR	CAMERON		272

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125B

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SHIPPING PARTS LIST

Ship each pole with the following attached: enlarged hand hole, pole cap, fixed arm connection bolts and washers and any additional hardware listed in the table.

Nominal Arm Length		30' Poles With Luminaire		24' Poles With ILSN		19' Poles With no Luminaire and no ILSN	
		See note above plus: one (or two if ILSN attached) small hand hole, clamp-on simplex		See note above plus one small hand hole		See note above	
LF	Lc						
ft.	ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20	2020L-100		2020S-100		2020-100	
24	20	2420L-100		2420S-100		2420-100	
	24	2424L-100		2424S-100		2424-100	
28	20	2820L-100		2820S-100		2820-100	
	24	2824L-100		2824S-100		2824-100	
	28	2828L-100		2828S-100		2828-100	
32	20	3220L-100		3220S-100		3220-100	
	24	3224L-100		3224S-100		3224-100	
	28	3228L-100		3228S-100		3228-100	
	32	3232L-100		3232S-100		3232-100	
36	20	3620L-100		3620S-100		3620-100	
	24	3624L-100		3624S-100		3624-100	
	28	3628L-100		3628S-100		3628-100	
	32	3632L-100		3632S-100		3632-100	
	36	3636L-100		3636S-100		3636-100	
40	20	4020L-100		4020S-100		4020-100	
	24	4024L-100		4024S-100		4024-100	
	28	4028L-100		4028S-100		4028-100	
	32	4032L-100		4032S-100		4032-100	
	36	4036L-100		4036S-100		4036-100	
44	20	4420L-100		4420S-100		4420-100	
	24	4424L-100		4424S-100		4424-100	
	28	4428L-100		4428S-100		4428-100	
	32	4432L-100		4432S-100		4432-100	
	36	4436L-100		4436S-100		4436-100	

Traffic Signal Arms (Fixed Mount) (1 per pole) Ship each arm w/ the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal) 1 CGB connector		Type II Arm (2 Signals) 1 Bracket Assembly and 2 CGB Connectors		Type III Arm (3 Signals) 2 Bracket Assemblies and 3 CGB Connectors	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100			
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100		36III-100	
40					40III-100	
44					44III-100	

Traffic Signal Arms (Clamp-On Mount) (1 per pole) Ship each arm w/ the listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal) 2 CGB connector and 1 clamp w/bolts and washers		Type II Arm (2 Signals) 1 Bracket Assembly, 3 CGB Connectors, and 1 clamp w/bolts and washers		Type III Arm (3 Signals) 2 Bracket Assembly, 4 CGB Connectors, and 1 clamp w/bolts and washers	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100			
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100		36III-100	

Luminaire Arms (1 per 30' pole)

Nominal Arm Length	Quantity
8' Arm	

ILSN Arm (1 or 2 per pole) ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7' Arm	
9' Arm	

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
1 3/4"	3'-10"	
2"	4'-3"	
2 1/4"	4'-9"	

Each anchor bolt assembly consists of the following: Top and Bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers, and 4 nut anchor devices (Type 2) per Standard Drawing "TS-FD".

Templates may be removed for shipment.

ARMS		ROUND POLES					POLYGONAL POLES					Foundation Type
LF	Lc	D_B	D_{19}	D_{24}	D_{30}	③ thk	D_B	D_{19}	D_{24}	D_{30}	③ thk	
ft.	ft.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
20	20	12.0	9.3	8.6	7.8	.239	13.5	10.5	9.7	8.8	.239	36-A
24	20	12.5	9.8	9.1	8.3	.239	13.5	10.5	9.7	8.8	.239	36-A
	24	12.5	9.8	9.1	8.3	.239	14.0	11.0	10.2	9.3	.239	36-A
28	20	13.0	10.3	9.6	8.8	.239	14.5	11.5	10.7	9.8	.239	36-A
	24	13.0	10.3	9.6	8.8	.239	15.0	12.0	11.2	10.3	.239	36-A
	28	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
32	20	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
	24	13.5	10.8	10.1	9.3	.239	15.0	12.0	11.2	10.3	.239	36-A
	28	14.0	11.3	10.6	9.8	.239	15.5	12.5	11.7	10.8	.239	36-B
	32	14.0	11.3	10.6	9.8	.239	15.5	12.5	11.7	10.8	.239	36-B
36	20	14.0	11.3	10.6	9.8	.239	15.5	12.5	11.7	10.8	.239	36-B
	24	14.0	11.3	10.6	9.8	.239	16.0	13.0	12.2	11.3	.239	36-B
	28	14.5	11.8	11.1	10.3	.239	16.0	13.0	12.2	11.3	.239	36-B
	32	14.5	11.8	11.1	10.3	.239	16.0	13.0	12.2	11.3	.239	36-B
	36	14.5	11.8	11.1	10.3	.239	16.5	13.5	12.7	11.8	.239	36-B
40	20	14.5	11.8	11.1	10.3	.239	16.5	13.5	12.7	11.8	.239	36-B
	24	15.0	12.3	11.6	10.8	.239	16.5	13.5	12.7	11.8	.239	36-B
	28	15.0	12.3	11.6	10.8	.239	17.0	14.0	13.2	12.3	.239	42-A
	32	15.0	12.3	11.6	10.8	.239	17.0	14.0	13.2	12.3	.239	42-A
	36	15.5	12.8	12.1	11.3	.239	17.5	14.5	13.7	12.8	.239	42-A
44	20	15.5	12.8	12.1	11.3	.239	17.5	14.5	13.7	12.8	.239	42-A
	24	15.5	12.8	12.1	11.3	.239	17.5	14.5	13.7	12.8	.239	42-A
	28	16.0	13.3	12.6	11.8	.239	18.0	15.0	14.2	13.3	.239	42-A
	32	16.0	13.3	12.6	11.8	.239	18.0	15.0	14.2	13.3	.239	42-A
	36	16.0	13.3	12.6	11.8	.239	18.0	15.0	14.2	13.3	.239	42-A

Arm L_F or L_C	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	③ thk	Rise	L_1	D_1	④ D_2	③ thk	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	8.0	5.3	.179	1'-8"	19.1	8.0	3.5	.179	1'-7"
24	23.1	9.0	5.8	.179	1'-9"	23.1	9.0	3.5	.179	1'-8"
28	27.1	9.5	5.7	.179	1'-10"	27.1	10.0	3.5	.179	1'-9"
32	31.0	9.5	5.2	.239	1'-11"	31.0	9.5	3.5	.239	1'-10"
36	35.0	10.0	5.1	.239	2'-0"	35.0	10.0	3.5	.239	1'-11"
40	39.0	10.5	5.1	.239	2'-3"	39.0	11.0	3.5	.239	2'-1"
44	43.0	11.0	5.1	.239	2'-8"	43.0	11.5	4.0	.239	2'-3"

D_B = Pole Base O.D.
D_{19} = Pole Top O.D. with no Luminaire and no ILSN
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire

D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L_F = Fixed Arm Length
L_C = Clamp-on Arm Length (36' Max)

③ Thickness shown are minimums, thicker materials may be used.

④ D_2 may be increased by up to 1.0" for polygonal arms.

SHEET 3 OF 3

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
DUAL MAST ARM ASSEMBLY
(100 MPH WIND ZONE)
DMA-100 (3)-12

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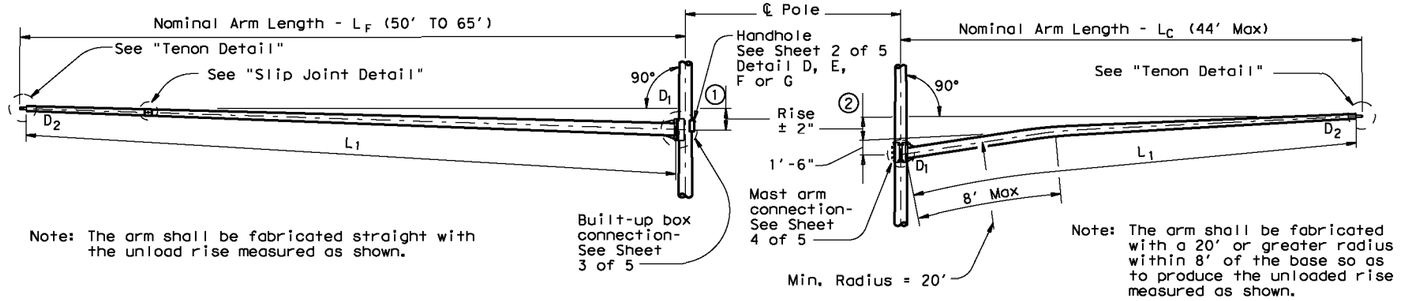
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REVISIONS
5-96
1-12

CONT	SECT	JOB	HIGHWAY
0921	06	400	VAR
DIST	COUNTY		SHEET NO.
PHR	CAMERON		273

125C

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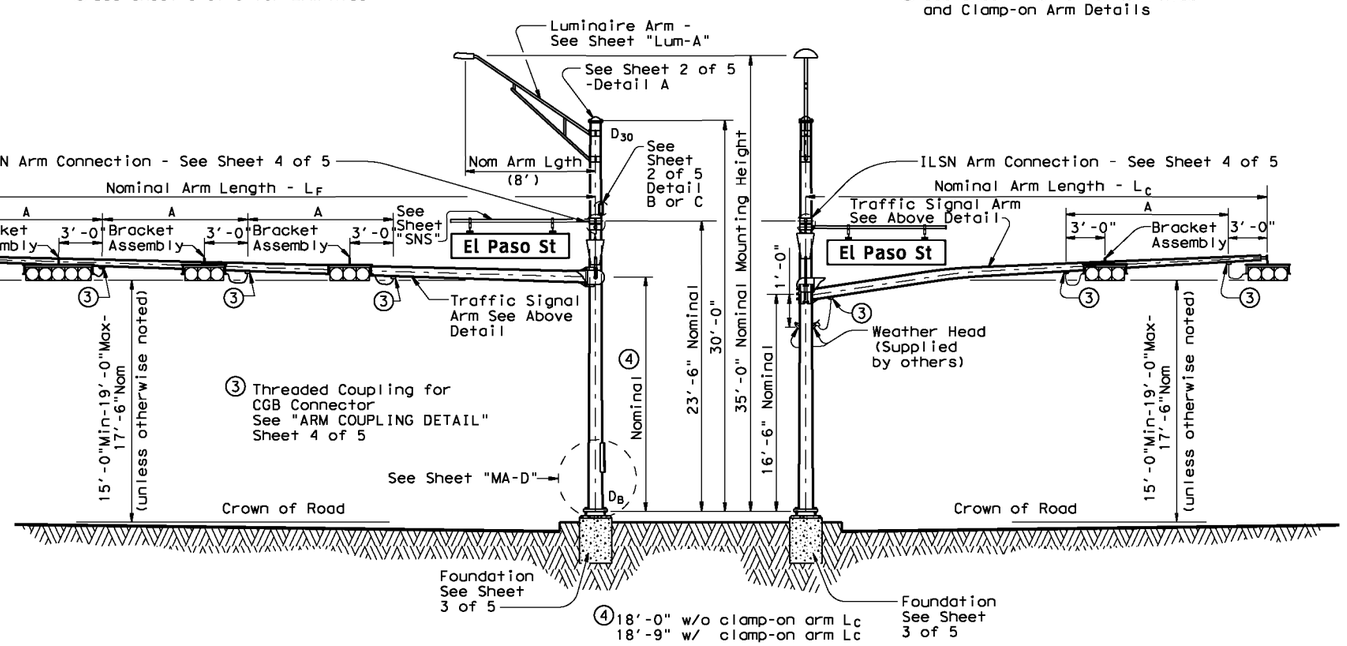


FIXED MOUNT TRAFFIC SIGNAL ARM

① See Sheet 3 of 5 for Arm Rise

CLAMP-ON TRAFFIC SIGNAL ARM (IF REQUIRED)

② See Sheet 4 of 5 for Arm Rise and Clamp-on Arm Details

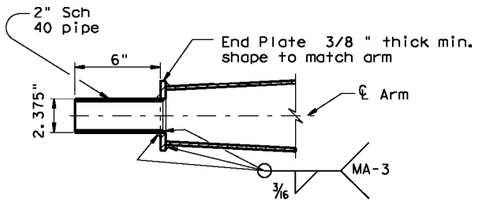


ELEVATION
(Showing fixed mount arm)

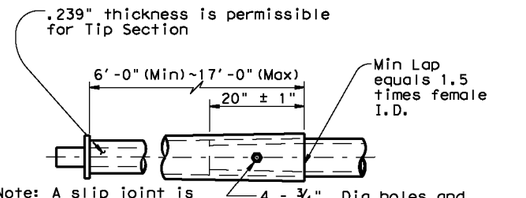
STRUCTURE ASSEMBLY

ELEVATION
(Showing clamp-on arm)

TABLE OF DIMENSIONS "A"										
Arm Length	24'	28'	32'	36'	40'	44'	50'	55'	60'	65'
Arm Type II	10'	11'	12'	13'						
Arm Type III			10'	11'	12'	12'				
Arm Type IV							12'	12'	12'	12'



TENON DETAIL



Note: A slip joint is permissible for arms 50' and greater in length. The slip joint shall be made in the shop, but may be match marked and shipped disassembled.

SLIP JOINT DETAIL (FIXED MOUNT ARM)

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Specifications thereto. Design Wind Speed can be either 100 mph or 80 mph plus a 1.3 gust factor. If clamp-on traffic signal is required, designs are based on an arm included angle of 90 degrees or more. Angles of less than approximately 75 degrees will require a special design.

Poles are designed to support one 8'-0" luminaire arm, two 9'-0" internally lighted street name (ILSN) signs and two traffic signal arms with limited length combinations.

Each arm with its related attachment is shown below

Arm	Equivalent DL ⑤	WL EPA ⑤⑥
8' Luminaire Arm	Luminaire 60 lbs	1.6 sq ft
9' ILSN Arm	Sign 85 lbs	11.5 sq ft
50' to 65' Fixed Mount Arm	Signal Loads 310 lbs	52 sq ft
Up to 44' Clamp-on Arm	Signal Loads 180 lbs	32.4 sq ft

⑤ Equivalent dead load plus horizontal wind load applied at the end of arm except ILSN arm, which applied 4.5' from the centerline of the pole.

⑥ Effective projected area (actual area times drag coefficient) for the application of horizontal wind load.

Except as noted in Sheet 1 thru 5 of 5, other details not covered shall refer to Standard Sheet "MA-D" for pole details, "LUM-A" for luminaire arm and connection details, "SNS" for internally lighted street name sign details, and "TS-FD" for anchor bolt and foundation details.

Fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. Material, fabrication tolerances, and shipping practices shall also meet the requirements of this sheet and Item 686, "Traffic Signal Pole Assemblies (Steel)".

Unless otherwise noted, all parts shall be galvanized in accordance with Item 445, "Galvanizing" after fabrication.

Deviations from the details and dimensions shown herein require submission of shop drawings in accordance with the Item 441, "Steel Structures". Alternate designs are not acceptable.

Installation of damping plate for the long mast arm is not recommended.

Provision of the bracket assembly used to support the traffic signal heads shall be under the direction of the Engineer for approval.

Design also conforms to NCHRP Report 412 for fatigue resistance except that there are no stiffeners at the base plate. TxDOT is conducting tests to determine if stiffeners at the base plate will or will not result in optimal performance; depending upon the results of the tests, poles may need a retrofit to ensure optimal fatigue performance.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT) (80 AND 100 MPH WIND ZONE)
LMA(1)-12

Sheet 1 of 5

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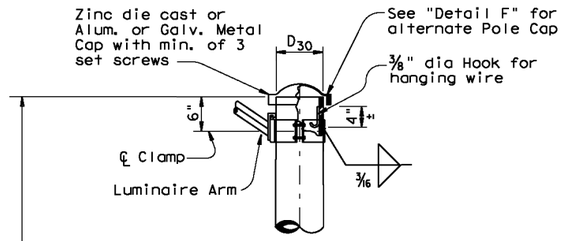
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	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		274

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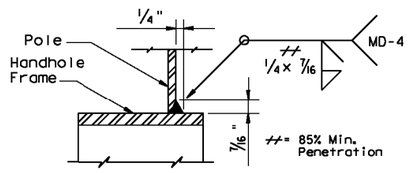
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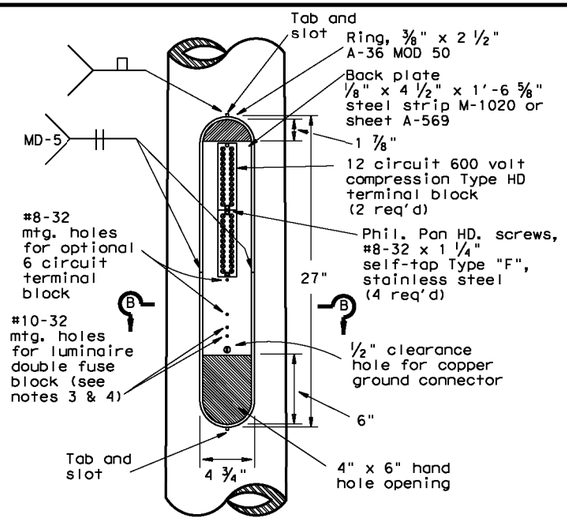


DETAIL A

(for pole with luminaire)



DETAIL H

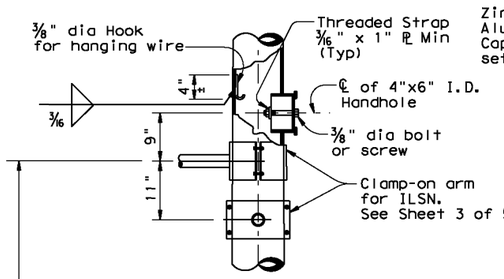


ACCESS COMPARTMENT

MATERIALS	
Round Shafts or Polygonal Shafts (7)	ASTM A595 Gr.A, A588, A1008 HSLAS Gr.50 Class 2, A1011 HSLAS Gr.50 Class 2, A572 Gr.50 or A1011 SS Gr.50 (8)
Plates (7)	ASTM A36, A588, or A572 Gr.50
Connection Bolts	ASTM A325, or A449 except where noted
Pin Bolts	ASTM A325
Pipe (7)	ASTM A53 Gr.B, A501, A1008 HSLAS-F Gr.50, A1011 HSLAS-F Gr.50
Misc. Hardware	Galvanized steel or stainless steel or as noted

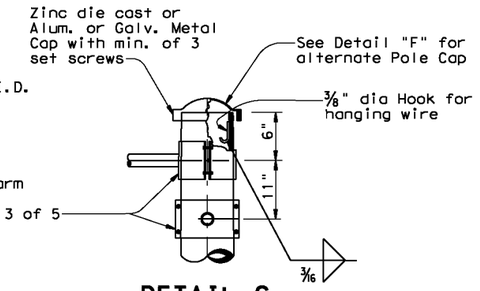
(7) ASTM A572, A1008 HSLAS, A1011 HSLAS, A1008 HSLAS-F, A1011 HSLAS-F, or A1011 SS may have higher yield strengths but shall not have less elongation than the grade indicated.

(8) ASTM A1011 SS Gr.50 shall also have a minimum elongation of 18 percent in 8 inches or 23 percent in 2 inches. Material thickness in excess of those stipulated under A1011 SS will be acceptable providing the material meets all other A1011 SS requirements and the requirements of this item.

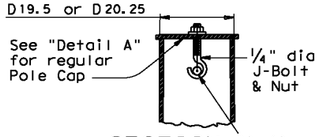


DETAIL B

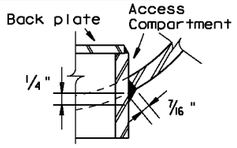
(If ILSN applied)



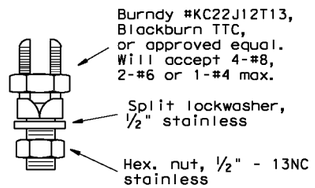
DETAIL C



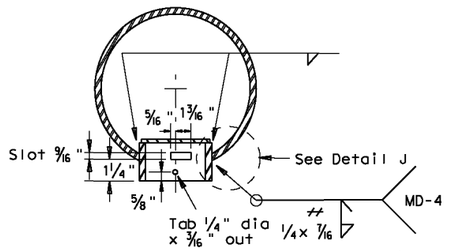
SECTION Y-Y



DETAIL J



COPPER GROUND CONNECTOR

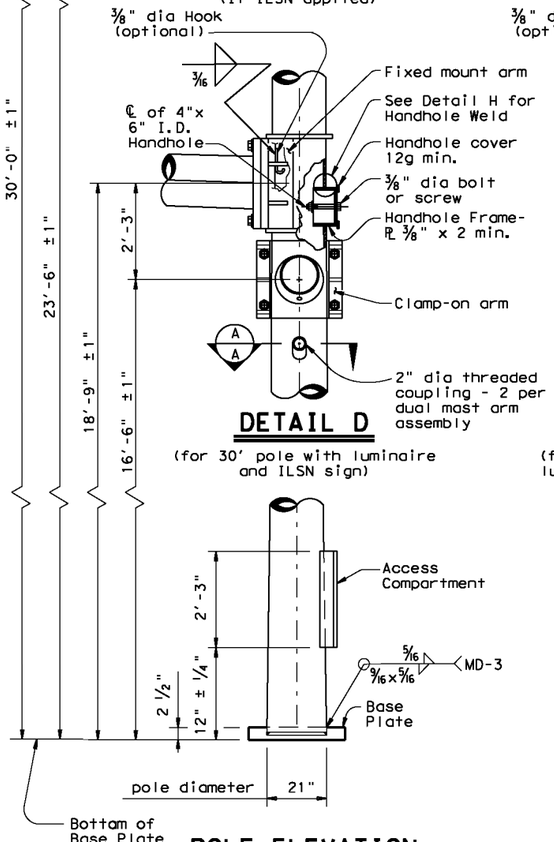


SECTION B-B

Opening for access compartment shall be no more than 1⁄16 inch wider than the access compartment itself.

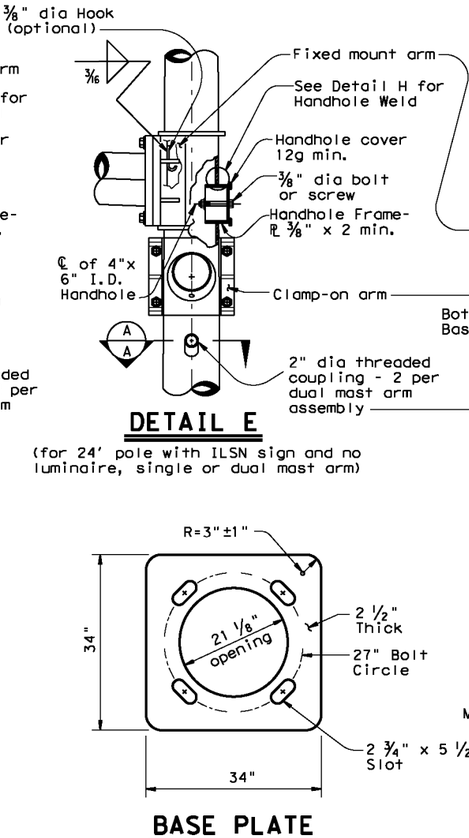
ACCESS COMPARTMENT NOTES:

1. The cover shall be one piece formed from ABS plastic, shall be a pearl gray color, and shall be suitable for exposure to harsh sunlight and extreme weather. Cover shall latch with two screw latches and shall fit tightly to the enclosure ring to create a rainproof seal. Latch screws shall be 1/4-20 stainless flat socket head screws with tamper proof feature.
2. The pole manufacturer shall provide with each pole a separate kit consisting of: one cover with two latching assemblies, two terminal strips (Marathon #985GP12CU or approved equal), four #8-32 x 1 ¼" self tapping type "F" stainless steel pan head screws, and one ground connector (Blackburn TTC, Burndy KC22J12T13, or Ilsco SSS-5). The traffic signal contractor shall install the kit items in the field.
3. The screw hole spacing on the enclosure back plate shall be for two Marathon #985GP12 terminal strips, one Marathon #985GP06CU terminal strip, and one Bussmann #BM6032B fuse block.
4. Install one Bussmann #BM6032B, Littelfuse #L60030M-2C, or Ferraz-Shawmut #30352 fuse block for poles where luminaires are to be installed.



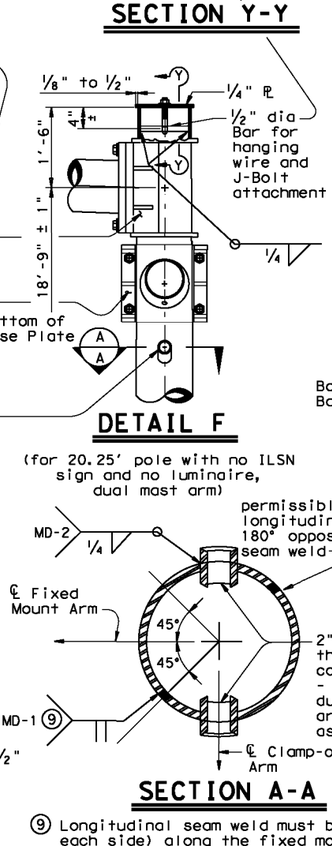
DETAIL D

(for 30' pole with luminaire and ILSN sign)



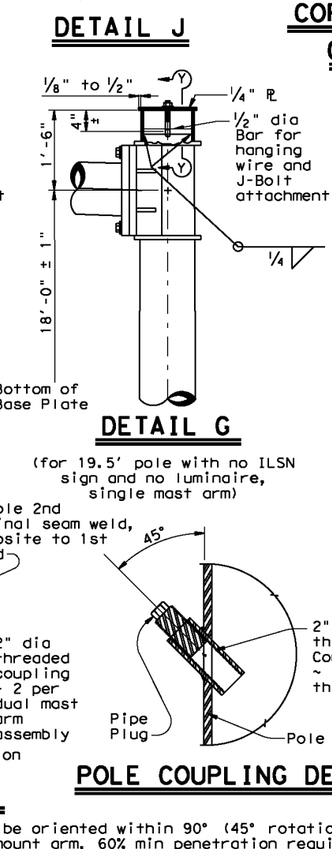
DETAIL E

(for 24' pole with ILSN sign and no luminaire, single or dual mast arm)



DETAIL F

(for 20.25' pole with no ILSN sign and no luminaire, dual mast arm)



DETAIL G

(for 19.5' pole with no ILSN sign and no luminaire, single mast arm)

POLE ELEVATION

BASE PLATE

SECTION A-A

POLE COUPLING DETAIL

(9) Longitudinal seam weld must be oriented within 90° (45° rotation each side) along the fixed mount arm. 60% min penetration required, 100% penetration within 6" of circumferential base weld.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT) (80 AND 100 MPH WIND ZONE)

Sheet 2 of 5

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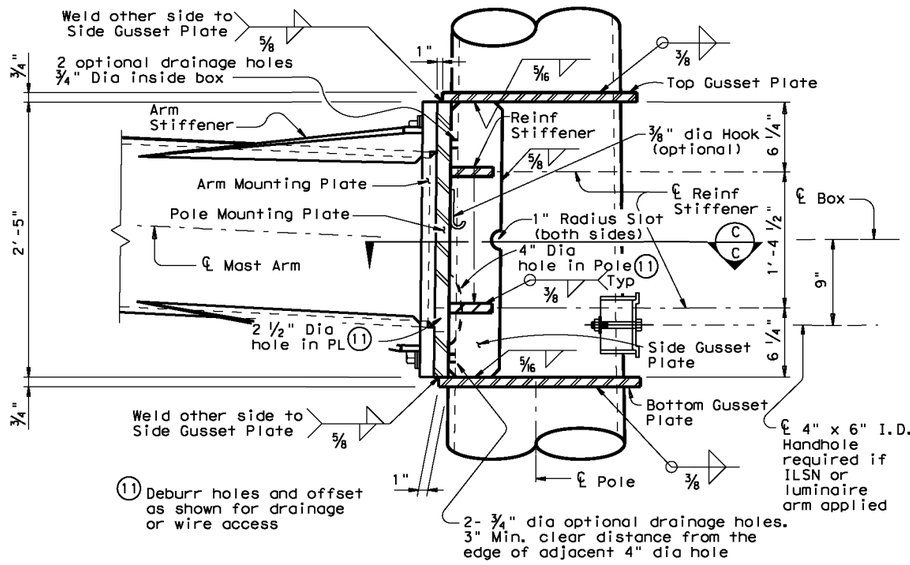
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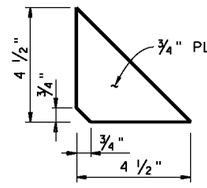
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0921	06	400	VAR
DIST	COUNTY		SHEET NO.
PHR	CAMERON		275

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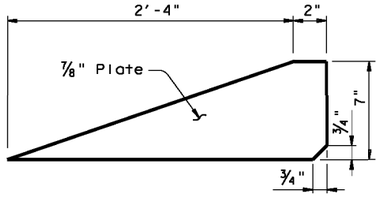
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BUILT-UP BOX CONNECTION

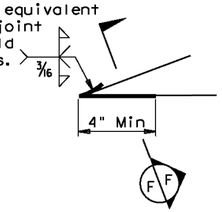


REINFORCING STIFFENER



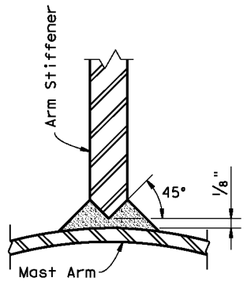
ARM STIFFENER
(Cut to match arm inclination and taper)

Provide Detail shown in SECTION F-F or equivalent 100% complete joint penetration weld from both sides.



Only 4" length at tip of Arm Stiffener requires a complete joint penetration weld. Smooth weld radius to connect Stiffener. Only a fillet weld is required for the remaining weld length.

DETAIL "K"



SECTION F-F

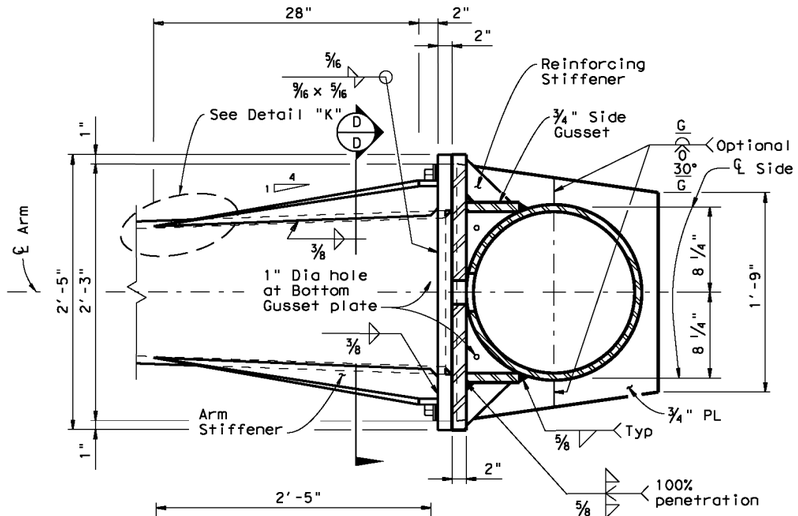
Fixed Mount Arm L_F	ROUND POLES (13)					Foundation Type
	D_B	$D_{19.5}$ or $D_{20.25}$	D_{24}	D_{30}	(12) thk	
ft.	in.	in.	in.	in.	in.	
50', 55' 60', 65'	21.0	18.2	17.6	16.8	.3125	48-A

Fixed Mount Arm L_F	ROUND ARMS (13)				
	L_1	D_1	D_2	(12) thk	Rise
ft.	ft.	in.	in.	in.	
50	49	18.5	11.7	.3125	3'- 3"
55	54	18.5	11.0	.3125	3'- 7"
60	59	18.5	10.3	.3125	3'-11"
65	64	18.5	9.6	.3125	4'- 4"

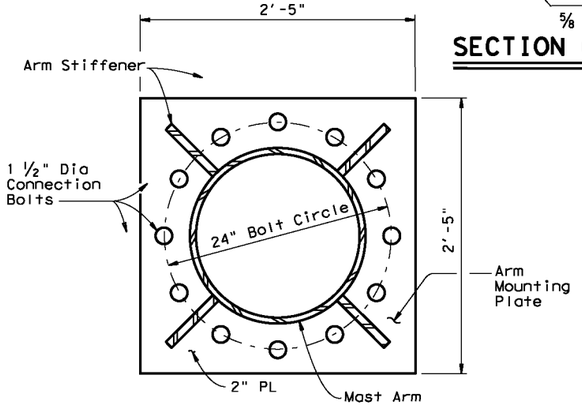
D_B = Pole Base O.D.
$D_{19.5}$ = Pole Top O.D. with no Luminaire and no ILSN (single mast arm)
$D_{20.25}$ = Pole Top O.D. with no Luminaire and no ILSN (dual mast arm)
D_{24} = Pole Top O.D. with ILSN w/out Luminaire
D_{30} = Pole Top O.D. with Luminaire
D_1 = Arm Base O.D.
D_2 = Arm End O.D.
L_1 = Shaft Length
L_F = Fixed Arm Length

(12) Thickness shown is minimum, thicker materials may be used.

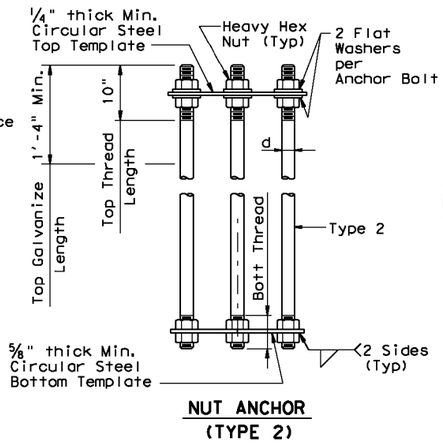
(13) Shaft profile 16-sided or 18-sided is considered to be equivalent to round section.



SECTION C-C

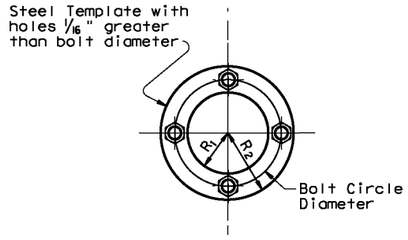


SECTION D-D



NUT ANCHOR
(TYPE 2)

ANCHOR BOLT ASSEMBLY



TEMPLATE DETAIL

ANCHOR BOLT & TEMPLATE SIZE						
Bolt Dia in.	Length ‡	Top Thread	Bottom Thread	Bolt Circle	R_2	R_1
2 1/2"	5'-2"	10"	6 1/2"	27"	16"	11"

‡ Min dimension given, longer bolts are acceptable.

FOUNDATION DESIGN TABLE													
FDN TYPE	DRILLED SHAFT DIA	REINFORCING STEEL		DRILLED SHAFT LENGTH-ft (16), (17), (18)			ANCHOR BOLT DESIGN (14)				FOUNDATION DESIGN LOAD (15)		TYPICAL APPLICATION
		VERT BARS	SPIRAL & PITCH	TEXAS CONE PENETROMETER N blows/ft			ANCHOR BOLT DIA	Fy (ksi)	BOLT CIR DIA	ANCHOR TYPE	MOMENT K-ft	SHEAR Kips	
				10	15	40							
48-A	48"	20 #9	#4 at 6"	21.9	19.5	14.7	2 1/2"	55	27"	2	490	10	50' to 65' Mast arm assembly.

SEE SHEET "TS-FD" FOR ADDITIONAL DETAILS.

(14) Anchor bolt design develops the foundation capacity given under Foundation Design Loads.

(15) Foundation Design Loads are the allowable moments and shears at the base of the structure.

(16) Field Penetrometer readings at a depth of approximately 3 to 5 feet may be used to adjust shaft lengths.

(17) If rock is encountered, the Drilled Shaft shall extend a minimum of two diameters into solid rock.

(18) Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

GENERAL NOTES:

Built-up Box Connection: For the welded arm-to-pole connection as a build-up box configuration illustrated here is an example only, fabricators are required to submit a shop drawing of box connection for approval. The drawing shall specify the details of each box element, welds of arm-to-pole connection, arm-to-plate socket connection, and arm rise creation. Specify the proper location of drain holes along the pole. 2 1/2" dia hole in the pole mounting plate and 4" dia hole in the pole need to be aligned for wiring access or drainage. Arm stiffeners cut to match arm inclination and taper shall also be included.

The deviation from flat for either arm or pole mounting plate shall not exceed 3/32 in., which is measured along the center of mounting plate to a radial distance of 13.5 in. The deformed-from-flat connection between arm and pole mounting plates shall not be allowed if the center of both mounting plates cannot contact directly.

Fixed mount details are used for single mast arm assemblies and for the first arm on dual mast arm assemblies.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT) (80 AND 100 MPH WIND ZONE)

Sheet 3 of 5 — LMA(3)-12

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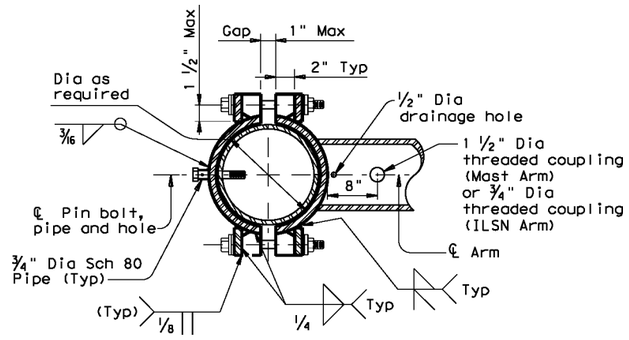
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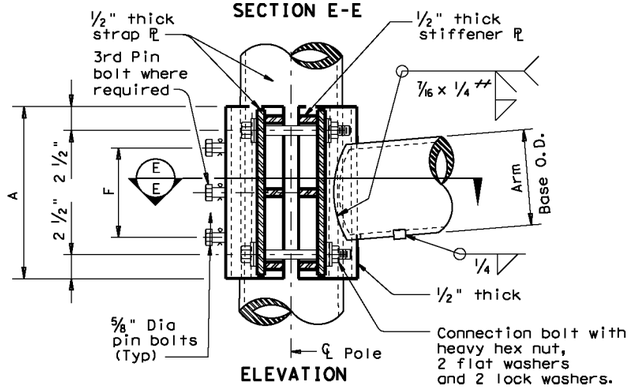
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SECTION E-E



ELEVATION
(Mast Arm or ILSN Arm to pole)

= 85% Min. Penetration

CLAMP-ON CONNECTION

80 MPH WIND

Clamp-on Arm Lc	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	thk (12)	Rise	L_1	D_1	D_2	thk (12)	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	6.5	3.8	.179	1'-9"	19.1	7.0	3.5	.179	1'-8"
24	23.1	7.5	4.3	.179	1'-10"	23.1	7.5	3.5	.179	1'-9"
28	27.1	8.0	4.2	.179	1'-11"	27.1	8.0	3.5	.179	1'-10"
32	31.0	9.0	4.7	.179	2'-1"	31.0	9.0	3.5	.179	2'-0"
36	35.0	9.5	4.6	.179	2'-4"	35.0	10.0	3.5	.179	2'-1"
40	39.0	9.5	4.1	.239	2'-8"	39.0	9.5	3.5	.239	2'-3"
44	43.0	10.0	4.1	.239	2'-11"	43.0	10.0	3.5	.239	2'-6"

100 MPH WIND

Clamp-on Arm Lc	ROUND ARMS					POLYGONAL ARMS				
	L_1	D_1	D_2	thk (12)	Rise	L_1	D_1	D_2	thk (12)	Rise
ft.	ft.	in.	in.	in.		ft.	in.	in.	in.	
20	19.1	8.0	5.3	.179	1'-8"	19.1	8.0	3.5	.179	1'-7"
24	23.1	9.0	5.8	.179	1'-9"	23.1	9.0	3.5	.179	1'-8"
28	27.1	9.5	5.7	.179	1'-10"	27.1	10.0	3.5	.179	1'-9"
32	31.0	9.5	5.2	.239	1'-11"	31.0	9.5	3.5	.239	1'-10"
36	35.0	10.0	5.1	.239	2'-0"	35.0	10.0	3.5	.239	1'-11"
40	39.0	10.5	5.1	.239	2'-3"	39.0	11.0	3.5	.239	2'-1"
44	43.0	11.0	5.1	.239	2'-8"	43.0	11.5	4.0	.239	2'-3"

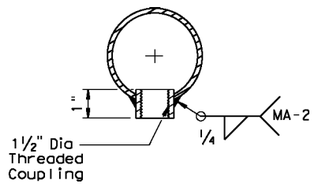
D1 = Arm Base O.D.
D2 = Arm End O.D.
L1 = Shaft Length
Lc = Clamp-on Arm Length

(12) Thickness shown is minimum, thicker materials may be used.

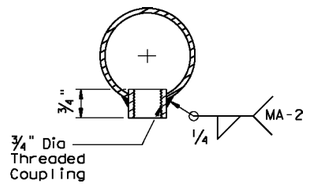
CLAMP-ON ARM CONNECTION

ILSN Arm Size		A	F	4 Conn. Bolts	5/8" Dia. Pin Bolts
Sch 40 pipe Dia	Thick			Dia	No.
in.	in.	in.	in.	in.	ea
3	.216	10	4	¾	2

Mast Arm Size		A	F	4 Conn. Bolts	5/8" Dia. Pin Bolts
Base Dia	Thick			Dia	No.
in.	in.	in.	in.	in.	ea
6.5	.179	12	6	1	2
7.5	.179	14	8	1	2
8.0	.179	14	8	1	2
9.0	.179	16	10	1	2
9.5	.179	18	12	1 ¼	3
9.5	.239	18	12	1 ¼	3
10.0	.239	18	12	1 ¼	3
10.5	.239	18	12	1 ¼	3
11.0	.239	18	12	1 ¼	3
11.5	.239	18	12	1 ¼	3



ARM COUPLING DETAIL



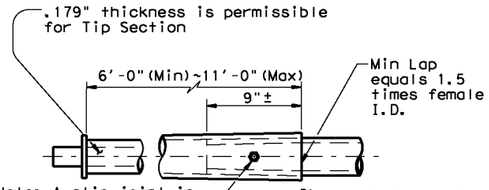
ILSN ARM COUPLING DETAIL

GENERAL NOTES:

Clamp-on details are used for the second arm on dual mast arm assemblies or ILSN arm support. For a clamp-on mast arm, a maximum 1 ½" wide vertical slotted hole may be cut in the front clamp plate to facilitate drainage during galvanizing. The slot shall be centered behind the arm and shall be no longer than the arm diameter minus 1". For an ILSN arm, a 1 ½" diameter hole shall be cut in the front clamp plate for wire access. A matched hole shall be field drilled through the pole to provide wire access after arm is oriented. Deburr both holes.

Where duplicate parts occur on a detail, welds shown for part shall apply to all similar parts on the detail.

Pin bolts are required to prevent rotation of clamp-on arms under design wind forces. Pin bolts shall be ASTM A325 with threads excluded from the shear plane. Pin bolt and ¾" diameter pipe shall have 3/16" diameter holes for a 1/8" diameter galvanized cotter pin. Back clamp plate shall be furnished with a ¾" diameter hole for each pin bolt. An 11/16" diameter hole for each pin bolt shall be field drilled through the pole after arm orientations have been approved by the Engineer.

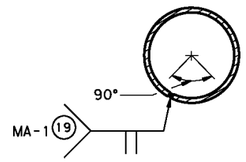


Note: A slip joint is permissible for arms 40' and greater in length. The slip joint shall be made in the shop, but may be match marked and shipped disassembled.

SLIP JOINT DETAIL (CLAMP-ON ARM)

Stainless steel bands (or Cables) and cast bracket as in "Astro-Brac", "Sky Bracket" or "Easy Bracket" with 1 ½" Dia Threaded Coupling.

BRACKET ASSEMBLY



ARM WELD DETAIL

(19) Longitudinal Seam Weld must be oriented within the lower 90° of the signal arm.
60% Min penetration
100% penetration within 6" of circumferential base welds.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL SUPPORT STRUCTURES
LONG MAST ARM ASSEMBLY (50 TO 65 FT)
(80 AND 100 MPH WIND ZONE)

Sheet 4 of 5 — LMA(4)-12

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DN: JK	CK: GRB	DW: FDN	CK: CAL

REVISIONS
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1-12

CONT	SECT	JOB	HIGHWAY
0921	06	400	VAR

DIST	COUNTY	SHEET NO.
PHR	CAMERON	277

131D

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Shipping Parts List						
Ship each pole with the following attached: enlarged hand hole, pole cap, fixed arm connection bolts and washers, and any additional hardware listed in the table.						
Nominal Arm Length	30' Poles with Luminaire See note above plus: one (or two if ILSN attached) small hand hole, clamp-on simplex		24' Poles with ILSN See note above plus one small hand hole		19.50' (Single Mast Arm) 20.25' (Dual Mast Arm) Poles with no Luminaire and no ILSN See note above	
Single Mast Arm						
Lf ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
50	50L		50S		50	
55	55L		55S		55	
60	60L		60S		60	
65	65L		65S		65	
Dual Mast Arm						
Lf ft. / Lc ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
50 / 20	5020L		5020S		5020	
24	5024L		5024S		5024	
28	5028L		5028S		5028	
32	5032L		5032S		5032	
36	5036L		5036S		5036	
40	5040L		5040S		5040	
44	5044L		5044S		5044	
55 / 20	5520L		5520S		5520	
24	5524L		5524S		5524	
28	5528L		5528S		5528	
32	5532L		5532S		5532	
36	5536L		5536S		5536	
40	5540L		5540S		5540	
44	5544L		5544S		5544	
60 / 20	6020L		6020S		6020	
24	6024L		6024S		6024	
28	6028L		6028S		6028	
32	6032L		6032S		6032	
36	6036L		6036S		6036	
40	6040L		6040S		6040	
44	6044L		6044S		6044	
65 / 20	6520L		6520S		6520	
24	6524L		6524S		6524	
28	6528L		6528S		6528	
32	6532L		6532S		6532	
36	6536L		6536S		6536	
40	6540L		6540S		6540	
44	6544L		6544S		6544	

Shipping Parts List		
Traffic Signal Arms (Fixed Mount) (1 per pole) Ship each arm with listed equipment attached		
Nominal Arm Length	Type IV Arm (4 Signals) 3 Bracket Assembly and 4 CGB Connectors	
ft.	Designation	Quantity
50	50IV	
55	55IV	
60	60IV	
65	65IV	

Luminaire Arms (1 per 30' pole)

Nominal Arm Length	Quantity
8' Arm	

ILSN Arm (Max. 2 per pole) Ship with clamps, bolts and washers

Nominal Arm Length	Quantity
7' Arm	
9' Arm	

Traffic Signal Arms (80 MPH Clamp-On Mount) (1 per pole) Ship each arm with listed equipment attached

Nominal Arm Length	Type I Arm (1 Signal) 2 CGB connector and 1 clamp w/bolts and washers		Type II Arm (2 Signals) 1 Bracket Assembly and 3 CGB connectors, and 1 clamp w/bolts and washers		Type III Arm (3 Signals) 2 Bracket Assembly and 4 CGB connectors, and 1 clamp w/bolts and washers	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-80					
24	24I-80		24II-80			
28	28I-80		28II-80			
32			32II-80		32III-80	
36			36II-80		36III-80	
40					40III-80	
44					44III-80	

Traffic Signal Arms (100 MPH Clamp-On Mount) (1 per pole) Ship each arm with listed equipment attached

Nominal Arm	Type I Arm (1 Signal) 2 CGB connector and 1 clamp w/bolts and washers		Type II Arm (2 Signals) 1 Bracket Assembly and 3 CGB connectors, and 1 clamp		Type III Arm (3 Signals) 2 Bracket Assembly and 4 CGB connectors, and 1 clamp	
ft.	Designation	Quantity	Designation	Quantity	Designation	Quantity
20	20I-100					
24	24I-100		24II-100			
28	28I-100		28II-100			
32			32II-100		32III-100	
36			36II-100		36III-100	
40					40III-100	
44					44III-100	

Anchor Bolt Assemblies (1 per pole)

Anchor Bolt Diameter	Anchor Bolt Length	Quantity
2 1/2 "	5' - 3"	

Each anchor bolt assembly consists of the following: Top and bottom templates, 4 anchor bolts, 8 nuts, 8 flat washers and 4 nut anchor devices (type 2) per Standard Drawing "TS-FD". Templates may be removed for shipment.

Foundation Summary Table **

Location Ident.	Avg. N Blow/ft.	No. Each	Drill Shaft *** Length (feet)
			48-A
Total Drill Shaft Length			

Notes

** Foundations may be listed separately or grouped according to similarity of location and type. Quantities are for the Contractor's information only.

*** Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

Abbreviations

Lf= Fixed Arm Length

Lc= Clamp-on Arm Length (44' Max.)

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LONG MAST ARM ASSEMBLY PARTS LIST

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Sheet 5 of 5

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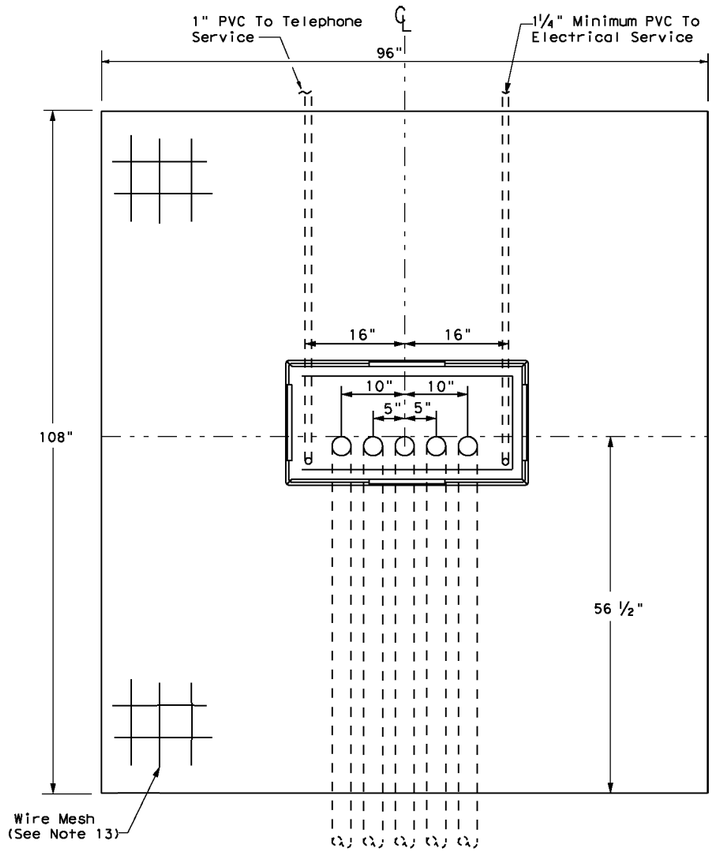
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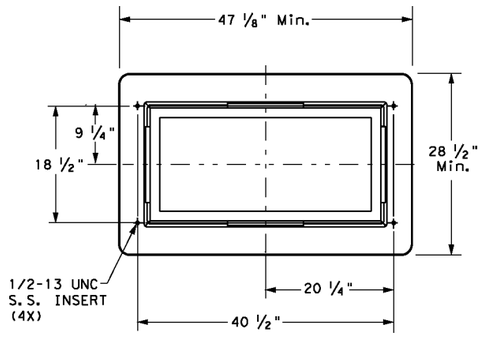
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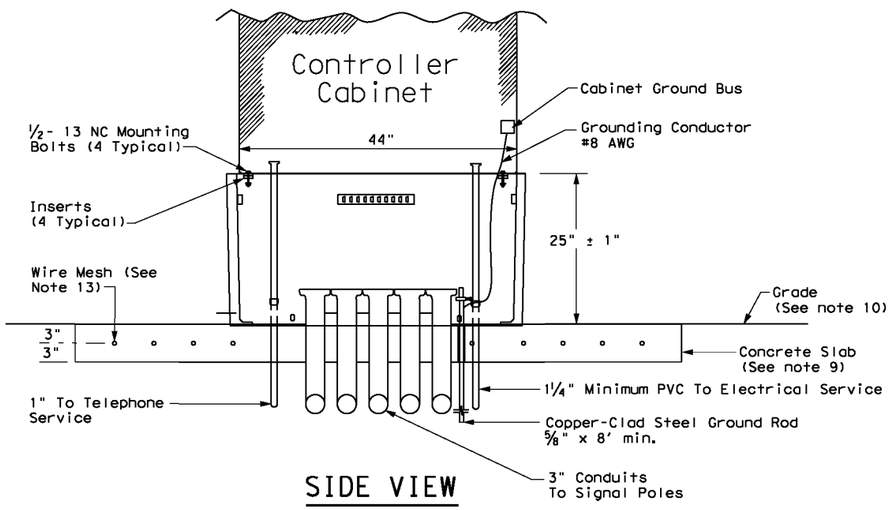
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TOP VIEW



CABINET BASE



SIDE VIEW

TRAFFIC SIGNAL CONTROLLER BASE:

1. Provide a traffic signal controller base (cabinet base) manufactured of polymer concrete material consisting of calcareous and siliceous stone; glass fibers and thermoset polyester resin. The polymer concrete cabinet base must be reinforced on the inside of the cabinet base with fiberglass matting. Provide one of the following bases: Armorcast Part # A6001848X24, Quazite Model # PG3048Z709, or other as approved by TxDOT Traffic Safety Division.
2. The polymer concrete material must have a minimum compressive strength of 10,300 pounds per square inch (psi), minimum flexural strength of 3600 psi, and minimum shear strength of 3600 psi.
3. The polymer concrete cabinet base must conform to the dimensions shown and must accommodate a standard TxDOT basemount cabinet.
4. Supply the cabinet base with four 1#2"-13 UNC stainless steel inserts for attachment of the cabinet to the base. Inserts must withstand a minimum torque of 50 ft-lb and a minimum straight pull out strength of 750 lbs.
5. Provide the cabinet base with 4 cable racks mounted one on each side of the base 2" to 7 " from the top edge of the base. Unless approved otherwise, cable racks must be 1-1/2 x 9#16x 3#16inch steel channel with eight T-slots spaced at 1-1/2 inches. The cable racks must easily accommodate the insertion of tie wraps to attach field wiring to the racks to serve as strain relief. Secure cable racks to the base using 1#2"-13 UNC stainless steel screws and inserts.
6. The cabinet base, when secured to the concrete slab with controller cabinet attached, must withstand a minimum wind load of 125 mph or a 850 lb force applied at 49" above the bottom of the base without causing the base or cabinet to come out of their anchored position or cause any permanent deformation. The manufacturer must supply certification by an independent testing laboratory or sealed by a Texas Licensed Professional Engineer. Provide the cabinet base with hardware for attachment to a concrete slab.
7. The traffic signal base must be permanently marked either by impress or by permanent ink with the manufacturer's model number and name or logo.
8. Seal the base to the concrete with a silicone caulk bead and fastened to the slab per manufacturer's instructions.

CONCRETE SLAB:

9. Traffic signal controller pad must be a portland cement concrete slab poured in place, must conform to the dimensions shown, and must be level.
10. Grade earthwork such that it is flush with the concrete pad on all four sides, unless otherwise shown on the plans. Subsidiary to ITEM 680, four inch rip rap may be used in lieu of earthwork. Slopes shall gradually contour to match plans.
11. Bond a #8 AWG copper ground wire and an 8 ft ground rod bonded to the reinforcing mesh by a suitable UL Listed clamp and terminated to the cabinet grounding bus for the purpose of providing a local ground for the electrical grounding conductor. The electrical grounding conductor specified in Item 680-3.A.4 is required and must be terminated to the cabinet ground bus.
12. Install a PVC sleeve to prevent the ground rod from direct embedment in the slab.
13. Provide welded wire mesh 6X6-W2.9 X W2.9 for reinforcement. Provide joints and splices in the mesh with a minimum 6-inch overlap. Center the mesh between top and bottom and provide a minimum 3 inch cover on the edges.
14. Provide Class B concrete minimum for the slab in accordance with Item 421. Construct the slab in accordance with Item 531.

CONDUITS:

15. Stub up and run 3-inch conduits through the slab to the various traffic signal poles and ground boxes as shown on the layouts. Install the number of conduits as shown on layouts plus two additional 3 inch conduits for future use. Terminate the conduits with a bushing between 2 and 4-inches above the slab.
16. Extend conduits for future use at least 18-inches from the edge of the slab, terminate underground with a coupling, and cap and seal so that the seal can be removed without damaging the coupling. This must also apply to unused telephone conduit.
17. Stub up two separate conduits through the slab from the electrical and telephone services. Run the conduit for the electrical feed directly to the electrical service enclosure. Run the conduit for the telephone line directly to the telephone service, usually located on the same pole as the electrical service. Telephone must not under any circumstance share a conduit with any other function.
18. Terminate electric and telephone conduits above the slab with a coupling. After the base is installed, extend the conduits above the top of the base and secure to the base using a steel one-hole strap or similar suitable substitute.

CONTROLLER CABINET:

19. Anchor the controller cabinet to the base using four stainless steel 1/2-13 NC bolts.
20. The silicone caulk bead specified in Item 680.3.B must be RTV 133.

PAYMENT:

21. Bid TS-CF as subsidiary to Item 680.

Texas Department of Transportation

Traffic Safety Division Standard

TRAFFIC SIGNAL CONTROLLER CABINET BASE AND PAD

TS-CF-21

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12-04	DIST	COUNTY		SHEET NO.
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I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

1. ☒ It is not anticipated that any erosion, sedimentation, or environmental control devices will be needed on this project. The Contractor must still implement appropriate practices to prevent pollution from construction activities from reaching waters of the state. If it becomes necessary to implement control devices, payment for that work must be in accordance with Item 506 Article 4.4, "Change in the Work".

2. ☐ The project will disturb less than 1 acre of soil and has EPICs that require the implementation of erosion, sedimentation, or environmental control devices. The SWP3 summary sheet and associated plan information has been developed and included in the plans. Additional documentation must be maintained during construction in accordance with Department policy.

3. ☐ The project will disturb 1 acres or more of soil therefore requires the implementation of erosion, sedimentation, or environmental control devices. The SWP3 summary sheet and associated plan information has been developed and included in the plans. Additional documentation must be maintained during construction in accordance with Department policy and Texas Commission on Environmental Quality Construction General Permit (TXR150000) requirements.

II. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

1. ☒ No Permit Required

2. ☐ USACE Permit required for filling, dredging, excavating or other work in any water bodies, rivers, creeks, streams, wetlands or wet areas. The Contractor must adhere to all of the terms and conditions associated with the following permit(s):

   - ☐ Nationwide Permit 14 - PCN not Required (less than 1/10th acre waters or wetlands affected)
   - ☐ Nationwide Permit 14 - PCN Required (1/10 to <1/2 acre, 1/3 in tidal waters)
   - ☐ Other Nationwide Permit Required: NWP#
   - ☐ Individual Standard Permit Required

The SWP3 describes the BMPs planned to control erosion, sedimentation and post-project TSS.

The following lists the impacted water, its stationing, planned disturbed acreage, and additional notes:

1.
2.
3.
4.
5.
6.
7.
8.
9.

III. CULTURAL RESOURCES

Refer to TxDOT Standard Specifications in the event historical issues or archeological artifacts are found during construction. Upon discovery of archeological artifacts (bones, burnt rock, flint, pottery, etc.) cease work in the immediate area and contact the Engineer immediately.

☐ Additional Required Actions:

1.
2.
3.
4.

IV. VEGETATION RESOURCES

The Contractor must preserve native vegetation to the extent practical. Follow vegetative buffers defined in the SWP3 for work adjacent to water bodies. Contractor must adhere to Construction Specification Requirements Specs 162, 164, 192, 193, 506, 730, 751, 752 in order to comply with requirements for invasive species, beneficial landscaping, and tree/brush removal commitments.

☒ Additional Required Actions:

1. Preserve vegetation where possible throughout the project and minimize clearing, grubbing and excavation within stream banks, bed and approach sections.
2.
3.

V. PROTECTED SPECIES AND MIGRATORY BIRDS

The work must not remove active nests from bridges and other structures during nesting season of the birds associated with the nests. If caves or sinkholes are discovered, cease work in the immediate area, and contact the Engineer immediately. Do not disturb or handle bats found under bridges and other structures. Do not harm or kill wildlife that enters the project area, including rattlesnakes. Implement measures to avoid infesting water bodies with zebra mussels, including inspecting equipment prior to placing in water and clean, drain, dry practices.

If any listed species are observed, cease work in the immediate area, do not disturb the species or habitat, and contact the Engineer immediately.

☒ Additional Required Actions:

1. There is the potential for the presence of state-listed species & species of concern in the project area and state law prohibits the taking (incidental or otherwise) of state-listed species. Taing is deined as the collection, hooking, hunting, netting, shooting, or share by any means or devices. If any listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately.
2. Contractors are advised of potential occurence of the following species within the project area and to avoid harming if encountered: Indigo Snake (Drymarchon melanurus erebennus), Texas Horned Lizard (Phrynosoma cornutum), Texas Tortoise (Gopherus berlandieri)
3. See EPIC sheet supplemental for TPWD BMP's.
4.

DATE:
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LIST OF ABBREVIATIONS

BMP: Best Management Practice
CGP: Construction General Permit
DSHS: Texas Department of State Health Services
FHWA: Federal Highway Administration
MBTA: Migratory Bird Treaty Act
MOA: Memorandum of Agreement
MOU: Memorandum of Understanding
MS4: Municipal Separate Stormwater Sewer System
NOI: Notice of Intent
NOT: Notice of Termination
NWP: Nationwide Permit
OHWM: Ordinary High Water Mark
OSHA: Occupational Safety and Health Administration
PCN: Pre-Construction Notification
PSL: Project Specific Location
SDS: Safety Data Sheet
SPCC: Spill Prevention Control and Countermeasure
SW3P: Stormwater Pollution Prevention Plan
TCEQ: Texas Commission on Environmental Quality
TPDES: Texas Pollutant Discharge Elimination System
TPWD: Texas Parks and Wildlife Department
TxDOT: Texas Department of Transportation
TSS: Total Suspended Solids
USACE: U.S. Army Corps of Engineers
USFWS: U.S. Fish and Wildlife Service

Texas Department of Transportation

Design Division Standard

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

EPIC

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	DIST	COUNTY		SHEET NO.	
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VI. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

For all projects the Contractor will comply with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace. Ensure that all workers are provided with personal protective equipment appropriate for any hazardous materials used.

Obtain and keep on-site Safety Data Sheets (SDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: paints, acids, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives. Provide protected storage, off bareground and covered, for products which may be hazardous. Maintain product labelling as required by the Act. Pollutant housekeeping is also required in accordance with items listed in Section I of this EPIC sheet.

Maintain an adequate supply of on-site spill response materials, as indicated in the SDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the District Spill Coordinator immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Responsibility for Hazardous Materials: Except in cases where the generation of hazardous materials are introduced by the Contractor on any work done by the Contractor on State-owned or controlled sites, the Contractor is not the generator of hazardous materials indentified in the ROW as shown in the plans or as discovered during construction.

Contact the Engineer if any of the following are detected:

* Dead or distressed vegetation (not identified as normal)
* Trash piles, drums, canister, barrels, etc.
* Undesirable smells or odors
* Evidence of leaching or seepage of substances

The following list identifies non-asbestos/lead contamination or waste issues (location, contamination/waste type, if a soil and groundwater management plan applies, and any additional notes)

1. If potentially hazardous material and/or contaminated media (i.e., soil, groundwater, surface water, sediment, building materials) are unexpectedly encountered during construction, assure that such materials and contaminaiton are handled according to applicable federal and state regulations, cease work in the immediate area and contact the Engineer immediately.
2.
3.

Demolition Activities - Does the project involve the demolition of any bridge class structure (not including buried culverts) for the purpose of replacement or permanent removal?

1. ☒ No - no further action required for demolition activities
2. ☐ Yes - the Contractor must provide the dates for demolition to the Engineer at least 30 days in advance, to allow the Department sufficient time to prepare and submit the pre-demolition notification to the DSHS at least 10 working days prior to the scheduled demolition.

Asbestos Concerns:

1. ☒ The project does not involve any bridge rehabilitation or replacements. No further action required for bridge asbestos concerns.
2. ☐ The project involves bridge rehabilitation or replacements. The asbestos inspection results are negative. No abatement action is required.
3. ☐ The project involves bridge rehabilitation or replacements. The asbestos inspection results are positive and asbestos abatement is required.
   The asbestos is located at the following (structure ID and station):

   Location 1.

   Location 2.

   Location 3.

   For positive asbestos results, the following action will apply:

   ☐ The Department has retained a DSHS licensed asbestos abatement contractor under a separate contract to perform the abatement, provide DSHS abatement notification, and perform asbestos management activities. This work must occur prior to the Contractor commencing any work that might disturb asbestos.

   ☐ The Department has included the work to perform the abatement, provide DSHS abatement notification, and perform asbestos management activities in this contract under Item 6.10 and related Special Provision and Special Specification. The Contractor must perform abatement work prior to commencing any work that might disturb asbestos.

Lead Paint Concerns - The project involves demolition or repair work that could require cutting, torch cutting, welding, or abrasive blasting of painted steel.

1. ☒ No - no further action required for lead paint concerns
2. ☐ Yes - the lead paint inspection results are negative. No action required for lead paint concerns.
3. ☐ Yes - the lead paint inspection results are positive. Lead is at the following locations and concentrations:

   Location (location/structure ID) Concentration (ppm)

   Location 1.

   Location 2.

   Location 3.

   For positive lead results, the following action will apply:

   ☐ The work is under Item 446 (Field Cleaning & Painting Steel), management of hazardous materials is addressed in the specification and additional mitigation is not required.

   ☐ The lead concentration of the coating is known to be less than 90 ppm (Consumer Product Safety Commission threshold for paint to be designated as lead-containing), additional mitigation is not required.

   ☐ Mitigation for lead hazards is required in accordance with OSHA. The Contractor must provide mitigation as part of this contract. Mitigation may include stripping back of paint from steel at cut points or other areas where paint will be disturbed. The Contractor may select other OSHA-compliant controls or work practices instead of paint stripping to mitigate lead hazards. Manage painted steel in accordance with Standard Specification Item 6.10, Painted Steel Requirements.

   ☐ Mitigation for lead hazards is required in accordance with OSHA. The Department will provide lead paint removal. The Contractor must notify the Engineer of locations where paint-disturbing activities will occur at least 90 days prior to the work, to allow sufficient time for the Department to remove the paint. Manage painted steel in accordance with Standard Specification Item 6.10, Painted Steel Requirements.

VII. OTHER ENVIRONMENTAL ISSUES

(includes program areas such as Air, Noise, Edwards Aquifer Protection Program, etc.)

☒ Additional Required Actions:

1. Noise - Contractor shall make every reasonable effort to minimize construction noise through abatement measures such as work hour controls and property maintenance of equipment mufflers.
2. Air - Contractor shall practice common dust control techniques such as surface chemical treatment or waterinng of unpaved road surfaces and vehicle speed reduction shall be implemented to minimize and prevent airborne dust during construction.
3. Air - Contractor should minimize MSAT by using measures to encourage use of EPA required cleaner diesel fuels, limits on idling, increase use of cleaner burning diesel engines, and other emission limitation techniques, as appropriate.

LIST OF ABBREVIATIONS

BMP: Best Management Practice
CGP: Construction General Permit
DSHS: Texas Department of State Health Services
FHWA: Federal Highway Administration
MBTA: Migratory Bird Treaty Act
MOA: Memorandum of Agreement
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SW3P: Stormwater Pollution Prevention Plan
TCEQ: Texas Commission on Environmental Quality
TPDES: Texas Pollutant Discharge Elimination System
TPWD: Texas Parks and Wildlife Department
TxDOT: Texas Department of Transportation
TSS: Total Suspended Solids
USACE: U.S. Army Corps of Engineers
USFWS: U.S. Fish and Wildlife Service

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Texas Department of Transportation — Design Division Standard

ENVIRONMENTAL PERMITS, ISSUES AND COMMITMENTS

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	CONT	SECT	JOB		HIGHWAY
REVISIONS	0921	06	400		Various
	DIST	COUNTY			SHEET NO.
	PHR	Cameron			281

DATE:
FILE:

TPWD BMPs

Under Section 12.0011 of the Texas Parks and Wildlife Code, Texas Parks and Wildlife Department (TPWD) is charged with "providing recommendations that will protect fish and wildlife resources to local, state, and federal agencies that approve, permit, license, or construct developmental projects" and "providing information on fish and wildlife resources to any local, state, and federal agencies or private organizations that make decisions affecting those resources."

The purpose of this section is to provide beneficial management practices (BMP) that should be implemented during construction, and maintenance activities statewide for transportation projects with the goal of avoidance and minimization of impacts to natural resources. Statewide Standard BMP pertain to all fish and wildlife species, including state-listed species and other Species of Greatest Conservation Need (SGCN). Implementing the recommendations as outlined below will improve conservation of species and their habitat.

☐ **General Design/Construction BMPs**

- ☐ *Prior to start of construction, information will be provided to personnel of the potential for all state-listed threatened species or other SGCN to occur within the project area and should be advised of relevant rules and regulations to protect plants, fish, and wildlife.*
- ☒ *Contractor should avoid harming all wildlife species if encountered and allow them to safely leave the project site. Due diligence should be used to avoid killing or harming any wildlife species in the implementation of transportation projects.*
- ☐ *Contractors should install wildlife exclusion fencing and should examine the inside of the exclusion area daily to determine if any wildlife species have been trapped inside the area of impact and provide safe egress opportunities prior to initiation of construction activities.*
- ☐ *Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas.*
- ☐ *Contractor should use woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.*
- ☐ *Project staging areas, stockpiles, temporary construction easements, and other project related sites should be situated in previously disturbed areas to avoid or minimize impacts to sensitive or unique habitats including intact native vegetation, floodplains, riparian corridors, wetlands, playa lakes, and habitat for wildlife species.*
- ☐ *When lighting is added, consider wildlife impacts from light pollution and incorporating dark-sky practices into design strategies. Minimize sky glow by focusing light downward, with full cutoff luminaries to avoid light emitting above the horizontal. The minimum amount of night-time lighting needed for safety and security should be used.*

☐ **Vegetation BMPs**

- ☒ *Minimize the amount of vegetation cleared. Removal of native vegetation, particularly mature native trees and shrubs should be avoided. Impacted vegetation should be replaced with in-kind on- site replacement/restoration of native vegetation.*
- ☐ *It is strongly recommended that trees greater than 12 inches in diameter at breast height (DBH) that are removed be replaced. TPWD's experience indicates that for ecologically effective replacement, a ratio of three trees for every one (3:1) lost should be provided to either on-site or off-site. Trees less than 12 inches DBH should be replaced at a 1:1 ratio.*
- ☐ *The use of any non-native vegetation in landscaping and revegetation is discouraged. Locally adapted native species should be used.*
- ☐ *The use of seed mix that contains seeds from only regional ecotype native species is recommended*

☐ **Invasive Species BMPs**

- ☐ *For all work in water bodies designated as "infested" or "positive" for invasive zebra (Dreissena polymorpha) OR quagga mussels (Dreissena bugensis) as well as waters downstream of these lakes, all machinery, equipment, vessels, or vehicles coming in contact with such waters should be cleaned prior to leaving the site to remove any mud, plants, organisms, or debris, water drained (if applicable), and dried completely before use in another water body to prevent the potential spread of invasive mussels.*
- ☐ *Care should be taken to prevent the spread of aquatic and terrestrial invasive plants during construction activities.*
- ☐ *Care should be taken to avoid the spread of aquatic invasive plants such as giant Salvinia (Salvinia molesta), common salvinia (Salvinia minima), hydrilla (Hydrilla verticillata), water hyacinth (Eichhornia spp.), Eurasian watermilfoil (Myriophyllum spicatum), water lettuce (Pistia stratiotes), and alligatorweed (Alternanthera philoxeroides) from infested water bodies into areas not currently infested. All machinery, equipment, vessels, boat trailers, or vehicles coming in contact with waters containing aquatic invasive plant species should be cleaned prior to leaving the site to remove all aquatic plant material and dried completely before use on another water body to prevent the potential spread of invasive plants. Removed plants should be transported for disposal in a secure manner to prevent dispersal.*
- ☐ *Only native or non-invasive plants should be planted. Care should be taken to avoid mowing invasive giant reed (Arundo donax), which spreads by fragmentation, and to clean equipment if inadvertently mowed to prevent spread. If using hay bales for sediment control, use locally grown weed-free hay to prevent the spread of invasive species. Leave the hay bales in place and allow them to break down, as this acts as mulch assisting in revegetation.*

☐ **Stream Crossings BMPs**

- ☐ *Riparian buffer zones should remain undisturbed.*

☐ **Dewatering BMPs**

- ☐ *Impact avoidance measures for aquatic organisms, including all native fish and freshwater mussel species, regardless of state-listing status, should be considered during project planning and construction activities.*

☐ **Wildlife Crossing BMPs**

- ☐ *Incorporate wildlife crossings with fencing, particularly in areas that bisect wildlife travel corridors or seasonal movement routes to avoid further habitat fragmentation and minimize wildlife-vehicle interactions.*

☐ **Rare Plant BMPs**

- ☐ *Avoid impacts and minimize unavoidable impacts. Plant locations should be protected with temporary barrier fencing and contractors should be instructed to avoid protected areas. Conducting construction outside of the growing season or after a plant has produced mature fruit is the preferred way to avoid/minimize impacts to SGCN plant populations. Staging areas, stockpiles, and other project related sites on TxDOT ROW should not impact SGCN plant populations. After construction begins, minimize herbicide use near SGCN plant populations (if possible, use hand-held spot sprayers, several meters from rare plants, on still or days with little wind).*

☐ **Rare Plants BMPs (Continued)**

- ☐ *If there are unintended impacts to SGCN populations, these impacts should be reported to TPWD Transportation Staff.*
- ☐ *During project period, conduct work during times of the year when plants are dormant and/or conditions minimize disturbance of the habitat.*

☐ **Bird BMPs**

- ☐ *Avoid vegetation clearing activities during the general bird nesting season, February 15th to October 1st to minimize adverse impacts to birds.*
- ☒ *Do not collect, capture, relocate, or transport birds, eggs, young, or active nests without a permit.*
- ☐ *Minimize extended human presence near nesting birds during construction and maintenance activities. Protect sensitive habitat areas with temporary barriers or fencing to limit human foot- traffic and off-road vehicle use to alert and discourage contractors from causing any unintentional impacts.*
- ☐ *Minimize construction noise above ambient levels during general bird nesting season to minimize adverse impacts on birds.*
- ☐ *Minimize construction lighting during the general bird nesting season by scheduling work activities between dawn and dusk.*

☐ **Rookeries BMPs**

- ☐ *In general, nesting dates for herons and egrets range from early February to late August in Texas, depending on the species. Great blue herons (GBHE) (Ardea herodis) are usually the first to nest. When GBHE get disrupted from the nest and abandon nesting, then the other species of herons and egrets may not attempt to nest at the colony that year.*
- ☐ *If rookeries are encountered, avoid and minimize disturbance during nesting to protect rookery species and their habitat.*
- ☐ *Vegetation clearing in a primary buffer area of 300 meters (984 feet) from a rookery or heronry periphery should be avoided. Utilizing areas that have already been cleared within this buffer area may be acceptable depending on site-specific characteristics. Additionally, human foot-traffic or machinery use should not occur within this buffer area during the nesting season.*
- ☐ *Clearing activities or construction using heavy machinery in a secondary buffer area of 1000 meters (3281 feet) from the heronry periphery should be avoided during the breeding season (courting and nesting).*

Pharr District Contact No. 956-702-6100

Revised 09/18/2024

List of Abbreviations

BMP: Best Management Practice	*MSAT: Mobile Source Air Toxic*	*TCEQ: Texas Commission on Environmental Quality*
CGP: Construction General Permit	*MBTA: Migratory Bird Treaty Act*	*THC: Texas Historical Commission*
CRPe: Contractor Responsible Person Environmental	*NOI: Notice of Intent*	*TPDES:Texas Pollutant Discharge Elimination System*
DSHS: Texas Department of State Health Services	*NOT: Notice of Termination*	*TPWD: Texas Parks and Wildlife Department*
FEMA: Federal Emergency Management Agency	*NWP: Nationwide Permit*	*TxDOT:Texas Department of Transportation*
FHWA: Federal Highway Administration	*PCN: Pre-Construction Notification*	*T&E: Threatened and Endangered Species*
MOA: Memorandum of Agreement	*PSL: Project Specific Location*	*USACE:U.S. Army Corp of Engineers*
MOU: Memorandum of Understanding	*SPCC: Spill Prevention Control and Countermeasure*	*USFWS:U.S. Fish and Wildlife Service*
MS4: Municipal Separate Stormwater Sewer System	*SWP3: Storm Water Pollution Prevention Plan*	

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PHARR DISTRICT

EPIC SHEET SUPPLEMENTALS

TPWD BMPs

SHEET 1 OF 3

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
6			Various
STATE	DISTRICT	COUNTY	
TEXAS	PHR	Cameron	SHEET NO.
CONTROL	SECTION	JOB	
0921	06	400	282

DATE: $DATE$ $TIME$
FILE: $FILE$

☐ **Fish BMPs**

- ☐ *The following Fish BMP apply to projects for all fish species in waters of the state to minimize impacts to water quality and aquatic passage from transportation projects.*
- ☐ *For projects in waters of the state and work is adjacent to water: follow Water Quality and Stream Crossing BMPs.*
- ☐ *For projects in waters of the state and work is in the water: follow Water Quality, Stream Crossing, and Dewatering BMP.*

☐ **Aquatic Invertebrate BMPs**

- ☐ *For projects within the range of a SGCN or state-listed species and work is adjacent to water: Water Quality and Stream Crossing BMP*
- ☐ *For projects within the range of a SGCN or state-listed species and work is in the water: Water Quality, Stream Crossing, and Dewatering BMP.*
- ☐ *For spring-seep associated caddisflies (Cheumatopsyche morsei, Chimarra holzenthali, and Hydroptila ouachita): Avoid or minimize impacts to the natural riparian buffer along stream channel including native shrubs and trees.*

☐ **Crayfish BMP**

- ☐ *For projects within the range of a SGCN or state-listed species and work is adjacent to water: Water Quality and Stream Crossing BMP.*
- ☐ *For projects within the range of a SGCN or state-listed species and work is in the water: Water Quality, Stream Crossing, and Dewatering BMP.*
- ☐ *Avoid or minimize impacts to the natural riparian buffer that provides terrestrial and aquatic plant matter for the diet of most crayfish species.*

☐ **Freshwater Mussel BMP**

- ☐ *In addition to Water Quality and Stream Crossing BMP, follow the most recent, TPWD TxDOT Annual Work Plan for Pre-Construction Surveys, Aquatic Resources Relocations, and Other Best Management Practices to Avoid, Minimize, and Mitigate Impacts to Freshwater Resources.*
- ☐ *When work is adjacent to the water: Water Quality BMP implemented as part of the Texas Commission on Environmental Quality (TCEQ) Stormwater Pollution Prevention Plan (SWPPP) for a construction general permit or any conditions of the 401 Water Quality Certification for the project will be implemented.*

☐ **Insect Pollinator BMP**

- ☐ *Deep soil disturbances, such as, tilling or deep disking in areas that host aggregations of ground- nesting bees should be avoided. Tilling and disking also may promote the invasion or germination of non-native plants. Different species of native ground-nesting bees prefer different soil conditions, although research suggests that many ground nesting bees prefer sandy, loamy sand or sandy loam soils. In areas with these soil types consider leaving open patches of soil.*
- ☐ *Allow dead trees to stand (so long as they do not pose a risk to property or people) and protect shrubs and herbaceous plants with pithy or hollow stems (e.g., cane fruits, sumac, elderberry), as these provide nesting habitat for tunnel-nesting native bees.*
- ☐ *Retain dead or dying branches whenever it is safe and practical at the edges of the ROW. Wood- boring beetle larvae often fill dead trees and branches with narrow tunnels into which tunnel- nesting bees will establish nests. Additionally, bumble bees may choose to nest in wood piles.*
- ☐ *Retain rotting logs at edges of the ROW where some bee species may burrow tunnels in which to nest.*

☐ **Insect Pollinator BMP (Continued)**

- ☐ *Protect sloped or well-drained ground sites where plants are sparse and direct access to soil is available. These are the areas where ground-nesting bees may dig nests. Turning the soil destroys all ground nests that are present at that depth and hinders the emergence of bees that are nesting deeper in the ground.*
- ☐ *Protect grassy thickets, or other areas of dense, low cover from mowing or other disturbance. These are the sites where bumble bees might find the nest cavities they need, as well as annual and perennial wildflowers that can provide important food resources.*
- ☐ *Where available and economical, native plants and seed should be procured from local eco-type providers. Seed mixes should be diverse and include as many ecoregion natives as possible ensuring full season floral resources. Species by Texas ecoregion can be found in the Texas Management Recommendations for Native Insect Pollinators in Texas document: https://tpwd.texas.gov/publications/pwdpubs/media/pwd_bk_w7000_1813.pdf*
- ☐ *Planting at least three different native flowering plants within each of three blooming periods are recommended (spring, summer, early fall) in high rainfall regions of Texas. In drier regions of the state, a target of three native flowering plants within each of two blooming periods can be used.*

☐ **Small Mammal BMP**

For Coues' rice rat (Oryzomys couesi aquaticus):

- ☐ *Minimize impacts to wetland, resaca, oxbow Conversion of property containing cave or cliff features to transportation purposes should be avoided.lake, and marsh habitats Water Quality BMP*
- ☐

☐ **Fossorial Mammal BMP**

- ☐ *When a construction zone is adjacent to active BTPD burrows or pocket gopher mounds, erect barriers to discourage individuals moving through or into the construction area.*
- ☐ *When seeding or revegetation is planned in an area adjacent to BTPD burrows or pocket gopher mounds, a vegetative barrier should be considered in the planting to discourage dispersal into the ROW.*

☐ **Bat BMP**

- ☐ *For activities that have the potential to impact structures, cliffs or caves, or trees; a qualified biologist will perform a habitat assessment and occupancy survey of the feature(s) with roost potential as early in the planning process as possible or within one year before project letting.*
- ☐ *For roosts where occupancy is strongly suspected but unconfirmed during the initial survey, revisit feature(s) at most four weeks prior to scheduled disturbance to confirm absence of bats.*
- ☐ *If bats are present or recent signs of occupation (i.e., piles of guano, distinct musky odor, or staining and rub marks at potential entry points) are observed, take appropriate measures to ensure that bats are not harmed, such as implementing non-lethal exclusion activities or timing or phasing of construction.*
- ☐ *Exclusion devices can be installed by a qualified individual between September 1 and March 31. Exclusion devices should be used for a minimum of seven days when minimum nighttime temperatures are Prior to exclusion, ensure that alternate roosting habitat is available in the immediate area. If no suitable roosting habitat is available, F loss of an occupied roost. If alternate roost sites are not provided, bats may seek shelter in other inappropriate sites, such as buildings, in the surrounding area.*

☐ **Bat BMP (Continued)**

- ☐ *If feature(s) used by bats are removed as a result of construction, replacement structures should incorporate bat-friendly design or artificial roosts should be constructed to replace these features.*
- ☐ *Avoid unnecessary removal of dead fronds on native and ornamental palm trees in south Texas (Cameron, Hidalgo, Willacy, Kenedy, Brooks, Kleberg, Nueces, and San Patricio counties) from April 1 through October 31. If removal of dead fronds is necessary at other times of the year, limit frond removal to extended warms periods (nighttime temperatures so bats can move away from the disturbance and find new roosts.*
- ☐ *Large hollow trees, snags (dead standing trees), and trees with shaggy bark should be surveyed for colonies and, if found, should not be disturbed until the bats are no longer occupying these features. Post-occupancy surveys should be conducted by a qualified biologist prior to tree removal from the landscape.*
- ☐ *Retain mature, large diameter hardwood forest species and native/ornamental palm trees.*
- ☐ *In all instances, avoid harm or death to bats. Bats should only be handled as a last resort and after communication with TPWD.*

☐ **Aquatic Amphibian and Reptile BMP**

For projects within existing right-of-way (ROW) when work is in water or will permanently impact a water feature and potential habitat exists for the target species complete the following:

- ☐ *Minimize impacts to wetlands, temporary and permanent open water features, including depressions, and riverine habitats.*
- ☐ *Maintain the existing hydrologic regime and any connections between wetlands and other aquatic features.*
- ☐ *Use barrier fencing to direct animal movements away from construction activities and areas of potential wildlife-vehicle collisions in construction areas directly adjacent, or that may directly impact, potential habitat for the target species.*
- ☐ *Apply hydromulching and/or hydroseeding in areas for soil stabilization and/or revegetation of disturbed areas around wetlands and in riparian areas. If erosion control blankets or mats will be used, the product should not contain netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.*
- ☐ *Project specific locations (PSLs) proposed within state-owned ROW should be located in uplands away from aquatic features.*
- ☐ *When work is directly adjacent to the water, minimize impacts to shoreline basking sites (e.g., downed trees, sand bars, exposed bedrock) and refugia/overwinter sites (e.g., brush and debris piles, crayfish burrows, aquatic logjams, and leaf packs).*

Pharr District Contact No. 956-702-6100

Revised 09/18/2024

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PHARR DISTRICT

EPIC SHEET SUPPLEMENTALS

TPWD BMPs

SHEET 2 OF 3

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
6			Various
STATE	DISTRICT	COUNTY	
TEXAS	PHR	Cameron	SHEET NO.
CONTROL	SECTION	JOB	
0921	06	400	283

DATE: $DATE$ $TIME$
FILE: $FILE$

☐ ***Aquatic Amphibian and Reptile BMP (Continued)***

☐ *If gutters and curbs are part of the roadway design, install gutters that do not include the side box inlet and include sloped (i.e., mountable) curbs to allow small animals to leave roadway. If this modification to the entire curb system is not possible, install sections of sloped curb on either side of the storm water drain for several feet to allow small animals to leave the roadway. Priority areas for these design recommendations are those with nearby wetlands or other aquatic features.*

For projects that require acquisition of additional ROW and work within that new ROW is in water or will permanently impact a water feature, implement BMP for projects within existing ROW above plus those below:

☐ *For sections of roadway adjacent to wetlands or other aquatic features, install wildlife barriers that prevent climbing. Barriers should terminate at culvert openings in order to funnel animals under the road. The barriers should be of the same length as the adjacent feature or 80 feet long in each direction, or whichever is the lesser of the two.*

☐ *For culvert extensions and culvert replacement/installation, incorporate measures to funnel animals toward culverts such as concrete wingwalls and barrier walls with overhangs.*

☐ *When riprap or other bank stabilization devices are necessary, their placement should not impede the movement of terrestrial or aquatic wildlife through the water feature. Biotechnical streambank stabilization methods using live native vegetation, or a combination of vegetative and structural materials should be used.*

☒ ***Terrestrial Amphibian and Reptile BMP***

☐ *For open trenches and excavated pits, install escape ramps at an angle of less than 45 degrees (1:1) in areas left uncovered. Visually inspect excavation areas for trapped wildlife prior to backfilling*

☒ *Avoid or minimize disturbing or removing cover objects, such as downed trees, rotting stumps, brush piles, and leaf litter. If avoidance or minimization is not practicable, consider removing cover objects prior to the start of the project and replace them at project completion.*

☒ *Examine heavy equipment stored on site before use, particularly after rain events when reptile and amphibian movements occur more often, to ensure use will not harm individuals that might be seeking temporary refuge.*

☐ *Due to increased activity (mating) of reptiles and amphibian during the spring, construction activities like clearing or grading should attempt to be scheduled outside of the spring (March-May) season. Also, timing ground disturbing activities before October when reptiles and amphibians become less active and may be using burrows in the project area is also encouraged.*

☐ *If Texas tortoises (Gopherus berlandieri) or box turtles (Terrepene spp.) are present in a project area, they should be removed from the area and relocated between 100 and 200 meters from the project area. After removal of the individuals, the area that will be disturbed during active construction and project specific locations should be fenced off to exclude reentry by turtles, tortoises, and other reptiles. The exclusion fence should be constructed and maintained as follows:*

- *The exclusion fence should be constructed with metal flashing or drift fence material.*
- *Rolled erosion control mesh material should not be used.*
- *The exclusion fence should be buried at least 6 inches deep and be at least 24 inches high.*
- *The exclusion fence should be maintained for the life of the project and only removed after the construction is completed and the disturbed site has been revegetated.*

☐ ***Terrestrial Amphibian and Reptile BMP (Continued)***

☐ *After project is complete, revegetate disturbed areas with an appropriate locally sourced native seed mix. If erosion control blankets or mats will be used, the product should not contain nylon netting, but should only contain loosely woven natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion of the mesh openings. Plastic netting should be avoided.*

☐ ***Black-spotted newt/Mexican Burrowing toad/ Mexican treefrog/ Strecker's chorus frog/White-lipped frog/Woodhouse's toad***

- ☐ *Aquatic Amphibian and Reptile BMP*
- ☐ *Terrestrial Amphibian and Reptile BMP*
- ☐ *Water Quality BMP*
- ☐ *Vegetation BMP*

☐ ***Sheep Frog***

- ☐ *Minimize disturbance to burrows or downed woody debris*
- ☐ *Aquatic Amphibian and Reptile BMP*
- ☐ *Terrestrial Amphibian and Reptile BMP*
- ☐ *Water Quality BMP*
- ☐ *Vegetation BMP*

☐ ***South Texas Siren (Large Form)***

- ☐ *Minimize impacts to warm, shallow waters with vegetative cover such as ponds and ditches*
- ☐ *Aquatic Amphibian and Reptile BMP*
- ☐ *Water Quality BMP*

☒ ***Black-striped snake/ Eastern box turtle/Northern cat-eyed snake/Plateau spot-tailed earless lizard/ Reticulate collared lizard/ Slender glass lizard/ Speckler racer/Tamaulipan spot-tailed earless lizard/ Texas Indigo snake/ Western box turtle/Western hognose snake/Western massasauga***

- ☒ *Terrestrial Amphibian and Reptile BMP*
- ☐ *Vegetation BMP*

☐ ***Rio Grande River Cooter***

- ☐ *Aquatic Amphibian and Reptile BMP*
- ☐ *Water Quality BMP*

☒ ***Texas Horned Lizard***

- ☐ *Avoid harvester ant mounds in the selection of Project Specific Locations (PSLs).*
- *Terrestrial Amphibian and Reptile BMP*
- ☒ *Vegetation BMP*
- ☒

☒ ***Texas Tortoise***

- ☐ *Utility trenches should be covered overnight or visually inspected before filling to avoid burial of the species*
- ☒ *Terrestrial Amphibian and Reptile BMP*
- ☒ *Vegetation BMP*

OTHER PERTINENT INFORMATION

☐ ***Trifold Available***

- ☐ *Ocelot information*
- ☐ *Pelican information*
- ☐ *Ashy dogweed*

☐ ***Stockcards Available***

- ☐ *Mitigatory Bird Treaty Act*
- ☐ *Texas Tortoise*
- ☐ *Harvester Ants and Horn Lizards*

Pharr District Contact No. 956-702-6100

Revised 09/18/2024

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PHARR DISTRICT

EPIC SHEET SUPPLEMENTALS

TPWD BMPs

SHEET 3 OF 3

FED.RD. DIV.NO.	PROJECT NO.		HIGHWAY NO.
6			Various
STATE	DISTRICT	COUNTY	
TEXAS	PHR	Cameron	SHEET NO.
CONTROL	SECTION	JOB	
0921	06	400	284

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

This SWP3 has been developed in accordance with TxDOT policy for projects disturbing less than 1 acre of soil, and not part of a larger common plan of development.

For projects with less than one acre of soil disturbing activity and that have Environmental, Permits, Issues, and Commitments (EPICs) dependent on stormwater controls and water quality measures TxDOT will maintain a SWP3 with all pertinent records, correspondence, environmental documents, etc. at the project field office, Area Office, or electronically.

This SWP3 is consistent with requirements specified in applicable stormwater plans, and the project's environmental permits, issues, and commitments (EPICs).

1.0 SITE/PROJECT DESCRIPTION

1.1 PROJECT CONTROL SECTION JOB (CSJ):
0921-06-400

1.2 PROJECT LIMITS:
From: VARIES

To: VARIES

1.3 PROJECT COORDINATES:
BEGIN: (Lat) VARIES ,(Long) VARIES

END: (Lat) VARIES ,(Long) VARIES

1.4 TOTAL PROJECT AREA (Acres): <0.99

1.5 TOTAL AREA TO BE DISTURBED (Acres): 0.00

1.6 NATURE OF CONSTRUCTION ACTIVITY:
ADDING / REPLACING TRAFFIC SIGNAL EQUIPMENT
NO UNDERGROUND WORK IS EXPECTED
EXISTING CONDUIT AND GROUND BOXES TO BE USED

1.7 MAJOR SOIL TYPES:

Soil Type	Description
N/A - NO UNDERGROUND WORK IS EXPECTED	N/A - NO UNDERGROUND WORK IS EXPECTED

1.8 PROJECT SPECIFIC LOCATIONS (PSLs):

PSLs must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. PSLs may be identified during preconstruction meetings or during the construction process. Please choose from the options below:

☐ PSLs determined during preconstruction meeting
☐ PSLs determined during construction
☐ No PSLs planned for construction

Type	Sheet #s

All off-ROW PSLs required by the Contractor are the Contractor's responsibility. The Contractor shall secure all permits required by local, state, federal laws for off-ROW PSLs. The contractor shall provide diagrams, areas of disturbance, acreage, and BMPs for all off-ROW PSLs within one mile of the project.

1.9 CONSTRUCTION ACTIVITIES:

(Use the following list as a starting point when developing the Construction Activity Schedule and Ceasing Record in Attachment 2.3.)

☐ Mobilization
☐ Install sediment and erosion controls
☐ Blade existing topsoil into windrows, prep ROW, clear and grub
☐ Remove existing pavement
☐ Grading operations, excavation, and embankment
☐ Excavate and prepare subgrade for proposed pavement widening
☐ Remove existing culverts, safety end treatments (SETs)
☐ Remove existing metal beam guard fence (MBGF), bridge rail
☐ Install proposed pavement per plans
☐ Install culverts, culvert extensions, SETs
☐ Install mow strip, MBGF, bridge rail
☐ Place flex base
☐ Rework slopes, grade ditches
☐ Blade windrowed material back across slopes
☐ Revegetation of unpaved areas
☐ Achieve site stabilization and remove sediment and erosion control measures
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.10 POTENTIAL POLLUTANTS AND SOURCES:

☐ Sediment laden stormwater from stormwater conveyance over disturbed area
☐ Fuels, oils, and lubricants from construction vehicles, equipment, and storage
☐ Solvents, paints, adhesives, etc. from various construction activities
☐ Transported soils from offsite vehicle tracking
☐ Construction debris and waste from various construction activities
☐ Contaminated water from excavation or dewatering pump-out water
☐ Sanitary waste from onsite restroom facilities
☐ Trash from various construction activities/receptacles
☐ Long-term stockpiles of material and waste
☐ Discharges from concrete washout activities, runoff from concrete cutting activities, and other concrete related activities
☐ Other: _____
☐ Other: _____
☐ Other: _____

1.11 RECEIVING WATERS:

Receiving waters must be depicted on the Environmental Layout Sheets in Attachment 1.2 of this SWP3. Include Segment # for receiving waters.

Tributaries	Classified Waterbody
N/A - NO UNDERGROUND WORK NOR DISTURBED AREA IS EXPECTED	N/A - NO UNDERGROUND WORK NOR DISTURBED AREA IS EXPECTED

* Add (*) for impaired waterbodies with pollutant in ().

1.12 ROLES AND RESPONSIBILITIES: TxDOT

☐ Development of plans and specifications
☐ Perform SWP3 inspections
☐ Maintain SWP3 records and update to reflect daily operations
☒ Other: N/A - NO UNDERGROUND WORK NOR DISTURBED AREA IS EXPECTED
☐ Other: _____

1.13 ROLES AND RESPONSIBILITIES: CONTRACTOR

☒ Day To Day Operational Control
☐ Maintain schedule of major construction activities
☐ Install, maintain and modify BMPs
☒ Other: N/A - NO UNDERGROUND WORK NOR DISTURBED AREA IS EXPECTED
☐ Other: _____

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER

2/25/26

STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

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July 2023 Sheet 1 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			285
STATE	STATE DIST.	COUNTY	
TEXAS	PHR	CAMERON	
CONT.	SECT.	JOB	HIGHWAY NO.
0921	06	400	VARIES

STORMWATER POLLUTION PRVENTION PLAN (SWP3):

2.0 BEST MANAGEMENT PRACTICES (BMPs) AND CONTROLS, INSPECTION, AND MAINTENANCE

The Contractor shall be the responsible party for implementing the BMPs described herein and for complying with the SWP3 for control of erosion and sedimentation during day-to-day operations. The Contractor shall implement changes to this SWP3 approved by TxDOT within the times specified in this SWP3 or the CGP.

2.1 EROSION CONTROL AND SOIL STABILIZATION BMPs:

T / P

- ☐ ☐ Protection of Existing Vegetation
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Soil Retention Blankets
- ☐ ☐ Geotextiles
- ☐ ☐ Mulching/ Hydromulching
- ☐ ☐ Soil Surface Treatments
- ☐ ☐ Temporary Seeding
- ☐ ☐ Permanent Planting, Sodding or Seeding
- ☐ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Vertical Tracking
- ☐ ☐ Interceptor Swale
- ☐ ☐ Riprap
- ☐ ☐ Diversion Dike
- ☐ ☐ Temporary Pipe Slope Drain
- ☐ ☐ Embankment for Erosion Control
- ☐ ☐ Paved Flumes
- ☒ ☐ Other: N/A - NO UNDERGROUND WORK NOR DISTURBED
- ☐ ☐ Other: AREA IS EXPECTED
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

2.2 SEDIMENT CONTROL BMPs:

T / P

- ☐ ☐ Biodegradable Erosion Control Logs
- ☐ ☐ Dewatering Controls
- ☐ ☐ Inlet Protection
- ☐ ☐ Rock Filter Dams/ Rock Check Dams
- ☐ ☐ Sandbag Berms
- ☐ ☐ Sediment Control Fence
- ☐ ☐ Stabilized Construction Exit
- ☐ ☐ Floating Turbidity Barrier
- ☐ ☐ Vegetated Buffer Zones
- ☐ ☐ Vegetated Filter Strips
- ☒ ☐ Other: N/A - NO UNDERGROUND WORK NOR DISTURBED
- ☐ ☐ Other: AREA IS EXPECTED
- ☐ ☐ Other: _____
- ☐ ☐ Other: _____

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.3 PERMANENT CONTROLS:

(Coordinate post-construction BMPs with appropriate TxDOT maintenance sections.)

BMPs To Be Left In Place Post Construction:

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.4 OFFSITE VEHICLE TRACKING CONTROLS:

- ☐ Excess dirt/mud on road removed daily
- ☐ Haul roads dampened for dust control
- ☐ Loaded haul trucks to be covered with tarpaulin
- ☐ Stabilized construction exit
- ☐ Daily street sweeping
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

STATE OF TEXAS
BRIAN G. CASTILLE
98414
LICENSED PROFESSIONAL ENGINEER
2/25/26

2.5 POLLUTION PREVENTION MEASURES:

- ☐ Chemical Management
- ☐ Concrete and Materials Waste Management
- ☐ Debris and Trash Management
- ☐ Dust Control
- ☐ Sanitary Facilities
- ☒ Other: N/A - NO UNDERGROUND WORK NOR DISTURBED AREA IS EXPECTED
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

2.6 VEGETATED BUFFER ZONES:

Natural vegetated buffers shall be maintained as feasible to protect adjacent surface waters. If vegetated natural buffer zones are not feasible due to site geometry, the appropriate additional sediment control measures have been incorporated into this SWP3.

Type	Stationing	
	From	To

Refer to the Environmental Layout Sheets/ SWP3 Layout Sheets located in Attachment 1.2 of this SWP3

2.7 ALLOWABLE NON-STORMWATER DISCHARGES:

- ☐ Fire hydrant flushings
- ☐ Irrigation drainage
- ☐ Pavement washwater (where spills or leaks have not occurred, and detergents are not used)
- ☐ Potable water sources
- ☐ Springs
- ☐ Uncontaminated groundwater
- ☐ Water used to wash vehicles or control dust
- ☐ Other allowable non-stormwater discharges as allowed by TPDES GP TXR150000.

2.8 DEWATERING:

Dewatering discharges of accumulated stormwater, groundwater, and surface water including discharges from dewatering of trenches, excavations, foundations, vaults, and other points of accumulation are prohibited unless managed by appropriate controls to prevent and minimize the offsite discharge of sediment and other pollutants.

2.9 INSPECTIONS:

All disturbed areas and erosion and sediment control devices shall be inspected at least once every seven (7) days. Inspections shall be performed by TxDOT as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.3 of this SWP3 .

2.10 MAINTENANCE:

Control measures shall be properly installed according to specifications. If it is determined that a BMP or control measure is not operating effectively, maintenance must be accomplished as soon as possible and before the next anticipated rain event, but in no case later than 7 calendar days after being able to access the site. Maintenance shall be performed by the Contractor as indicated on the Field Inspection and Maintenance Report Form 2118 and retained in Attachment 2.3 of this SWP3.

STORMWATER POLLUTION PREVENTION PLAN (SWP3) (Less Than 1 Acre)

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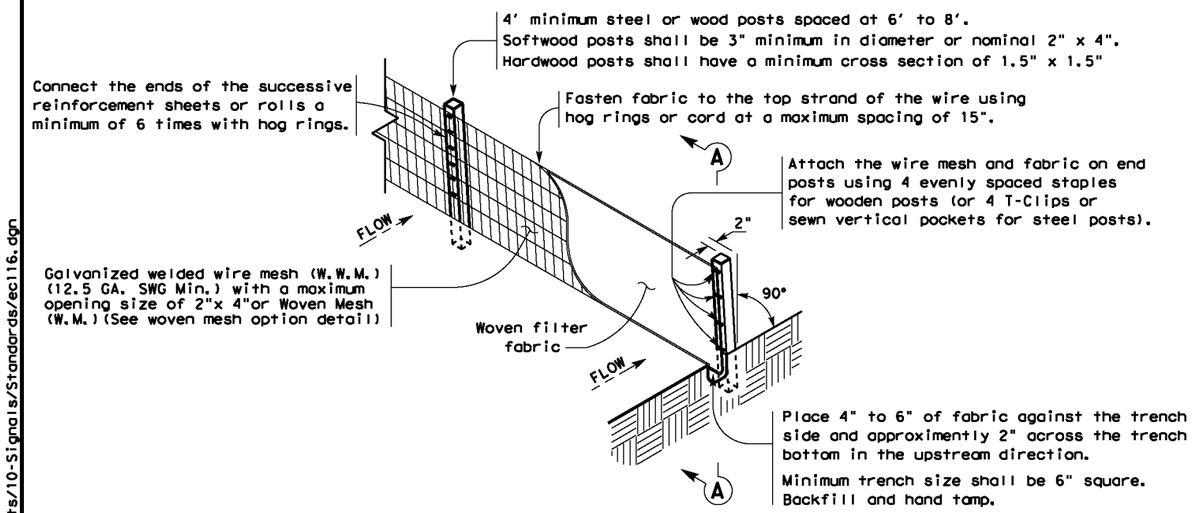
July 2023 Sheet 2 of 2

Texas Department of Transportation

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
6			286
STATE	STATE DIST.	COUNTY	
TEXAS	PHR	CAMERON	
CONT.	SECT.	JOB	HIGHWAY NO.
0921	06	400	VARIES

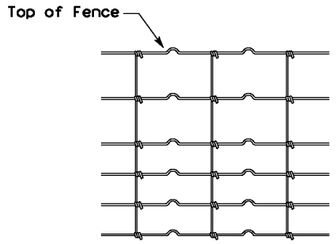
DISCLAIMER:
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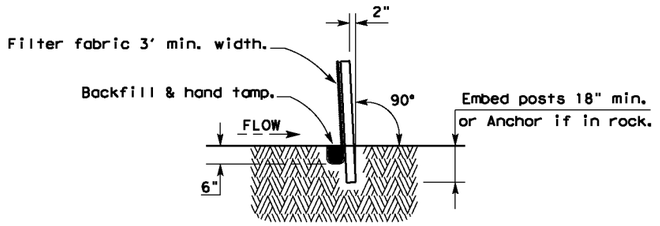
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DN: TxDOT CK: KM DW: VP DN/CK: LS
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TEMPORARY SEDIMENT CONTROL FENCE

SCF





SECTION A-A

HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

Galvanized hinge joint knot woven mesh (12.5 GA. SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 GPM/FT^2. Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.

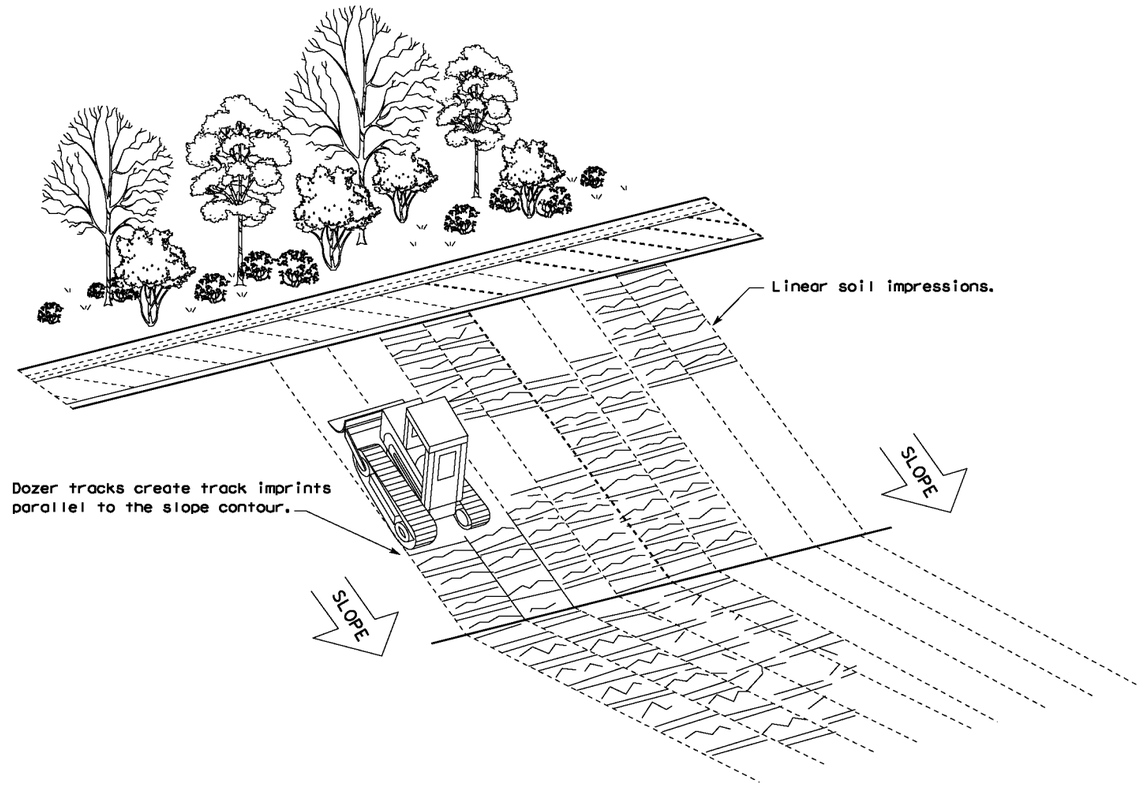
LEGEND

Sediment Control Fence

SCF

GENERAL NOTES

1. Vertical tracking is required on projects where soil distributing activities have occurred unless otherwise approved.
2. Perform vertical tracking on slopes to temporarily stabilize soil.
3. Provide equipment with a track undercarriage capable of producing linear soil impressions measuring a minimum of 12" in length by 2" to 4" in width by 1/2" to 2" in depth.
4. Do not exceed 12" between track impressions.
5. Install continous linear track impressions where the minimum 12" length impressions are perpendicular to the slope or direction of water flow.



VERTICAL TRACKING

Texas Department of Transportation

Design Division Standard

TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES

FENCE & VERTICAL TRACKING

EC(1)-16

FILE: ec116	DN: TxDOT	CK: KM	DW: VP	DN/CK: LS
© TxDOT: JULY 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS	0921	06	400	VAR
	DIST	COUNTY		SHEET NO.
	PHR	CAMERON		287

CITY OF BROWNSVILLE SPECIFICATIONS

Item 680-0003
Furnish and Install Cyberlock

1. DESCRIPTION

- **Installation**. Furnish and install cyberlock

2. MATERIALS

Ensure materials, equipment and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item.

2.1. **Requirements.** Cyberlock is required to meet the following requirements:

- Connectivity
  - USB Type-C
  - Knockdown Sensor
- Industrial I/O
  - Digital Outputs: 2 x Lock controllers
  - Digital Inputs: 4 (2 x Bolt monitor, 2 x door switch)
  - Analog Inputs: 3
  - Input Voltage: 120V AC
- Miscellaneous
  - Operating System: FreeRTOS Systems
  - Non-volatile Memory
  - Operating Temperature: -37°C to 74°C
  - Humidity: 5-95% non-condensing
  - Dimensions: 4.5" x 2.5" x 1¼"
  - Input Voltage: 10-30v DC
  - Power Consumption DC: 60µA avg
  - Shall have physical hardware installed in the cabinet
  - Shall be off-the-shelf hardware and easily deployable
  - The field device shall be compatible with all cabinet doors
  - Shall support 4G LTE communication
  - Monitoring platform shall be cloud-hosted, and browser-based, with no software to be installed on client computers except for a standard browser
  - Shall issue real-time fault alerts, via email and text, to the appropriate response personnel
  - Web-based platform shall come standard with a device configuration utility for easy system configuration
  - Field devices shall be capable of receiving “over the air” software and security updates. The over the air updates shall allow new features to be installed remotely without having to physically go to the field devices
  - System shall provide and maintain key performance indicators (KPIs) which are reported periodically

- System reports shall showcase the operational availability of the system, while additionally providing health and status reports
- Lock hardware shall be under warranty for as long as the individual hardware has an active connectivity and support plan
- If the Agency requires the Convenient Security Lock System to form part of an overall Smart City Management platform, the proposed system shall be expandable to include other Intelligent Transportation Systems (ITS), such as; connected school beacon systems, weather systems, pedestrian crossings, and C-V2X (connected vehicle to everything) systems.
- The field device shall be provided with appropriately rated connectors that allow the unit to be exchanged by unplugging connectors, without tools.
- The field device shall be capable of connecting to an external battery backup, to allow the field device to function correctly even when all power to the cabinet has failed.
- The battery shall continue to power the field device for a minimum of 5 hours after all power has failed to the cabinet.
- The field device shall incorporate an integrated GPS which shall allow the unit to geolocate itself on the monitoring platform's software map, without the need for configuration.
- The field device shall operate without requiring a static IP address. The only configuration required at the unit shall be entering of the URL of where the field device's management software is hosted.
- In the event that the cell service is interrupted or is not available, the field device shall store any events that occur in internal memory and forward these events automatically to the browser-based monitoring platform when the cell service is restored. In this way, a complete record of events at the intersection shall be maintained even if cell service is interrupted for a period. The system shall store 5,000 events.
- The field device shall utilize HTTP and HTTPS protocols, and XML data structures, for communication with the browser-based management platform. In this way, the data shall be open for future expansion and competition. The use of secret proprietary protocols shall not be permitted.
- The field device shall comply with the NEMA TS8 security standards.
- The field device shall include a weatherproof antenna (cell/GPS)
- The field device shall have a powder-coated aluminum enclosure.
- The field device shall maintain a constant TCP connection to the unit's central management system (browser-based monitoring platform) to ensure that real-time communications are available sub-second over the cellular network.
- The field device shall send information based on field-initiated communications. If any change happens in the field, the device shall send information immediately without the need to be polled by a central system.
- The field device shall be capable of receiving over-the-air software updates for new features and security updates.
- 10 years of standard connectivity
- 10 year support plan
- 10 year warranty

- Scheduling
  - The lock system shall allow the City to schedule access to the cabinet via the central system.
  - The Convenient Security Lock System shall allow the Agency to set access to the cabinet based on the user's role.
    - Technicians
    - Contractors
    - Agency staff

- Security
  - The lock system shall incorporate the latest internet and security standards by following and complying with NEMA TS8 Cyber and Physical Security for Intelligent Transportation Systems (ITS) Standards.
  - All field devices shall be connected to an APN (Access Private Network),where all devices shall be secure within their own network.
  - All critical processes on the Convenient Security Lock System Server (i.e., communications and alarms) shall send a watchdog ping around the world.
  - If any service fails to ping correctly, a set of text messages shall be sent to the emergency service response team.
  - The emergency service response team shall provide immediate response and recovery, such that the system maintains an uptime of at least 99%.
- Access
  - The Convenient Security Lock System shall allow the Agency to access the cabinet in four separate methods.
    - Remotely via the central system
    - Via NFC tag access
    - Via QR Code access
    - Via Mechanical keys
  - The Convenient Security Lock System will include mechanical keys specifically cut for the Agency.
- Access Monitoring
  - The Convenient Security Lock System shall allow the Agency to monitor the time and by whom a cabinet was opened.
  - Access logs will be available and stored on the Convenient Security Lock central system.
- Connected Vehicle Infrastructure
  - C-V2X Travel Safely Application.
  - The Convenient Security Lock System will send messages via C-V2X and cellular messaging that a Workzone is active when the cabinet door is open.
- Future Expansion
  - The lock system shall have the capability for further expansion based on an as-needed basis.
  - The lock system monitoring platform shall be designed to be extensible to cover the monitoring, maintenance, and operations of additional ITS systems such as:
    - Connected School Beacons
    - Low Power School Beacons
    - School Bus Stop Warning System
    - Low Power Monitoring
    - Virtual Transit Signal Priority
    - Bicycle Signal Priority
    - Virtual Bicycle Detection
    - C-V2X Connected Vehicle Applications
    - Speed Feedback Radars
    - Dynamic Message Signs
    - Traffic Detection Systems
    - Curve Warning Systems

- Flood Warning Systems
- Over-Height Vehicle Detection and Warning System

3. CONSTRUCTION

3.1. **Installation**. Install cyberlock as shown in the plans. Contractor is responsible for following manufacturer recommendations that ensure a fully functioning cyberlock.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Wiring**. Furnish cable and conductors as recommended by the manufacturer.

3.1.1.2. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

3.1.2. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.3. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.4. **Test Period**. Operate completed cyberlock installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the cyberlock who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement, except lamp replacement, will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The City will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

4. MEASUREMENT

This Item will be measured by each cyberlock installed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "cyberlock".

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the cyberlock and associated equipment. This includes all labor, tools, materials, equipment and cable for a complete-in-place installation.

City of Brownsville - Specification 6018-0001 and 6018-0002
6018-001 CCTV Field Equipment (Digital)(Artificial Intelligence)
6018-002 CCTV Field Equipment (Digital)

1. DESCRIPTION

Furnish and install, closed-circuit television (CCTV) field equipment at locations shown on the plans, or as directed.

2. MATERIALS

2.1. **General Requirements**. Fabricate, provide, assemble, and install materials that are new, corrosion-resistant, and in strict accordance with the details shown on the plans and in the Specifications.

Provide CCTV field equipment that is compatible with software currently in operation for the City of Brownsville Traffic Signal System.

CCTV field equipment must include the following.

- Color video camera units
- Camera lenses, filters, control circuits, and accessories
- Camera housing
- Medium-duty pan and tilt units with click-and-drag position control
- Video and camera control and power cable connectors and assemblies
- Video, data, and power surge suppression
- Built-in ID generator

2.2. **Functional Requirements for Digital CCTV**. Provide color video cameras that produce digital video in standard definition or high definition that meet the following functional requirements.

2.2.1. **General**.

2.2.1.1. **Digital Signal Processing (DSP)**.

- Digital zoom
- Auto and manual iris control
- Auto and manual exposure control with built-in frame buffer
- Auto and manual focus control
- Built-in ID generator, with white letters on black outline minimum or approved equivalent

2.2.1.2. **Image Pickup Device**. Progressive scan digital CCD or CMOS sensor, 1.2-megapixel (1,200,000 pixels) or better.

2.2.1.3. **Resolution**. Support the following resolutions.

- 720p (1,280-pixel × 720-pixel array)
- 1,080p (1,920-pixel × 1,080-pixel array)
- D1 (720-pixel × 480-pixel array)
- CIF (352-pixel × 240-pixel array)
- VGA (640-pixel × 480-pixel array) at minimum depending on video stream configuration

2.2.1.4. **Frame Rate**. Allow user-selectable frame rates at 30, 15, seven, four, two, and one frame per second.

2.2.1.5. **Data Rate**. Scalable from 64 Kbps to 8 Mbps.

2.2.1.6. **Video Stream Format**. Allow simultaneous encoding and transmission of at least two configurable digital video streams in conformance with Moving Picture Experts Group- (MPEG-) 4, Part 10 (H.264). Support configuration of the following at minimum.

- H.264
- H.265
- H.264 + H.264

2.2.1.7. **Video Stream**. Support uni-cast (one-to-one) and multi-cast (one-to-many).

2.2.1.8. **Aspect Ratio**. Support width-to-height aspect ratio of 16:9.

2.2.1.9. **Image Quality**. Ensure that video produced by the camera is true; accurate; distortion-free; and free of transfer smear, oversaturation, and any other image defect that negatively impacts image quality under all lighting and weather conditions in color and monochromatic modes.

2.2.1.10. **Wide Dynamic Range (WDR)**. Operation with manual override option.

2.2.1.11. **Overexposure Protection**. Minimize glare and incur no permanent damage to the camera when pointed directly at strong light sources, including the sun, for brief periods.

2.2.1.12. **Geometric Distortion**. Zero.

2.2.1.13. **Signal-to-Noise Ratio (AGC Off)**. Minimum 50 dB (weighted at 4.5 MHz).

2.2.1.14. **Electronic Shutter Speed**. Automatic shutter that is user selectable down to at least 1/10,000 sec.

2.2.1.15. **Electronic Image Stabilization**. User-selectable on or off electronic image stabilization at 5 Hz and 10 Hz minimum.

2.2.1.16. **Day (Color) and Night (Mono)**. Auto and manual switchover and iris control with user-selectable modes for auto and manual control capabilities.

2.2.1.17. **Auto White Balance**. Color quality that is maintained by a continuous through-the-lens automatic white balance for color temperatures from 2,850 K to greater than 5,100 K with less than 10-IRE unit unbalance.

2.2.1.18. **Inverted Operation**. Automatic image inversion or "flip" when rotating through 0° or 180° vertical tilt positions when not an integrated unit.

2.2.1.19. **Mean Time Before Failure**. At least 43,800 hr. or 5 yr. without mechanical malfunction or failure. Act of God failures are exempt.

2.2.2. **Lens**. Provide an integral lens assembly for each camera with the following features.

- An f/1.6 or better glass multi-coated zoom lens with variable focal lengths with a minimum 30X zoom range
- 12X auto and manual digital zoom minimum
- Automatic and manual focus and iris control

Provide lenses with capabilities for remote control of the zoom, focus, and iris operations. Provide mechanical or electrical means to protect the motors from over-running in extreme positions. Lens and controller system must be capable of auto iris and remote manual iris operation. Lens must be capable of

auto and manual zoom and focus control. Use motorized iris as opposed to auto iris type for system control capability.

2.2.3. **Network Interface Requirements**. Provide CCTV field equipment that can integrate with the existing City of Brownsville Traffic Signal System, for control.

Provide camera equipment with a local area network (LAN) connection that supports the requirements detailed in IEEE 802.3 for 10/100 Ethernet connections for half-duplex or full-duplex, and provide auto negotiation. Provide equipment with at least one Ethernet port that has a 10/100 Base-TX connection. Provide connectors that conform to EIA and TIA requirements.

Support, at minimum, RTP, RTSP, UDP/IP, TCP/IP, IPv4, HTTP, IGMPv2, DHCP, NTP, IEEE 802.1x, Ethernet 802.3u, SNMP, RADIUS Key, and Telnet.

Provide camera equipment that supports local and remote configuration and management. Configuration and management functions must include access to all user-programmed features, including, but not limited to, network configuration, video settings, device monitoring, control setting, and security functions. Configuration and management must be achieved by serial login, Telnet login, web-based interface, or manufacturer software. Provide manufacturer software with camera for local configuration, system maintenance, and management control.

2.3. **Cable Assembly**. Provide camera power and communication cable assembly equipped with cables used for video feed; camera control, including PTZ function; communications signaling; and power supply. Camera power and communication cable may be configured as a composite cable or series of isolated cables. The following cable functions may be required depending on the data and video communication interface requirements, as shown on the plans.

2.3.1. **Ethernet**. Provide a shielded twisted pair (STP) Category 6 (or equivalent) at minimum rated for outdoor use in conformance with TIA/EIA 568B. Cable must not exceed an attenuation of 30 dB per 300 ft. of cable at 100 MHz.

2.3.2. **Power**. Provide three-wire, insulated for 300 V minimum, 115-VAC or 24-VAC power cabling between the camera and the power supply. If 24-VAC power is required, provide needed power supply conversion equipment.

Power may be achieved using Power over Ethernet (PoE) by a power supply or mid-span PoE injector, that must be considered part of the camera unit, and must conform to IEEE 802.3af or IEEE 802.3at or latest revision.

Provide power and communication cable assembly the entire length of the camera support structure from the camera to the cabinet with an additional 25 ft. of slack in the cabinet. Determine the appropriate length required for each site. The cable assembly must be considered part of the camera unit.

Provide any necessary data, video, or power conversion hardware to successfully integrate the camera unit into the field equipment cabinet hardware components and onto the communications backbone.

2.4. **Video Encoding Interoperability**. Video encoding and decoding equipment may be used by software or hardware means. Ensure camera's encoded video is interoperable with hardware and software decoders from other manufacturers. Ensure the camera's encoded video can be decoded by at least two other manufacturer's software or hardware decoders that are in use by the City. Contact the City for decoders supported before procurement of camera unit.

2.5. **Camera Housing**. Provide camera housing assembly and hardware material that reflects sunlight.

Provide camera housing with a sunshield to reduce the solar heating of the camera. The total weight of the camera (including housing, sunshield, and all internal components) must not exceed 25 lb.

Construct viewing window so that unrestricted camera views can be obtained at all camera and lens positions.

Provide gaskets at cable entry point to the camera housing to prevent moisture or dust entry.

When shown on the plans or identified in the General Notes, provide heating or cooling functionality with temperature sensors to maintain internal temperatures within the manufacturer-required operating temperature range.

2.6. **Pan-Tilt Unit**. Furnish and install a medium-duty anodized aluminum weatherproof pan-tilt unit at each camera site, conforming to NEMA 4X and IP-66 rating or better, when not integral to the camera unit and housing. Provide mounting adapter and required attachment hardware to install the pan-tilt unit to the pole or mounting bracket. Identify the type of mounting bracket and bolt pattern on shop drawings.

Provide a unit capable of at least 180° vertical range of movement and horizontal movement of 360°, full, continuous-rotation movement.

Provide a unit that has a pan and tilt speed of 20° per second minimum and is user-adjustable through the full speed range. Unit must be capable of simultaneous pan-tilt movements with variable pan-tilt positioning control allowing variable speeds that are proportional through the zoom range.

Provide pan-tilt unit with drive accuracy and drive repeatability of less than 1° and an automatic pre-position speed of 120° per second minimum to a user-defined preset position that is user-adjustable.

Provide a pan-tilt unit, when not integral to the camera housing, that can maintain static position and does not move by more than 1° in any direction in speeds greater than 35 mph.

Ensure that the pan-tilt unit has seals and gaskets to protect the motors, gears, and cables and that the seals and gaskets are resistant to ozone, ultraviolet radiation, and other pollutants inherent to all local environmental conditions.

When shown on the plans or identified in the General Notes, provide pan-tilt unit with heater that conforms to NEMA 4X when not integral to the camera unit and housing.

2.7. **Preset Functions**. Provide a camera unit capable of storing at least 62 presets for pan, tilt, zoom, and focus settings.

Provide a camera unit capable of user-programmable tours with at least four tours of up to 32 presets per tour. Any tours may be programmed for panning tours.

Provide a camera unit capable of user-programmable sector zones with at least eight zones allowing right and left pan limitations.

Provide a camera unit capable of user-programmable privacy zones with at least eight zones and click-and-drag position control by software.

2.8. **Connectors**. Provide and install connectors that are compatible with the communications equipment interfaces identified in Section 2.2.3. Network Interface and Section 2.3. Cable Assembly. Supply all mating connectors. Provide all connector pins and mating connectors that are plated to achieve good electrical connection and resistance to corrosion.

2.9. **Source ID Generator**. Use a built-in ID generator to insert camera ID over each of the camera-generated videos.

Provide at least two lines of alphanumeric, case-specific text supporting at least 20 ASCII characters per line, with a minimum character height of 20 pixels, that is user-programmable for displaying any combination of ID

information consisting of at least camera, preset, privacy mask, low-pressure warning, compass, and time and date.

Allow user-selectable location of text to be displayed on the video image at the extreme top or bottom. Text display on the side of the image display is prohibited.

Automatically display the programmed ID with its associated video signal that can be turned on or off by user command.

In the event of signal loss or video signal failure, ID generator must automatically pass through failure message to display over video.

Submit list of available text displays to the City as part of the documentation requirements.

2.10. **Cabinet Installation**. Install video communication equipment in a pole-mounted equipment cabinet or in a ground-mounted equipment cabinet as shown on the plans. Meet the following criteria.

- Contains all the lightning protection devices for data and video.
- Grounded to earth ground.
- Provides connectors for all inputs and outputs for data and video and additional ports for testing video and communications. Use the external connectors for testing and for connections to communication devices.

2.11. **Surge Protection**. Provide surge protection for the camera meeting the following requirements.

- **Mounting Adapter**. Electrically bonded to mounting structure.
- **Pan-Tilt Mechanism**. Electrically bonded to mounting adapter.
- **Camera Housing**. Electrically bonded to pan-tilt mechanism.
- **Power and Control Cable Surge Protector**. Integrated into cabinet surge protection system.

2.12. **Power Requirements**. Provide CCTV field equipment meeting all its specified requirements when the input power is 115 VAC ±20%, 60 Hz ±3 Hz. Maximum power required must not exceed 200 W, including optional equipment.

Provide appropriate voltage conversion, power injectors, or other power supply hardware if the camera equipment or any camera-related ancillary devices require operating voltages other than 115 VAC ±20%, such as 24 VAC or 12 VDC from solar power systems, or rely on PoE. Appropriate voltage converters or injectors must accept an input voltage of 115 VAC or 12 VDC from solar power systems as shown on the plans.

2.13. **Primary Input Power Interruption**. Provide CCTV field equipment that meets NEMA TS2, Section 2.1.4., "Power Interruption," for traffic control system or most current version.

2.14. **Power Service Transients**. Provide CCTV field equipment that meets NEMA TS2, Section 2.1.6., "Transients, Power Service" or most current version.

2.15. **Power Service Protection**. Provide equipment that contains readily accessible, manually resettable or replaceable circuit protection devices (such as circuit breakers or fuses) for equipment and power source protection. Provide circuit breakers or fuses sized appropriately such that no wire, component, connector, PC board, or assembly is subject to current loads more than their respective design limits upon failure of any single circuit element or wiring.

2.16. **Modular Design**. Provide CCTV field equipment hardware installed inside the cabinet that is modular in design and that can be either shelf-mountable or EIA 19-in. rack mountable. Clearly identify modules and assemblies with name, model number, serial number, and any other pertinent information required to facilitate equipment maintenance.

2.17. **Connectors and Harnesses**. Make all external connections using connectors that are uniquely keyed to preclude improper hookups. Color-code and appropriately label with UV-resistant material all wires to and from the connectors. Provide connecting harnesses of appropriate length and terminated with matching connectors for interconnection with the communications system equipment. Provide corrosion-resistant plated pins and mating connectors to improve conductivity. All connectors using solder-type connections must have each soldered connection covered by a piece of heat-shrink tubing securely shrunk to protect the connection for short-circuiting.

Provide a wiring diagram detailing wire function and connector pin-out.

2.18. **Environmental Design Requirements**. Provide equipment that conforms to NEMA TS2-2003 (R2008), International Electrotechnical Commission (IEC) 60529, and NEMA 250-2008 or most current version, for the following categories.

2.18.1. **Temperature**. Provide equipment that conforms to NEMA TS2, Section 2.1.5.1, or latest revision, and meets all the specified requirements during and after being subjected to any combination of the following conditions.

- Ambient temperature range of -30°F–165°F
- Temperature shock not exceeding 30°F per hour
- Relative humidity of 0%–100%

  Moisture condensation on all exterior surfaces caused by temperature changes

Provisions for a heater and blower function are required to maintain internal temperatures within the manufacturer's operating temperatures for temperature ranges internal to the camera unit not conforming to NEMA TS2, Section 2.1.5.1.

2.18.2. **Vibration**. Provide equipment that conforms to NEMA TS2, Section 2.1.9. and Section 2.2.3., or most current version, and meets all the specified requirements during and after being subjected to a vibration of 5 Hz–30 Hz up to 0.5 g applied in each of three mutually perpendicular planes for 30 min.

2.18.3. **Shock**. Provide equipment that conforms to NEMA TS2, Section 2.1.10. and Section 2.2.4., or most current version, and does not yield permanent mechanical deformation or any damage that renders the unit inoperable when subjected to a shock of 10 g applied in each of three mutually perpendicular planes for 30 min.

2.18.4. **Environmental Contaminants**. Provide equipment that conforms to IEC 60529, Section 14.2.6, or most current version, for IP-66 or greater rating when providing a pressurized unit.

Provide equipment that conforms to IEC 60529, Section 14.2.7., or most current version, for IP-67 or greater rating when providing a non-pressurized unit.

2.18.5. **External Icing**. Provide equipment that is tested to conform to NEMA 250-2003, Section 5.6 or latest revision.

2.18.6. **Corrosion**. Provide equipment that is tested to conform to NEMA 250-2003, Section 5.10.or latest revision, when located in Coastal Districts. Coastal Districts are Beaumont (BMT), Corpus Christi (CRP), Houston (HOU), Pharr (PHR), and Yoakum (YKM).

2.18.7. **Wind Rating**. Equipment must be operational in adverse weather conditions and able to withstand wind loads in accordance with basic wind velocity zone map standard as shown on the plans without permanent damage to mechanical and electrical equipment.

3. CONSTRUCTION

3.1. **General**. Maximize standardization and consistency by using industry-standard techniques in equipment design and construction, with the minimum number of parts, subassemblies, circuits, cards, and modules. Design equipment for ease of maintenance.

Provide mounting bracket assemblies or apparatus to mount equipment on the structures as detailed on the plans.

Provide mounting bracket design with documentation submitted for approval before fabrication. Include all mounting plates, screws, bolts, nuts, washers, and ancillary hardware needed to fabricate the entire mounting bracket.

3.2. **Mechanical Components**. Provide stainless steel external screws, nuts, and locking washers. Self-tapping screws are not acceptable.

Provide parts that are made of corrosion-resistant material (e.g., plastic, stainless steel, anodized aluminum, or brass).

Protect all materials used in construction from fungus growth and deterioration due to sustained moisture.

Separate dissimilar metals by an inert dielectric material.

3.3. **Wiring**. Provide wiring that meets the NEC most current version. Provide wires that are cut to proper length before assembly. It is not acceptable to "double-back" wires to take up slack inside the cabinet. Lace wires neatly with nylon lacing or plastic straps. Organize cables inside the cabinet and secure cables with clamps. Provide service loops at connection points when connecting to hardware inside the cabinet. No splicing of cables or exposed wiring is allowed. Clearly label all wiring.

3.4. **Contractor Experience Requirements**. Contractor or designated subcontractor must meet the following experience requirements.

3.4.1. **Minimum Experience**. Three years of continuous existence offering services in the installation of CCTV camera systems.

Submit the names, addresses, and telephone numbers of the references that can be contacted to verify the experience requirements.

3.5. **Documentation Requirements**. Provide at least two complete sets of operation and maintenance manuals in bound hard-copy format, as well as an electronic copy in Adobe PDF format on a CD/DVD or removable flash drive, that include the following.

- Complete and accurate wiring schematic diagrams.
- Complete installation procedures.
- Compliance matrix documenting conformance to this Specification.
- Complete performance specifications (functional, electrical, mechanical, and environmental) on the unit
- Complete parts list, including names of vendors for parts not identified by universal part number, such as JEDEC, RETMA, or EIA.
- Pictorial of component layout on circuit board.
- ID generator list of text display options.
- Complete maintenance and troubleshooting procedures.
- Complete stage-by-stage explanation of circuit theory and operation.
- Testing procedures and blank test forms.
- Recovery procedures for malfunction.
- Instructions for gathering maintenance assistance from manufacturer.
- Certification documentation verifying conformance with environmental and testing requirements contained in the Special Specification. Certifications may be provided by the manufacturer or independent laboratories.

Identify material that is copyrighted or proprietary in nature as part of the documentation submittal. The City will comply with sensitive material, secure submittal documentation, and not distribute without written approval.

3.6. **Testing**.

3.6.1. **New Installations**. Unless otherwise shown on the plans, perform the following tests on the applicable equipment or systems.

3.6.1.1. **Test Procedures Documentation**. Provide five copies of the test procedures, including tests identified in Section 3.6.1.2. "Design Approval Test," Section 3.6.1.7. "Consequences of Test Failure," and blank data forms, to the Engineer for review and comment as part of material documentation requirements for each test required on this project. Include the sequence of the tests in the procedures. The Engineer will comment, approve, or reject test procedures within 30 days after Contractor submittal of test procedures. Contractor must resubmit if necessary rejected test procedures for final approval within 10 days. Review time is in calendar days. Conduct all tests in accordance with the approved test procedures.

Record test data on the data forms, as well as quantitative results. No bid item measurement or payment will be made until the Engineer has verified the test results meet the minimum requirements of the Specification. The data forms for all tests, except design approval tests, must be signed by an authorized representative of the Contractor.

Provide written notice within 48 hr. of discovery of any testing discrepancy identified during testing by the Contractor. Furnish data forms containing the acceptable range of expected results as well as the measured values.

3.6.1.2. **Design Approval Test**. Conduct a design approval test on one randomly selected unit from the prototype design manufacturing run. If only one design prototype is manufactured, perform this test on that unit. If supplying multiple types of equipment, provide and test a sample of each type.

Certification from an independent testing laboratory of a successfully completed design approval test is acceptable. Ensure that the testing by this laboratory is performed in accordance with this Specification. Failure of independent tests to comply with this Specification will be grounds for rejection of any certification.

Provide a copy of the certification to the District in which this Contract is executed. The data forms for the design approval tests must be signed by an authorized representative (company official) of the equipment manufacturer or by an authorized representative of an independent testing facility.

Notify the Engineer 10 working days before conducting this testing. The City may witness all the tests. Perform the following tests.

3.6.1.2.1. **Power Service Transients**. Provide equipment that meets the performance requirements specified herein when subjected to the power service transients as specified in NEMA TS2, Section 2.2.7.2, "Transient Tests (Power Service)." of the NEMA TS2 standard, most current version.

3.6.1.2.2. **Temperature and Condensation**. Provide equipment that meets the performance requirements specified herein when subjected to the following conditions in the order specified below.

- Stabilize the equipment at -30°F and test as specified in NEMA TS2, Section 2.2.7.3, "Low-Temperature Low-Voltage Tests," and Section 2.2.7.4, "Low-Temperature High-Voltage Tests." of the NEMA TS2 standard, most current version
- Allow the equipment to warm up to room temperature in an atmosphere with relative humidity of at least 40%. Operate the equipment for 2 hr., while wet, without degradation or failure.
- Stabilize the equipment at 165°F and test as specified in NEMA TS2, Section 2.2.7.5, "High-Temperature High Voltage Tests," and Section 2.2.7.6, "High-Temperature Low-Voltage Tests." of the NEMA TS2 standard, most current version

3.6.1.2.3. **Relative Humidity**. Provide equipment that meets the performance requirements specified herein within 30 min. of being subjected to a temperature of 165°F and a relative humidity of 18% for 48 hr.

3.6.1.2.4. **Vibration**. Provide equipment that shows no degradation of mechanical structure, soldered components, or plug-in components and operates in accordance with the manufacturer's equipment specifications after being subjected to the vibration tests as described in NEMA TS2, Section 2.2.8, "Vibration Test" of the NEMA TS2 standard, most current version.

3.6.1.2.5. **Power Interruption**. Provide equipment that meets the performance requirements specified herein when subjected to nominal input voltage variations as specified in NEMA TS2, Section 2.2.10., "Power Interruption Test." of the NEMA TS2 standard, most current version.

3.6.1.3. **Demonstration Test**. Conduct a demonstration test on applicable equipment at an approved Contractor facility. The Contractor may submit procedures and results from previous contracts in the same District as this Contract provided the materials and equipment are identical and results are less than 5 yr. old. Notify the Engineer 10 working days before conducting this testing. The City may witness all the tests. Perform the following tests.

3.6.1.3.1. **Examination of Product**. Examine each unit carefully and document that the materials, design, construction, markings, and workmanship comply with this Specification.

3.6.1.3.2. **Continuity Tests**. Check the wiring to determine conformance with the requirements of the appropriate paragraphs of this Specification.

3.6.1.3.3. **Operational Test**. Operate each unit for at least 15 min. to permit equipment temperature stabilization and an adequate number of performance characteristics to ensure compliance with this Specification.

3.6.1.4. **Field Acceptance (Stand-Alone) Test**. Conduct a field acceptance test for each unit after installation as required by the Engineer to demonstrate compliance with the functional requirements of this Specification. Exercise all stand-alone (non-network) functional operations. Notify the Engineer 5 working days before conducting this test. The field acceptance test may consist of the following.

3.6.1.4.1. **Physical Construction**. Document physical construction is completed in accordance with the plans and Specification.

3.6.1.4.2. **Electrical and Communication**. Document that all connectors for grounding, surge suppression, and electrical distribution are tightened correctly. Document all power supplies and circuits are operating under the proper voltages. Document all power and communications cables are terminated correctly, secured inside the cabinet, and fitted with appropriate connectors.

3.6.1.4.3. **Video Signal**. For analog signal format, conduct an impedance test, through a short 75-ohm coaxial cable connected to an oscilloscope waveform monitor, to ensure 75-ohm output impedance to conform to NTSC standards.

Using a digital, hand-held, battery-operated meter, conduct a test and measure the following video signal characteristics, if applicable.

3.6.1.4.3.1. **Sync**. Document the amplitude of the video synchronizing pulse and check for correct video level, coaxial cable continuity, and correct termination at 40 IRE.

3.6.1.4.3.2. **Luminance**. Document the white level and correct brightness setting at 100 IRE.

3.6.1.4.3.3. **Composite**. Document the overall amplitude of the video signal is at 140 IRE or 1 V peak to peak.

3.6.1.4.3.4. **Color Burst**. Document color burst amplitude at 40 IRE.

3.6.1.4.3.5. **Ground Loop**. Document that no ground loop exists in the video picture. Ground loop voltages in a video signal cause bars to be present on the video picture.

Document video image is present and free of oversaturation and any other image defect in color and monochrome modes.

Document video support of uni-cast and multi-cast video transmission modes.

Document the video signal from the camera is present and of consistent quality at all connection points between the camera, the cabinet, and any video conversion hardware.

3.6.1.4.4. **Communication**. For digital camera models, document network connection to the camera by ping or Telnet session from a remote PC.

3.6.1.4.5. **Pan-Tilt Mechanism**. Exercise pan, tilt, zoom, and focus on all directions, and execute at least three other unique programming commands, specified by the City, to ensure that the communication link between the cabinet and the camera is functioning properly.

3.6.1.5. **System Integration Test**. Conduct a system integration test on the complete functional system. Demonstrate all control and monitor functions for each system component for 72 hr. Notify the Engineer 10 working days before conducting this testing. The City may witness all the tests.

Provide systems integration test procedures for proper adjustment and calibration of subsystem components. Proper adjustment and calibration involve documenting settings used to meet functional requirements while providing a margin for adjustment when future conditions change. Use the City control software (when available) to perform subsystem testing. At minimum, use this software to verify commands and confirmations, as well as detector actuations and occupancy dwell time. The Contractor must be familiar with any existing City equipment and software.

The failure of any one component material or equipment item in a system integration test is justification for rejecting the entire subsystem. Each subsystem component must function as a complete integrated subsystem for a minimal continuous 72-hr. period during the system integration test.

3.6.1.6. **Final Acceptance Test**. Following completion of the demonstration test, stand-alone test, and system integration test for all subsystems, provide completed data forms containing all the data taken, including quantitative results for all tests, a set of as-built working drawings, and a written request to begin a data communication and final acceptance test. Provide as-built working drawings indicating the actual material, equipment, and construction of the various subsystem components, including established and calculated XY coordinates based on project control points, when shown on the plans. Perform field surveying and calculations under the supervision of and sealed by a licensed land surveyor.

Within 10 calendar days of the request, execute a data communications test using a City-supplied software program or Contractor-supplied software approved by the City. The data communications test may be executed by the Engineer or the Contractor with prior approval. The purpose of this test is to verify that the communications plant will operate with application software provided by the City.

Perform the data communications test for 72 hr. If a message error or component failure occurs anywhere in the network, resume the test once repairs are completed. All components of the communications network must operate as an integral system for the duration of the test.

A message error is defined as the occurrence of a parity error, framing error, or data error in any component of the message. The error-free message rate is defined as the ratio of the number of messages in which no message error occurs to the number of messages transmitted. The error-free message rate must exceed 99.99% for acceptable transmission quality, for the system and each component of the network.

Provide all additional test results for review once a successful data communications test has been completed. If all the requirements of this Specification have been satisfied, Contract time must stop, and all subsystems must be placed into operation and operate as a complete system for 90 days.

Notify the Engineer of any defects suspected in integration or function of material or equipment. Investigate any suspected defects and correct if necessary. Provide a report of finding within 2 calendar days of notice of any suspected defects. Describe the nature of any defects reported and any corrective action taken in the report. The integrated subsystems must operate defect-free as a single complete system for at least 72 hr. during a 30-calendar day review period. If the number of defects or frequency of failures prevents any subsystems from operating as described above, the Engineer may reject the entire subsystems integration test results and resume Contract time. Provide any necessary corrections and resubmit subsystems integration test results and a request to begin a final acceptance test that may include as-built plans and a data communications test.

The CCTV field equipment under this Specification will not be accepted until the system, including all subsystems, has operated satisfactorily for 90 days and in full compliance with the plans and Specifications after approval of all submitted test results and reports.

3.6.1.7. **Consequences of Test Failure**. If a unit fails a test, submit a report describing the nature of the failure and the actions taken to remedy the situation before modification or replacement of the unit. If a unit requires modification, correct the fault, and then repeat the test until successfully completed. Correct minor discrepancies within 30 days of written notice. If a unit requires replacement, provide a new unit, and then repeat the test until successfully completed. Major discrepancies that will delay receipt and acceptance of the unit will be enough cause for rejection of the unit.

Failure to satisfy the requirements of any test is considered a defect, and the equipment is subject to rejection. The rejected equipment may be offered again for retest provided all noncompliance has been corrected.

If a failure pattern develops in similar units within the system, implement corrective measures, including modification or replacement of units, on all similar units within the system as directed. Perform the corrective measures without additional cost or extension of the Contract period.

3.6.1.7.1. **Consequences of Design Approval Test Failure**. If the equipment fails the design approval test, correct the fault within 30 days and then repeat the design approval test until successfully completed.

3.6.1.7.2. **Consequences of Demonstration Test Failure**. If the equipment fails the demonstration test, correct the fault within 30 days and then repeat the demonstration test until successfully completed.

3.6.1.7.3. **Consequences of Field Acceptance (Stand-Alone) Test Failure**. If the equipment fails the stand-alone test, correct the fault within 30 days and then repeat the stand-alone test until successfully completed.

3.6.1.7.4. **Consequence of System Integration Test Failure**. If the equipment fails the system integration test, correct the fault within 30 days and then repeat the system integration test until successfully completed.

3.6.1.7.5. **Consequences of Final Acceptance Test Failure**. If a defect within the system is detected during the final acceptance test, document and correct the source of failure. Once corrective measures are taken, monitor the point of failure until a 30-consecutive-day period free of defects is achieved.

If after completion of the initial test period the system downtime exceeds 72 hr. or individual points of failure have not operated for 30 consecutive days free of defects, extend the test period by an amount of time equal to the greater of the downtime more than 72 hr. or the number of days required to complete the performance requirement of the individual point of failure.

3.7. **Warranty**. Warrant the equipment against defects or failure in design, materials, and workmanship for at least 3 yr. or in accordance with the manufacturer's standard warranty if that warranty period is greater. The start date of the manufacturer's standard warranty will begin after the equipment has successfully passed all

tests contained in the final acceptance test plan. Any CCTV field equipment with less than 90% of its warranty remaining after the final acceptance test is completed will not be accepted by the City. Guarantee that equipment furnished and installed for this project performs according to the manufacturer's published specifications. Assign, to the City, all manufacturer's normal warranties or guarantees on all electronic, electrical, and mechanical equipment, materials, technical data, and products furnished for and installed on the project.

CCTV field equipment must be repaired or replaced at the Contractor's expense before completion of the final acceptance test plan in the event of a malfunction or failure. Furnish replacement parts for all equipment within 10 days of notification of failure by the City.

3.8. **Training**. Conduct a training class on installation, operations, programming hardware settings, IP programming, port settings, testing, maintenance, troubleshooting, and repair of all equipment specified herein for at least 24 hr., unless otherwise directed, for up to 10 representatives designated by the City. Submit to the Engineer for approval 10 copies of the training material at least 30 days before the training begins. Conduct training within the local area unless otherwise authorized.

4. MEASUREMENT

This Item will be measured by each CCTV field equipment unit and mounting apparatus furnished and installed, of the types specified as shown on the plans, or as directed.

5. PAYMENT

5.1. **Furnish and install**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "CCTV Field Equipment (Digital)", "CCTV Field Equipment (Digital)(Artificial Intelligence)". This price is full compensation for making fully operational CCTV field equipment, including any voltage converters or injectors; cables and connectors as shown on the plans; and all documentation, testing, training, software, equipment, labor, materials, tools, and incidentals.

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Foreword

OUTLINE OF SPECIFICATIONS

Each specification is outlined by articles and sections. The basic articles required for a specification are:

1. **DESCRIPTION**
2. **MATERIALS**
3. **EQUIPMENT**
4. **CONSTRUCTION OR WORK METHODS**
5. **MEASUREMENT**
6. **PAYMENT**

Some articles are not used in every item. Measurement and Payment articles are combined when the work described is subsidiary to bid items of the Contract.

HIERARCHY OF ORGANIZATIONAL ELEMENTS

Here "XXX" represents the item number. The hierarchy of organizational elements available below the item level is as follows:

XXX.1., Article
XXX.1.1., Section
XXX.1.1.1., Section
XXX.1.1.1.1., Section
XXX.1.1.1.1.1., Section
XXX.1.1.1.1.1.1., Section

The term section is used for all breaks below the article.

City of Brownsville – Specification 680-0006
Traffic Signal Controller

1. DESCRIPTION

- **Installation**. Install highway traffic signals.
- **Upgrade.** Modify or change existing traffic signals as shown on the plans.
- **Removal**. Remove, store, and salvage traffic signals.

2. MATERIALS

Ensure electrical materials and construction methods conform to the NEC and additional local utility requirements.

Furnish new materials as shown on the plans. Ensure all materials and construction methods are as shown on the plans and in accordance with this Item and the following Items.

- Item 450, "Railing"
- Item 610, "Roadway Illumination Assemblies"
- Item 618, "Conduit"
- Item 620, "Electrical Conductors"
- Item 621, "Tray Cable"
- Item 625, "Zinc-Coated Steel Wire Strand"
- Item 628, "Electrical Services"
- Item 636, "Signs"
- Item 656, "Foundations for Traffic Control Devices"
- Item 682, "Vehicle and Pedestrian Signal Heads"
- Item 684, "Traffic Signal Cables"
- Item 686, "Traffic Signal Pole Assemblies"
- Item 687, "Pedestrian Pole Assemblies"
- Item 688, "Pedestrian and Vehicle Detectors"

Provide controller assemblies in accordance with DMS-11170, "Fully Actuated, Solid-State Traffic Signal Controller Assembly," and as shown on the plans. When shown on the plans, anti-gaffitti coating will be in accordance with DMS-8111, "Anti-Graffiti Coatings."

Provide devices in accordance with DMS-11171, "Malfunction Management Unit (MMU)," and as shown on the plans.

Provide controllers in accordance with DMS-11172, "Preemption Controller," and as shown on the plans.

Provide controllers in accordance with DMS-11173, "Traffic Controller," and as shown on the plans.

Provide prequalified controller assemblies from the Department's MPL.

Provide flasher assemblies in accordance with DMS-11160, "Flasher Controller Assembly," and as shown on the plans.

Provide prequalified flasher assemblies from the Department's MPL.

Sampling and testing of traffic signal controller assemblies and internal devices will be in accordance with Tex-1170-T.

3. CONSTRUCTION

3.1. **Installation**. Install traffic signal controller foundations in accordance with Item 656.

3.1.1. **Electrical Requirements**.

3.1.1.1. **Electrical Services**. Arrange for electrical services and install and supply materials not provided by the utility company as shown on the plans. Install 120V, single-phase, 60-Hz AC electrical service unless otherwise shown on the plans.

3.1.1.2. **Conduit**. Install conduit and fittings of the sizes and types shown on the plans. Conduit of larger diameter size than that shown on the plans may be used with no additional compensation, providing the same diameter size is used for the entire length of the conduit run. Extend conduit in concrete foundations 2–3 in. above the concrete. Seal the ends of each conduit with approved sealant, after all cables and conductors are installed.

3.1.1.3. **Wiring**. Furnish stranded XHHW conductors as shown on the plans. If a size is not shown on the plans, use a minimum No. 14 AWG. Install aboveground cables and conductors in rigid metal conduit, except for span wire suspended cables and conductors, drip loops, and electrical wiring inside signal poles, unless otherwise shown on the plans. Make power entrances to ground-mounted controllers through underground conduit. Wire each signal installation to operate as shown on the plans.

Attach ends of wires to properly sized self-insulated solderless terminals. Attach terminals to the wires using a ratchet-type compression crimping tool properly sized to the wire. Place pre-numbered identification tags of plastic or tape around each wire adjacent to wire ends in the controller and signal pole terminal blocks.

Do not strip traffic signal cable until it has passed into the location that requires termination.

Splices will not be permitted except as shown on the plans, unless each individual splice is approved in writing. Make all allowed splices watertight.

Ensure both neutral buses are located with one on the left and one on the right bonded together. Relocate neutral bus if not oriented in the cabinet in this manner.

Ensure gauge of wire size used to connect electrical equipment inside the cabinet is sized appropriately for amperage load for the specific device, circuit breaker, or duplex receptacle in accordance with the NEC.

Install Category 6 Ethernet communication cables in accordance with Special Specification, "Networking Intelligent Transportation System (ITS) Communication Cable," and connect networked equipment inside the controller cabinet assembly to field Ethernet switch following the color scheme and assignment information as follows.

- **White**. Ethernet switch (1-ft. patch cord).
- **Blue**. Traffic signal controller.
- **Green**. Malfunction monitor unit (MMU).
- **Red**. Battery backup unit (BBU).
- **Yellow**. Accessible pedestrian system.
- **Black**. Detection (e.g., radar and video).
- **Purple**. Pan, tilt, and zoom (PTZ) camera.
- **Orange**. Other.
- **Gray**. Other.

- **Pink**. Broadband radio.

A standard bundle of cables provided by the cabinet vendor is identified in DMS-11170. Additional CAT 6 Ethernet cables, provided as necessary, must follow the color scheme and assignment above to connect additional networked equipment.

Railroad connection between traffic cabinet and bungalow must be a minimum No. 14 AWG 15-conductor and follow the color code chart shown in Table 1.

Table 1
Railroad Preemption Color Code and Functional Connection

Conductor	Color Code	Railroad Interface Field Terminal Connections	Conductor Identification
1	Black	HLTH-	Health Status DC-
2	White	–	Spare
3	Red	HLTH+	Health Status DC+
4	Green	–	Spare
5	Orange	XR IN	Simultaneous DC-
6	Blue	TCR IN	Advance DC-
7	White/black stripe	–	Spare
8	Red/black stripe	GD/ISLD IN	Gate Down/Island
9	Green/black stripe	APP OUT	Advance Pedestrian Preemption
10	Orange/black stripe	XR OUT	Simultaneous
11	Blue/black stripe	TCR OUT	Advance Primary
12	Black/white stripe	–	Spare
13	Red/white stripe	GD/ISLD OUT	Gate Down/Island DC-
14	Green/white stripe	APP IN	Advance Pedestrian Preemption DC -
15	Blue/white stripe	SUPR	Advance Secondary

3.1.1.4. **Grounding and Bonding**. Ground and bond conductors in accordance with the NEC. Ensure the resistance from the grounded point of any equipment to the nearest ground rod is less than 1 ohm.

Install a continuous bare or green insulated stranded copper wire (equipment ground) throughout the electrical system that is the same size as the neutral conductor. If a size is not shown on the plans, use a minimum No. 8 AWG. Connect the equipment ground to all metal conduit, signal poles, controller housing, electrical service ground, ground rods, and all other metal enclosures and raceways. Inside the controller cabinet assembly, jumper between neutral bus and ground bus is not required. Remove jumper if provided by cabinet manufacturer.

Provide stranded copper wire bonding jumpers that are minimum No. 8 AWG.

3.1.2. **Controller Assemblies**. Construct controller assembly foundations in accordance with Item 656. Immediately before mounting the controller assembly on the foundation, apply a bead of exterior rated penetrating sealant to the cabinet base or cabinet riser. Seal any space between conduit entering the controller assembly and the foundation with exterior rated penetrating sealant.

Stake cabinet foundation forms and underground conduit entering the foundation before installation and secure Department approval before pouring foundation. Cabinet location may vary from that shown on the plans to accommodate field conditions as approved. For controller cabinet assemblies installed on a slope, ensure the cabinet primary door faces and opens to the low side of the slope. If safety rail is required as shown on the plans, it must be in accordance with Item 450. Furnish anchor bolts to mount the cabinet or cabinet riser to the foundation. Manufacturer to determine the appropriate size and type of anchor bolt by cabinet type and foundation size. Provide appropriate mounting plates and any other necessary hardware to mount the cabinet on a foundation.

Coordinate with the Department on delivery of cabinet keys. Place the instruction manual and wiring diagrams for all equipment in the controller cabinet inside the controller cabinet.

3.1.3. **Preservation of Sod, Shrubbery, and Trees**. Replace sod, shrubbery, and trees damaged during the Contract.

3.1.4. **Removal and Replacement of Curbs and Walks**. Obtain approval before cutting into or removing walks or curbs not shown on the plans to be removed or replaced. Restore any curbs or walks removed equivalent to original condition after work is completed, to the satisfaction of the Engineer.

3.1.5. **Intersection Illumination**. Install luminaires on signal poles as shown on the plans.

3.1.6. **Signal Timing Plan**. The traffic signal timing plan will be provided by the Department or local entity.

3.1.7. **Test Period**. Operate completed traffic signal installations continuously for at least 30 days in a satisfactory manner. Designate in writing a sufficiently skilled individual responsible for maintenance and operation of the traffic signals who is available 24 hr. per day, and able to be onsite within 24 hr. of notification by the Engineer, unless otherwise shown on the plans. If any Contractor-furnished equipment fails during the 30-day test period, repair or replace that equipment. This repair or replacement, except lamp replacement, will start a new 30-day test period.

Replace materials that are damaged or have failed before acceptance. Replace failed or damaged existing signal system components when caused by the Contractor. The Department will relieve the Contractor of maintenance responsibilities upon passing a 30-day performance test of the signal system and acceptance of the Contract.

3.2. **Upgrade**. Remove the existing items and install new items as shown on the plans or as directed. For newly installed items, refer to Section 680.3.1., "Installation." Ensure items designated for salvage are removed in a manner to avoid undue stress or damage. When the removed item leaves an opening, cover the opening with similar material to an equivalent condition. When the removed item leaves an unused signal cable, remove the cable. When the removed item leaves unused conductors within a signal cable still in use, trim back and tape off to ensure no electrical shorts by unused conductors. Store items designated for reuse or salvage at locations shown on the plans or as directed.

3.3. **Removal**. Remove existing electrical services, pedestal poles, strain poles, mast arm pole assemblies, luminaires, signal heads, vehicle detector equipment, controllers, cables, and other accessories. Remove materials so damage does not occur. Remove and store items designated for reuse or salvage at locations shown on the plans or as directed.

Remove abandoned concrete foundations, including steel, to a point 2 ft. below final grade. Backfill holes with material equal in composition and density to the surrounding area. Replace surfacing material with similar material to an equivalent condition.

Accept ownership and dispose of unsalvageable materials in conformance with federal, state, and local regulations.

4. MEASUREMENT

This Item will be measured by each traffic signal installed, upgraded, or removed. A traffic signal is a signalized intersection controlled by a single traffic signal controller.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Installation of Traffic Signals" of the type (traiffic signal or flashing beacon) specified, or "Removing Traffic Signals."

5.1. **Installation**. This price is full compensation for furnishing, installing, and testing the completed installation of the traffic signal controller and associated equipment with network cabling, controller assembly, foundations, luminaires, damping plates, mounting hardware, and Department-provided items; preservation and replacement of damaged sod, shrubbery, and trees; removal and replacement of curbs and walks; and materials, equipment, labor, tools, and incidentals. The Department will pay for electrical energy consumed by the traffic signal.

New drilled shaft foundations for traffic signal poles will be paid for under Item 416, "Drilled Shaft Foundations." New safety rail will be paid for under Item 450. New sidewalks or pedestrian ramps will be paid for under Item 531, "Sidewalks." New conduit will be paid for under Item 618. New electrical conductors will be paid for under Item 620. New ground boxes will be paid for under Item 624, "Ground Boxes." New span wire will be paid for under Item 625. Wire lashing or cable ties required to secure aerial cables to the messenger wire will be subsidiary. New electrical services will be paid for under Item 628. New signs will be paid for under Item 636. New internally illuminated signs will be paid for under Special Specification. New vehicle and pedestrian signal heads will be paid for under Item 682. New traffic signal cables will be paid for under Item 684. New traffic signal pole assemblies will be paid for under Item 686. New traffic signal detectors will be paid for under Item 688 or Special Specification.

If the design of the intersection control spans more than one intersection, such as a restricted crossing U-turn (RCUT), and requires more than one traffic signal cabinet, this Item will be measured by each traffic signal cabinet installed.

5.2. **Upgrade**. This price is full compensation for removing the various traffic signal components; removing the controller foundations; disposal of unsalvageable materials; hauling; and materials, equipment, labor, tools, and incidentals, as shown on the plans or as directed. This price is full compensation for furnishing, installing, and testing the completed installation, controller and associated equipment, controller foundations, luminaires, damping plates, and mounting hardware; preservation and replacement of damaged sod, shrubbery, and trees; removal and replacement of curbs and walks; and materials, equipment, labor, tools, and incidentals. The Department will pay for electrical energy consumed by the traffic signal.

New drilled shaft foundations for traffic signal poles will be paid for under Item 416. New sidewalks or pedestrian ramps will be paid for under Item 531. New conduit will be paid for under Item 618. New electrical conductors will be paid for under Item 620. New ground boxes will be paid for under Item 624. New span wire will be paid for under Item 625. Wire lashing or cable ties required to secure aerial cables to the messenger wire will be subsidiary. New electrical services will be paid for under Item 628. New signs will be paid for under Item 636. New internally illuminated signs will be paid for under Special Specification. New vehicle and pedestrian signal heads will be paid for under Item 682. New traffic signal cables will be paid for under Item 684. New traffic signal pole assemblies will be paid for under Item 686. New traffic signal detectors will be paid for under Item 688 or Special Specification.

5.3. **Removal**. This price is full compensation for removing the various traffic signal components; removing the controller foundations; disposal of unsalvageable materials; hauling; and materials, equipment, labor, tools, and incidentals.

Items 1L–9L

Local Government General Requirements and Covenants

Item 1L
Abbreviations and Definitions

1. APPLICABILITY

Wherever the following terms are used in these specifications or other Contract documents, the intent and meaning will be interpreted as shown below.

2. ABBREVIATIONS

AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standard Committee, Inc.
AMPP	Association for Materials Protection and Performance
AMRL	AASHTO Materials Reference Laboratory
ANLA	American Nursery and Landscape Association
ANSI	American National Standards Institute
APA	The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
AREMA	American Railway Engineering and Maintenance-of-Way Association
ASBI	American Segmental Bridge Institute
ASCE	American Society of Civil Engineers
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASTM	American Society for Testing and Materials
AWC	American Wood Council
AWG	American Wire Gage
AWPA	American Wood Protection Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BMP	Best Management Practices
CFR	Code of Federal Regulations
CMP	Corrugated Metal Pipe
COE	U.S. Army Corps of Engineers
CRSI	Concrete Reinforcing Steel Institute
DBE	Disadvantaged Business Enterprise
DMS	Departmental Materials Specification
EIA	Electronic Industries Alliance
EPA	U.S. Environmental Protection Agency
FHWA	Federal Highway Administration, U.S. Department of Transportation
FSS	Federal Specifications and Standards (General Services Administration)
GSA	General Services Administration
HUB	Historically Underutilized Business
ICEA	Insulated Cable Engineers Association

IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IMSA	International Municipal Signal Association
ISO	International Organization for Standardization
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation System
LG	Local Government
LRFD	Load and Resistance Factor Design
MASH	Manual for Assessing Safety Hardware
MPL	Material Producer List
NCHRP	National Cooperative Highway Research Program
NCR	Nonconformance Report
NEC	National Electrical Code (Published by NFPA)
NEMA	National Electrical Manufacturers Association
NEPA	National Environmental Policy Act
NESC	National Electrical Safety Code
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
NPCA	National Precast Concrete Association
NRM	Nonhazardous Recyclable Material
NRMCA	National Ready Mixed Concrete Association
NSBA	National Steel Bridge Alliance
OSHA	Occupational Safety and Health Administration, U.S. Department of Labor
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PPI	Plastics Pipe Institute
PS&E	Plans, Specifications, and Estimates
PSL	Project Specific Location
PTI	Post-Tension Institute
QA	Quality Assurance
QC	Quality Control
RCP	Reinforced Concrete Pipe
RPLS	Registered Public Land Surveyor
RRC	Railroad Commission of Texas
SBE	Small Business Enterprise
SFPA	Southern Forest Products Association
SI	International System of Units
SPIB	Southern Pine Inspection Bureau
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TDLR	Texas Department of Licensing and Regulation
TMUTCD	Texas Manual on Uniform Traffic Control Devices
UL	Underwriters Laboratory, Inc.
USC	United States Code
WRI	Wire Reinforcement Institute
WWPA	Western Wood Products Association

3. DEFINITIONS

3.1. **Abrasive Blasting**. Spraying blasts of pressurized air combined with abrasive media.

3.2. **Actual Cost**. Contractor's actual cost to provide labor, material, equipment, and project overhead necessary for the work.

3.3. **Addendum**. Change in proposal forms developed between advertising and bid submittal deadline.

3.4. **Additive Alternate**. A bid item contained in a proposal that is not a regular item or a replacement alternate bid item. The additive alternate item(s) include work that may be added to the base bid at the time of letting.

3.5. **Advertisement**. The public announcement required by law inviting bids for work to be performed or materials to be furnished.

3.6. **Affiliates**. Two or more Bidders are affiliated if they share common officers, directors, or stockholders; a family member of an officer, director, or stockholder of one Bidder serves in a similar capacity in another of the Bidders; an individual who has an interest in, or controls a part of, one Bidder either directly or indirectly also has an interest in, or controls a part of, another of the Bidders; the Bidders are so closely connected or associated that one of the Bidders, either directly or indirectly, controls or has the power to control another Bidder; one Bidder controls or has the power to control another Bidder; or the Bidders are closely allied through an established course of dealings, including, but not limited to, the lending of financial assistance. Refer to 43 TAC § 9.12(g), "Affiliated Entities."

3.7. **Air Blasting**. Spraying blasts of pressurized air free of oil and moisture.

3.8. **Air Temperature**. The temperature measured in degrees Fahrenheit (°F) in the shade, not in the direct rays of the sun, and away from artificial heat.

3.9. **Anticipated Profit**. Profit for work not performed.

3.10. **Apparent Low Bidder**. The Bidder determined to have the numerically lowest total bid as a result of the tabulation of bids by the Owner.

3.11. **Architect of Record**. A person registered as an architect or licensed as a landscape architect, in conformance with State law, exercising overall responsibility for the design or a significant portion of the design and performing certain Contract administration responsibilities as described in the Contract; or a firm employed by the Owner to provide professional architectural services.

3.12. **Arterial Highway**. A highway used primarily for through traffic and usually on a continuous route.

3.13. **Available Bidding Capacity**. Not applicable to Locally Let projects.

3.14. **Award**. The Owner's acceptance of a Contractor's bid for a proposed Contract that authorizes the Owner to enter into a Contract.

3.15. **Bid**. The offer from the Bidder for performing the work described in the proposal.

3.16. **Bid Bond**. The security executed by the Contractor and the Surety furnished to the Owner to guarantee payment of liquidated damages if the Contractor fails to enter into an awarded Contract.

3.17. **Bid Error**. A mathematical mistake made by a Bidder in the unit price entered into the proposal.

3.18. **Bidder**. An individual, partnership, limited liability company, corporation, or joint venture submitting a bid for a proposed Contract.

3.19. **Bidders Questionnaire**. A prequalification form that reflects detailed equipment and experience data but waives audited financial data.

3.20. **Bidding Capacity**. Not applicable to Locally Let projects.

3.21. **Blast Cleaning**. Using one of the blasting methods including, but not limited to water blasting, low-pressure water blasting, high-pressure water blasting, abrasive blasting, water-abrasive blasting, shot blasting, slurry blasting, water -injected abrasive blasting, and brush blasting.

3.22. **Bridge**. A structure, including supports, erected over a depression or an obstruction (e.g., water, a highway, or a railway) with a roadway or track for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 ft. between faces of abutments, spring lines of arches, or extreme ends of the openings for multiple box culverts.

3.23. **Brush Blasting**. Sweeping lightly with an abrasive blast to remove loose material.

3.24. **Building Contract**. Not applicable to Locally Let projects.

3.25. **Callout Work**. Contracts, or work items in Contracts, that require a Contractor's response on an as-needed basis (e.g., see Item 351, "Flexible Pavement Structure Repair").

3.26. **Certificate of Insurance**. A form approved by the Owner covering insurance requirements stated in the Contract.

3.27. **Change Order**. Written order to the Contractor detailing changes to the specified work, item quantities, or any other modification to the Contract.

3.28. **Commission**. The Texas Transportation Commission or authorized representative.

3.29. **Concrete Construction Joint**. A joint formed by placing plastic concrete in direct contact with concrete that has attained its initial set.

3.30. **Concrete Repair Manual**. TxDOT manual specifying methods and procedures for concrete repair as an extension of the standard specifications.

3.31. **ConcreteWorks©**. TxDOT-owned software for concrete heat analysis. Software is available on the TxDOT's website.

3.32. **Confidential Questionnaire**. A prequalification form that reflects detailed financial and experience data.

3.33. **Construction Contract**. A Contract entered under state law for the construction, reconstruction, repair, or maintenance of a segment of the Owner's or State transportation highway system.

3.34. **Consultant**. The licensed professional engineer or engineering firm, or the architect or architectural firm, registered in the State of Texas and under Contract to the Owner to perform professional services. The consultant may be the Engineer or architect of record or may provide services through and be subcontracted to the Engineer or architect of record.

3.35. **Contract**. The agreement between the Owner and the Contractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.

3.36. **Contract Documents**. Elements of the Contract including, but not limited to, the plans, specifications incorporated by reference, special provisions, special specifications, Contract bonds, change orders, and supplemental agreements.

3.37. **Contract Time**. The number of working days specified for completion of the work, including authorized additional working days.

3.38. **Contractor**. The individual, partnership, limited liability company, corporation, or joint venture and all principals and representatives with which the Contract is made by the Owner.

3.39. **Control of Access**. The condition in which the right to access of owners or occupants of abutting land or other persons in connection with a highway is fully or partially controlled by public authority.

3.40. **Control Point**. An established point shown on the plans to provide vertical and horizontal references for geometric control for construction.

3.41. **Controlled Access Highway**. Any highway to or from which access is denied or controlled, in whole or in part, from or to abutting land or intersecting streets, roads, highways, alleys, or other public or private ways.

3.42. **Cross-Sections**. Graphic representations of the original ground and the proposed facility, at right angles to the centerline or base line.

3.43. **Culvert**. Any buried structure providing an opening under a roadway for drainage or other purposes. Culverts may also be classified as bridges. (See Section 1.3.22., "Bridge.")

3.44. **Cycle**. The activity necessary for performing the specified work within the right of way project limits once.

3.45. **Daily Road-User Cost**. Damages based on the estimated daily cost of inconvenience to the traveling public resulting from the work.

3.46. **Debar (Debarment)**. Disqualification of an entity from bidding on or entering into a Contract with the Owner, from participating as a subcontractor under a Contract with the Owner, and from participating as a supplier of materials or equipment to be used under a Contract with the Owner.

3.47. **Department**. The Texas Department of Transportation (TxDOT).

3.48. **Departmental Materials Specifications**. Reference specifications for various materials published by the Materials and Tests Division.

3.49. **Detour**. A temporary traffic route around a closed portion of a road.

3.50. **Direct Traffic Culvert**. Concrete box culvert whose top slab is used as the final riding surface or is to have an overlay or other riding surface treatment.

3.51. **Disadvantaged Business Enterprise**. A for-profit small business certified through the Texas Unified Certification Program in accordance with 49 CFR Part 26, that is at least 51% owned by one or more socially and economically disadvantaged individuals, or in the case of a publicly owned business, in which at least 51% of the stock is owned by one or more socially and economically disadvantaged individuals, and whose management and daily business operations are controlled by one or more of the individuals who own it.

3.52. **Divided Highway**. A highway with separate roadways intended to move traffic in opposite directions.

3.53. **Easement**. A real property right acquired by one party to use land belonging to another party for a specified purpose.

3.54. **Electronic Vault**. The Owner's bidding system where electronic bids are stored before bid opening.

3.55. **Engineer**. The Chief Engineer of the Owner or the authorized representative of the Chief Engineer.

3.56. **Equipment Watch**. Publication containing equipment rental rates.

3.57. **Escalation Ladder**. A process to determine issue resolution during the course of the Contract.

3.58. **Expressway**. A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at intersections.

3.59. **Family Member**. A family member of an individual is the individual's parent, parent's spouse, stepparent, stepparent's spouse, sibling, sibling's spouse, spouse, child, child's spouse, spouse's child, spouse's child's

spouse, grandchild, grandparent, uncle, uncle's spouse, aunt, aunt's spouse, first cousin, or first cousin's spouse. Refer to 43 TAC § 9.12(g), "Affiliated Entities."

3.60. **Force Account**. Payment for directed work based on the actual cost of labor, equipment, and materials furnished with markups for project overhead and profit.

3.61. **Freeway**. An expressway with full control of access.

3.62. **Frontage Road**. A local street or road auxiliary to and located along an arterial highway for service to abutting property and adjacent areas and for control of access (sometimes known as a service road, access road, or insulator road).

3.63. **Hazardous Materials or Waste**. Hazardous materials or waste include, but are not limited to, explosives, compressed gas, flammable liquids, flammable solids, combustible liquids, oxidizers, poisons, radioactive materials, corrosives, etiologic agents, and other material classified as hazardous by 40 CFR 261, or applicable state and federal regulations.

3.64. **High-Pressure Water Blasting**. Water blasting with pressures between 5,000 and 10,000 psi.

3.65. **Highway, Street, or Road**. General terms denoting a public way for purposes of and related to vehicular, pedestrian, and bicycle travel, including the entire area within the right of way including Intersections and Easements; all related structures, improvements, and appurtenances, including but not limited to the roadside and roadside facilities, drainage systems, signal systems, and other traffic in formation and control systems; or other structures or improvements that directly or indirectly serve public travel. Recommended usage in urban areas is highway or street, and in rural areas, highway or road.

3.66. **Historically Underutilized Business (HUB)**. A corporation, sole proprietorship, partnership, or joint venture formed for the purpose of making a profit certified by the Texas Building and Procurement Commission, and 51% owned by one or more persons who are economically disadvantaged because of their identification as members of certain groups, including African Americans, Hispanic Americans, Asian-Pacific Americans, Native Americans, or women, and have a proportionate interest and demonstrate active participation in the control, operation, and management of the business' affairs. Individuals meeting the HUB definition are required to be residents of the State of Texas. Businesses that do not have their primary headquarters in the State of Texas are not eligible for HUB certification.

3.67. **In Writing**. Communication memorialized, including written or electronic documentation by email or letter only.

3.68. **Incentive and Disincentive Provisions**. An adjustment to the Contract price of a predetermined amount for each day the work is completed ahead of or behind the specified milestone, phase, or Contract completion dates. The amount of the incentive and disincentive is determined based on estimated costs for engineering, traffic control, delays to the motorists, and other items involved in the Contract.

3.69. **Independent Assurance Tests**. Tests used to evaluate the sampling and testing techniques and equipment used in the acceptance program. The tests are performed by the Owner and are not used for acceptance purposes.

3.70. **Inspector**. The person assigned by the Engineer to inspect for compliance with the Contract any or all parts of the work and the materials used.

3.71. **Intelligent Transportation System**. An integrated system that uses video and other electronic detection devices to monitor traffic flows.

3.72. **Intersection**. The general area where two or more highways, streets, or roads join or cross, including the roadway and roadside facilities for vehicular, pedestrian, and bicycle traffic movements within it.

3.73. **Island**. An area within a roadway from which vehicular traffic is intended to be excluded, together with any area at the approach occupied by protective deflecting or warning devices.

3.74. **Joint Venture**. Any combination of individuals, partnerships, limited liability companies, or corporations submitting a single bid proposal.

3.75. **Lane Rental**. A method to assess the Contractor daily or hourly rental fees for each lane, shoulder, or combination of lanes and shoulders taken out of service.

3.76. **Letting**. The receipt, opening, tabulation, and determination of the apparent low Bidder.

3.77. **Letting Official**. The employee empowered by the Owner to officially receive bids and close the receipt of bids at a letting.

3.78. **Licensed Professional Engineer**. A person who has been duly licensed by the Texas Board of Professional Engineers to engage in the practice of engineering in the State of Texas; also referred to as a Professional Engineer.

3.79. **Limits of Construction**. An area with established boundaries, identified within the highway right of way and easements, where the Contractor is permitted to perform the work.

3.80. **Local Street or Road**. A street or road primarily for access to residence, business, or other abutting property.

3.81. **Low-Pressure Water Blasting**. Water blasting with pressures between 3,000 and 5,000 psi.

3.82. **Major Item**. An item of work included in the Contract that has a total cost equal to or greater than 5% of the original Contract or $100,000 whichever is less. A major item at the time of bid will remain a major item. An item not originally a major item does not become one through the course of the Contract.

3.83. **Material Producer List**. TxDOT-maintained list of approved products, materials, laboratories, service providers, manufacturers, and producers.

3.84. **Materially Unbalanced Bid**. A bid that generates a reasonable doubt that award to the Bidder submitting a mathematically unbalanced bid will result in the lowest ultimate cost to the Owner.

3.85. **Materials Contract**. Not applicable to Locally Let projects.

3.86. **Materials Supplier's Questionnaire**. A prequalification form that reflects basic information, such as company contact, signature authority, and other requirements, but waives financial, equipment, and experience data.

3.87. **Mathematically Unbalanced Bid**. A bid containing bid prices that do not reflect reasonable actual costs plus a reasonable proportionate share of the Bidder's anticipated profit, overhead costs, and other indirect costs.

3.88. **Median**. The portion of a divided highway separating the traffic lanes in opposite directions.

3.89. **Milestone Date**. The date that a specific portion of the work is to be completed before the completion date for all work under the Contract.

3.90. **Monolithic Concrete Placement**. The placement of plastic concrete in such manner and sequence to prevent a construction joint.

3.91. **National Holidays**. January 1, the last Monday in May, July 4, the first Monday in September, the fourth Thursday in November, December 24, and December 25.

3.92. **Nonhazardous Recyclable Material**. A material recovered or diverted from the nonhazardous waste stream for the purposes of reuse or recycling in the manufacture of products that may otherwise be produced using raw or virgin materials.

3.93. **Nonresident Bidder**. A Bidder whose principal place of business is not in Texas. This includes a Bidder whose ultimate parent company or majority owner does not have its principal place of business in Texas.

3.94. **Nonresponsive Proposal**. A proposal that does not meet the criteria for acceptance contained in the proposal form.

3.95. **Non-Site-Specific Contracts**. Contracts where a geographic region is specified for the work and work orders, with or without plans, detail the limits and work to be performed.

3.96. **Notification**. Either written or oral instruction to the Contractor. Voice mail is oral notification.

3.97. **Pavement**. That part of the roadway with a constructed surface for the use of vehicular traffic.

3.98. **Pavement Structure**. Combination of surface course and base course placed on a subgrade to support the traffic load and distribute it to the roadbed.

3.98.1. **Base Course**. One or more layers of specified material thickness placed on a subgrade to support a surface course.

3.98.2. **Subgrade**. The top surface of a roadbed upon which the pavement structure, shoulders, and curbs are constructed.

3.98.3. **Subgrade Treatment**. Modifying or stabilizing material in the subgrade.

3.98.4. **Surface Course**. Pavement structure layers designed to accommodate the traffic load. The top layer resists skidding, traffic abrasion, and the disintegrating effects of climate and is sometimes called the wearing course.

3.99. **Payment Bond**. The security executed by the Contractor and the Surety, furnished to the Owner to guarantee payment of all legal debts of the Contractor pertaining to the Contract.

3.100. **Performance Bond**. The security executed by the Contractor and the Surety, furnished to the Owner to guarantee the completion of the work in accordance with the terms of the Contract.

3.101. **Plans**. The drawings approved by the Engineer, including true reproductions of the drawings that may show the location, character, dimensions, and details of the work and are a part of the Contract. Documents may include drawings or digital files.

3.102. **Power of Attorney for Surety Bonds**. An instrument under corporate seal appointing an attorney-in-fact to act on behalf of a Surety in signing bonds.

3.103. **Prequalification**. The process for determining a Contractor's eligibility to bid work.

3.104. **Prequalification Statement**. The forms on which required information is furnished concerning the Contractor's ability to perform and finance the work.

3.105. **Project-Specific Location**. A material source, plant, waste site, parking area, storage area, field office, staging area, haul road, or other similar location either outside the project limits or within the project limits but not specifically addressed in the Contract.

3.106. **Proposal**. The offer from the Bidder submitted on the prescribed form, including addenda issued, giving unit bid prices for performing the work described in the plans and specifications.

3.107. **Proposal Form**. The form printed and sent to the Bidder by the Owner or printed by the Bidder from the Owner's bidding system.

3.108. **Proposal Guaranty**. The security furnished by the Bidder as a guarantee that the Bidder will enter into a Contract if awarded the work.

3.109. **Quality Assurance (QA)**. Sampling, testing, inspection, and other activities conducted by the Engineer to determine payment and make acceptance decisions.

3.110. **Quality Control (QC)**. Sampling, testing, and other process control activities conducted by the Contractor to monitor production and placement operations.

3.111. **Ramp**. A section of highway for the primary purpose of making connections with other highways.

3.112. **Recurring Maintenance Work Contracts**. Contracts or work for which maintenance is needed at the same location on more than one occasion (e.g., mowing Contracts for which mowing cycles are requested on multiple occasions).

3.113. **Referee Tests**. Tests requested to resolve differences between Contractor and Engineer test results.

3.114. **Regular Item**. A bid item contained in a proposal and not designated as an additive alternate or replacement alternate bid item.

3.115. **Rental Rate Blue Book for Construction Equipment**. Publication containing equipment rental rates.

3.116. **Repair**. Performed under Transportation Code §223, Subchapter A for Highway Improvement Contracts and includes restoration of a Highway, Street, or Road by replacing or putting together, in whole or in part, what is torn, broken, or otherwise damaged. Repair denotes the process of restoring all or part of a Highway, Street, or Road that has been subjected to decay, waste, injury, partial destruction, erosion, dilapidation, degradation, etc.

3.117. **Replacement Alternate**. A bid item identified the proposal form that a Bidder may substitute for a specific regular item of work.

3.118. **Responsive Bid**. A proposal that meets all requirements of the proposal form for acceptance.

3.119. **Right of Way**. A general term denoting land or property devoted to transportation purposes.

3.120. **Roadbed**. The graded portion of a highway prepared as foundation for the pavement structure and shoulders. On divided highways, the depressed median type and the raised median type highways are considered to have two roadbeds. Highways with a flush median are considered to have one roadbed. Frontage roads are considered separate roadbeds.

3.121. **Road Master**. A railroad maintenance official in charge of a division of railway.

3.122. **Roadside**. The areas between the outside edges of the shoulders and the right of way boundaries. Unpaved median areas between inside shoulders of divided highways and areas within interchanges are included.

3.123. **Roadway**. The portion of the highway (including shoulders) used by the traveling public.

3.124. **Routine Maintenance Contract**. Not applicable to Locally Let projects.

3.125. **Sandblasting, Dry**. Spraying blasts of pressurized air combined with sand.

3.126. **Sandblasting, Wet**. Spraying blasts of pressurized water combined with sand.

3.127. **Shot Blasting**. Spraying blasts of pressurized air combined with metal shot.

3.128. **Shoulder**. That portion of the roadway contiguous with the traffic lanes for accommodation of stopped vehicles for emergency use or for lateral support of base and surface courses.

3.129. **Sidewalk**. Portion of the right of way constructed exclusively for pedestrian use.

3.130. **Slurry Blasting**. Spraying blasts of pressurized air combined with a mixture of water and abrasive media.

3.131. **Small Business Enterprise**. A firm (including affiliates) whose annual gross receipts do not exceed the U.S. Small Business Administration's size standards for 4 consecutive yr.

3.132. **Special Provisions**. Additions or revisions to these standard specifications or special specifications.

3.133. **Special Specifications**. Supplemental specifications applicable to the Contract not covered by these standard specifications.

3.134. **Specifications**. Directives or requirements issued or made pertaining to the method and manner of performing the work or to quantities and qualities of materials to be furnished under the Contract. References to DMSs, ASTM or AASHTO specifications imply the latest standard or tentative standard in effect on the date of the proposal. The Engineer will consider incorporation of subsequent changes to these documents in accordance with Item 4, "Scope of Work."

3.135. **State**. The State of Texas.

3.136. **State Holiday**. A holiday authorized by the State Legislature excluding optional State holidays and not listed in Section 1.3.91., "National Holidays." A list of State holidays can be found on the TxDOT's website.

3.137. **Station**. A unit of measurement consisting of 100 horizontal ft.

3.138. **Subcontract**. The agreement between the Contractor and subcontractor establishing the obligations of the parties for furnishing of materials and performance of the work prescribed in the Contract documents.

3.139. **Subcontractor**. An individual, partnership, limited liability company, corporation, or any combination thereof that the Contractor sublets, or proposes to sublet, any portion of a Contract, excluding a material supplier, a hauling firm hauling only from a commercial source to the project, a truck owner-operator, a wholly owned subsidiary, or specialty-type businesses such as security companies and rental companies.

3.140. **Subsidiary**. Materials, labor, or other elements that because of their nature or quantity have not been identified as a separate item and are included within the items on which they necessarily depend.

3.141. **Substantial Completion of Work**. The date (day) when all project work requiring lane or shoulder closures or obstructions is completed, and traffic is following the lane arrangement as shown on the plans for the finished roadway; all pavement construction and surfacing are complete; and traffic control devices and pavement markings are in their final position, unless otherwise shown on the plans. The Engineer may make an exception for permanent pavement markings provided the lack of markings does not cause a disruption to traffic flow or an unsafe condition for the traveling public, and work zone pavement markings are in place.

3.142. **Substructure**. The part of the structure below the bridge seats but not including bearings, drilled shafts, or piling. Parapets, back walls, wing walls of the abutments, and drainage structures are considered parts of the substructure.

3.143. **Superintendent**. The representative of the Contractor who is available at all times and able to receive instructions from the Engineer or authorized Owner representatives and to act for the Contractor.

3.144. **Superstructure**. The part of the structure above the bridge seats or above the springing lines of arches and including the bearings. Flatwork construction may be considered superstructure.

3.145. **Supplemental Agreement**. Written agreement entered into between the Contractor and the Owner and approved by the Surety, covering alterations and changes in the Contract. A supplemental agreement is used by the Owner whenever the modifications include assignment of the Contract from one entity to another or other cases as desired by the Owner.

3.146. **Surety**. The corporate body or bodies authorized to do business in Texas bound with and for the Contractor for the faithful performance of the work covered by the Contract and for the payment for all labor and material supplied in the prosecution of the work.

3.147. **Surplus Materials**. Any debris or material related to the Contract not incorporated into the work.

3.148. **Suspension**. Action taken by the Owner or federal government pursuant to regulation that prohibits a person or company from entering into a Contract, or from participating as a subcontractor, or supplier of materials or equipment used in a highway improvement Contract as defined in Transportation Code, Chapter 223, Subchapter A.

3.149. **Traffic Lane**. The strip of roadway intended to accommodate the forward movement of a single line of vehicles.

3.150. **Traveled Way**. The portion of the roadway for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

3.151. **Truck Owner-Operator**. An individual who owns and operates one truck for hire.

3.152. **UT-Bridge**. TxDOT-owned software for steel girder erection. Software is available on the TxDOT's website.

3.153. **UT-Lift**. TxDOT-owned software for steel girder erection. Software is available on the TxDOT's website.

3.154. **Utility**. Privately, publicly, or cooperatively owned lines, facilities, and systems for producing, transmitting, or distributing communications, power, heat, gas, oil, water, waste, or stormwater that are not connected with the highway drainage, signal systems, or other products that directly or indirectly serve the public; the utility company.

3.155. **Verification Tests**. Tests used to verify accuracy of QC and QA and mixture design testing.

3.156. **Water-Abrasive Blasting**. Spraying blasts of pressurized water combined with abrasive media.

3.157. **Water Blasting**. Spraying blasts of pressurized water of at least 3,000 psi.

3.158. **Water-Injected Abrasive Blasting**. Abrasive blasting with water injected into the abrasive and air stream at the nozzle.

3.159. **Wholly Owned Subsidiary**. A legal entity owned entirely by the Contractor or subcontractor.

3.160. **Work**. The furnishing of all labor, materials, equipment, and incidentals necessary for the successful completion of the Contract.

3.161. **Work Order**. Written notice to the Contractor to begin the work. The work order may include the date when work and time charges will begin, the allowable number of working days, and plan sheets providing details specific to a location or to an item of work for non-site-specific work. A work order is part of the Contract.

3.162. **Written Notice**. Written notice is considered to have been duly given if delivered in person to the individual or member to whom it is intended or if sent by regular, registered, or certified mail and delivered to the last

known business address; sent by facsimile to the last known phone number; or sent by email to the last known address. The date of the letter will serve as the beginning day of notice. Unclaimed mail or failure to provide current contact information will not be considered a failure to provide written notice.

Item 2L
Instructions to Bidders

1. INTRODUCTION

Instructions to the Contractor in these specifications are generally written in active voice, imperative mood. The subject of imperative sentences is understood to be "the Contractor." The Owner's responsibilities are generally written in passive voice, indicative mood. Phrases such as "as approved," "unless otherwise approved," "upon approval," "as directed," "as verified," "as ordered," and "as determined" refer to actions of the Engineer unless otherwise stated, and it is understood that the directions, orders, or instructions to which they relate are within the limitations of and authorized by the Contract.

2. ELIGIBILITY OF BIDDERS

Obtain a prequalification form from the Department's website. A Bidder must be prequalified by Confidential Questionnaire at the time of bid opening. Comply with all technical prequalification requirements in the proposal.

2.1. **Confidential Questionnaire (CQ)**. Submit a CQ and an audited financial statement for approval. Once prequalified, a Bidder's eligibility is valid for a period of 1 yr. from the balance sheet statement date.

2.2. **Bidder's Questionnaire (BQ)**. Bidders prequalified with a BQ are only eligible to bid on projects identified as being waived from the requirements of Section 2L.2.1., "Confidential Questionnaire (CQ)." These projects are designated with a "W" on the Proposal Request Form. Submit a BQ for approval. Once prequalified, a Bidder's eligibility is valid for a period of 1 yr. from the date the BQ was received by the Department.

3. ISSUING PROPOSAL FORMS

The Owner will issue a proposal form to a prequalified Bidder if the Engineer's estimate is within that Bidder's available bidding capacity. Request a proposal form electronically from the Owner's website. A proposal form printed directly from the Owner's website is for informational purposes only and will not be accepted as an official proposal form. In the case of a joint venture (JV), all JV participants must be prequalified. An equally divided portion of the Engineer's estimate must be within each participant's available bidding capacity.

The Owner will not issue a proposal form if one or more of the following apply:

- the Bidder is suspended or debarred by the Commission or TxDOT,
- the Bidder has not fulfilled the requirements for prequalification,
- the Bidder does not have the available bidding capacity,
- the Bidder is prohibited from rebidding a specific proposal form due to a bid error on the original proposal form,
- the Bidder failed to enter into a Contract on the original award,
- the Bidder was defaulted or terminated on the original Contract, unless the Owner terminated in the best interest of the State or the public,
- the Bidder or a subsidiary or affiliate of the Bidder has received compensation from the Owner to participate in the preparation of the plans or specifications on which the bid or Contract is based,
- the Bidder is ineligible to bid on any proposed Contract in accordance with Article 7L.15., "Responsibility for Damage Claims,"
- the Bidder failed to attend a mandatory pre-bid conference,

- the Bidder or affiliate of the Bidder that was originally determined as the apparent low Bidder on a project but was deemed nonresponsive for failure to register or participate in the Department of Homeland Security (DHS) E-Verify system as specified in Article 2.15., "Department of Homeland Security (DHS) E-Verify System," is prohibited from rebidding that specific project.

4. INTERPRETING ESTIMATED QUANTITIES

The quantities listed on the proposal form are approximate and will be used for the comparison of bids. Payments will be made for the work performed in accordance with the Contract.

5. EXAMINING DOCUMENTS AND WORK LOCATIONS

Examine the proposal form, plans, specifications, and specified work locations before submitting a bid for the work. Submitting a bid will be considered evidence that the Bidder has performed this examination. Borings, soil profiles, water elevations, and underground utilities shown on the plans were obtained for the Owner's use in the preparation of the plans. This information is provided for the Bidder's information only, and the Owner makes no representation as to the accuracy of the data. Be aware of the difficulty of accurately classifying all material encountered in making foundation investigations, the possible erosion of stream channels and banks after survey data have been obtained, and the unreliability of water elevations other than for the date recorded.

Oral explanations, instructions, or consideration for Contractor-proposed changes on the proposal form given during the bidding process are not binding. Only requirements included on the proposal form, associated specifications, plans, and Owner-issued addenda are binding. Request explanations of documents in adequate time to allow the Owner to reply before the bid opening.

Immediately notify the Owner of any error, omission, or ambiguity discovered in any part of the proposal form and Contract documents. The Owner will issue addenda when appropriate.

6. PREPARING THE BID

Prepare the bid on the proposal form furnished by the Owner. Informational proposal forms printed from the Owner's website will not be accepted.

Specify a unit price in dollars and cents for each regular item and additive alternate item, or replacement alternate item for which an estimated quantity is given.

When "Working Days" is an item, submit the number of working days to be used to complete the Contract or phases of the Contract shown on the plans.

The Owner will not accept an incomplete bid. A bid that has one or more of the deficiencies listed below is considered incomplete:

- certifications were not acknowledged,
- a regular item or the additive alternate item is left blank,
- a regular item and the corresponding replacement alternate item are left blank,
- the proposal form submitted had the incorrect number of items,
- the Bidder did not acknowledge all addenda, or
- additionally, for printed bids:

- the blank spaces for each item as required on the bid form are not filled in by writing in words in ink,
- the bid was not signed in ink in the complete and correct name of the bidder making the bid, and signed by the person or persons authorized to bind the bidder, or
- unit prices were not stated in dollars and cents for each bid item listed on the bid form, except in the case of a regular bid item that has an alternate bid item.

7. NONRESPONSIVE BID

The Owner will not accept a nonresponsive bid. A bid that has one or more of the deficiencies listed below is considered nonresponsive:

- the bid was not in the hands of the Letting Official at the time and location specified in the advertisement,
- a proposal form was submitted for the same project by a Bidder or Bidders and one or more of its partners or affiliates, the Bidder was not authorized to receive a proposal form under Article 2L.3., "Issuing Proposal Forms,"
- the Bidder failed to acknowledge receipt of all addenda issued,
- the proposal form was signed by a person who was not authorized to bind the Bidder or Bidders,
- the proposal guaranty did not comply with the requirements contained in this Item,
- the bid was in a form other than the official proposal form issued by the Owner,
- the Bidder modified the bid in a manner that altered the conditions or requirements for work as stated in the proposal form,
- the Bidder bid more than the maximum or less than the minimum number of allowable working days shown on the plans when working days was an item,
- a typed proposal form does not contain the information in the format shown on the "Example of Bid Prices Submitted by Computer Printout" on the proposal form,
- the Bidder did not meet the requirements of the technical qualification,
- the Bidder failed to participate in the DHS E-Verify system as specified in Article 2L.15., "Department of Homeland Security (DHS) E-Verify System." ■ The bidder is not prequalified by TxDOT

8. ELECTRONIC BID

The Bidder is responsible for taking the appropriate measures to submit a bid. These measures include, but are not limited to acquiring hardware, software, and Internet connectivity needed for submitting a bid via the Owner's bidding system.

8.1. **Proposal Form**. Use the electronic proposal form in the Owner's bidding system. When regular bid items have corresponding replacement alternate items, select the bid item or group of items to be used for the bid tabulation. Acknowledge all addenda listed in the Owner's bidding system.

The electronic proposal form does not contain the special provisions, special specifications, general notes, and other Contract documents. These documents are included by reference.

8.2. **Proposal Guaranty**. Provide a proposal guaranty in the amount indicated on the proposal form. Use an electronic bid bond. Guaranty checks or printed bid bonds will not be accepted.

For a JV, the bond must be in the name of all JV participants. Enter the bond authorization code into the Owner's bidding system.

It is the Bidder's responsibility to ensure the electronic bid bond is issued in the name or Owner vendor identification numbers of the Bidder or Bidders.

8.3. **Submittal of Bid**. Submit the bid to the vault using the Owner's bidding system.

8.4. **Revising the Proposal Form**. Make desired changes in the Owner's bidding system up until the time and date set for the opening of bids. The last bid submitted to the vault will be used for tabulation purposes.

8.5. **Withdrawing a Bid**. Submit an electronic or written request to withdraw a bid before the time and date set for the opening. The Owner will not accept oral requests. An electronic request must be made using the Owner's bidding system.

If a bidder is unable to withdraw an electronic bid using the Owner's bidding system, a written request may be submitted. A written request must be signed and submitted to the Letting Official conducting the letting, with proof of identification. The request must be made by a person authorized to bind the Bidder or Bidders. In the case of a JV, the Owner will accept a request from any person authorized to bind a party to the JV. The Owner may require written delegation of authority to withdraw a bid when the individual sent to withdraw the bid is not authorized to bind the Bidder or Bidders.

9. PRINTED BID

9.1. **Proposal Form**. Mark all entries in ink. As an alternative to hand writing the unit prices on the proposal form, submit a typed proposal form. A typed proposal form must contain the information in the format shown on the "Example of Bid Prices Submitted by Computer Printout" on the proposal form.

When regular bid items have corresponding replacement alternate items, select the bid item or group of items to be used for the bid tabulation. Acknowledge all addenda by checking the appropriate box on the addendum acknowledgement page. Provide the complete and correct name of the Bidder submitting the bid. A person authorized to bind the Bidder must sign the proposal form. In the case of a JV, provide the complete and correct name of all Bidders submitting the bid. In the case of a JV, the person signing the proposal form must be authorized to bind all JV participants.

9.2. **Proposal Guaranty**. Provide a proposal guaranty in the amount indicated on the proposal form. Use either a guaranty check or a printed bid bond. An electronic bid bond may be used as the guaranty. Ensure the electronic bid bond meets the requirements of Section 2L.8.2., "Proposal Guaranty," and submit the electronic bid bond with the printed bid.

9.2.1. **Guaranty Check**. When used, make the check payable to the Owner. The check must be a cashier's check, money order, or teller's check drawn by or on a state or national bank, or a state or federally chartered credit union (collectively referred to as "bank"). The check must be dated on or before the date of the bid opening. Postdated checks will not be accepted. The type of check or money order must be indicated on the face of the instrument, except in the case of a teller's check, and the instrument must be no more than 90 days old. A check must be made payable at or through the institution issuing the instrument, be drawn by a bank and on a bank, or be payable at or through a bank. The Owner will not accept personal checks, certified checks, or other types of money orders.

9.2.2. **Bid Bond**. When a bond is used, use the bid bond form provided by the Owner. Submit the bid bond in the amount specified with the powers of attorney dated and attached. The bond must be dated on or before the date of the bid opening, bear the impressed seal of the Surety, and be signed by the Bidder or Bidders and an authorized individual of the Surety. As an alternative for JV Bidders, each Bidder may submit a separate bid bond completed as outlined in this Section. Bid bonds will only be accepted from Sureties authorized to execute a bond under and in accordance with state law.

9.3. **Submittal of Bid**. Place the completed proposal form and the proposal guaranty in a sealed envelope marked to indicate the contents.

When submitting by mail or delivery service, place the envelope in another sealed envelope and address as indicated in the official advertisement. It is the Bidder's responsibility to ensure that the sealed bid arrives at the location described on or before the time and date set for the bid opening. To be accepted, the bid must be in the hands of the Letting Official by that time of opening regardless of the method chosen for delivery.

9.4. **Revising the Proposal Form**. Make desired changes to the proposal form in ink, initial each change made, and submit the proposal to the Letting Official. Correction fluid or tape will be considered a change to the bid and requires the initials of the Bidder. The Owner will not revise a bid on behalf of a Bidder.

9.5. **Withdrawing a Bid**. Submit to the Letting Official conducting the letting a written request to withdraw a bid before the time and date set for the opening. The Owner will not accept oral requests. A written request must be signed and submitted to the Letting Official conducting the letting, with proof of identification. The request must be made by a person authorized to bind the Bidder or Bidders. In the case of a JV, the Owner will accept a request from any person authorized to bind a party to the JV. The Owner may require written delegation of authority to withdraw a bid when the individual sent to withdraw the bid is not authorized to bind the Bidder or Bidders.

10. OPENING AND READING OF BIDS

At the time, date, and location specified in the official advertisement, the Letting Official will publicly open and read bids.

11. TABULATING BIDS

11.1. **Official Total Bid Amount**. The Owner will sum the products of the quantities and the unit prices bid on the proposal form to determine the official total bid amount, except as provided in Section 2L.11.5., "Consideration of Unit Prices." The official total bid amount is the basis for determining the apparent low Bidder. The total bid amounts will be compared and the results made public.

11.2. **Consideration of Bid Format**. When a Bidder submits both an electronic bid and a printed bid that are responsive, the unit bid prices in the electronic bid will be used to determine the total bid amount. If the electronic bid is incomplete or nonresponsive, the printed bid will be used in the tabulation of the total bid amount.

If a Bidder submits two or more printed bids, all responsive bids will be tabulated. The bid with the lowest tabulation will be used to determine the total bid amount.

11.3. **Rounding of Unit Prices**. The Owner will round off all unit bids involving fractional parts of a cent to the nearest one-tenth cent ($0.001) in determining the amount of the bid as well as computing the amount due for payment of each item under the Contract. For rounding purposes, entries that contain five-hundredths of a cent ($0.0005) or more will be rounded up to the next highest tenth of a cent, while entries that contain less than five-hundredths of a cent will be rounded down to the next lowest tenth of a cent and in accordance with Section 2L.11.5., "Consideration of Unit Prices." Bids less than one-tenth of a cent ($0.001) will be rounded to one-tenth of a cent ($0.001). When credit items are included (negative unit prices), rounding is performed on the absolute value.

11.4. **Interpretation of Unit Prices**. The Owner will make a documented determination of the unit bid price if a unit bid price is illegible or conflicting in the case of replacement alternate items. The Owner's determination will be final.

11.5. **Consideration of Unit Prices**. Unit bid price entries such as no dollars and no cents, zero dollars and zero cents, or numerical entries of less than $0.001 will be tabulated as one-tenth of a cent ($0.001). Proposals in which unit bid prices have been left blank are incomplete and nonresponsive.

11.5.1. **Alternate Items**. If a proposal has a regular and corresponding alternate item or group of items, the proposal will be considered complete if:

- the regular item or group of regular items has unit prices entered,
- the alternate item or group of alternate items has unit prices entered, or
- both regular item or group of regular items and alternate item or group of alternate items have unit prices entered. The Owner will use the price bid for the regular or the alternate item, or group of items, that will result in the lowest cost to the State.

The bid will be considered incomplete and nonresponsive if:

- a regular item or group of regular items is left blank, or
- a corresponding alternate item or group of alternate items is left blank.

11.5.2. **Additive Alternate Items**. The Owner will sum the products of the quantities and the unit prices bid for the regular items on the proposal form to determine the total bid amount for the base bid. The official total bid amount will be determined by the summation of the base bid plus a predetermined order of additive alternate items, not to exceed the Owner's budgeted amount for the Contract. An estimate of the budgeted amount may be shown on the plans.

The Contract will identify the base bid work and additive alternate work to be performed. The Owner makes no guarantee that the additive alternate work will be required.

11.5.3. **A + B Bidding**. The official total bid amount will be determined by the summation of the Contract amount and the time element. The Owner will use the following formula to make the calculation:

A + B1 + B2 + BX + … + BT

The Contract amount, equal to A in the formula, is determined by the summation of the products of the approximate quantities shown in the proposal and the unit bid prices bid, and the time element, equal to B1, B2, BX (when phases are included as bid components), and BT (substantial completion of the project when included as a bid component), of the bid is determined by multiplying the number of working days bid to substantially complete the project, or phases, by the daily road-user cost (RUC) shown on the plans. When partial days are bid, they will be rounded up to the nearest whole day.

The formula above determines the low Bidder and establishes the Contract time or time for specific phases of the Contract.

11.5.4. **Rubber Additives**. For proposed Contracts without federal funds, if an alternate item for "Hot Asphalt-Rubber Surface Treatments" or "Hot-Mix Asphalt Concrete Pavement" that contains ground tire rubber is shown on the proposal form and the Bidder bids that alternate item, the amounts bid for "Hot Asphalt-Rubber" and "Aggregate" or "Hot-Mix Asphalt Concrete" will be reduced to 85% of the amounts actually bid. This reduction will only be used for the purposes of determining the lowest Bidder. To qualify, the ground tire rubber used must be produced from scrap tire ground in a facility in Texas. Payment for "Hot Asphalt-Rubber" and "Aggregate" or "Hot-Mix Asphalt Concrete" will be at the actual unit prices bid.

11.5.5. **Home State Bidding Preference**. For the purpose of determining the apparent low Bidder on proposed Contracts without federal funds, the Owner will select the option that results in the greatest bidding preference to the resident Bidder.

11.5.5.1. **Reverse Application of Non-Resident Bidder's Home State Bidding Preference**. The total bid amount will be based upon the reverse application of the non-resident Bidder's home state bidding preference, if any. This will also apply to another state's preference for a Bidder that offers materials grown, produced, processed, or manufactured in that state.

Any reverse application of the home state bidding preference will be the greater of the following:

- the amount by which a resident Bidder would be required to underbid the non-resident Bidder to obtain a comparable contract in the state in which the non-resident's principal place of business is located; or

- the amount by which a resident Bidder would be required to underbid the non-resident Bidder to obtain a comparable contract in the state in which a majority of the manufacturing relating to the Contract will be performed.

11.5.5.2. **Texas Home State Bidding Preference**. A Bidder will be considered the apparent low Bidder if the Bidder's home office is located in this state and their bid does not exceed an amount equal to 105% of the apparent low bid received from a Bidder whose home office is not located in this state. This will not apply to a Bidder from a bordering state whose state does not give a preference to a Bidder in a manner similar to this Section.

12. CONSIDERATION OF BID ERRORS

The Owner will consider a claim of a bid error by the apparent low Bidder if the following requirements have been met:

- a written notification is submitted to the Owner within 5 business days after the date the bid is opened and
- the submittal identifies the items of work involved and includes bidding documentation. The Owner may request clarification of submitted documentation.

The Owner will evaluate the claim of a bid error by the apparent low Bidder by considering the following:

- the bid error relates to a material item of work,
- the bid error amount is a significant portion of the total bid,
- the bid error occurred despite the exercise of ordinary care, and
- the delay of the proposed work will not impact cost and safety to the public.

Acceptance of the bid error claim by the Owner will result in the rejection of all bids. The erring Contractor will not be allowed to bid the project when it is re-let. Rejection of bids due to the Contractor's bid error may result in the application of remedial actions by the Owner.

13. TIE BIDS

If the official total bid amount for two or more Bidders is equal and those bids are the lowest submitted, each tie Bidder will be given an opportunity to withdraw their bid. If two or more tie Bidders do not withdraw their bids, the low Bidder will be determined by a coin toss or a series of coin tosses when there are more than two Bidders. If all tie Bidders request to withdraw their bids, no withdrawals will be allowed and the low Bidder will be determined by a coin toss or a series of coin tosses when there are more than two Bidders. The Letting Official will preside over the proceedings.

14. DEPARTMENT OF HOMELAND SECURITY (DHS) E-VERIFY SYSTEM

The Owner will not award a Contract to a Contractor that is not registered in the DHS E-Verify system. Remain active in E-Verify throughout the life of the Contract. In addition, in accordance with Article 8L.2., "Subcontracting," sixth paragraph, include this requirement in all subcontracts and require that subcontractors remain active in E-Verify until their work is completed.

If the apparent low Bidder does not appear in the DHS E-Verify system before award, the Contractor must submit documentation showing that they are compliant within 5 calendar days after bid opening. A Contractor that fails to comply or respond within the deadline will be declared nonresponsive. The Bidder forfeiting the proposal guaranty will not be considered in future proposals for the same work unless there has been a substantial change in the scope of the work.

The Owner may recommend to:

- reject all bids or
- award the Contract to the new apparent low Bidder, if the Owner is able to verify the Bidder's participation in the DHS E-Verify system.

If the Owner is unable to verify the new apparent low Bidder's participation in the DHS E-Verify system:

- the new apparent low Bidder will not be deemed nonresponsive,
- the new apparent low Bidder's guaranty will not be forfeited,
- the Owner will reject all bids,
- the new apparent low Bidder will remain eligible to receive future proposals for the same project, and
- the proposal guaranty of the original low bidder will become the property of the Owner, not as a penalty, but as liquidated damages.

Item 3L
Award and Execution of Contract

1. AWARD OF CONTRACT

The Owner or original award authority will award, reject, or defer the Contract within 90 days after the opening of the proposal. The Owner reserves the right to reject any or all proposals and to waive technicalities in the best interest of the Owner.

1.1. **Award**. The Owner or original award authority will award the Contract to the low Bidder as determined in accordance with Article 2L.11., "Tabulating Bids." The Owner may award a Contract to the second lowest Bidder when the following requirements have been met:

- the low Bidder withdraws their bid or fails to enter into Contract,
- the second lowest Bidder agrees to perform the work at the unit bid prices of the low Bidder,
- the Owner recommends in writing the award of the Contract to the second lowest Bidder, and
- the Owner's governing body agrees with the Owner recommendation for award to the second lowest Bidder.

1.2. **Rejection**. The Owner or original award authority will reject the Contract if:

- collusion may have existed among the Bidders. Collusion participants will not be allowed to bid future proposals for the same Contract,
- the low bid is mathematically and materially unbalanced. The Bidder will not be allowed to bid future proposals for the same Contract,
- the lowest bid is higher than the Owner's estimate, and re-advertising for bids may result in a lower bid,
- the low bid contains a bid error that satisfies the requirements and criteria in Article 2L.12., "Consideration of Bid Errors," or
- rejection of the Contract is in the best interest of the Owner.

1.3. **Deferral**. The Owner may defer the award or rejection of the Contract when deferral is in the best interest of the Owner.

2. RESCINDING OF AWARD

The Owner or original award authority reserves the right to cancel the award of any Contract before Contract execution with no compensation due when the cancellation is in the best interest of the Owner. The Owner will return the proposal guaranty to the Contractor.

3. DISADVANTAGED BUSINESS ENTERPRISE (DBE) AND SMALL BUSINESS ENTERPRISE (SBE)

Submit all DBE and SBE information in the timeframe specified when required by the proposal.

4. EXECUTION OF CONTRACT

Provide the following within 15 days after written notification of award of the Contract.

4.1. **Contract**. Execute the Contract as prescribed by the Owner.

4.2. **Bonds**. Execute and date the performance and payment bond in the full amount of the Contract with the powers of attorney. Provide bonds in accordance with Table 1. Furnish the payment and performance bonds as a guaranty for the protection of the claimants and the Owner for labor and materials and the faithful performance of the work.

Table 1
Bonding Requirements

Contract Amount	Required Bonds
Less than $25,000	None
$25,000–$100,000	Payment
More than $100,000	Performance and payment

4.3. **Insurance**. For construction and building Contracts, submit a certificate of insurance showing coverages in accordance with the Contract requirements.

Insurances must cover the work for the duration of the Contract and must remain in effect until final acceptance. Provide project-specific insurance, not listed in Table 2, until acceptance of the work covered by the project-specific insurance or as approved by the Engineer. Failure to obtain and maintain insurance for the contracted work may result in suspension of work or default of the Contract. If the insurance expires and coverage lapses for any reason, stop all work until the Owner receives an acceptable certificate of insurance.

Provide the Owner with a certificate of insurance verifying the types and amounts of coverage shown in Table 2. The certificate of insurance must be in a form approved by the Texas Department of Insurance. Certificates of insurance for commercial general liability, auto liability, and workers' compensation must include the Contractor's prequalified name in the "Insured" field. Any certificate of insurance provided must be available for public inspection.

Table 2
Insurance Requirements

Type of Insurance	Amount of Coverage
Commercial general liability insurance	Not less than: $1,000,000 each occurrence
Business automobile policy	Not less than: $1,000,000combined single limit
Workers' compensation	Not less than: Statutory
All risk builder's risk insurance (for building-facilities contracts only)	100% of Contract price

By signing the Contract, the Contractor certifies compliance with all applicable laws, rules, and regulations pertaining to workers' compensation insurance. This certification includes all subcontractors. Pay all deductibles stated in the policy. Subcontractors must meet the requirements shown in Table 2, either through their own coverage or through the Contractor's coverage.

The workers' compensation policy must include a waiver of subrogation endorsement in favor of the Owner.

For building-facilities contracts, provide all risk builder's risk insurance to protect the Owner against loss by storm, fire, or extended coverage perils on work and materials intended for use on the project, including the adjacent structure. Name the Owner under the Lost Payable clause.

For contracts with railroad requirements, see project-specific details for additional insurance requirements.

Provide a substitute Surety on the Contract bonds in the original full Contract amount within 15 days of notification if the Surety is declared bankrupt or insolvent, the Surety's underwriting limitation drops below the Contract amount or the Surety's right to do business is terminated by the Owner. The substitute Surety must be authorized by the laws of the Owner and acceptable to the Owner. Work will be suspended until a substitute Surety is provided. Working day charges will be suspended for 15 days or until an acceptable Surety is provided, whichever is sooner.

The work performed under this Section will not be measured or paid for directly, but will be subsidiary to pertinent Items.

4.4. **Business Ownership Information**. Submit the names and Social Security numbers of all individuals owning 25% or more of the firm, or firms in the case of a joint venture, on the Owner's form.

4.5. **Railroad Documents**. Provide all required documents for satisfaction of railroad requirements for projects that have work involving railroad right of way. Comply with the requirements of Article 5L.8., "Cooperation with Railroads."

5. FAILURE TO ENTER CONTRACT

If the Contractor fails to comply with all the requirements in Article 3L.4., "Execution of Contract," the proposal guaranty will become the property of the Owner, not as a penalty, but as liquidated damages. The Contractor forfeiting the proposal guaranty will not be considered in future proposals for the same work unless there has been a substantial change in design of the work.

6. APPROVAL AND EXECUTION OF CONTRACT

The Contract will be approved and signed under authority of the Owner.

7. RETURN OF PROPOSAL GUARANTY

The proposal guaranty check of the low Bidder will be retained until after the Contract has been rejected or awarded and executed. Bid bonds will not be returned.

8. BEGINNING OF WORK

Do not begin work until authorized in writing by the Owner.

Verify all quantities of materials shown on the plans before ordering.

9. ASSIGNMENT OF CONTRACT

Do not assign, sell, transfer, or otherwise dispose of the Contract or any portion of the rights, title, or interest (including claims) without the approval of the Owner or original award authority. The Owner must deem any proposed assignment justified and legally acceptable before the assignment can take place.

10. EXCLUDED PARTIES

The Contractor certifies by signing the Contract that the Contractor will not enter into any subcontract with a subcontractor that is debarred or suspended by the Owner or any federal agency.

Item 4L
Scope of Work

1. CONTRACT INTENT

The intent of the Contract is to describe the completed work to be performed. Furnish materials, supplies, tools, equipment, labor, and other incidentals necessary for the proper prosecution and completion of the work in accordance with Contract documents.

2. PRECONSTRUCTION CONFERENCE

Before starting work, schedule and attend a preconstruction conference with the Engineer. Failure to schedule and attend a preconstruction conference is not grounds for delaying the beginning of working day charges. The preconstruction conference may be scheduled with the safety preconstruction meeting described in Section 7L 2.2., "Safety Preconstruction Meeting" and the railroad coordination meeting described in Article 5L 8., "Cooperation with Railroads." Work with the Engineer to resolve or escalate all issues. Execute the project pledge and establish an issue escalation ladder.

2.1. **Project Pledge**. Contractor representatives at the level of foreman and above will certify in writing they will approach the construction of this project in a manner consistent with delivering a high-quality project in a safe, cost-effective, and timely manner, and they will be committed to not allowing personality conflicts or personal interests to interfere with providing the public with a quality project. Failure to uphold this commitment may result in grounds for removal from the project.

2.2. **Issue Resolution Process**. An issue is any aspect of the Contract where parties of the Contract do not agree. The individuals identified at the lowest level of the issue escalation ladder will initiate the issue resolution process by escalating any issue that remains unresolved within the timeframe outlined in the issue escalation ladder.

Work with the Engineer to resolve all issues during the course of the Contract. Refer to Article 4L 7., "Dispute or Claims Procedure," for all unresolved issues.

3. PARTNERING – NOT APPLICABLE

The intent of this Article is to promote an environment of trust, mutual respect, integrity, and fair dealing between the Owner and the Contractor.

Informal partnering does not make use of a facilitator and is led by the Engineer in charge of the work and the Contractor's counterpart, while formal partnering uses the services of a facilitator (internal or external).

3.1. **Procedures for Partnering Meetings and Format**. Informal partnering is required, unless formal partnering is mutually agreed upon instead of the informal partnering.

3.2. **Facilitators**. The facilitator is to act as a neutral party seeking to initiate cooperative working relationships. This individual must have the technical knowledge and ability to lead and guide discussions. Choose either an internal or external facilitator. The facilitator must be acceptable to the Engineer.

3.2.1. **Internal Facilitators**. An Owner or Contractor staff member may be selected as the facilitator at no additional cost to either party.

3.2.2. **External Facilitators**. A private firm or individual that is independent of the Contractor and the Owner may be selected as the facilitator. Submit the facilitator's name and estimated fees for approval before contracting with the facilitator.

3.3. **Meetings and Arrangements**. Coordinate with the Engineer for meeting dates and times, locations including third party facilities, and other needs and appurtenances including but not limited to audio or visual equipment. Make all meeting arrangements for formal partnering. Use Owner facilities or facilities in the vicinity of the project if available. Submit the estimated meeting costs for approval before finalizing arrangements.

Coordinate facilitator discussions before the partnering meeting to allow the facilitator time to prepare an appropriate agenda. Prepare a list of attendees with job titles and include critical Contractor, subcontractor, and supplier staff on the list. Provide the facilitator with the list of attendees and invite the attendees listed.

The Owner will invite and provide a list of attendees that includes, but is not limited to Owner, TxDOT, other local governments, law enforcement, railroad, and utility representatives.

Participate in additional partnering meetings as mutually agreed upon.

3.4. **Payment**. Expenses for labor, Contractor equipment, or overhead will not be allowed. Markups as prescribed in Article 9L 7., "Payment for Extra Work and Force Account Method," will not be allowed.

Informal partnering will be conducted with each party responsible for their own costs.

For formal partnering using internal facilitators, the Contractor will be responsible for arrangements and for expenses incurred by their internal facilitator, including but not limited to meals, travel, and lodging. Owner facilitators may be used at no additional cost.

For formal partnering using external facilitators, submit an invoice to the Engineer for reimbursement. The Owner will reimburse the Contractor for half of the eligible expenses as approved. For external facilitators not approved by the Owner but used at the Contractor's option, the Contractor will be responsible for all costs of the external facilitator.

For meeting facilities and appurtenances, submit an invoice to the Engineer for reimbursement. The Owner will reimburse the Contractor for half of the eligible expenses as approved.

4. CHANGES IN THE WORK

The Engineer reserves the right to make changes in the work, including addition, reduction, or elimination of quantities and alterations needed to complete the Contract. Perform the work as altered. These changes will not invalidate the Contract nor release the Surety. The Contractor is responsible for notifying the sureties of any changes to the Contract.

If the changes in quantities or the alterations do not significantly change the character of the work under the Contract, the altered work will be paid for at the Contract unit price. If the changes in quantities or the alterations significantly change the character of the work, the Contract will be amended by a change order. If no unit prices exist, this will be considered extra work and the Contract will be amended by a change order. Provide cost justification as requested, in an acceptable format.

Payment will not be made for anticipated profits on work that is eliminated.

Agree on the scope of work and the basis of payment for the change order before beginning the work. If there is no agreement, the Engineer may order the work to proceed under Article 9L 7., "Payment for Extra Work and Force Account Method," or by making an interim adjustment to the Contract. In the case of an adjustment, the Engineer will consider modifying the compensation after the work is performed.

A significant change in the character of the work occurs when:

- the character of the work for any item as altered differs materially in kind or nature from that in the Contract, or
- a major item of work varies by more than 25% from the original Contract quantity,

When the quantity of work to be done under any major item of the Contract is more than 125% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price on the portion of the work that is above 125%.

When the quantity of work to be done under any major item of the Contract is less than 75% of the original quantity stated in the Contract, then either party to the Contract may request an adjustment to the unit price.

If the changes require additional working days to complete the Contract, Contract working days will be adjusted in accordance with Item 8L, "Prosecution and Progress."

5. DIFFERING SITE CONDITIONS

During the progress of the work, differing subsurface or latent physical conditions may be encountered at the site. The two types of differing site conditions are defined as:

- those that differ materially from those indicated in the Contract, and
- unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in the work provided for in the Contract.

Notify the Engineer in writing when differing site conditions are encountered. The Engineer will notify the Contractor in writing when the Owner discovers differing site conditions. Unless directed otherwise, suspend work on the affected items and leave the site undisturbed. The Engineer will investigate the conditions and determine whether differing site conditions exist. The Engineer will provide written notification of the determination whether or not an adjustment of the Contract is warranted. If the differing site conditions cause an increase or decrease in the cost or number of working days specified for the performance of the Contract, the Engineer will make adjustments, excluding the loss of anticipated profits, in accordance with the Contract. Additional compensation will be made only if the required written notice has been provided by either the Contractor or the Engineer.

6. REQUESTS FOR ADDITIONAL COMPENSATION AND DAMAGES

Notify the Engineer in writing of any intent to request additional compensation once there is knowledge of the basis for the request. An assessment of damages is not required to be part of this notice but is desirable. The intent of the written notice requirement is to provide the Engineer an opportunity to evaluate the request and to keep an accurate account of the actual costs that may arise. Minimize impacts and costs.

If written notice is not given, the Contractor waives the right to additional compensation unless the circumstances could have reasonably prevented the Contractor from knowing the cost impact before performing the work. Notice of the request and the documentation of the costs will not be construed as proof or substantiation of the validity of the request. Submit the request in enough detail to enable the Engineer to determine the basis for entitlement, adjustment in the number of working days specified in the Contract, and compensation.

Compensable damages occur when impacts that are the responsibility of the Owner result in additional costs to the Contractor that could not have been reasonably anticipated at the time of letting. Costs of performing additional work are not considered damages. Notify the Engineer in writing as soon as possible for Contractor damages. The intent is to reimburse the Contractor for actual expenses arising from a compensable impact. No profit or markups, other than labor burden, will be allowed. For damages, labor burden will be reimbursed at 35% unless the Contractor can justify higher actual cost. Justification for a higher percentage must be in conformance with the methodology provided by the Owner, submitted

separately for project overhead labor and direct labor, and determined and submitted by a Certified Public Accountant (CPA). Submit CPA-prepared labor burden rates directly to the Owner for approval.

The Owner will not consider fees and interest on requests for additional compensation and damages. Fees include, but are not limited to preparation, attorney, printing, shipping, and various other fees.

If the Contractor requests compensation for damages and the damages are determined to be compensable, then standby equipment costs and project overhead compensation will be based on the duration of the compensable damage and will be limited as follows.

6.1. **Standby Equipment Costs**. Payment will be made in accordance with Section 9L 7.1.4.3., "Standby Equipment Costs."

6.2. **Project Overhead**. Project overhead is defined as the administrative and supervisory expenses incurred at the work locations. When delay to project completion occurs, reimbursement for project overhead for the Contractor will be made using the following options at the Contractor's discretion:

- reimbursed at 6% (computed as daily cost by dividing 6% of the original Contract amount by the number of original Contract work days), or
- actual documented costs for the impacted period.

Project overhead for delays impacting subcontractors will be determined from actual documented costs submitted by the Contractor.

Time extensions and suspensions alone will not be justification for reimbursement for project overhead.

6.3. **Home Office Overhead**. The Owner will not compensate the Contractor for home office overhead.

7. DISPUTE OR CLAIMS PROCEDURE

The dispute resolution policy promotes a cooperative attitude between the Engineer, Contractor, and Contractor's subcontractors working through the Contractor. Emphasis is placed on resolving issues while they are still current, at the Owner's office, and in an informal manner. Open sharing of information is encouraged by all parties involved so the information provided completely and accurately reflects the issues and facts. If information is not shared, decisions may be limited to relying on the documentation that is available for review.

The Owner's goal is to have a dispute settled by the Engineer before elevating it as a claim to the Owner.

If a dispute cannot be resolved, initiate the Contract claim procedure by submitting a claim to the Owner.

The Contractor, or subcontractor through the Contractor, will file a Contract claim request and a detailed report that provides the basis for the claim. The detailed report will include relevant facts of the claim, cost or other data supporting the claim, a description of any additional compensation requested, and documents supporting the claim.

The claim must include the following certification: "I certify that the claim is made in good faith; that the supporting data are accurate and complete to the best of my knowledge and belief; that the amount requested accurately reflects the contract adjustment for which the Contractor believes the Owner is liable; and that I am duly authorized to certify the claim on behalf of the Contractor."

File a claim after completion of the Contract or when required for orderly performance of the Contract. For a claim resulting from enforcement of a warranty period, file the claim no later than 1 yr. after expiration of the warranty period. For all other claims, file the claim no later than 1 yr. after the date the Owner issues notice to the Contractor that they are in default, the date the Owner terminates the Contract, or the date of final acceptance of the Contract. It is the Contractor's responsibility to submit requests in a timely manner.

Item 5L
Control of the Work

1. AUTHORITY OF ENGINEER

The Engineer has the authority to observe, test, inspect, approve, and accept the work (either in writing or orally). The Engineer decides all questions about the quality and acceptability of materials, work performed, work progress, Contract interpretations, applicability of standard details, and acceptable Contract fulfillment. The Engineer has the authority to enforce and make effective these decisions.

- Unless noted elsewhere in the Contract or by the Engineer, payment for Contractor work is in accordance with the Contract requirements at that time. This payment does not eliminate the Contractor's responsibilities for the work as defined in Article 7L.17., "Contractor's Responsibility for Work," or Article 5L.12., "Final Acceptance."
- The Engineer acts as a referee in all questions arising under the terms of the Contract.
- The Engineer's decisions are final and binding.

The Engineer will pursue and document actions against the Contractor as warranted to address Contract performance issues. Contract remedies include, but are not limited to, the following:

- requiring the Contractor to remove and replace defective work, or reducing payment for defective work,
- removing an individual from the project,
- suspending the work without suspending working day charges,
- assessing standard liquidated damages to recover the Owner's administrative costs, including additional project-specific liquidated damages when specified in the Contract withholding estimates, and
- declaring the Contractor to be in default of the Contract

The Engineer will consider and document any events outside the Contractor's control that contributed to the failure to meet performance standards, including consideration of sufficient time.

Follow the issue escalation ladder if there is disagreement regarding the application of Contract remedies.

2. PLANS AND WORKING DRAWINGS

When required, provide working drawings to supplement the plans with all necessary details not included on the Contract plans. Prepare and furnish working drawings in a timely manner and obtain approval, if required, before the beginning of the associated work. For all working drawing submittal requirements, the Engineer may allow electronic and other alternative submission procedures. Have a licensed professional engineer sign, seal, and date the working drawings as shown in Table 1.

Prepare working drawings using United States standard measures in the English language. The routing of submittals for review and approval will be established at the preconstruction conference. The Contractor is responsible for the accuracy, coordination, and conformity of the various components and details of the working drawings. Owner approval of the Contractor's working drawings will not relieve the Contractor of any responsibility under the Contract. The work performed in accordance with this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

Table 1
Signature and Approval Requirements for Working Drawings

Working Drawings For		Requires Licensed Professional Engineer's Signature, Seal, and Date	Requires Owner Approval
1. Alternate or optional designs submitted by Contractor		Yes	Yes
2. Supplementary shop and fabrication drawings for structural Items		No unless required on the plans	See applicable Item
3. Contractor-proposed temporary facilities that affect the public safety, not included on the plans		Yes	Yes
4. Form and falsework details	Bridges, retaining walls, and other major structures	Yes unless otherwise shown on the plans	No[1]
	Minor structures	No unless otherwise shown on the plans	No
5. Erection drawings		Yes	No[1,2]
6. Contractor-proposed major modifications to traffic control plan		Yes	Yes

1. The Engineer may require that the Contractor have a licensed professional engineer certify that the temporary works are constructed according to the sealed drawings.
2. Approval is required for items spanning over live traffic or where safety of the traveling public is affected, as determined by the Engineer.

Submit shop drawings electronically for the fabrication of structural items in accordance with the Owner's procedures and as directed for other items required by the Contract. References to 11 × 17-in. sheets in individual specifications for structural items imply electronic computer-aided design sheets.

3. CONFORMITY WITH PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

Furnish materials and perform work in reasonably close conformity with the lines, grades, cross-sections, dimensions, details, gradations, physical and chemical characteristics of materials, and other requirements shown in the Contract. Reasonably close conformity limits are defined in the respective Items of the Contract or, if not defined, as determined by the Engineer. Obtain approval before deviating from the plans and approved working drawings. Do not perform work beyond the lines and grades shown on the plans or any extra work without the Engineer's authority. Work performed beyond the lines and grades shown on the plans or any extra work performed without authority is considered unauthorized and excluded from pay consideration. The Owner will not pay for material rejected due to improper fabrication, excess quantity, or any other reasons within the Contractor's control.

3.1. **Acceptance of Defective or Unauthorized Work**. When work fails to meet Contract requirements, but is adequate to serve the design purpose, the Engineer will decide the extent to which the work will be accepted and remain in place. The Engineer will document the basis of acceptance by letter and may adjust the Contract price.

3.2. **Correction of Defective or Unauthorized Work**. When work fails to meet Contract requirements and is inadequate to serve the design purpose, it will be considered defective. Correct, or remove and replace, the work at the Contractor's expense, as directed.

The Owner has the authority to correct or to remove and replace defective or unauthorized work. The cost may be deducted from any money due or to become due to the Contractor.

4. COORDINATION OF PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

The specifications, accompanying plans, special provisions, change orders, and supplemental agreements are intended to work together and be interpreted as a whole.

Numerical dimensions govern over scaled dimensions. Special provisions govern over plans (including general notes), which govern over standard specifications and special specifications. Job-specific plan sheets govern over standard plan sheets.

However, in the case of conflict between plans (including general notes) and specifications regarding responsibilities for hazardous materials and traffic control in Items 1L–10L, "Local Government General Requirements and Covenants," and Item 502, "Barricades, Signs, and Traffic Handling," special provisions govern over standard specifications and special specifications, which govern over the plans.

Notify the Engineer promptly of any omissions, errors, or discrepancies upon discovery so necessary corrections and interpretations can be made. Failure to promptly notify the Engineer of discovered omissions, errors, or discrepancies will constitute a waiver of all Contract claims against the Owner for misunderstandings or ambiguities that result from the errors, omissions, or discrepancies.

5. COOPERATION OF CONTRACTOR

Cooperate with the Engineer. Respond promptly to instructions from the Engineer. Provide all information necessary for the successful completion of the Contract.

Designate in writing a competent, English-speaking Superintendent employed by the Contractor. The Superintendent must be experienced in the work being performed and capable of reading and understanding the Contract. Ensure the Superintendent is available at all times and able to receive instructions from the Engineer or authorized Owner representatives and to act for the Contractor. The Engineer may suspend work without suspending working day charges if a Superintendent is not available or does not meet the above criteria.

At the written request of the Engineer, immediately remove from the project any employee or representative of the Contractor or a subcontractor who, in the opinion of the Engineer, does not perform work in a proper and skillful manner or who is disrespectful, intemperate, disorderly, uncooperative, or otherwise objectionable. Do not reinstate these individuals without the written consent of the Engineer.

Furnish suitable machinery, equipment, and construction forces for the proper prosecution of the work.

Provide adequate lighting to address quality requirements and inspection of nighttime work.

6. COOPERATING WITH UTILITIES

Use established safety practices when working near utilities. Consult with the appropriate utilities before beginning work. Notify the Engineer immediately of utility conflicts. The Engineer will decide whether to adjust utilities or adjust the work to eliminate or lessen the conflict. Unless otherwise shown on the plans, the Engineer will make necessary arrangements with the utility owner when utility adjustments are required.

Use work procedures that protect utilities or appurtenances that remain in place during construction. Cooperate with utility companies to remove and rearrange utilities to avoid service interruption or duplicate work by the utility companies. Allow utilities access to the right of way.

Immediately notify the appropriate utility of service interruptions resulting from damage due to construction activities. Cooperate with utilities until service is restored. Maintain access to fire hydrants when necessary.

7. COOPERATION BETWEEN CONTRACTORS

Cooperate and coordinate with other Contractors working within the limits or adjacent to the limits.

8. COOPERATION WITH RAILROADS

Plan and prosecute portions of the work involving a railway to avoid interference with or hindrance to the railroad company.

If the work is on railroad right of way, do not interfere with the operation of the railroad company's trains or other property.

8.1. **Railroad Coordination Meeting**. When shown on the plans or directed by the Engineer, schedule and attend a railroad coordination meeting with the Engineer before beginning work or as agreed upon (may be a part of the preconstruction conference described in Article 4L.2., "Preconstruction Conference"). Prepare a list of attendees and invite personnel, including, but not limited to Owner, Contractor, subcontractor, and railroad representatives.

Provide the invitation to the railroad representatives at least 21 calendar days before the railroad coordination meeting.

8.2. **Project-Specific Information**. Refer to project-specific plan sheets in the Contract for specific information concerning the work to be completed by the Contractor and the railroad within railroad right of way; railroad right of way locations impacted by construction; percentage of Contract work at each location; train movements at each location; and requirements for railroad insurance, flagging, and Right of Entry (ROE) Agreements.

8.3. **Right of Entry Agreement by the Owner**. When shown on the plans, the process for obtaining a fully executed ROE Agreement is as follows.

- The Owner will send the unexecuted ROE Agreement to the Contractor with the unexecuted Contract.
- Partially execute the ROE Agreement and return it to the Owner with the partially executed Contract and required insurance.
- The Owner will coordinate with the railroad company regarding the further execution of the ROE Agreement and associated fees. The Owner will pay any ROE Agreement fees directly to the railroad company.
- Once the Owner has received the fully executed ROE Agreement from the railroad company, the Owner will forward the fully executed ROE Agreement to the Contractor.

8.4. **Right of Entry Agreement by the Contractor**. When shown on the plans, contact the railroad company to obtain the ROE Agreement before beginning work on the Contract.

Provide the required insurance to the Owner before beginning work on the Contract.

Execute the ROE Agreement and pay any associated fees to the railroad company. Provide a copy of the fully executed ROE Agreement to the Owner.

9. CONSTRUCTION SURVEYING

Use Method C unless otherwise specified in the Contract. Upon request, the Engineer will allow the Contractor to copy available earthwork cross-sections, computer printouts or data files, and other information necessary to establish and control work. Preserve all control points, stakes, marks, and right of way markers. Assume cost and responsibility of replacing disturbed control points, stakes, marks, and right of way markers damaged by the Contractor's or its subcontractor's operations. If the Owner repairs disturbed control points, stakes, marks, or right of way markers, the cost of repair may be deducted from money due or to become

due to the Contractor. Replace right of way markers under the direction of an RPLS. This work performed under this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

The Engineer reserves the right to make measurements and surveys to determine the accuracy of the work and determine pay quantities. The Engineer's measurements and surveys do not relieve the Contractor's responsibility for accuracy of work. Allow the Engineer adequate time to verify the surveying.

9.1. **Method A**. The Engineer will set control points for establishing lines, slopes, grades, and centerlines and for providing both vertical and horizontal control.

At minimum, provide a controlling pair of monument points at both the beginning and end of construction project for projects less than 2 mi. in length. For projects greater than 2 mi. in length, monuments will be set in pairs at a minimum of 2 mi. based on the overall length of the project. Use these control points as reference to perform the work.

Furnish materials, equipment, and qualified workforce necessary for the construction survey work. Place construction points, stakes, and marks at intervals sufficient to control work to established tolerances. Place construction stakes at intervals of no more than 100 ft., or as directed. Place stakes and marks so as not to interfere with normal maintenance operations.

9.2. **Method B**. The Engineer will set adequate control points, stakes, stationing, and marks to establish lines, slopes, grades, and centerlines. Furnish additional work, stakes, materials, and templates necessary for marking and maintaining points and lines.

9.3. **Method C**. Set adequate control points, stakes, and marks to establish lines, slopes, grades, and centerlines. Place construction points, stakes, and marks at intervals sufficient to control work to established tolerances. Place construction stakes at intervals of no more than 100 ft., or as directed. Place stakes and marks so as not to interfere with normal maintenance operations.

10. INSPECTION

Inspectors are authorized representatives of the Engineer. Inspectors are authorized to examine all work performed and materials furnished, including preparation, fabrication, and material manufacture. Inspectors inform the Contractor of failures to meet Contract requirements. Inspectors may reject work or materials and may suspend work until any issues can be referred to and decided by the Engineer. The Engineer may authorize Inspectors to adjust the traffic control. Inspectors cannot alter, add, or waive Contract provisions, issue instructions contrary to the Contract, act as foremen for the Contractor, or interfere with the management of the work. Inspection or lack of inspection will not relieve the Contractor from obligation to provide materials or perform the work in accordance with the Contract.

Provide safe access to all parts of the work and provide information and assistance to the Engineer to allow a complete and detailed inspection. Give the Engineer sufficient notice to inspect the work. Work performed without suitable inspection, as determined by the Engineer, may be ordered removed and replaced at Contractor's expense. Remove or uncover portions of finished work as directed. Once inspected, restore work to Contract requirements. If the uncovered work is acceptable, the costs to uncover, remove, and replace or make good the parts removed will be paid for in accordance with Article 4L.4., "Changes in the Work." If the work is unacceptable, assume all costs associated with repair or replacement, including the costs to uncover, remove, and replace or make good the parts removed.

When a government entity, utility, railroad company, or other entity accepts or pays a portion of the Contract, that organization's representatives may inspect the work but cannot direct the Contractor. The right of inspection does not make that entity a party to the Contract and does not interfere with the rights of the parties to the Contract.

11. FINAL CLEANUP

Upon completion of the work, remove construction project litter, debris, objectionable material, temporary structures, excess materials, and equipment from the work locations. Clean and restore property damaged by the Contractor's operations during the prosecution of the work. Leave the work locations in a neat and presentable condition.

Remove from the right of way cofferdams, construction buildings, material and fabrication plants, temporary structures, excess materials, and debris resulting from construction. Where work is in a stream, remove debris to the ground line of the bed of the stream. Leave stream channels and rights of way in a neat and presentable condition. Clean structures to the flow line or the elevation of the outfall channel, whichever is higher. Dispose of all excess material in accordance with federal, state, and local regulations.

The work performed under this Article will not be paid for directly, but will be subsidiary to Items of the Contract.

12. FINAL ACCEPTANCE

12.1. **Routine Maintenance Contracts**. Not applicable to Locally Let projects.

12.2. **Construction Contracts**. Final acceptance is made when all work is complete and the Engineer, in writing, accepts all work for the work locations in the Contract. Final acceptance relieves the Contractor from further Contract responsibilities.

12.2.1. **Work Completed**. Work completed must include work for vegetative establishment and maintenance, test and performance periods, and work to meet the requirements of Article 5L.11., "Final Cleanup."

12.2.2. **Final Inspection**. After all work is complete, the Engineer in charge of the work will request a final inspection by the Engineer authorized to accept the work.

The final inspection will be made as soon as possible and not later than 10 calendar days after the request. No working day charges will be made between the date of request and final inspection.

After the final inspection, if the work is satisfactory, the Engineer will notify the Contractor in writing of the final acceptance of the work. If the final inspection finds any work to be unsatisfactory, the Engineer will identify in writing all deficiencies in the work requiring correction. Correct the deficiencies identified. Working day charges will resume if these deficiencies are not corrected within 7 calendar days, unless otherwise authorized by the Engineer. Upon correction, the Engineer will inspect to verify that all deficiencies were corrected satisfactorily. The Engineer will provide written notice of the final acceptance.

12.2.3. **Final Measurement**. Final measurements and pay quantity adjustments may be made after final acceptance. Final acceptance will not be held for final measurements or pay quantity adjustments.

12.2.4. **Removal of Traffic Control Devices**. Remove any remaining construction traffic control devices and advance warning signs upon final acceptance or as directed.

12.3. **Multiple Work Orders**. Not applicable to Locally Let projects.

Item 6L
Control of Materials

1. SOURCE CONTROL

Use only materials that meet Contract requirements. Unless otherwise specified or approved, use new materials for the Work. Secure the Engineer's approval of the proposed source of materials to be used before their delivery. Materials can be approved at a supply source or staging area but may be inspected in accordance with Article 6L.4., "Sampling, Testing, and Inspection."

1.1. **Buy America**. Comply with the latest provisions of Buy America pertaining to steel and iron in accordance with 23 CFR § 635.410. Use steel or iron materials manufactured in the United States except when waived in accordance with Section 6L 1.2., "Buy America Exceptions."

Submit a notarized original of the TxDOT FORM D-9-USA-1 (Department Form 1818 or equivalent) with the proper attachments for verification of compliance.

Manufacturing includes any process that modifies the chemical content, physical shape or size, or final finish of a product. The manufacturing process begins with initial melting and mixing and continues through fabrication (e.g., cutting, drilling, welding, and bending) and coating (e.g., paint, galvanizing, and epoxy).

1.2. **Buy America Exceptions**. Use of iron and steel manufactured in the United States is required unless the material meets an exception below.

- A waiver exists exempting the material from Buy America compliance.
- The total value of foreign iron and steel products, including delivery, does not exceed 0.1% of the total Contract cost or $2,500, whichever is greater. The Contractor must provide documentation showing under threshold in advance for the Engineer's consideration.
- Foreign iron or steel may be allowed when the Contract contains an alternate item for a foreign source iron or steel product and the Contract is awarded based on the alternate item.
- The materials are temporarily installed or are supplies, tools, and equipment not incorporated into the project. Temporarily installed means the materials and products must be removed at the end of the project or may be removed at the Contractor's convenience with the Engineer's approval.

1.3. **Buy Texas**. For construction or maintenance Contracts without federal funds, buy materials produced in Texas when the materials are available at a comparable price and in a comparable period of time. Provide documentation of purchases or a description of good-faith efforts on request.

2. MATERIAL QUALITY

Correct or remove materials that fail to meet Contract requirements or that do not produce satisfactory results. Reimburse the Owner for cost incurred if additional sampling and testing are required by a change of source.

Materials not meeting Contract requirements will be rejected unless the Engineer approves corrective actions. Upon rejection, immediately remove and replace rejected materials.

If the Contractor does not comply with this Article, the Owner may remove and replace defective material. The cost of testing, removal, and replacement will be deducted from the payments due to the Contractor.

3. MANUFACTURER WARRANTIES

Transfer to the Owner warranties and guarantees required by the Contract or received as part of normal trade practice.

4. SAMPLING, TESTING, AND INSPECTION

Incorporate into the work only material that has been inspected, tested, and accepted by the Engineer. Remove, at the Contractor's expense, materials from the work locations that are used without prior testing and approval or written permission of the Engineer.

The material requirements and standard test methods in effect at the time the proposed Contract is advertised govern. Unless otherwise specified, the Engineer will perform testing at Owner's expense. In addition to facilities and equipment required by the Contract, furnish facilities and calibrated equipment required for tests to control the manufacture of construction items. If requested, provide a complete written statement of the origin, composition, and manufacture of materials.

All materials used are subject to inspection or testing at any time during preparation or use. Material that has been tested and approved at a supply source or staging area may be inspected or tested before or during incorporation into the work and rejected if it does not meet Contract requirements. Copies of test results are available upon request. Do not use material that, after approval, becomes unfit for use.

Unless otherwise specified in the Contract, all testing must be performed within the United States and witnessed by the Engineer. If materials or processes require testing outside the contiguous 48 United States, reimburse the Owner for inspection expenses.

5. PLANT INSPECTION AND TESTING

The Engineer may but is not obligated to inspect materials at the acquisition or manufacturing source. Material samples will be obtained and tested for compliance with quality requirements.

If inspection is at the plant, meet the following conditions unless otherwise specified:

- cooperate fully and assist the Engineer during the inspection,
- ensure the Engineer has full access to all parts of the plant used to manufacture or produce materials,
- in accordance with pertinent items and the Contract provide a facility at the plant for use by the Engineer as an office or laboratory
- provide and maintain adequate safety measures and restroom facilities, and
- furnish and calibrate scales, measuring devices, and other necessary equipment in accordance with the Contract.

The Engineer may provide inspection for periods other than daylight hours if:

- continuous production of materials for Owner's use is necessary due to the production volume being handled at the plant, and
- the lighting is adequate to allow satisfactory inspection.

6. STORAGE OF MATERIALS

Store and handle materials to preserve their quality and fitness for the work. Store materials so that they can be easily inspected and retested. Place materials under cover, on wooden platforms, or on other hard, clean surfaces as necessary or when directed.

Obtain approval to store materials on the right of way. Storage space off the right of way is at the Contractor's expense.

7. OWNER-FURNISHED MATERIAL

The Owner will supply materials as shown on the plans. The cost of handling and placing materials supplied by the Owner will not be paid for directly, but will be subsidiary to the Item in which they are used. Assume responsibility for materials upon receipt.

8. USE OF MATERIALS FOUND ON THE RIGHT OF WAY

Material found in the excavation areas and meeting the Owner's specifications may be used in the work. This material will be paid for at the Contract bid price for excavation and under the Item for which the material is used.

Do not excavate or remove any material from within the right of way that is not within the limits of the excavation without written permission. If excavation is allowed within a right of way project-specific location, replace the removed material with suitable material at no cost to the Owner as directed.

9. RECYCLED MATERIALS

The Owner will not allow hazardous wastes, as defined in 30 TAC § 335, proposed for recycling to be used on the project. Use nonhazardous recyclable materials (NRMs) only if the specification for the Item does not disallow or restrict use. Determine whether NRMs are regulated under 30 TAC §§ 312, 330, 332, 334, or 335, and comply with all general prohibitions and requirements. Use NRMs in accordance with DMS-11000, "Evaluating and Using Nonhazardous Recyclable Materials Guidelines," and furnish all documentation in the manner prescribed by the Owner.

10. HAZARDOUS MATERIALS

Comply with the requirements of Article 7L.12., "Responsibility for Hazardous Materials."

Notify the Engineer immediately when a visual observation or odor indicates that materials on sites owned or controlled by the Owner may contain hazardous materials. Except when the contract includes bid items for the Contractor to remove hazardous materials, the Owner is responsible for testing, removing, and disposing of hazardous materials not introduced by the Contractor. The Engineer may suspend work wholly or in part during the testing, removing, or disposing of hazardous materials, except in the case where hazardous materials are introduced by the Contractor.

Use materials that are free of hazardous materials. Notify the Engineer immediately if materials are suspected to contain hazardous materials. If materials delivered to the project by the Contractor are suspected to contain hazardous materials, have an approved commercial laboratory test the materials for the presence of hazardous materials as approved. Remove, remediate, and dispose of any of these materials found to contain hazardous materials. The work required to comply with this Section will be at the Contractor's expense if materials are found to contain hazardous materials. Working day charges will not be suspended and extensions of working days will not be granted for activities related to handling hazardous material introduced by the Contractor. If suspected materials are not found to contain hazardous materials, the Owner will reimburse the Contractor for hazardous materials testing and will adjust working day charges if the Contractor can show that this work impacted the critical path.

10.1. **Painted Steel Requirements**. Coatings on existing steel contain hazardous materials unless otherwise shown on the plans. Remove paint and dispose of steel coated with paint containing hazardous materials in accordance with the following.

Removing Paint from Steel. For contracts that are specifically for painting steel, include the cleaning and painting of steel under Item 446, "Field Cleaning and Painting Steel," as a pay item. Perform work in accordance with that Item.

For projects where paint must be removed to allow for the dismantling of steel or to perform other work, the Owner will provide for a separate contractor (third party) to remove paint containing hazardous materials before or during the Contract. Remove paint covering existing steel shown not to contain hazardous materials in accordance with Item 446.

10.1.1. **Removal and Disposal of Painted Steel**. For steel able to be dismantled by unbolting, paint removal will not be performed by the Owner. The Owner will remove paint, at locations shown on the plans or as agreed, for the Contractor's cutting and dismantling purposes. Use Owner-cleaned locations for dismantling when provided or provide own means of dismantling at other locations.

Painted steel to be retained by the Owner will be shown on the plans. For painted steel that contains hazardous materials, dispose of the painted steel at a steel recycling or smelting facility unless otherwise shown on the plans. Maintain and make available to the Engineer invoices and other records obtained from the facility showing the received weight of the steel and the facility name. Dispose of steel that does not contain hazardous material coatings in conformance with federal, state, and local regulations.

10.2. **Asbestos Requirements**. The plans will indicate locations or elements where asbestos-containing materials (ACMs) are known to be present. Where ACMs are known to exist or where previously unknown ACM has been found, the Owner will arrange for abatement by a separate contractor before or during the Contract. Notify the Engineer of proposed dates of demolition or removal of structural elements with ACM at least 60 days before beginning work to allow the Owner sufficient time for abatement.

The Texas Department of State Health Services (DSHS), Asbestos Programs Branch, is responsible for administering the requirements of the National Emissions Standards for Hazardous Air Pollutants, (NESHAP), in accordance with 40 CFR Part 61, Subpart M, and the Texas Asbestos Health Protection Rules (TAHPR). Based on EPA guidance and regulatory background information, bridges are considered to be a regulated "facility" under NESHAP; therefore, federal standards for demolition and renovation apply.

The Owner is required to notify DSHS at least 10 working days (by postmarked date) before initiating demolition or renovation of each structure shown on the plans. If the actual demolition, renovation, or removal date is changed or delayed, notify the Engineer in writing of the revised dates in sufficient time to allow for the Owner's notification to DSHS to be postmarked at least 10 days in advance of the actual work.

The Owner retains the right to determine the actual advance notice needed for the change in date to address post office business days and staff availability.

10.3. **Asbestos or Lead Abatement**. Provide traffic control as shown on the plans, and coordinate and cooperate with the third party and the Owner for managing or removing hazardous materials. Work for the traffic control shown on the plans and coordination work will not be paid for directly, but will be subsidiary to pertinent Items.

11. SURPLUS MATERIALS

Take ownership of surplus materials unless otherwise shown on the plans or directed. Remove and dispose of materials in conformance with federal, state, and local regulations. If requested, provide an appropriate level of documentation to verify proper disposal. When materials are disposed of on private property, provide written authorization from the property owner for the use of the property for this purpose upon request.

Item 7L
Legal Relations and Responsibilities

1. ETHICS – NOT APPLICABLE TO LOCALLY LET PROJECTS

2. SAFETY

2.1. **Safety Point of Contact**. Designate, in writing, a Contractor Safety Point of Contact (CSPOC). The Owner will assign an employee for their point of contact designated as Owner's Safety Point of Contact OSPOC. The Contract requires that the Contractor's and subcontractor's employees use the appropriate personal protective equipment (PPE) (e.g., hardhats, safety vests, and protective toe footwear) to meet regulations.

The Contractor will require that crew leaders and foremen (including subcontractors) have attended the required training.

2.2. **Safety Preconstruction Meeting**. In cooperation with the Engineer, schedule and attend a safety preconstruction meeting (may be a part of the preconstruction conference in accordance with Article 4L.2., "Preconstruction Conference"). Attendees for this safety preconstruction meeting will be:

- the Contractor,
- subcontractors,
- the Owner,
- local law enforcement, and
- other personnel who play an active role on the project.

2.3. **Safety Contingency**. To improve the effectiveness of traffic handling and enhance safety during the course of this project, a safety contingency fund may have been included in the project budget for traffic control plan adjustments and other safety-related improvements.

Costs associated with the adjustments or improvements will be paid for in accordance with Article 9L.7., "Payment for Extra Work and Force Account Method." Article 9L.7., "Payment for Extra Work and Force Account Method," is not intended to be used in lieu of bid items established by the Contract.

2.4. **Public Safety and Convenience**. In accordance with the Contract and as directed, provide for the safety and convenience of the public and property. Keep existing roadways open to traffic or construct and maintain detours and temporary structures for safe public travel. Manage construction to minimize disruption to traffic. Maintain the roadway in a good and passable condition, including proper drainage, and provide for ingress and egress to adjacent property.

If the construction of the project requires the closing of a roadway, as directed, coordinate the closure with the Engineer and work to ensure all lanes and ramps possible are available during peak traffic periods before, during, and after significant traffic generator events to avoid any adverse economic impact on the municipalities during:

- dates or events as shown on the plans, and
- other dates as directed.

Store all equipment not in use in a manner and at locations that will not interfere with the safe passage of traffic.

If the Engineer determines that any of the requirements of this Article have not been met, the Engineer may take corrective action. This will not change the legal responsibilities set forth in the Contract. The cost to the Owner for this work will be deducted from any money due or to become due to the Contractor.

2.5. **Use of Blue Warning Lights**. Texas Transportation Code § 547.105 authorizes the use of warning lights to promote safety and provides an effective means of gaining the traveling public's attention as they drive in areas where construction crews are present. To influence the public to move over when high-risk construction activities are taking place, minimize the use of blue warning lights. These lights must be used only while performing work on or near the travel lanes or shoulder where the traveling public encounters construction crews that are not protected by a standard work zone setup, such as a lane closure, a shoulder closure, or one-way traffic control. Refrain from leaving the warning lights engaged while traveling from one work location to another or while parked on the right of way away from the pavement or a work zone.

2.6. **Barricades, Signs, and Traffic Handling**. Comply with the requirements of Item 502 "Barricades, Signs, and Traffic Handling," and as directed. Provide traffic control devices as shown on the plans and in accordance with the TMUTCD. When authorized or directed, provide additional signs or traffic control devices not required by the plans.

If an unexpected situation arises that causes the Contractor to believe that the traffic control should be changed, make all reasonable efforts to promptly contact the Engineer. Take prudent actions until the Engineer can be contacted.

The Engineer will inspect the traffic control devices. Comply with the results of the inspection in the prescribed timeframe.

The work performed and materials furnished in accordance with this Section and Item 502 have no bearing on the prosecution of Items 1L–10L, "General Requirements and Covenants," of the Contract. This includes, but is not limited to installing, relocating, and removing project limit advance warning signs.

2.6.1. **Contractor Responsible Person and Alternate**. Designate in writing a Contractor's Responsible Person (CRP) and an alternate to be the representative of the Contractor who is responsible for taking or directing corrective measures regarding the traffic control. The CRP or alternate must be accessible by telephone 24 hr. per day and able to respond when notified. The CRP and alternate must comply with the requirements of Section 7L.2.6.5., "Training."

2.6.2. **Flaggers**. Designate, in writing, a flagger instructor who will serve as a flagging supervisor and is responsible for training and assuring that all flaggers are qualified to perform flagging duties. Certify to the Engineer that all flaggers will be trained and make available upon request a list of flaggers trained to perform flagging duties.

Provide flaggers as directed. Flaggers must be courteous and able to effectively communicate with the public. When directing traffic, flaggers must dress appropriately; wear high-visibility safety apparel; use flags, signs, stop-slow paddles, and other hand-signaling devices; and follow the flagging procedures in the TMUTCD. Comply with the requirements of Section 7L.2.6.5., "Training."

2.6.3. **Law Enforcement Personnel**. Provide uniformed law enforcement personnel with patrol vehicles as directed. Document the work zone traffic services provided in the manner prescribed by the Owner. Law enforcement personnel providing work zone traffic services must be trained for the service they perform. Comply with Section 7L.2.6.5., "Training."

2.6.4. **Other Work Zone Personnel**. Workers involved with traffic control, including the maintenance of the traffic control, must comply with the requirements of Section 7L.2.6.5., "Training."

2.6.5. **Training.** Train workers involved with the traffic control using Department-approved training as shown on the "Traffic Control Training" MPL.

Coordinate enrollment, pay associated fees, and successfully complete Department-approved training or Contractor-developed training. Training is valid for the period prescribed by the provider. Except for law enforcement personnel training, refresher training is required every 4 yr. from the date of completion unless otherwise specified by the course provider. The Engineer may require training at a specified frequency instead of the period prescribed based on the Owner's needs. Training and associated fees will not be measured or paid for directly, but will be subsidiary to pertinent Items.

Certify to the Engineer that workers involved in traffic control and other work zone personnel have been trained and make available upon request a copy of the certification of completion to the Engineer. The certification of completion includes:

- name of provider and course title,
- name of participant,
- date of completion, and
- date of expiration.

Where Contractor-developed training or a TxDOT-approved training course does not produce a certification, maintain a log of attendees. Make the log available upon request. Provide a log that is legible and includes:

- printed name and signature of participant,
- name and title of trainer, and
- date of training.

2.6.5.1. **Contractor-Developed Training**. Develop and deliver Contractor-developed training meeting the minimum requirements established by the Owner. The outline for this training must be submitted to the Engineer for approval at the preconstruction meeting. The CRP or designated alternate may deliver the training instead of the TxDOT-approved training. The work performed and materials furnished to develop and deliver the training will not be measured or paid for directly, but will be subsidiary to pertinent Items.

2.6.5.1.1. **Flagger Training Minimum Requirements**. A Contractor's certified flagging instructor is permitted to train other flaggers.

2.6.5.1.2. **Other Contractor-Developed Training for Other Work Zone Personnel**. For other work zone personnel, the Contractor may provide training meeting the curriculum described below instead of TxDOT-approved training.

Minimum curriculum for Contractor-provided training is as follows.

Contractor-developed training must provide information on the use of PPE, occupational hazards and health risks, and other pertinent topics related to traffic management. The type and amount of training will depend on the job duties and responsibilities. Develop training applicable to the work being performed. Develop training to include the following topics.

- Adopt a company safety motto: "The Life You Save May Be Your Own," or similar.
- Purpose of the training includes the following.
  - "It's the Law."
  - Make work zones safer for workers and motorists.
  - Understand what is needed for traffic control.
  - Save lives including your own.
- Personal and co-worker safety includes the following.
  - **High-Visibility Safety Apparel**. Discuss compliant requirements; inspect regularly for fading and reduced reflective properties; if night operations are required, discuss the additional and appropriate required apparel in addition to special night work risks; and if moving operations are underway, discuss appropriate safety measures specific to the situation and traffic control plan.

- **Blind Areas**. A blind area is the area around a vehicle or piece of construction equipment not visible to the operators, either by line of sight or indirectly by mirrors. Discuss the "Circle of Safety" around equipment and vehicles; use of spotters; maintaining eye contact with equipment operators; and use of hand signals.
- **Runovers and Backovers**. Remain alert at all times; keep a safe distance from traffic; avoid turning your back to traffic, and if you must, then use a spotter; and stay behind protective barriers, whenever possible. It is not safe to sit on or lean against a concrete barrier; these barriers can deflect 4 ft. or more when struck by a vehicle.
- Look out for each other and warn co-workers.
- Be courteous to motorists.
- Do not run across active roadways.
- Workers must obey traffic laws and drive courteously while operating vehicles in the work zones.
- Workers must be made aware of company distracted driving policies.

■ **Nighttime Operations**. Focus on projects with a nighttime element.

■ **Traffic Control Training**. Basics of traffic control include the following.

- Identify work zone traffic control supervisor and other appropriate persons to report issues to when they arise.
- Emphasize that work zone traffic control devices must be in clean and undamaged condition. If devices have been hit but not damaged, return them to their correct place and report to the traffic control supervisor. If devices have been damaged, replace with new devices and report to the traffic control supervisor. If devices are dirty, faded, or have missing or damaged reflective tape, clean or replace them and report to the traffic control supervisor. Show examples of unacceptable device conditions. Discuss various types of traffic control devices to be used and where spacing requirements can be found.
- **Channelizing Devices and Barricades with Slanted Stripes**. Stripes must slant in the direction in which you want traffic to stay or move; demonstrate this with a device.
- **Traffic Queuing**. Workers must be made aware of traffic queuing and the dangers created by it. Workers must be instructed to immediately notify the traffic control supervisor and other supervisory personnel if traffic is queuing beyond advance warning sign and devices or construction limits.
- **Signs**. Signs must be straight and not leaning. Report problems to the traffic control supervisor or other as designated for immediate repair. Covered signs must be fully covered. If covers are damaged or out of place, report to the traffic control supervisor or other as designated.

3. LAWS TO BE OBSERVED

Comply with all federal, state, and local laws, ordinances, and regulations that affect the performance of the work. The Contractor is not required to comply with city electrical ordinances not included in this Contract. Indemnify and save harmless the Owner and its representatives against any claim arising from violation by the Contractor of any law, ordinance, or regulation.

This Contract is between the Owner and the Contractor only. No person or entity may claim third-party beneficiary status under this Contract or any of its provisions, nor may any non-party sue for personal injuries or property damage under this Contract.

4. PERMITS, LICENSES, AND TAXES

Procure all permits and licenses; pay all charges, fees, and taxes; and give all notices necessary and incidental to the due and lawful prosecution of work, except for permits provided by the Owner and as specified in Article 7L.7., "Preservation of Cultural and Natural Resources and the Environment."

5. PATENTED DEVICES, MATERIAL, AND PROCESSES

Indemnify and save harmless the Owner from any claims for infringement from the Contractor's use of any patented design, device, material, process, trademark, or copyright selected by the Contractor and used in connection with the work. Indemnify and save harmless the Owner against any costs, expenses, or damages that it may be obliged to pay, by reason of this infringement, at any time during the prosecution or after the completion of the work.

6. PERSONAL LIABILITY OF PUBLIC OFFICIALS

Owner employees are agents and representatives of the Owner and will incur no liability, personal or otherwise, in carrying out the provisions of the Contract or in exercising any power or authority granted under the Contract.

7. PRESERVATION OF CULTURAL AND NATURAL RESOURCES AND THE ENVIRONMENT

Project-specific information pertinent to cultural and natural resources is included in the plan set in the General Notes and on the Environmental Permits, Issues, and Commitments (EPIC) sheet. Adhere to all guidance, Best Management Practices (BMPs), and permits shown on the plans. Signing the Contract certifies compliance with all applicable laws, rules, and regulations pertaining to the preservation of cultural resources, natural resources, and the environment as issued by the following or other agencies.

- OSHA
- TCEQ
- Texas Department of Transportation
- Texas Historical Commission
- Texas Parks and Wildlife Department
- Texas Railroad Commission
- U.S. Army Corps of Engineers (USACE)
- U.S. Department of Energy
- U.S. Department of Transportation
- EPA
- Federal Emergency Management Agency
- U.S. Fish and Wildlife Service

All subcontractors must also comply with applicable environmental laws, rules, regulations, and requirements in the Contract.

7.1. **Cultural Resources**. Cease all work immediately if a site, building, or location of historical, archeological, educational, or scientific interest is discovered within the right of way. The site, building, or location will be investigated and evaluated by the Owner.

7.2. **Protected and Imperiled Species and Wildlife**. Cease all work immediately and within 50 ft. if a protected or imperiled species, or any species assumed to be protected or imperiled, or wildlife is encountered onsite. Allow any animals to leave the area. Do not kill any wildlife. Contact Owner's environmental staff to investigate and evaluate any species or wildlife issues.

7.3. **Migratory Birds**. Bird and nest removal must not occur during vegetation clearing, construction, or maintenance activities on structures where birds or nests are present during the nesting season, as shown on the plans. If work will occur during the nesting season, measures to prevent nest establishment must be used before the start of nesting season or any activity. Contact Owner's environmental staff for assistance with birds and nests.

7.4. **Texas Pollutant Discharge Elimination System (TPDES) Permits and Stormwater Pollution Prevention Plans (SWP3s).**

7.4.1. Projects with Less than 1 Acre of Soil Disturbance Including Required Associated Project Specific Locations (PSLs) in Accordance with TPDES Construction General Permit (CGP) No. TXR150000. No construction site notice (CSN) posting will be required for soil disturbances within the right of way. Adhere to the requirements of the SWP3 and environmental layout as shown on the plans.

7.4.2. Projects with 1 Acre but Less than 5 Acres of Soil Disturbance Including Required Associated PSLs in Accordance with TPDES CGP No. TXR150000. The Owner and the Contractor will operate under a shared SWP3 for portions of the project in the right of way.

The Owner will be considered the primary operator with operational control over plans and specifications as defined in TPDES CGP No. TXR150000 for construction activity in the right of way. The Owner will post a small CSN and follow other requirements as defined in TPDES CGP No. TXR150000 as the entity having operational control over plans and specifications for work shown on the plans in the right of way.

The Contractor will be considered the primary operator with day-to-day operational control as defined in TPDES CGP No. TXR150000 for construction activity in the right of way. In addition to the Owner's actions, the Contractor will post a small CSN and follow other requirements as defined in TPDES CGP No. TXR150000 as the entity having day-to-day operational control of the work shown on the plans in the right of way. This is in addition to the Contractor being responsible for TPDES CGP No. TXR150000 requirements for on-right-of-way and off-right-of-way PSLs. The Contractor will adhere to all requirements of the SWP3 and environmental layout as shown on the plans. The Contractor will be responsible for implementing the SWP3 for the project site as shown on the plans, in conformance with specifications, in accordance with TPDES CGP No. TXR150000, and as directed. Notification to Municipal Separate Storm Sewer System (MS4) operators (when applicable) upon project initiation and completion must be provided in accordance with TPDES CGP No. TXR150000 requirements. A signed copy of the small CSN will be provided to MS4 operators (where applicable) at least 2 days before commencing construction.

With the Engineer's concurrence upon the completion of soil disturbing activities and achieving permanent stabilization of 70% native background vegetation cover, the CSN may be removed.

7.4.3. **Projects with 5 Acres or More of Soil Disturbance Including Required Associated PSLs in Accordance with TPDES CGP No. TXR150000**. The Owner and the Contractor will operate under a shared SWP3 for portions of the project in the right of way. The Owner will be considered the primary operator with operational control over plans and specifications as defined in TPDES CGP No. TXR150000 for construction activities in the right of way. The Owner will post a large CSN and file a Notice of Intent (NOI); Notice of Change (NOC), if applicable; and Notice of Termination (NOT), along with other requirements in accordance with TPDES CGP No. TXR150000, as the entity having operational control over plans and specifications for work shown on the plans in the right of way.

The Contractor will be considered the primary operator for day-to-day operational control as defined in TPDES CGP No. TXR150000 for construction activities in the right of way. In addition to the Owner's actions, the Contractor will file an NOI; NOC, if applicable; and NOT and post a large CSN along with other requirements as the entity having day-to-day operational control of the work shown on the plans in the right of way. This is in addition to the Contractor being responsible for TPDES CGP No. TXR150000 requirements for on-right-of-way and off-right-of way PSLs. Adhere to all requirements of the SWP3 and environmental layout as shown on the plans.

7.4.3.1. **Notice of Intent (NOI)**. Contractor will submit an NOI to TCEQ in accordance with TPDES CGP No. TXR150000 requirements. NOI must be submitted at least 7 days before commencement of construction activities at the project site. Contractor must file NOI under the same Regulated Entity Number (RN) as the Owner. Provide a signed copy to the Engineer and any other MS4 operators (where applicable) at the time of submittal. The Owner will submit their NOI before Contractor submission and will provide a copy for Contractor's use in completing the Contractor's NOI form.

7.4.3.2. **Notice of Change (NOC)**. Upon concurrence of the Engineer, submit an NOC to TCEQ within 14 days of discovery of a change or revision to the NOI as required by the CGP. Provide a signed copy of the NOC to the Engineer and any other MS4 operators (where applicable) at the time of submittal.

7.4.3.3. **Notice of Termination (NOT)**. Upon concurrence of the Engineer, submit an NOT to TCEQ within 30 days of the Engineer's approval that 70% native background vegetative cover is met or equivalent permanent stabilization has been employed in accordance with TPDES CGP No. TXR150000. Provide a signed copy of the NOT to the Engineer and any other MS4 operators (where applicable) at the time of submittal.

7.4.4. **Training**. Not applicable to Locally Let Projects.

7.5. **Work in Waters of the United States**. For work in the right of way, the Owner will obtain any required Section 404 permits from U.S. Army Corps of Engineers USACE before work begins. Adhere to all agreements, mitigation plans, and standard BMPs required by the permit. When Contractor-initiated changes in the construction method change the impacts on Waters of the United States, obtain new or revised Section 404 permits.

7.6. **Work in Navigable Waters of the United States**. For work in the right of way, the Owner will obtain any required Section 9 permits from the U.S. Coast Guard before work begins. Adhere to the stipulations of the permits and associated BMPs. When Contractor-initiated changes in the construction method change the impacts on Navigable Waters of the United States, obtain new or revised Section 9 permits.

7.7. **Work over Recharge or Contributing Zone of Protected Aquifers**. Make every reasonable effort to minimize the degradation of water quality resulting from impacts relating to work over the recharge or contributing zones of protected aquifers, as defined and delineated by TCEQ. Use BMPs and perform work in accordance with the Contract requirements.

7.8. **Project Specific Locations**. For all PSLs on or off the right of way (e.g., material sources, waste sites, parking areas, storage areas, field offices, staging areas, and haul roads), comply with all applicable laws, rules, and regulations pertaining to the preservation of cultural resources, natural resources, and the environment in accordance with Section 7L 7.1., "Cultural Resources." All subcontractors must also comply with applicable environmental laws, rules, regulations, and requirements in the Contract. Maintain documentation of environmental compliance activities, including environmental consultant reports and correspondence with the resource agencies. Provide documentation upon request. Obtain written approval from the Engineer for all PSLs in the right of way not specifically addressed on the plans. Prepare an SWP3 for all Contractor facilities, such as asphalt or concrete plants located within right of way. Comply with all TCEQ permit requirements for portable facilities, such as concrete batch plants, rock crushers, and asphalt plants. Ensure compliance with all environmental issues, such as Section 404 permits, wetland delineation, endangered species consultation requirements, or archeological and historic site impacts. Obtain all permits and clearances in advance.

7.9. **Contractor Responsibility**. If the Contractor initiates changes to the Contract and the Owner approves the changes, the Contractor is responsible for obtaining clearances and coordinating with the appropriate regulatory agencies.

8. AGRICULTURAL IRRIGATION

Regulate the sequence of work and make provisions as necessary to provide for agricultural irrigation or drainage during the work. Meet with the service provider or landowner to determine the proper time and sequence when irrigation demands will permit shutting off water flows to perform work.

Unless otherwise shown on the plans, the work performed in accordance with this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

9. SANITARY PROVISIONS

Provide and maintain adequate, neat, and sanitary toilet accommodations for employees, including State employees, in compliance with the requirements and regulations of the Texas Department of State Health Services or other authorities having jurisdiction.

10. ABATEMENT AND MITIGATION OF EXCESSIVE OR UNNECESSARY NOISE

Minimize noise throughout all phases of the Contract. Exercise particular and special efforts to avoid the creation of unnecessary noise impact on adjacent noise-sensitive receptors in the placement of non-mobile equipment, such as air compressors, generators, and pumps. Place mobile and stationary equipment to cause the least disruption to normal adjacent activities.

All equipment associated with the work must be equipped with components to suppress excessive noise, and these components must be maintained in their original operating condition considering normal depreciation. Noise attenuation devices installed by the manufacturer, such as mufflers, engine covers, and insulation, must not be removed or rendered ineffectual, or be permitted to remain off the equipment while the equipment is in use.

11. USING EXPLOSIVES

Do not endanger life or property. When required by the plans or requested, provide a written blasting plan. The Owner retains the right to reject the blasting plan. Store all explosives securely, and clearly mark all storage places with "DANGER—EXPLOSIVES." Store, handle, and use explosives and highly flammable material in compliance with federal, state, and local laws, ordinances, and regulations. Assume liability for property damage, injury, or death resulting from the use of explosives.

Give at least 48-hr. advance notice to the appropriate railroad representative before doing any blasting work involving the use of electric blasting caps within 200 ft. of any railroad track.

12. RESPONSIBILITY FOR HAZARDOUS MATERIALS

Comply with the requirements of Article 6L.10., "Hazardous Materials." Indemnify and save harmless the Owner and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property arising from the generation or disposition of hazardous materials introduced by the Contractor on any work done by the Contractor on Owner-owned or controlled sites. Indemnify and save harmless the Owner and its representatives from any liability or responsibility arising out of the Contractor's generation or disposition of any hazardous materials obtained, processed, stored, or shipped, on sites not owned or controlled by the Owner. Reimburse the Owner for all payments, fees, or restitution the Owner is required to make as a result of the Contractor's actions.

13. RESTORING SURFACES OPENED BY PERMISSION

Do not authorize anyone to make an opening in the highway for utilities, drainage, or any other reason without written permission from the Engineer. Repair all openings as directed. Payment for repair of surfaces opened by permission will be made in conformance with pertinent Items or in accordance with Article 4L.4., "Changes in the Work." Costs associated with openings made with Contractor authorization but without Owner approval will not be paid.

14. PROTECTING ADJACENT PROPERTY

Protect adjacent property from damage. If any damage results from an act or omission on the part of or on behalf of the Contractor, take corrective action to restore the damaged property to a condition similar or equal to that existing before the damage was done.

15. RESPONSIBILITY FOR DAMAGE CLAIMS

Indemnify and save harmless the Owner and its agents and employees from all suits, actions, or claims and from all liability and damages for any injury or damage to any person or property due to the Contractor's negligence in the performance of the work and from any claims arising or amounts recovered under any laws, including workers' compensation and the Texas Tort Claims Act. Indemnify and save harmless the Owner and assume responsibility for all damages and injury to property of any character occurring during the prosecution of the work resulting from any act, omission, neglect, or misconduct on the Contractor's part in the manner or method of executing the work; from failure to properly execute the work; or from defective work or material.

Pipelines and other underground installations that may or may not be shown on the plans may be located within the right of way. Indemnify and save harmless the Owner from any suits or claims resulting from damage by the Contractor's operations to any pipeline or underground installation. Make available the scheduled sequence of work to the respective utility owners so that they may coordinate and schedule adjustments of their utilities that conflict with the proposed work.

16. HAULING AND LOADS ON ROADWAYS AND STRUCTURES

Comply with federal and state laws concerning legal gross and axle weights. Except for the designated Interstate system, vehicles with a valid yearly overweight tolerance permit may haul materials to the work locations at the permitted load. Provide copies of the yearly overweight tolerance permits to the Engineer upon request. Construction equipment is not exempt from oversize or overweight permitting requirements on roadways open to the traveling public.

Protect existing bridges and other structures that will remain in use by the traveling public during and after the completion of the Contract. Construction traffic on roadways, bridges, and culverts within the limits of the work, including any structures under construction that will remain in service during and after completion of the Contract, is subject to legal size and weight limitations.

Additional temporary fill may be required by the Engineer for hauling purposes for the protection of certain structures. This additional fill will not be paid for directly, but will be subsidiary to pertinent Items.

Replace or restore to original condition any structure damaged by the Contractor's operations.

The Engineer may allow equipment with oversize or non-divisible overweight loads to operate without a permit within the work locations on pavement structures not open to the traveling public. Submit Contractor-proposed changes to traffic control plans for approval, in accordance with Item 502. The following Sections further address overweight allowances. The Owner will make available to the Contractor any available plans and material reports for existing structures.

16.1. **Overweight Construction Traffic Crossing Structures**. The Engineer may allow crossing of a structure not open to the public within the work locations when divisible or non-divisible loads exceed legal weight limitations, including limits for load-posted bridges. Obtain written permission to make these crossings. Submit for approval a structural analysis by a licensed professional engineer indicating that the excessive loads should be allowed. Provide a manufacturer's certificate of equipment weight that includes the weight distribution on the various axles and any additional parts, such as counterweights, the configuration of the axles, or other information necessary for the analysis. Submit the structural analysis and supporting documentation sufficiently in advance of the move to allow for review by the Engineer. Permission may be granted if the Engineer finds that no damage or overstresses exceeding those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. Provide temporary matting or other protective measures as directed.

Schedule loads so that only one vehicle is on any span or continuous unit at any time. Use barricades, fences, or other positive methods to prevent other vehicular access to structures at any time the overweight load is on any span or continuous unit.

16.2. **Construction Equipment Operating on Structures**. Cranes and other construction equipment used to perform construction operations that exceed legal weight limits may be allowed on structures. Before any operation that may require placement of equipment on a structure, submit for approval a detailed structural analysis prepared by a licensed professional engineer.

Submit the structural analysis and supporting documentation sufficiently in advance of the use to allow for review by the Engineer. Include all axle loads and configurations, spacing of tracks or wheels, tire loads, outrigger placements, center of gravity, equipment weight, and predicted loads on tires and outriggers for all planned movements, swings, or boom reaches. The analysis must demonstrate that no overstresses exceeding those normally allowed for occasional overweight loads will occur.

16.3. **Loads on Structures**. Do not store or stockpile material on bridge structures without written permission. If required, submit a structural analysis and supporting documentation by a licensed professional engineer for review by the Engineer. Permission may be granted if the Engineer finds that no damage or overstresses exceeding those normally allowed for occasional overweight loads will result to structures that will remain in use after Contract completion. Provide temporary matting or other protective measures as directed.

16.4. **Hauling Divisible Overweight Loads on Pavement Within Work Locations**. The Engineer may allow divisible overweight loads on pavement structures within the work locations not open to the traveling public. Obtain written approval before hauling the overweight loads. Include calculations to demonstrate that there will be no damage or overstress to the pavement structure.

17. CONTRACTOR'S RESPONSIBILITY FOR WORK

Until final acceptance of the Contract, take every precaution against injury or damage to any part of the work by the action of the elements or by any other cause, whether arising from the execution or from the non-execution of the work. Protect all materials to be used in the work at all times, including periods of suspension.

When any roadway or portion of the roadway is in suitable condition for travel, it may be opened to traffic as directed. Opening of the roadway to traffic does not constitute final acceptance.

Repair damage to all work until final acceptance. Repair damage to existing facilities in accordance with the Contract or as directed by the Engineer. Repair damage to existing facilities or work caused by Contractor operations at the Contractor's expense. Repair work for damage that was not due to the Contractor's operations will not be paid for except as provided below.

17.1. **Reimbursable Repair**. Except for damage to appurtenances listed in Section 7L.17.2.1., "Unreimbursed Repair," the Contractor will be reimbursed for repair of damage caused by:

- motor vehicle, watercraft, aircraft, or railroad-train incident;
- vandalism; or
- Acts of God, such as earthquake, tidal wave, tornado, hurricane, or other cataclysmic phenomena of nature.

17.2. **Appurtenances**.

17.2.1. **Unreimbursed Repair**. Except for destruction (not reusable) due to Acts of God, reimbursement will not be made for repair of damage to the following temporary appurtenances, regardless of cause:

- signs,
- barricades, and
- other work zone traffic control devices.

Crash cushion attenuators and guardrail end treatments are reimbursed in accordance with Section 7L.17.2.2., "Reimbursed Repair." Truck-mounted attenuators, trailer attenuators, and portable changeable message signs are eligible for reimbursed repair in accordance with Section 7L.17.2.2.,

"Reimbursed Repair." Reimbursement will only be made when the Engineer directs the placement of the device in a location other than what is depicted in the Contract and the Contractor is unable to seek reimbursement from third-party insurance.

Where the Contractor retains replaced appurtenances after completion of the project, the Owner will limit the reimbursement to the cost that is above the salvage value at the end of the project.

17.2.2. **Reimbursed Repair**. Reimbursement will be made for repair of damage due to the causes listed in Section 7L.17.1, "Reimbursable Repair."

17.3. **Roadways and Structures**. Until final acceptance, the Contractor is responsible for all work constructed under the Contract. The Owner will not reimburse the Contractor for repair work to new construction, unless the failure or damage is due to one of the causes listed in Section 7L.17.1., "Reimbursable Repair."

The Owner will be responsible for the cost for repair of damage to existing roadways and structures not caused by the Contractor's operations.

17.4. **Detours**. The Contractor will be responsible for the cost of maintenance of detours constructed under the Contract, unless the failure or damage is due to one of the causes listed in Section 7L.17.1., "Reimbursable Repair." In addition, the Engineer will reimburse the Contractor for repairs to detours when failures occur for reasons beyond the Contractor's control. Reimbursement will be made for repairs to detours constructed unless the failure was due to materials and workmanship. The Owner will be responsible for the cost of maintenance of existing streets and roadways used for detours or handling traffic.

17.5. **Relief from Maintenance**. The Engineer may relieve the Contractor from responsibility of maintenance in accordance with this Section. This relief does not release the Contractor from responsibility for defective materials or work or constitute final acceptance. The Engineer will direct the Contractor to remove advance warning signs upon issuance of relief from maintenance.

17.5.1. **Isolated Work Locations**. For isolated work locations, when all work is completed, including work in accordance with Article 5L.11., "Final Cleanup," the Engineer may relieve the Contractor from responsibility for maintenance.

17.5.2. **Work Except for Vegetative Establishment and Test Periods**. When all work for all or isolated work locations has been completed, including work in accordance with Article 5L.11., "Final Cleanup," with the exception of vegetative establishment and maintenance periods and test and performance periods, the Engineer may relieve the Contractor from responsibility for maintenance of completed portions of work.

17.5.3. **Work Suspension**. When all work is suspended for an extended period of time, the Engineer may relieve the Contractor from responsibility for maintenance of completed portions of work during the period of suspension.

17.5.4. **When Directed by the Engineer**. The Engineer may relieve the Contractor from the responsibility for maintenance when directed.

17.6. **Basis of Payment**. When reimbursement for repair work is allowed and performed, payment will be made in conformance with pertinent Items or in accordance with Article 4L.4., "Changes in the Work."

18. ELECTRICAL REQUIREMENTS

18.1. **Definitions**.

18.1.1. **Electrical Work**. Electrical work is work performed for:

- Item 610, "Roadway Illumination Assemblies,"
- Item 614, "High Mast Illumination Assemblies,"
- Item 616, "Performance Testing of Lighting Systems,"

- Item 617, "Temporary Roadway Illumination,"
- Item 618, "Conduit,"
- Item 620, "Electrical Conductors,"
- Item 621, "Tray Cable,"
- Item 622, "Duct Cable,"
- Item 628, "Electrical Services,"
- Item 680, "Highway Traffic Signals,"
- Item 681, "Temporary Traffic Signals,"
- Item 684, "Traffic Signal Cables,"
- Item 685, "Roadside Flashing Beacon Assemblies,"
- other Items that involve either the distribution of electrical power greater than 50 volts or the installation of conduit and duct banks,
- the installation of conduit and wiring associated with Item 624, "Ground Boxes" and Item 656, "Foundations for Traffic Control Devices," and
- the installation of the conduit system for communication and fiber optic cable.

Electrical work does not include the installation of communications or fiber optic cable, or the connections for low-voltage and inherently power-limited circuits, such as electronic or communications equipment. Assembly and placement of poles, structures, cabinets, enclosures, manholes, or other hardware will not be considered electrical work if no wiring, wiring connection, or conduit work is done at the time of assembly and placement.

18.1.2. **Specialized Electrical Work**. Specialized electrical work is work that includes the electrical service and feeders, sub-feeders, branch circuits, controls, raceways, and enclosures for the following:

- pump stations,
- moveable bridges,
- ferry slips,
- motor control centers,
- facilities required in accordance with Item 504, "Field Office and Laboratory,"
- rest area or other public buildings,
- weigh-in-motion stations,
- electrical services larger than 200 amps,
- electrical services with main or branch circuit breaker sizes not shown in the Contract, and
- any three-phase electrical power.

18.1.3. **Certified Person**. A certified person is a person who has passed the test from TxDOT's course TRF450, "TxDOT Roadway Illuminations and Electrical Installations," or other courses as approved by the Traffic Safety Division. Submit a current and valid TRF certification upon request. Texas A&M Engineering Extension Service (TEEX) certifications for "TxDOT Electrical Systems" course will not be accepted.

18.1.4. **Licensed Electrician**. A licensed electrician is a person with a current and valid unrestricted master electrical license, or unrestricted journeyman electrical license, who is supervised or directed by an unrestricted master electrician. An unrestricted master electrician need not be on the work locations at all times while electrical work is being done, but the unrestricted master electrician must approve work performed by the unrestricted journeyman. Licensed electrician requirements by city ordinances do not apply to on State system work.

The unrestricted journeyman and unrestricted master electrician licenses must be issued by the Texas Department of Licensing and Regulation or by a city in Texas with a population of 50,000 or greater that issues licenses based on passing a written test and demonstrating experience.

The Engineer may accept other states' electrical licenses. Submit documentation of the requirements for obtaining that license. Acceptance of the license will be based on sufficient evidence that the license was issued based on:

- passing a test based on the NEC like that used by Texas licensing officials, and
- sufficient electrical experience commensurate with general standards for an unrestricted master and unrestricted journeyman electrician in the State of Texas.

18.2. **Work Requirements**. The qualifications required to perform electrical work and specialized electrical work are shown in Table 1.

Table 1
Work Requirements

Type of Work	Qualifications to Perform Work
Electrical work with plans	Licensed electrician, certified person, or workers directly supervised by a licensed electrician or certified person
Electrical work without plans	Licensed electrician or workers directly supervised by a licensed electrician
Specialized electrical work	Licensed electrician or workers directly supervised by a licensed electrician
Replace lamps, starting aids, and changing fixtures	Licensed electrician, certified person, or workers directly supervised by a licensed electrician or certified person
Conduit in precast section with approved working drawings	Inspection by licensed electrician or certified person
Conduit in cast-in-place section	Inspection by licensed electrician or certified person
All other electrical work (e.g., troubleshooting, repairs, and component replacement)	Licensed electrician or workers directly supervised by a licensed electrician

"Directly supervised by a licensed electrician" means that a licensed electrician is physically present during all electrical work. "Directly supervised by a licensed electrician or certified person" means that a licensed electrician or certified person is physically present during all electrical work.

A non-certified person may install conduit in cast-in-place concrete sections if the work is verified by a certified person before concrete placement.

When IMSA certification is specified on the plans, the requirements shown in Table 1 will still apply to the installation of the conduit, ground boxes, electrical services, pole grounding, and electrical conductors installed in accordance with Item 620.

19. PAYROLLS

Pay employees and contract labor no less than the predetermined wage rates shown in the Contract. Require that subcontractors pay no less than the predetermined wage rates shown in the Contract.

Payroll records must contain the information required by law. As an option, Form WH-347, "Payroll," is provided by the U.S. Department of Labor.

Maintain payroll and related records during the course of the Contract and preserve these records for 3 yr. following the completion of the Contract or as required by law.

19.1. **Minimum Wage Requirements for Federally Funded Contracts**. Comply with the requirements of FHWA-1273, "Required Contract Provisions Federal-Aid Construction Contracts."

For construction contracts, submit payroll records to the Engineer using the manner prescribed by the Owner.

19.2. **Minimum Wage Requirements for State-Funded Contracts**. Comply with the requirements of 29 USC § 206 unless otherwise shown in the Contract.

For construction contracts, submit payroll records to the Engineer in the manner prescribed.

20. SECURITY INCIDENTS – NOT APPLICABLE TO LOCALLY LET PROJECTS

Item 8L
Prosecution and Progress

1. PROSECUTION OF WORK

Begin work within 30 calendar days after the authorization date to begin work. Prosecute the work continuously to completion within the working days specified. Unless otherwise shown on the plans, work may be prosecuted in concurrent phases if no changes are required to the traffic control plan or if a revised traffic control plan is approved. Notify the Engineer at least 24 hr. before beginning work or before beginning any new operation. Do not start new operations to the detriment of work already begun. Minimize interference to traffic.

2. SUBCONTRACTING

Do not sublet any portion of a construction Contract without the Engineer's written approval. A subcontract does not relieve any responsibility under the Contract and bonds. Ensure that all subcontracted work complies with all governing labor provisions.

The Contractor certifies by signing the Contract that the Contractor will not enter into any subcontract with a subcontractor that is debarred or suspended by the Commission, Owner, or any federal agency.

For federally funded contracts, ensure the required federal documents are physically attached to each subcontract agreement, including all tiered subcontract agreements.

For all DBE subcontracts, including all tiered DBE subcontracts, submit a copy of the executed subcontract agreement.

Upon request, submit a copy of the executed non-DBE subcontracts, including all tiered non-DBE subcontracts.

2.1. **Construction Contracts and Federally Funded Maintenance Contracts**. Perform work with own organization on at least 30% of the total original Contract cost (25% if the Contractor is an SBE on a wholly State- or local-funded Contract), excluding any specialty items as determined by the Engineer. Specialty items are those that require highly specialized knowledge, abilities, or equipment not usually available in the contracting firm expected to bid on the proposed Contract as a whole.

Specialty items will be shown on the plans or as determined by the Engineer. Bid cost of specialty items performed by subcontractors will be deducted from the total original Contract cost before computing the required amount of work to be performed by the Contractor's own organization.

The term "perform work with own organization" includes only:

- workers employed and paid directly by the Contractor or wholly owned subsidiary;
- equipment owned by the Contractor or wholly owned subsidiary;
- rented or leased equipment operated by the Contractor's employees or wholly owned subsidiary's employees;
- materials incorporated into the work if the majority of the value of the work involved in incorporating the material is performed by the Contractor's own organization, including a wholly owned subsidiary's organization; and

- labor provided by staff leasing firms licensed under Chapter 91 of the Texas Labor Code for nonsupervisory personnel if the Contractor or wholly owned subsidiary maintains direct control over the activities of the leased employees and includes them in the weekly payrolls.

Mobilization is not included in calculation of 30%.

When staff leasing firms provide materials or equipment, they are considered subcontractors. In these instances, submit staff leasing firms for approval as a subcontractor.

Copies of canceled checks and certified statements may be required to verify compliance with the requirements of this Section.

2.2. **State-Funded Maintenance Contracts**. Not applicable to locally let projects.

2.3. **Payments to Subcontractors**. Report payments for DBE subcontracts, including tiered DBE subcontracts, in the manner as prescribed by the Owner by the 20th day of each month.

2.3.1. **Payment Records**. Make payment and related records, including but not limited to copies of canceled checks, available for inspection by the Owner. Retain payment records for a period of 3 yr. following the completion of the Contract.

2.4. **Payrolls**. Comply with Article 7L.19., "Payrolls."

3. COMPUTATION OF CONTRACT TIME FOR COMPLETION

The number of working days is established by the Contract. For Contracts with work orders, the number of working days is established in each work order. Working day charges will begin when work begins as prescribed in Article 8L.1., "Prosecution of Work." Working day charges will continue in accordance with the Contract.

The development of the conceptual time determination is intended to establish the number of working days on the Contract. Upon request, the Engineer will provide the conceptual time determination schedule to the Contractor for informational purposes only. The schedule assumes generic resources, production rates, sequences of construction and average weather conditions based on historic data. Schedule labor, equipment, procurement of materials, subcontractor work, and all other necessary means to prosecute the work within the number of working days specified by the Contract.

3.1. **Working Day Charges**. Working days will be charged in accordance with Section 8L.3.1.4., "Standard Workweek," unless otherwise shown on the plans. Working days will be computed and charged in accordance with one of the following:

3.1.1. **Five-Day Workweek**. Working days will be charged Monday–Friday, excluding national holidays, regardless of weather conditions or material availability. The Contractor has the option of working on Saturdays. Provide sufficient advance notice to the Engineer when scheduling work on Saturdays. Work on Sundays and national holidays will not be permitted without written permission of the Engineer. If work requiring an Inspector to be present or if critical path activities are performed on a Saturday, Sunday, or national holiday, and weather and other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.2. **Six-Day Workweek**. Working days will be charged Monday–Saturday, excluding national holidays, regardless of weather conditions or material availability. Work on Sundays and national holidays will not be permitted without written permission of the Engineer. If work requiring an Inspector to be present or if critical path activities are performed on a Sunday or a national holiday, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.3. **Seven-Day Workweek**. Working days will be charged Monday–Sunday, excluding national holidays, regardless of weather conditions or material availability. Work on national holidays will not be permitted without written permission of the Engineer. If work or critical path activities requiring an Inspector to be present are performed on any of these holidays, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.4. **Standard Workweek**. Working days will be charged Monday–Friday, excluding national or State holidays, if weather or other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. between 7:00 A.M. and 6:00 P.M., unless otherwise shown in the Contract. The Contractor has the option of working on Saturdays or State holidays. Provide sufficient advance notice to the Engineer when scheduling work on Saturdays. Work on Sundays and national holidays will not be permitted without written permission of the Engineer. If work requiring an Inspector to be present or critical path activities are performed on a Saturday, Sunday, or holiday, and weather or other conditions permit the performance of work for 7 hr. between 7 A.M. and 6 P.M., a working day will be charged.

3.1.5. **Calendar Day**. Working days will be charged Sunday–Saturday, including all holidays, regardless of weather conditions, material availability, or other conditions not under the control of the Contractor.

3.1.6. **Other**. Working days will be charged as shown on the plans.

3.2. **Restricted Work Hours**. Restrictions on Contractor work hours and the related definition for working day charges are as prescribed in this Article unless otherwise shown on the plans.

3.3. **Nighttime Work**. Nighttime work is allowed only when shown on the plans or directed or allowed by the Engineer. Nighttime work is defined as work performed from 30 min. after sunset to 30 min. before sunrise.

3.3.1. **Five-, Six-, and Seven-Day Workweeks**. Nighttime work that extends past midnight will be assigned to the following day for the purposes of approval for allowing work on Sundays or national holidays.

3.3.2. **Standard Workweek**.

3.3.2.1. **Nighttime Work Only**. When nighttime work is allowed or required and daytime work is not allowed, working day charges will be made when weather and other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. for the nighttime period, as defined in Section 8L.3.3., "Nighttime Work," unless otherwise shown in the Contract.

3.3.2.2. **Nighttime Work and Daytime Work Requiring Inspector**. When nighttime work is performed or required and daytime work is allowed, working day charges will be made when weather and other conditions permit the performance of the principal unit of work underway, as determined by the Engineer, for a continuous period of at least 7 hr. for the nighttime period, as defined in Section 8L.3.3., "Nighttime Work," or for a continuous period of at least 7 hr. for the alternative daytime period unless otherwise shown in the Contract. Only one day will be charged for each 24hr. period. When the Engineer agrees to restrict work hours to the nighttime period only, working day charges will be in accordance with Section 8L.3.3.2.1., "Nighttime Work Only."

3.4. **Time Statements**. The Engineer will furnish the Contractor a monthly time statement. Review the monthly time statement for correctness. Report protests in writing, no later than 30 calendar days after receipt of the time statement, providing a detailed explanation for each day protested. Not filing a protest within 30 calendar days will indicate acceptance of the working day charges, and future consideration of that statement will not be permitted.

4. TEMPORARY SUSPENSION OF WORK OR WORKING DAY CHARGES

The Engineer may suspend the work, wholly or in part, and will provide notice and reasons for the suspension in writing. Suspend and resume work only as directed in writing.

When part of the work is suspended, the Engineer may suspend working day charges only when conditions not under the control of the Contractor prohibit the performance of critical path activities. When all of the work is suspended for reasons not under the control of the Contractor, the Engineer will suspend working day charges.

5. PROJECT SCHEDULES

Prepare, maintain, and submit project schedules for the work to be performed under this Contract. Project schedules are used to convey the Contractor's intended work plan to the Owner.

The work performed under this Article will not be measured or paid for directly, but will be subsidiary to pertinent Items.

5.1. **Project Scheduler**. Designate an individual who will develop and maintain the progress schedule. The project scheduler will be prepared to discuss, in detail, the proposed sequence of work and methods of operation, and how that information will be communicated through the progress schedule at the preconstruction meeting. This individual will also attend the project meetings and make site visits to prepare, develop, and maintain the progress schedules.

5.2. **Progress Schedule**. Before starting work, prepare and submit a progress schedule based on the sequence of work and traffic control plan shown in the Contract. Prepare the progress schedule as a bar chart or critical path method (CPM) as shown on the plans. Include all planned work activities and sequences and show Contract completion within the number of working days specified. Incorporate major material procurements, known utility relocations, and other activities that may affect the completion of the Contract in the progress schedule. Show a beginning date, ending date, and duration in whole working days for each activity. Do not use activities exceeding 20 working days, unless agreed upon with the Engineer. Show an estimated production rate per working day for each work activity, unless otherwise agreed upon with the Engineer.

5.3. **Schedule Format**. Format all project schedules in accordance with the following.

- Begin the project schedule on the date of the start of Contract time or start of activities affecting work on the project.
- Show the sequence and interdependence of activities required for complete performance of the work. If using a CPM schedule, show a predecessor and a successor for each activity.
- Ensure all work sequences are logical and show a coordinated plan of the work.

CPM schedules must also:

- clearly and accurately identify the critical path as the longest continuous path;
- provide a legend for all abbreviations, run date, data date, project start date, and project completion date in the title block of each schedule submittal; and
- using calendars, incorporate seasonal weather conditions into the schedule for work (e.g., earthwork, concrete paving, structures, asphalt, and drainage) that may be influenced by temperature or precipitation. Also, incorporate non-work periods such as holidays, weekends, or other non-work days as identified in the Contract.

5.4. **Activity Format**. For each activity on the project schedule, provide:

- a concise description of the work represented by the activity,
- an activity duration in whole working days, and
- code activities so that organized plots of the schedule may be produced.

CPM schedules must also include the quantity of work and estimated production rate for major items of work. Provide enough information for review of the work being performed.

Total float is defined as the amount of time (in whole days) that an activity can be delayed before impacting the project's completion date. Total float is a shared commodity between the Owner and the Contractor.

5.5. **Schedule Types and Schedule Impacts**.

5.5.1. **Bar Chart**. Seven calendar days before the preconstruction meeting, prepare and submit a hard or electronic copy of the schedule using the bar chart method.

5.5.1.1. **Progress Schedule Reviews**. Update the project schedule and submit a hard or electronic copy when changes to the schedule occur or when requested.

5.5.2. **Critical Path Method**. Prepare and submit the schedule using the CPM. Submit an electronic copy to the Engineer within the timeframes specified. An electronic copy is defined as the scheduling software's native file, saved in a format acceptable to the Engineer. In all cases, an electronic format (.xer) of Primavera Project Planner and Enterprise Project Portfolio Management (P6) will be acceptable.

5.5.2.1. **Preliminary Schedule**. Unless otherwise agreed for a later submission, 7 calendar days before the preconstruction meeting, submit an electronic copy of the project schedule showing activities beginning with the authorization date to begin work and including activities to be performed within the first 90 calendar days from the work start date.

5.5.2.2. **Baseline Schedule**. The baseline schedule will be considered the Contractor's plan to successfully construct the project within the timeframe and construction sequencing indicated in the Contract. Submit electronic copies of the baseline schedule. When requested, submit two plots of the schedule: one organized with the activities logically grouped using the activity coding, and the other plot showing only the critical path determined by the longest path, not based on critical float.

Develop and submit the baseline schedule for review within the first 45 calendar days from the work start date unless the time for submission is extended by the Engineer.

5.5.2.2.1. **Review**. Within 15 calendar days of receipt of the schedule, the Engineer will evaluate and inform the Contractor if the schedule has been accepted. If the schedule is not accepted, the Engineer will provide comments to the Contractor for incorporation. Provide a revised schedule based on the Engineer's comments, or reasons for not doing so, within 10 calendar days. The Engineer's review and acceptance of the project schedule is for conformance to the requirements of the Contract documents only and does not relieve the Contractor of any responsibility for meeting the interim milestone dates (if specified) or the Contract completion date. Review and acceptance does not expressly or by implication warrant, acknowledge, or admit the reasonableness of the logic or durations of the project schedule. If the Contractor fails to define any element of work, activity, or logic and the Engineer's review does not detect this omission or error, the Contractor is responsible for correcting the error or omission.

Submit an acceptable baseline schedule before the 90th calendar day from the work start date unless the time for submission is extended by the Engineer.

5.5.2.3. **Progress Schedule**. Maintain and submit the progress schedule monthly for use by the Contractor and the Engineer. Submit an electronic copy as it will become an as-built record of the daily progress achieved on the project. If continuous progress of an activity is interrupted for any reason except non-work periods (e.g., holidays, weekend, or interference from temperature or precipitation), then the activity will show the actual finish date as that date of the start of the interruption and the activity will be broken into a subsequent activity (or activities, based on the number of interruptions) similarly numbered with successive alpha character as necessary. The original duration of the subsequent activity will be that of the remaining duration of the original activity. Relationships of the subsequent activity will match those of the original activity so that the integrity of the project schedule logic is maintained. Once established, the original durations and actual dates of all activities must remain unchanged. Revisions to the schedule may be made as necessary.

The project schedule must be revised when changes in construction phasing and sequencing occur or other changes that cause deviation from the original project schedule occur. Any revisions to the schedule must be

listed in the monthly update narrative with the purpose of the revision and description of the impact on the project schedule's critical path and project completion date. Create the schedule revision using the latest update before the start of the revision.

Monthly updating of the project schedule will include updating of:

- the actual start dates for activities started,
- the actual finish dates for activities completed,
- the percentage of work completed and remaining duration for each activity started but not yet completed, and
- the calendars to show days actual work was performed on the various work activities.

The cutoff day for recording monthly progress will be the last day of each month. Submit the updated project schedule no later than the 20th calendar day of the following month. The Engineer will evaluate the updated schedule within 5 calendar days of receipt and inform the Contractor if it has or has not been accepted. If the schedule is not accepted, the Engineer will provide comments to the Contractor for incorporation. Provide a revised schedule based on the Engineer's comments, or reasons for not doing so, within 5 calendar days.

Provide a brief narrative in a bulleted statement format for major items that have impacted the schedule. Notify the Engineer if resource-leveling is being used.

5.5.2.3.1. **Project Schedule Summary Report (PSSR)**. When shown on the plans, provide the PSSR instead of the narrative required in Section 8L.5.5.2.3., "Progress Schedule." The PSSR includes a listing of major items that have impacted the schedule and a summary of progress in days ahead or behind schedule. Include an explanation of the project progress for the period represented on the form provided by the Owner.

5.5.3. **Notice of Potential Time Impact**. Submit a notice of potential time impact when a Contract time extension or adjustment of milestone dates may be justified or when directed.

Failure to provide this notice in the timeframes specified above will compromise the Owner's ability to mitigate the impacts, and the Contractor forfeits the right to request a time extension or adjustment of milestone dates unless the circumstances are such that the Contractor could not reasonably have had knowledge of the impact at the time.

5.5.4. **Time Impact Analysis**. When directed, provide a time impact analysis. A time impact analysis is an evaluation of the effects of impacts on the project. A time impact analysis consists of the following steps.

- **Step 1**. Establish the status of the project immediately before the impact.
- **Step 2**. Predict the effect of the impact on the schedule update used in Step 1.
- **Step 3**. Track the effects of the impact on the schedule during its occurrence.
- **Step 4**. Establish the status of the project after the impact's effect has ended and provide details identifying any mitigating actions or circumstances used to keep the project ongoing during the impact period.

Determine the time impact by comparing the status of the work before the impact (Step 1) to the prediction of the effect of the impact (Step 2), if requested, and to actual effects of the impact once it is complete (Step 4). Unless otherwise approved by the Engineer, Steps 1, 3, and 4 must be completed before consideration of a Contract time extension or adjustment of a milestone date will be provided. Time extensions will be considered only when delays that affect milestone dates or the Contract completion date are beyond the Contractor's control. Submit Step 4 no later than 15 calendar days after the impact's effects have ended or when all the information on the effect has been realized.

Submit one electronic backup copy of the complete time impact analysis and a copy of the full project schedule incorporating the time impact analysis. If the project schedule is revised after the submittal of a time impact analysis, but before its approval, indicate in writing the need for any modification to the time impact analysis.

The Engineer will review the time impact analysis upon completion of Step 4. If this review detects revisions or changes to the schedule that had not been performed and identified in a narrative, the Engineer may reject the time impact analysis. If the Engineer is in agreement with the time impact analysis, a change order may be issued to grant additional working days, or to adjust interim milestones. Once a change order has been executed, incorporate the time impact analysis into the project schedule. The time impact analysis may also be used to support the settlement of disputes and claims. Compensation related to the time impact analysis may be provided at the completion of the analysis or the completion of the project to determine the true role the impact played on the final completion.

6. FAILURE TO COMPLETE WORK ON TIME

The time established for the completion of the work is an essential element of the Contract. If the Contractor fails to complete the work within the number of working days specified, working days will continue to be charged. Failure to complete the Contract, callout work, or a work order within the number of working days specified, including any approved additional working days, will result in liquidated damages for each working day charged over the number of working days specified. The dollar amount specified in the Contract will be deducted from any money due or to become due the Contractor for each working day the Contract, callout work, or work order remains incomplete. This amount will be assessed not as a penalty but as liquidated damages. The amount assessed for non-site-specific Contracts will be based on the estimated amount for each work order unless otherwise shown in the Contract. The amount assessed for each callout will be as specified in the Contract.

7. DEFAULT OF CONTRACT

7.1. **Declaration of Default**. The Engineer may declare the Contractor to be in default of the Contract if the Contractor:

- fails to begin the work within the number of days specified;
- fails to prosecute the work to assure completion within the number of days specified;
- is uncooperative, disruptive, or threatening;
- fails to perform the work in accordance with the Contract requirements;
- neglects or refuses to remove and replace rejected materials or unacceptable work;
- discontinues the prosecution of the work without the Engineer's approval;
- makes an unauthorized assignment;
- fails to resume work that has been discontinued within a reasonable number of days after notice to do so;
- fails to conduct the work in an acceptable manner; or
- commits fraud or other unfixable conduct as determined by the Owner.

If any of these conditions occur, the Engineer will give notice in writing to the Contractor and the Surety of the intent to declare the Contractor in default. If the Contractor does not proceed as directed within 10 days after the notice, the Owner will provide written notice to the Contractor and the Surety to declare the Contractor to be in default of the Contract. If the Contractor provides the Owner written notice of voluntary default of the Contract, the Owner may waive the 10-day notice of intent to declare the Contractor in default and immediately provide written notice of default to the Contractor and the Surety. Calendar day charges will continue until completion of the Contract. The Owner may suspend work in accordance with Article 8L.4., "Temporary Suspension of Work or Working Day Charges," to investigate apparent fraud or other unfixable conduct before defaulting the Contractor. The Contractor may be subject to sanctions under the state and/or federal laws and regulations. A default may result in the application of remedial action by the Owner.

The Owner will determine the method used for the completion of the remaining work as follows.

- For Contracts without performance bonds, the Owner will determine the most expeditious and efficient way to complete the work and recover damages from the Contractor.
- For Contracts with performance bonds, the Owner will require the Contractor's Surety to complete the remaining work in accordance with the terms of the original Contract. A completing Contractor will be

considered a subcontractor of the Surety. The Owner reserves the right to approve or reject proposed subcontractors. Work may resume after the Owner receives and approves Certificates of Insurance as required in Section 3.4.3., "Insurance." Certificates of Insurance may be issued in the name of the completing Contractor. The Surety is responsible for making every effort to expedite the resumption of work and completion of the Contract. The Owner may complete the work using any or all materials at the work locations that it deems suitable and acceptable. Any costs incurred by the Owner for the completion of the work under the Contract will be the responsibility of the Surety.

From the time of notification of the default until work resumes (either by the Surety or the Owner), the Owner will maintain traffic control devices and will do any other work it deems necessary, unless otherwise agreed upon by the Owner and the Surety. All costs associated with this work will be deducted from money due to the Surety.

The Owner will hold all money earned but not disbursed by the date of default. Upon resumption of the work after the default, all payments will be made to the Surety. All costs and charges incurred by the Owner resulting from the default, including the cost of completing the work under the Contract, costs of maintaining traffic control devices, costs for other work deemed necessary, and any applicable liquidated damages or disincentives will be deducted from money due the Contractor for completed work. If these costs exceed the sum that would have been payable under the Contract, the Surety will be liable and pay the Owner the balance of these costs in excess of the Contract price. In case the costs incurred by the Owner are less than the amount that would have been payable under the Contract if the work had been completed by the Contractor, the Owner will be entitled to retain the difference.

Comply with Article 8L.2., "Subcontracting," and abide by the DBE commitments previously approved by the Owner. Section 8L.2.1., "Construction Contracts and Federally Funded Maintenance Contracts," is waived.

No markups as defined in Article 9L.7., "Payment for Extra Work and Force Account Method," will be allowed for the Surety.

7.2. **Wrongful Default**. If it is determined after the Contractor is declared in default, that the Contractor was not in default, the rights and obligations of all parties will be the same as if termination had been issued for the convenience of the public as provided in Article 8L.8., "Termination of Contract."

8. TERMINATION OF CONTRACT

The Owner may terminate the Contract in whole or in part whenever:

- the Contractor is prevented from proceeding with the work as a direct result of an executive order of the President of the United States or the Governor of the State;
- the Contractor is prevented from proceeding with the work due to a national emergency, or when the work to be performed under the Contract is stopped, directly or indirectly, because of the freezing or diversion of materials, equipment, or labor as the result of an order or a proclamation of the President of the United States;
- the Contractor is prevented from proceeding with the work due to an order of any federal authority;
- the Contractor is prevented from proceeding with the work by reason of a preliminary, special, or permanent restraining court order where the issuance of the restraining order is primarily caused by acts or omissions of persons or agencies other than the Contractor; or
- the Owner determines that termination of the Contract is in the best interest of the State or the public. This includes, but is not limited to, the discovery of significant hazardous material problems, right of way acquisition problems, or utility conflicts that would cause substantial delays or expense to the Contract.

8.1. **Procedures and Submittals**. The Owner will provide written notice to the Contractor of termination specifying the extent of the termination and the effective date. Upon notice, immediately proceed in accordance with the following:

- stop work as specified in the notice,
- place no further subcontracts or orders for materials, services, or facilities, except as necessary to complete a critical portion of the Contract, as approved by the Engineer,
- terminate all subcontracts to the extent they relate to the work terminated,
- complete performance of the work not terminated,
- settle all outstanding liabilities and termination settlement proposals resulting from the termination of the Contract,
- create an inventory report, including all acceptable materials and products obtained for the Contract that have not been incorporated in the work that was terminated (include in the inventory report a description, quantity, location, source, cost, and payment status for each of the acceptable materials and products), and
- take any action necessary, or that the Engineer may direct, for the protection and preservation of the materials and products related to the Contract that are in the possession of the Contractor and in which the Owner has or may acquire an interest.

8.2. **Settlement Provisions**. Within 60 calendar days of the date of the notice of termination, submit a final termination settlement proposal, unless otherwise approved. The Engineer will prepare a change order that reduces the affected quantities of work and adds acceptable costs for termination. No claim for loss of anticipated profits will be considered. The Owner will pay reasonable and verifiable termination costs, including:

- all work completed at the unit bid price and partial payment for incomplete work,
- the percentage of Item 500, “Mobilization,” equivalent to the percentage of work complete or actual cost that can be supported by cost records, whichever is greater,
- expenses necessary for the preparation of termination settlement proposals and support data;
- the termination and settlement of subcontracts,
- storage, transportation, restocking, and other costs incurred necessary for the preservation, protection, or disposition of the termination inventory, and
- other expenses acceptable to the Owner.

Item 9L
Measurement and Payment

1. MEASUREMENT OF QUANTITIES

The Engineer will measure all completed work using United States standard measures, unless otherwise specified.

1.1. **Linear Measurement**. Unless otherwise specified, all longitudinal measurements for surface areas will be made along the actual surface of the roadway and not horizontally. No deduction will be made for structures in the roadway with an area of 9 sq. ft. or less. For all transverse measurements for areas of base courses, surface courses, and pavements, the dimensions to be used in calculating the pay areas will be the neat dimensions and will not exceed those shown on the plans, unless otherwise directed.

1.2. **Volume Measurement**. Transport materials measured for payment by volume in approved hauling vehicles. Display a unique identification mark on each vehicle. Furnish information necessary to calculate the volume capacity of each vehicle. The Engineer may require verification of volume through weight measurement. Use body shapes that allow the capacity to be verified. Load and level the load to the equipment's approved capacity. Loads not hauled in approved vehicles may be rejected.

1.3. **Weight Measurement**. Transport materials measured for payment by weight or truck measure in approved hauling vehicles. Furnish certified measurements, tare weights, and legal gross weight calculations for all haul units. Affix a permanent, legible number on the truck and on the trailer to correspond with the certified information. Furnish certified weights of loaded haul units transporting material if requested.

The material will be measured at the point of delivery. The cost of supplying these volume and weight capacities is subsidiary to the pertinent Item. For measurement by the ton, in the field, provide measurements in accordance with Item 520, "Weighing and Measuring Equipment," except for Items where ton measurements are measured by standard tables.

The Engineer may reject loads and suspend hauling operations for overloading.

1.3.1. **Hauling on Routes Accessible to the Traveling Public**. For payment purposes on haul routes accessible to the traveling public:

- If the gross vehicle weight is less than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
- If the gross vehicle weight is more than the maximum allowed by state law, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.

1.3.2. **Hauling on Routes Not Accessible to the Traveling Public**. For payment purposes on haul routes that are not accessible to the traveling public where advance permission is obtained in writing from the Engineer:

- If the gross vehicle weight is less than the maximum allowed by the Engineer, including applicable yearly weight tolerance permit, the net weight of the load will be determined by deducting the tare weight of the vehicle from the gross weight.
- If the gross vehicle weight is more than the maximum allowed by the Engineer, the net weight of the load will be determined by deducting the tare weight of the vehicle from the maximum gross weight allowed.

2. PLANS QUANTITY MEASUREMENT

Plans quantities may or may not represent the exact quantity of work performed or material moved, handled, or placed during the execution of the Contract. The estimated bid quantities are designated as final payment quantities, unless revised by the governing specifications or this Article.

If the quantity measured as outlined under "Measurement" varies by more than 5% (or as stipulated under "Measurement" for specific Items) from the total estimated quantity for an individual Item originally shown in the Contract, an adjustment may be made to the quantity of authorized work done for payment purposes.

When quantities are revised by a change in design approved by the Owner, by change order, or to correct an error on the plans, the plans quantity will be increased or decreased by the amount involved in the change, and the 5% variance will apply to the new plans quantity.

If the total Contract quantity multiplied by the unit bid price for an individual Item is less than $250 and the Item is not originally a plans quantity Item, then the Item may be paid as a plans quantity Item if the Engineer and Contractor agree in writing to fix the final quantity as a plans quantity.

For Contracts with callout work and work orders, plans quantity measurement requirements are not applicable.

3. ADJUSTMENT OF QUANTITIES

The party to the Contract requesting the adjustment will provide field measurements and calculations showing the revised quantity. When approved, this revised quantity will constitute the final quantity for which payment will be made. Payment for revised quantity will be made at the unit price bid for that Item, except as provided for in Article 4L.4., "Changes in the Work."

4. SCOPE OF PAYMENT

Payment of the Contract unit price is full compensation for all materials, equipment, labor, tools, and supplies necessary to complete the Item of work under the Contract. Until final acceptance in accordance with Article 5L.12., "Final Acceptance," assume liability for completing the work according to the plans and specifications and any loss or damage arising from the performance of the work or from the action of the elements, infringement of patent, trademark, or copyright, except as provided elsewhere in the Contract.

The Owner will only pay for material incorporated into the work in accordance with the Contract. Payment of progress estimates will in no way affect the Contractor's obligation under the Contract to repair or replace any defective parts in the construction or to replace any defective materials used in the construction and to be responsible for all damages due to defects if the defects and damages are discovered on or before final inspection and acceptance of the work.

5. PROGRESS PAYMENTS

The Engineer will prepare a monthly estimate of the amount of work performed, including materials in place. Incomplete items of work may be paid at an agreed upon percentage approved by the Engineer. Payment of the monthly estimate is determined at the Contract item prices less any withholdings or deductions in accordance with the Contract. Progress payments may be withheld for failure to comply with the Contract.

It is the Owner's intent to pay a Contractor for work through the last working day of the month; however, the use of early cut-off dates for monthly estimates and MOH is a project management practice to manage workload at the local level. Approval for using early cut-off dates is at the Owner's discretion. The earliest cut-off date for pay applications is the 25th of the month.

6. PAYMENT FOR MATERIAL ON HAND (MOH)

If payment for MOH is desired, request compensation for the invoice cost of acceptable nonperishable materials that have not been used in the work before the request, and that have been delivered to the work location or are in acceptable storage places. Nonperishable materials are those that do not have a shelf life or whose characteristics do not materially change when exposed to the elements. Include only materials that have been sampled, tested, approved, or certified, and are ready for incorporation into the work. Only materials that are completely constructed or fabricated on the Contractor's order for a specific Contract and are so marked and on which an approved test report has been issued are eligible. Payment for MOH may include the following types of items: concrete traffic barrier, precast concrete box culverts, concrete piling, reinforced concrete pipe, and illumination poles. Any repairs required after fabricated materials have been approved for storage will require the Engineer's approval before being made and will be made at the Contractor's expense. Include only those materials and products, when cumulated under an individual item or similar bid items, that have an invoice cost of at least $1,000 in the request for MOH payment. (E.g., for MOH eligibility, various sizes of conductor are considered similar bid items and may be cumulated to meet the threshold; for small roadside signs, the sign supports, mounting bolts, and the sign face are considered one bid item or similar bid items for more than one pay item for sign supports.) Requests for MOH are to be submitted at least 2 days before but not later than the estimate cut-off date unless otherwise agreed. If there is a need to request MOH after the established cut-off date, the Owner can make accommodation as the need arises. This needed accommodation is to be the exception, though, and not the rule.

For Contracts with callout work and work orders, payment for MOH will only be made for materials authorized for purchase by the work order or by written approval of the Engineer.

If the request is acceptable, the Engineer will include payment for MOH in a progress payment. Payment for MOH does not constitute acceptance of the materials. Payment will not exceed the actual cost of the material as established by invoice, or the total cost for the associated item less reasonable placement costs, whichever is less. Materials for which the Contractor does not have a paid invoice within 60 days will not be eligible for payment and will be removed from the estimate. Payment may be limited to a portion of the invoice cost or unit price if shown elsewhere in the Contract. Payment for precast products fabricated or constructed by the Contractor for which invoices or freight bills are not available may be made based on statements of actual cost.

Submit the request on forms provided by the Owner. These forms may be electronically reproduced, provided they are in the same format and contain all the required information and certifications. Continue to submit monthly MOH forms until the total value of MOH is $0.

By submitting a request for MOH payment, the Contractor expressly authorizes the Owner to audit MOH records and to perform process reviews of the record-keeping system. If the Owner determines noncompliance with any of the requirements of this provision, the Owner may exclude payment for any or all MOH for the duration of the Contract.

Maintain all records relating to MOH payment until final acceptance. Provide these records to the Engineer upon request.

7. PAYMENT FOR EXTRA WORK AND FORCE ACCOUNT METHOD

Payment for extra work directed, performed, and accepted will be made in accordance with Article 4L.4., "Changes in the Work." Payment for extra work may be established by agreed unit prices or by Force Account Method.

Agreed unit prices are unit prices that include markups and are comparable to recent bid prices for the same character of work. These unit prices may be established without additional breakdown justification.

When using Force Account Method, determine an estimated cost for the proposed work and establish labor and equipment rates and material costs. Maintain daily records of extra work and provide copies of these

records daily, signed by the Contractor's representative, for the Owner's verification. Request payment for the extra work no later than the 10th day of the month following the month in which the work was performed. Include copies of all applicable invoices. If the extra work to be performed has an estimated cost of less than $10,000, submit for approval and payment an invoice of actual cost for materials, equipment, labor, tools, and incidentals necessary to complete the extra work. When added work requires mobilization that is exclusive to the added work, mobilization may be added to the force account invoice for payment.

7.1. **Markups**. Payment for extra work may include markups as compensation for the use of small tools, overhead expense, and profit.

7.1.1. **Labor**. Compensation will be made for payroll rates for each hour that the labor and foremen or others approved by the Engineer are actually engaged in the work. In no case will the rate of wages be less than the minimum shown in the Contract for a particular category. An additional 25% of this sum will be paid as compensation for overhead, superintendence, profit, and small tools.

7.1.2. **Insurance and Taxes**. An additional 55% of the labor cost, excluding the 25% compensation provided in Section 9L.7.1.1., "Labor," will be paid as compensation for labor insurance and labor taxes including the cost of premiums on non-project-specific liability (excluding vehicular) insurance, workers compensation insurance, Social Security, unemployment insurance taxes, and fringe benefits.

7.1.3. **Materials**. Compensation will be made for materials associated with the work based on actual delivered invoice costs, less any discount. An additional 25% of this sum will be paid as compensation for overhead and profit.

7.1.4. **Equipment**. Payment will be made for the established equipment hourly rates for each hour that the equipment is involved in the work. An additional 15% of this sum will be paid as compensation for overhead and profit not included in the rates.

Transportation cost for mobilizing equipment will be included if the equipment is mobilized from an offsite location.

7.1.4.1. **Contractor-Owned Equipment**. For Contractor-owned machinery, trucks, power tools, or other equipment, use the FHWA rental rates found in Equipment Watch multiplied by the regional adjustment factor and the rate adjustment factor to establish hourly rates. Use the rates in effect for each section of Equipment Watch at the time of use.

If a rate has not been established for a particular piece of equipment in Equipment Watch, the Engineer will allow a reasonable hourly rate. This price will include operating costs.

Payment for equipment will be made for the actual hours used in the work. The Owner reserves the right to withhold payment for low production or lack of progress. Payment will not be made for time lost for equipment breakdowns, time spent to repair equipment, or time after equipment is no longer needed.

If equipment is used intermittently while dedicated solely to the work, payment will be made for the duration the equipment is assigned to the work but no more than 8 hr. will be paid during a 24-hr. day, nor more than 40 hr. per week, nor more than 176 hr. per month, except when time is computed using a 6-day or 7-day workweek. When using a 6-day workweek, no more than 8 hr. will be paid during a 24-hr. day, nor more than 48 hr. per week, nor more than 211 hr. per month. When using a 7-day workweek, no more than 8 hr. will be paid during a 24-hr. day, nor more than 56 hr. per week, nor more than 246 hr. per month.

7.1.4.2. **Equipment Not Owned by the Contractor**. For equipment rented from a third party not owned by the Contractor, payment will be made at the invoice daily rental rate for each day the equipment is needed for the work. The Owner reserves the right to limit the daily rate to comparable FHWA rental rates found in Equipment Watch multiplied by the regional adjustment factor and the rate adjustment factor. When the invoice specifies that the rental rate does not include fuel, lubricants, repairs, and servicing, the Equipment Watch hourly operating cost for each hour the equipment is operated will be added.

When the invoice specifies equipment operators as a component of the equipment rental, payment will be made at the invoice rate for each operator for each day the equipment is needed for the work.

7.1.4.3. **Standby Equipment Costs**. Payment for standby equipment will be made in accordance with Section 9L.7.1.4., "Equipment." The 15% markup will be paid when standby is associated with extra work but will not be paid when standby is associated with damages.

7.1.4.3.1. **Contractor-Owned Equipment**. For Contractor-owned equipment:

- Standby will be paid at 50% of the monthly Equipment Watch rate after the regional and age adjustment factors have been applied. Operating costs will not be allowed. Calculate the standby rate as follows.

  Standby rate = (FHWA hourly rate - operating costs) × 50%

- If an hourly rate is needed, divide the monthly Equipment Watch rate by 176.
- No more than 8 hr. of standby will be paid during a 24-hr. day period, nor more than 40 hr. per week.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

7.1.4.3.2. **Equipment Not Owned by the Contractor**. For equipment rented from a third party not owned by the Contractor:

- Standby will be paid at the invoice daily rental rate, excluding operating cost, which includes fuel, lubricants, repairs, and servicing. The Owner reserves the right to limit the daily standby rate to comparable FHWA rental rates found in Equipment Watch multiplied by the regional adjustment factor and the rate adjustment factor.
- Standby will be paid for equipment operators when included on the invoice and equipment operators are actually on standby.
- Standby costs will not be allowed during periods when the equipment would have otherwise been idle.

7.1.5. **Subcontracting**. An additional 5% of the actual invoice cost will be paid to the Contractor as compensation for administrative cost and profit.

7.1.6. **Law Enforcement Personnel**. An additional 5% of the actual invoice cost will be paid as compensation for administrative costs and profit.

7.1.7. **Railroad Flaggers**. An additional 5% of the actual invoice cost will be paid as compensation for administrative cost and profit.

7.1.8. **Bond Cost**. An additional 1% of the total compensation provided in Article 9.7., "Payment for Extra Work and Force Account Method," will be paid for the increase in bond.

8. RETAINAGE

The Owner will not withhold retainage on the Contractor. The Contractor may withhold retainage on subcontractors in accordance with state and federal regulations.

9. PAYMENT PROVISIONS FOR SUBCONTRACTORS

For the purposes of this Article only, the term subcontractor includes suppliers, and the term work includes materials provided by suppliers at a location approved by the Engineer.

These requirements apply to all tiers of subcontractors. Incorporate the provisions of this Article into all subcontract or material purchase agreements.

Pay subcontractors for work performed within 10 days after receiving payment from the Owner.

Pay any retainage on a subcontractor's work within 10 days after satisfactory completion of all the subcontractor's work. Completed subcontractor work includes vegetative establishment, test, maintenance, performance, and other similar periods that are the responsibility of the subcontractor.

For the purpose of this Section, satisfactory completion is accomplished when:

- the subcontractor has fulfilled the Contract requirements of both the Owner and the subcontract for the subcontracted work, including the submittal of all information required by the Contract and the Owner, and
- the work done by the subcontractor has been inspected, approved, and paid by the Owner.

Provide a certification of prompt payment to certify that all subcontractors and suppliers were paid from the previous month's payments and retainage was released for those whose work is complete. Submit the certification in the manner prescribed by the Owner each month and the month following the month when final acceptance occurred.

The inspection and approval of a subcontractor's work does not eliminate the Contractor's responsibilities for the work as defined in Article 7L.17., "Contractor's Responsibility for Work."

10. FINAL PAYMENT

When the Contract has been completed, all work has been approved, final acceptance has been made in accordance with Article 5L.12., "Final Acceptance," and Contractor submittals have been received, the Engineer will prepare a final estimate for payment showing the total quantity of work completed and the money owed the Contractor. The final payment will reflect the entire sum due, less any sums previously paid.

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Non-segregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
XI. Certification Regarding Use of Contract Funds for Lobbying
XII. Use of United States-Flag Vessels:

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under title 23, United States Code, as required in 23 CFR 633.102(b) (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services). 23 CFR 633.102(e).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider. 23 CFR 633.102(e).

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services) in accordance with 23 CFR 633.102. The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in solicitation-for-bids or request-for-proposals documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract). 23 CFR 633.102(b).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract. 23 CFR 633.102(d).

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. 23 U.S.C. 114(b). The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors. 23 U.S.C. 101(a).

II. NONDISCRIMINATION (23 CFR 230.107(a); 23 CFR Part 230, Subpart A, Appendix A; EO 11246)

The provisions of this section related to 23 CFR Part 230, Subpart A, Appendix A are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR Part 60, 29 CFR Parts 1625-1627, 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR Part 60, and 29 CFR Parts 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with 23 U.S.C. 140, Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794), and Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d et seq.), and related regulations including 49 CFR Parts 21, 26, and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR Part 230, Subpart A, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal Employment Opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (*see* 28 CFR Part 35, 29 CFR Part 1630, 29 CFR Parts 1625-1627, 41 CFR Part 60 and 49 CFR Part 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140, shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR Part 35 and 29 CFR Part 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract. 23 CFR 230.409 (g)(4) & (5).

b. The contractor will accept as its operating policy the following statement:

> "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, sexual orientation, gender identity, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action or are substantially involved in such action, will be made fully cognizant of and will implement the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer or other knowledgeable company official.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action

within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs (i.e., apprenticeship and on-the-job training programs for the geographical area of contract performance). In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. 23 CFR 230.409. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established thereunder. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, gender identity, national origin, age, or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors, suppliers, and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurances Required:

a. The requirements of 49 CFR Part 26 and the State DOT's FHWA-approved Disadvantaged Business Enterprise (DBE) program are incorporated by reference.

b. The contractor, subrecipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate, which may include, but is not limited to:
(1) Withholding monthly progress payments;
(2) Assessing sanctions;
(3) Liquidated damages; and/or
(4) Disqualifying the contractor from future bidding as non-responsible.

c. The Title VI and nondiscrimination provisions of U.S. DOT Order 1050.2A at Appendixes A and E are incorporated by reference. 49 CFR Part 21.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women.

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of more than $10,000. 41 CFR 60-1.5.

As prescribed by 41 CFR 60-1.8, the contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, sexual orientation, gender identity, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location under the contractor's control where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size), in accordance with 29 CFR 5.5. The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. 23 U.S.C. 113. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. 23 U.S.C. 101. Where applicable law requires that projects be treated as a project on a Federal-aid highway, the provisions of this subpart will apply regardless of the location of the project. Examples include: Surface Transportation Block Grant Program projects funded under 23 U.S.C. 133 [excluding recreational trails projects], the Nationally Significant Freight and Highway Projects funded under 23 U.S.C. 117, and National Highway Freight Program projects funded under 23 U.S.C. 167.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages (29 CFR 5.5)

a. *Wage rates and fringe benefits.* All laborers and mechanics employed or working upon the site of the work (or otherwise working in construction or development of the project under a development statute), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of basic hourly wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics. As provided in paragraphs (d) and (e) of 29 CFR 5.5, the appropriate wage determinations are effective by operation of law even if they have not been attached to the contract. Contributions made or costs reasonably anticipated for bona fide fringe benefits under the Davis-Bacon Act (40 U.S.C. 3141(2)(B)) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.e. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics must be paid the appropriate wage rate and fringe benefits on the wage determination for the classification(s) of work actually performed, without regard to skill, except as provided in paragraph 4. of this section. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: *Provided*, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph 1.c. of this section) and the Davis-Bacon poster (WH–1321) must be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. *Frequently recurring classifications.* (1) In addition to wage and fringe benefit rates that have been determined to be prevailing under the procedures set forth in 29 CFR part 1, a **wage determination may contain, pursuant to § 1.3(f), wage** and fringe benefit rates for classifications of laborers and mechanics for which conformance requests are regularly submitted pursuant to paragraph 1.c. of this section, provided that:

(i) The work performed by the classification is not performed by a classification in the wage determination for which a prevailing wage rate has been determined;

(ii) The classification is used in the area by the construction industry; and

(iii) The wage rate for the classification bears a reasonable relationship to the prevailing wage rates contained in the wage determination.

(2) The Administrator will establish wage rates for such classifications in accordance with paragraph 1.c.(1)(iii) of this section. Work performed in such a classification must be paid at no less than the wage and fringe benefit rate listed on the wage determination for such classification.

c. *Conformance.* (1) The contracting officer must require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract be classified in conformance with the wage determination. Conformance of an additional classification and wage rate and fringe benefits is appropriate only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is used in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) The conformance process may not be used to split, subdivide, or otherwise avoid application of classifications listed in the wage determination.

(3) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken will be sent by the contracting officer by email to DBAconformance@dol.gov. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(4) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer will, by email to DBAconformance@dol.gov, refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30–day period that additional time is necessary.

(5) The contracting officer must promptly notify the contractor of the action taken by the Wage and Hour Division under paragraphs 1.c.(3) and (4) of this section. The contractor must furnish a written copy of such determination to each affected worker or it must be posted as a part of the wage determination. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 1.c.(3) or (4) of this section must be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

d. *Fringe benefits not expressed as an hourly rate.* Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor may either pay the benefit as stated in the wage determination or may pay another bona fide fringe benefit or an hourly cash equivalent thereof.

e. *Unfunded plans.* If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, *Provided,* That the Secretary of Labor has found, upon the written request of the contractor, in accordance with the criteria set forth in **§ 5.28, that the applicable standards of the Davis**-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

f. *Interest.* In the event of a failure to pay all or part of the wages required by the contract, the contractor will be required to pay interest on any underpayment of wages.

2. Withholding (29 CFR 5.5)

a. *Withholding requirements.* The contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for the full amount of wages and monetary relief, including interest, required by the clauses set forth in this section for violations of this contract, or to satisfy any such liabilities required by any other Federal contract, or federally assisted contract subject to Davis-Bacon labor standards, that **is held by the same prime contractor (as defined in § 5.2). The** necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to Davis-Bacon labor standards requirements and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld. In the event of a contractor's failure to pay any laborer or mechanic, including any apprentice or helper working on the site of the work all or part of the wages required by the contract, or upon the contractor's failure to submit the required records as discussed in paragraph 3.d. of this section, the contracting agency may on its own initiative and after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with paragraph

2.a. of this section or Section V, paragraph 3.a., or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

3. Records and certified payrolls (29 CFR 5.5)

a. *Basic record requirements* (1) *Length of record retention.* All regular payrolls and other basic records must be maintained by the contractor and any subcontractor during the course of the work and preserved for all laborers and mechanics working at the site of the work (or otherwise working in construction or development of the project under a development statute) for a period of at least 3 years after all the work on the prime contract is completed.

(2) *Information required.* Such records must contain the name; Social Security number; last known address, telephone number, and email address of each such worker; each worker's correct classification(s) of work actually performed; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act); daily and weekly number of hours actually worked in total and on each covered contract; deductions made; and actual wages paid.

(3) *Additional records relating to fringe benefits.* Whenever the Secretary of Labor has found under paragraph 1.e. of this section that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in 40 U.S.C. 3141(2)(B) of the Davis-Bacon Act, the contractor must maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits.

(4) *Additional records relating to apprenticeship.* Contractors with apprentices working under approved programs must maintain written evidence of the registration of apprenticeship programs, the registration of the apprentices, and the ratios and wage rates prescribed in the applicable programs.

b. *Certified payroll requirements* (1) *Frequency and method of submission.* The contractor or subcontractor must submit weekly, for each week in which any DBA- or Related Acts-covered work is performed, certified payrolls to the contracting agency. The prime contractor is responsible for the submission of all certified payrolls by all subcontractors. A contracting agency or prime contractor may permit or require contractors to submit certified payrolls through an electronic system, as long as the electronic system requires a legally valid electronic signature; the system allows the contractor, the contracting agency, and the Department of Labor to access the certified payrolls upon request for at least 3 years after the work on the prime contract has been completed; and the contracting agency or prime contractor permits other methods of submission in situations where the contractor is unable or limited in its ability to use or access the electronic system.

(2) *Information required.* The certified payrolls submitted must set out accurately and completely all of the information required to be maintained under paragraph 3.a.(2) of this section, except that full Social Security numbers and last known addresses, telephone numbers, and email addresses must not be included on weekly transmittals. Instead, the certified payrolls need only include an individually identifying number for each worker (*e.g.,* the last four digits of the worker's Social Security number). The required weekly certified payroll information may be submitted using Optional Form WH–347 or in any other format desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division website at *https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347/.pdf* or its successor website. It is not a violation of this section for a prime contractor to require a subcontractor to provide full Social Security numbers and last known addresses, telephone numbers, and email addresses to the prime contractor for its own records, without weekly submission by the subcontractor to the contracting agency.

(3) *Statement of Compliance.* Each certified payroll submitted must be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor, or the contractor's or subcontractor's agent who pays or supervises the payment of the persons working on the contract, and must certify the following:

(i) That the certified payroll for the payroll period contains the information required to be provided under paragraph 3.b. of this section, the appropriate information and basic records are being maintained under paragraph 3.a. of this section, and such information and records are correct and complete;

(ii) That each laborer or mechanic (including each helper and apprentice) working on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; and

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification(s) of work actually performed, as specified in the applicable wage determination incorporated into the contract.

(4) *Use of Optional Form WH–347.* The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 will satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(3) of this section.

(5) *Signature.* The signature by the contractor, subcontractor, or the contractor's or subcontractor's agent must be an original handwritten signature or a legally valid electronic signature.

(6) *Falsification.* The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 3729.

(7) *Length of certified payroll retention.* The contractor or subcontractor must preserve all certified payrolls during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

c. *Contracts, subcontracts, and related documents.* The contractor or subcontractor must maintain this contract or subcontract and related documents including, without limitation, bids, proposals, amendments, modifications, and extensions. The contractor or subcontractor must preserve these contracts, subcontracts, and related documents during the course of the work and for a period of 3 years after all the work on the prime contract is completed.

d. *Required disclosures and access* (1) *Required record disclosures and access to workers.* The contractor or subcontractor must make the records required under paragraphs 3.a. through 3.c. of this section, and any other documents that the contracting agency, the State DOT, the FHWA, or the Department of Labor deems necessary to determine compliance with the labor standards provisions of **any of the applicable statutes referenced by § 5.1, available for** inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and must permit such representatives to interview workers during working hours on the job.

(2) *Sanctions for non-compliance with records and worker access requirements.* If the contractor or subcontractor fails to submit the required records or to make them available, or refuses to permit worker interviews during working hours on the job, the Federal agency may, after written notice to the contractor, sponsor, applicant, owner, or other entity, as the case may be, that maintains such records or that employs such workers, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available, or to permit worker interviews during working hours on the job, may be **grounds for debarment action pursuant to § 5.12. In addition,** any contractor or other person that fails to submit the required records or make those records available to WHD within the time WHD requests that the records be produced will be precluded from introducing as evidence in an administrative proceeding under 29 CFR part 6 any of the required records that were not provided or made available to WHD. WHD will take into consideration a reasonable request from the contractor or person for an extension of the time for submission of records. WHD will determine the reasonableness of the request and may consider, among other things, the location of the records and the volume of production.

(3) *Required information disclosures.* Contractors and subcontractors must maintain the full Social Security number and last known address, telephone number, and email address of each covered worker, and must provide them upon request to the contracting agency, the State DOT, the FHWA, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or other compliance action.

4. Apprentices and equal employment opportunity (29 CFR 5.5)

a. *Apprentices* (1) *Rate of pay.* Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship (OA), or with a State Apprenticeship Agency recognized by the OA. A person who is not individually registered in the program, but who has been certified by the OA or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice, will be permitted to work at less than the predetermined rate for the work they perform in the first 90 days of probationary employment as an apprentice in such a program. In the event the OA or a State Apprenticeship Agency recognized by the OA withdraws approval of an apprenticeship program, the contractor will no longer be permitted to use apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) *Fringe benefits.* Apprentices must be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringe benefits must be paid in accordance with that determination.

(3) *Apprenticeship ratio.* The allowable ratio of apprentices to journeyworkers on the job site in any craft classification must not be greater than the ratio permitted to the contractor as to the entire work force under the registered program or the ratio applicable to the locality of the project pursuant to paragraph 4.a.(4) of this section. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in paragraph 4.a.(1) of this section, must be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under this section must be paid not less than the applicable wage rate on the wage determination for the work actually performed.

(4) *Reciprocity of ratios and wage rates.* Where a contractor is performing construction on a project in a locality other than the locality in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyworker's hourly rate) applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the contractor's registered program must be observed.

b. *Equal employment opportunity.* The use of apprentices and journeyworkers under this part must be in conformity with

the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

c. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. 23 CFR 230.111(e)(2). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeyworkers shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract as provided in 29 CFR 5.5.

6. Subcontracts. The contractor or subcontractor must insert FHWA-1273 in any subcontracts, along with the applicable wage determination(s) and such other clauses or contract modifications as the contracting agency may by appropriate instructions require, and a clause requiring the subcontractors to include these clauses and wage determination(s) in any lower tier subcontracts. The prime contractor is responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in this section. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and may be subject to debarment, as appropriate. 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract as provided in 29 CFR 5.5.

9. Disputes concerning labor standards. As provided in 29 CFR 5.5, disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility. a. By entering into this contract, the contractor certifies that neither it nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of 40 U.S.C. 3144(b) **or § 5.12(a).**

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of 40 U.S.C. 3144(b) **or § 5.12(a).**

c. The penalty for making false statements is prescribed in the U.S. Code, Title 18 Crimes and Criminal Procedure, 18 U.S.C. 1001.

11. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under the DBA, Related Acts, this part, or 29 CFR part 1 or 3;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under the DBA, Related Acts, this part, or 29 CFR part 1 or 3; or

d. Informing any other person about their rights under the DBA, Related Acts, this part, or 29 CFR part 1 or 3.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

Pursuant to 29 CFR 5.5(b), the following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchpersons and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek. 29 CFR 5.5.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph 1. of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages and interest from the date of the underpayment. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or

mechanic, including watchpersons and guards, employed in violation of the clause set forth in paragraph 1. of this section, in the sum currently provided in 29 CFR 5.5(b)(2)* for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph 1. of this section.

* $31 as of January 15, 2023 (See 88 FR 88 FR 2210) as may be adjusted annually by the Department of Labor, pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990.

3. Withholding for unpaid wages and liquidated damages

a. *Withholding process.* The FHWA or the contracting agency may, upon its own action, or must, upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor so much of the accrued payments or advances as may be considered necessary to satisfy the liabilities of the prime contractor or any subcontractor for any unpaid wages; monetary relief, including interest; and liquidated damages required by the clauses set forth in this section on this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract subject to the Contract Work Hours and Safety Standards Act that is held by the same **prime contractor (as defined in § 5.2). The** necessary funds may be withheld from the contractor under this contract, any other Federal contract with the same prime contractor, or any other federally assisted contract that is subject to the Contract Work Hours and Safety Standards Act and is held by the same prime contractor, regardless of whether the other contract was awarded or assisted by the same agency, and such funds may be used to satisfy the contractor liability for which the funds were withheld.

b. *Priority to withheld funds.* The Department has priority to funds withheld or to be withheld in accordance with Section IV paragraph 2.a. or paragraph 3.a. of this section, or both, over claims to those funds by:

(1) A contractor's surety(ies), including without limitation performance bond sureties and payment bond sureties;

(2) A contracting agency for its reprocurement costs;

(3) A trustee(s) (either a court-appointed trustee or a U.S. trustee, or both) in bankruptcy of a contractor, or a contractor's bankruptcy estate;

(4) A contractor's assignee(s);

(5) A contractor's successor(s); or

(6) A claim asserted under the Prompt Payment Act, 31 U.S.C. 3901–3907.

4. Subcontracts. The contractor or subcontractor must insert in any subcontracts the clauses set forth in paragraphs 1. through 5. of this section and a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor is responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs 1. through 5. In the event of any violations of these clauses, the prime contractor and any subcontractor(s) responsible will be liable for any unpaid wages and monetary relief, including interest from the date of the underpayment or loss, due to any workers of lower-tier subcontractors, and associated liquidated damages and may be subject to debarment, as appropriate.

5. Anti-retaliation. It is unlawful for any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, or to cause any person to discharge, demote, intimidate, threaten, restrain, coerce, blacklist, harass, or in any other manner discriminate against, any worker or job applicant for:

a. Notifying any contractor of any conduct which the worker reasonably believes constitutes a violation of the Contract Work Hours and Safety Standards Act (CWHSSA) or its implementing regulations in this part;

b. Filing any complaint, initiating or causing to be initiated any proceeding, or otherwise asserting or seeking to assert on behalf of themselves or others any right or protection under CWHSSA or this part;

c. Cooperating in any investigation or other compliance action, or testifying in any proceeding under CWHSSA or this part; or

d. Informing any other person about their rights under CWHSSA or this part.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System pursuant to 23 CFR 635.116.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” in paragraph 1 of Section VI refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions: (based on longstanding interpretation)

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

(2) the prime contractor remains responsible for the quality of the work of the leased employees;

(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract. 23 CFR 635.102.

2. Pursuant to 23 CFR 635.116(a), the contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. Pursuant to 23 CFR 635.116(c), the contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract. (based on long-standing interpretation of 23 CFR 635.116).

5. The 30-percent self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements. 23 CFR 635.116(d).

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR Part 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract. 23 CFR 635.108.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR Part 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704). 29 CFR 1926.10.

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR Part 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 11, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT (42 U.S.C. 7606; 2 CFR 200.88; EO 11738)

This provision is applicable to all Federal-aid construction contracts in excess of $150,000 and to all related subcontracts. 48 CFR 2.101; 2 CFR 200.327.

By submission of this bid/proposal or the execution of this contract or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, subcontractor, supplier, or vendor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251-1387). Violations must be reported to the Federal Highway Administration and the Regional Office of the Environmental Protection Agency. 2 CFR Part 200, Appendix II.

The contractor agrees to include or cause to be included the requirements of this Section in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements. 2 CFR 200.327.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200. 2 CFR 180.220 and 1200.220.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction. 2 CFR 180.320.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default. 2 CFR 180.325.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances. 2 CFR 180.345 and 180.350.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900-180.1020, and 1200. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction. 2 CFR 180.330.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 180.300.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. 2 CFR 180.300; 180.320, and 180.325. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. 2 CFR 180.335. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/). 2 CFR 180.300, 180.320, and 180.325.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default. 2 CFR 180.325.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.335;.

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, 2 CFR 180.800;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification, 2 CFR 180.700 and 180.800; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default. 2 CFR 180.335(d).

(5) Are not a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(6) Are not a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability (USDOT Order 4200.6 implementing appropriations act requirements).

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal. 2 CFR 180.335 and 180.340.

* * * * *

3. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders, and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200). 2 CFR 180.220 and 1200.220.

a. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances. 2 CFR 180.365.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180, Subpart I, 180.900 – 180.1020, and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a recipient or subrecipient of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a recipient or subrecipient of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated. 2 CFR 1200.220 and 1200.332.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold. 2 CFR 180.220 and 1200.220.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the System for Award Management website (https://www.sam.gov/), which is compiled by the General Services Administration. 2 CFR 180.300, 180.320, 180.330, and 180.335.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily

excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment. 2 CFR 180.325.

* * * * *

4. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

a. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals:

(1) is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency, 2 CFR 180.355;

(2) is a corporation that has been convicted of a felony violation under any Federal law within the two-year period preceding this proposal (USDOT Order 4200.6 implementing appropriations act requirements); and

(3) is a corporation with any unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted, or have lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability. (USDOT Order 4200.6 implementing appropriations act requirements)

b. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant should attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000. 49 CFR Part 20, App. A.

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

XII. USE OF UNITED STATES-FLAG VESSELS:

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, or any other covered transaction. 46 CFR Part 381.

This requirement applies to material or equipment that is acquired for a specific Federal-aid highway project. 46 CFR 381.7. It is not applicable to goods or materials that come into inventories independent of an FHWA funded-contract.

When oceanic shipments (or shipments across the Great Lakes) are necessary for materials or equipment acquired for a specific Federal-aid construction project, the bidder, proposer, contractor, subcontractor, or vendor agrees:

1. To utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. 46 CFR 381.7.

2. To furnish within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, 'on-board' commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (b)(1) of this section to both the Contracting Officer (through the prime contractor in the case of subcontractor bills-of-lading) and to the Office of Cargo and Commercial Sealift (MAR-620), Maritime Administration, Washington, DC 20590. (MARAD requires copies of the ocean carrier's (master) bills of lading, certified onboard, dated, with rates and charges. These bills of lading may contain business sensitive information and therefore may be submitted directly to MARAD by the Ocean Transportation Intermediary on behalf of the contractor). 46 CFR 381.7.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS (23 CFR 633, Subpart B, Appendix B) This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

CONTRACTOR'S ASSURANCE

(Subcontracts-Federal Aid Projects)

By signing this proposal, the contractor is giving assurances that all subcontract agreements will incorporate the Standard Specification and Special Provisions to Section 9.9., Payment Provisions for Subcontractors, all subcontract agreements exceeding $2,000 will incorporate the applicable Wage Determination Decision, and all subcontract agreements will incorporate the following:

Special Provision	Certification of Nondiscrimination in Employment
Special Provision	Standard Federal Equal Employment Opportunity
Form FHWA 1273	Required Contract Provisions Federal-aid Construction Contracts (Form FHWA 1273 must also be physically attached to subcontracts and all lower-tier subcontracts)
Special Provision	Nondiscrimination (Include provisions of Sections 3.1 – 3.6 in all subcontracts and agreements for materials)
Special Provision	Cargo Preference Act Requirements in Federal-Aid Contracts

CERTIFICATION TO NOT BOYCOTT ENERGY COMPANIES

Pursuant to Texas Government Code §809.051, the Department must include a provision requiring a written verification affirming that the Contractor does not boycott energy companies, as defined in Government Code §809.001, and will not boycott energy companies during the term of the contract. This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not boycott energy companies and will not boycott energy companies during the term of this contract. “Boycott” means taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (1) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (2) does business with a company described by (1).

Violation of this certification may result in action by the Department.

CERTIFICATION TO NOT BOYCOTT ISRAEL

Pursuant to Texas Government Code §2271.002, the Department must include a provision requiring a written verification affirming that the Contractor does not boycott Israel, as defined in Government Code §808.001, and will not boycott Israel during the term of the contract. This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not boycott Israel and will not boycott Israel during the term of this contract. “Boycott” means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

Violation of this certification may result in action by the Department.

CERTIFICATION REGARDING DISCLOSURE OF PUBLIC INFORMATION

Pursuant to Subchapter J, Chapter 552, Texas Government Code, contractors executing a contract with a governmental body that results in the expenditure of at least $1 million in public funds must:

1) preserve all contracting information* as provided by the records retention requirements applicable to Texas Department of Transportation (TxDOT) for the duration of the contract,
2) on request of TxDOT, promptly provide any contracting information related to the contract that is in the custody or possession of the entity, and
3) on completion of the contract, either:
    a. provide, at no cost to TxDOT, all contracting information related to the contract that is in the custody or possession of the entity, or
    b. preserve the contracting information related to the contract as provided by the records retention requirements applicable to TxDOT

The requirements of Subchapter J, Chapter 552, Government Code, may apply to this contract, and the contractor or vendor agrees that the contract can be terminated if the contractor or vendor knowingly or intentionally fails to comply with a requirement of that subchapter.

By entering into Contract, the Contractor agrees to:

- provide, or make available, to TxDOT and any authorized governmental investigating or auditing agency all records, including electronic and payment records related to the contract, for the same period provided by the records retention schedule applicable to TxDOT, and
- ensure that all subcontracts include a clause requiring the same.

* As defined in Government Code §552.003, "Contracting information" means the following information maintained by a governmental body or sent between a governmental body and a vendor, contractor, potential vendor, or potential contractor:

1) information in a voucher or contract relating to the receipt or expenditure of public funds by a governmental body;
2) solicitation or bid documents relating to a contract with a governmental body;
3) communications sent between a governmental body and a vendor, contractor, potential vendor, or potential contractor during the solicitation, evaluation, or negotiation of a contract;
4) documents, including bid tabulations, showing the criteria by which a governmental body evaluates each vendor, contractor, potential vendor, or potential contractor responding to a solicitation and, if applicable, an explanation of why the vendor or contractor was selected; and
5) communications and other information sent between a governmental body and a vendor or contractor related to the performance of a final contract with the governmental body or work performed on behalf of the governmental body.

CERTIFICATION TO NOT DISCRIMINATE AGAINST FIREARM ENTITIES OR FIREARM TRADE ASSOCIATIONS

Pursuant to Texas Government Code §2274.002, the Department must include a provision requiring a written verification affirming that the Contractor:

1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association, as defined in Government Code §2274.001, and
2) will not discriminate against a firearm entity or firearm trade association during the term of the contract.

This provision applies to a contract that:

1) is with a Contractor that is not a sole proprietorship,
2) is with a Contractor with 10 or more full-time employees, and
3) has a value of $100,000 or more.

By signing the contract, the Contractor certifies that it does not discriminate against a firearm entity or firearm trade association as described and will not do so during the term of this contract. "Discriminate against a firearm entity or firearm trade association" means, with respect to the entity or association, to: (1) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (2) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (3) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association. "Discriminate against a firearm entity or firearm trade association" does not include: (1) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories; (2) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency, or for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity's or association's status as a firearm entity or firearm trade association.

Violation of this certification may result in action by the Department.

Texas Department of Transportation

Wages by Classification for Proposal

The wage rates listed herein are those predetermined by the Secretary of Labor and State Statute and listed in the United States Department of Labor's (USDOL) General Decisions dated 01-02-2026 and are the minimum wages to be paid accordingly for each specified classification. To determine the applicable wage rate zone, a list entitled "TEXAS COUNTIES IDENTIFIED BY WAGE RATE ZONES" is provided in the contract. Any wage rate that is not listed in the USDOL's general decision, must be requested by the contractor through the completion of an Additional Classification and Wage Rate Request and be submitted for approval. A blank cell indicates that the classification and wage rate are not listed on the USDOL's general decision and therefore must be requested by the contractor through the completion of an Additional Classification and Wage Rate Request. IMPORTANT NOTICE FOR STATE PROJECTS: only the controlling wage rate zone applies to the contract. Effective 01-02-2026.

Table 1 - Wage Rates.

CLASS. #	CLASSIFICATION DESCRIPTION	ZONE TX46 *(TX20250046)	ZONE TX51 *(TX20250051)	ZONE TX55 *(TX20250055)	ZONE TX291 *(TX20250291)	ZONE TX292 *(TX20250292)	ZONE TX293 *(TX20250293)	ZONE TX294 *(TX20250294)	ZONE TX295 *(TX20250295)	ZONE TX296 *(TX20250296)	ZONE TX297 *(TX20250297)	ZONE TX298 *(TX20250298)	ZONE TX299 *(TX20250299)	ZONE TX300 *(TX20250300)
1106	Asphalt Raker	$18.97	$15.02	$18.76	$19.40	$18.20	$16.28	$19.87	$19.53	$17.40	$15.22	$19.58	$20.41	$19.02
1124	Concrete Finisher, Paving and Structures	$20.92	$19.13	$21.11	$20.61	$18.72	$17.99	$22.48	$20.66	$21.16	$18.15	$20.77	$20.79	$20.04
1139	Electrician	$23.70			$30.54		$25.73	$36.10	$32.38				$31.46	
1143	Telecommunication Technician							$23.14						
1145	Traffic Signal/Light Pole Worker	$25.43			$21.99									
1150	Flagger	$13.50	$14.56	$15.30	$15.52	$15.00		$14.80	$13.99	$14.59	$15.81	$14.82	$16.63	$15.16
1151	Form Builder/Setter, Structures	$21.78	$18.59	$19.31	$20.63	$20.18	$19.37	$22.50	$20.05	$19.82	$18.26	$22.09	$19.93	$19.89
1160	Form Setter, Paving & Curb	$20.39	$17.31	$18.50	$19.18			$20.89	$18.25	$18.16	$17.56	$19.44	$19.32	$20.25
1172	Laborer, Common	$17.76	$14.88	$16.80	$17.52	$17.12	$15.16	$18.01	$16.72	$16.63	$15.22	$18.10	$17.12	$16.69
1175	Laborer, Utility	$18.51	$16.79	$17.91	$19.05	$17.46	$16.73	$19.32	$18.80	$18.42	$16.75	$18.10	$19.11	$18.40
1187	Mechanic	$27.08	$23.80	$25.11	$26.15	$28.00	$23.84	$27.44	$24.13	$25.51	$22.98	$25.47	$23.38	$23.35
1194	Servicer	$21.29	$20.03		$23.75	$21.51	$17.87	$24.86	$20.94		$19.11	$21.31	$20.33	$20.75
1196	Painter, Structures				$23.76					$27.93			$26.40	
1202	Piledriver												$21.48	
1205	Pipelayer	$17.76	$15.48		$19.23		$17.11	$22.46	$19.97	$19.40	$15.22	$18.10	$20.03	$17.56
1300	Asphalt Distributor Operator	$22.68	$19.62	$23.09	$24.07	$23.76	$21.93	$24.40	$22.69	$23.20	$24.54	$23.46	$23.26	$23.99
1303	Asphalt Paving Machine Operator	$20.34	$15.99	$20.95	$22.12	$22.45	$19.02	$22.52	$21.26	$19.14	$17.58	$21.32	$22.67	$20.70
1305	Broom or Sweeper Operator	$17.76	$15.22	$17.75	$18.09	$17.12		$18.01	$17.58	$16.63	$16.92	$18.10	$17.63	$17.30
1306	Crawler Tractor Operator	$20.95	$20.27	$20.00	$20.92				$19.82	$23.23		$22.51	$20.33	$20.83
1315	Concrete Paving, Curing, Float, Texturing Machine Operator								$23.12				$22.62	
1318	Concrete Pavement Finishing Machine Operator	$20.00		$24.85	$22.81			$24.07	$23.11				$22.18	
1329	Joint Sealer						$15.16							
1333	Concrete Saw Operator	$25.25		$20.69	$25.97			$20.34	$25.50				$21.57	$22.93
1341	Small Slipform Machine Operator							$25.09						
1342	Crane Operator, Lattice Boom 80 Tons or Less	$24.25	$29.80	$25.57	$26.47			$29.90	$24.33			$24.40	$25.74	$26.15
1343	Crane Operator, Lattice Boom Over 80 Tons				$28.87			$33.55	$23.75	$34.20			$23.85	$31.28
1344	Crane Operator, Hydraulic 80 Tons or less				$29.24		$23.37	$31.32	$27.22	$27.88	$28.75	$27.09	$24.75	$23.89
1345	Crane Operator, Hydraulic Over 80 Tons									$30.25				$31.44
1346	Loader/Backhoe Operator	$20.99	$16.37	$20.20	$20.32	$18.00	$17.92	$23.22	$20.42	$19.01	$16.93	$21.03	$21.37	$19.94
1347	Excavator Operator, 50,000 pounds or less	$25.59	$18.99		$22.93	$22.91	$19.70	$25.08	$21.05	$19.69	$21.86	$24.67	$21.53	$22.25
1348	Excavator Operator, Over 50,000 pounds		$19.29	$20.36	$22.90			$25.34	$22.80	$22.05	$25.35		$22.24	$22.47
1360	Foundation Drill Operator, Crawler Mounted							$29.25					$22.25	
1363	Foundation Drill Operator, Truck Mounted				$24.28			$29.86	$25.95		$27.81	$32.17	$26.04	$24.05
1369	Front End Loader Operator, 3 CY or Less	$19.42	$15.59	$18.40	$20.33	$18.28	$17.42	$20.93	$18.58	$18.80	$17.47	$19.06	$19.72	$19.34
1372	Front End Loader Operator,Over 3 CY	$19.52	$16.41	$17.25	$20.20	$19.83	$18.26	$22.56	$19.55	$18.71	$18.12	$20.11	$20.34	$20.00
1380	Milling Machine Operator	$20.98	$18.47	$19.48	$21.73	$18.49	$23.02	$20.94	$19.99	$22.53	$19.21	$20.37	$21.65	$19.88
1384	Reclaimer/Pulverizer Operator	$21.17			$19.05	$23.25		$22.17	$18.15	$18.83				$19.67
1390	Motor Grader Operator, Fine Grade	$27.00	$21.55	$23.01	$26.56	$26.38	$20.04	$27.09	$24.43	$26.88	$22.98	$26.74	$23.91	$24.96
1393	Motor Grader Operator, Rough	$23.50	$18.78	$19.00	$22.95	$23.69		$24.90	$21.43	$23.06	$19.60	$23.08	$21.20	$21.04
1396	Pavement Marking MachineOperator	$20.62		$16.80	$22.00	$18.99		$22.35	$22.96		$19.26	$23.48	$17.12	$17.50
1402	Roller Operator, Asphalt	$17.76	$14.88	$18.35	$20.24	$17.12		$20.35	$18.34	$17.27	$16.83	$18.76	$19.79	$18.13
1405	Roller Operator, Other	$17.76	$14.88	$16.80	$17.52	$17.12		$18.60	$17.09	$16.90	$15.38	$18.10	$18.93	$16.94
1411	Scraper Operator	$20.00	$14.88		$17.52		$18.33	$21.54	$17.71		$15.33	$19.49		$17.21
1413	Off Road Hauler				$17.52			$23.70	$16.90			$18.10	$17.12	
1428	Agricultural Tractor Operator				$19.14				$19.97			$23.21		
1445	Directional Drilling Operator				$25.19									
1446	Directional Drilling Locator				$21.39		$16.50							
1500	Reinforcing Steel Worker	$22.94	$19.62	$24.99	$22.46		$20.57	$23.50	$22.24	$22.76	$20.91	$25.70	$22.34	$23.47
1509	Structural Steel Worker												$22.64	
1513	Sign Erector				$17.52			$18.01						

CLASS. #	CLASSIFICATION DESCRIPTION	ZONE TX46 *(TX20250046)	ZONE TX51 *(TX20250051)	ZONE TX55 *(TX20250055)	ZONE TX291 *(TX20250291)	ZONE TX292 *(TX20250292)	ZONE TX293 *(TX20250293)	ZONE TX294 *(TX20250294)	ZONE TX295 *(TX20250295)	ZONE TX296 *(TX20250296)	ZONE TX297 *(TX20250297)	ZONE TX298 *(TX20250298)	ZONE TX299 *(TX20250299)	ZONE TX300 *(TX20250300)
1515	Spreader Box Operator	$18.50		$19.28	$19.31			$23.59	$18.52	$20.63	$23.00	$18.31	$17.84	$19.96
1520	Work Zone Barricade Servicer	$17.76	$15.81	$16.80	$17.75	$17.12		$18.01	$16.89	$17.52	$16.49	$18.10	$17.37	$17.66
1600	Truck Driver, Single Axle	$21.59	$17.93	$19.19	$19.70	$18.24	$15.16	$20.60	$19.22	$17.99	$19.02	$22.02	$21.93	$19.20
1606	Truck Driver, Single or Tandem Axle Dump Truck	$20.87	$18.50	$21.94	$20.91	$21.14	$16.58	$22.64	$20.30	$20.30	$18.63	$21.04	$18.60	$19.19
1607	Truck Driver, Tandem Axle Tractor with Semi-Trailer	$21.52	$19.81	$20.66	$21.71	$21.97		$23.22	$20.32	$22.08	$23.00	$21.91	$20.17	$19.52
1609	Truck Driver Lowboy-Float	$23.01	$27.10	$23.18	$25.96			$25.57	$23.97	$22.90	$25.75	$23.22	$25.94	$22.60
1612	Truck Driver Transit-Mix		$18.00					$21.97						
1615	Boom Truck Operator				$27.82									
1706	Welder		$21.35		$23.38		$17.34	$23.72				$22.00	$20.97	

Notes:
*Represents the USDOL wage decision.
Any worker employed on this project shall be paid at the rate of one and one half (1-1/2) times the regular rate for every hour worked in excess of forty (40) hours per week.

For reference, the titles and descriptions for the classifications listed here are detailed further in the Associated General Contractors (AGC) of Texas' Standard Job Classifications and Descriptions for Highway, Heavy, Utilities, and Industrial Construction in Texas posted on the AGC's Web site for any contractor.

Texas Counties Identified By
Wage Rate Zones: 46, 51, 55, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300

Table 2 - Counties by Zone.

County Name	Zone	County Name	Zone	County Name	Zone	County Name	Zone
Anderson	295	Donley	298	Karnes	300	Reagan	298
Andrews	298	Duval	297	Kaufman	294	Real	298
Angelina	295	Eastland	298	Kendall	291	Red River	295
Aransas	296	Ector	46	Kenedy	297	Reeves	292
Archer	46	Edwards	292	Kent	298	Refugio	300
Armstrong	46	El Paso	293	Kerr	300	Roberts	298
Atascosa	291	Ellis	294	Kimble	298	Robertson	291
Austin	299	Erath	295	King	298	Rockwall	294
Bailey	298	Falls	295	Kinney	292	Runnels	298
Bandera	291	Fannin	295	Kleberg	300	Rusk	55
Bastrop	291	Fayette	300	Knox	298	Sabine	295
Baylor	298	Fisher	298	Lamar	295	San Augustine	295
Bee	300	Floyd	298	Lamb	298	San Jacinto	299
Bell	291	Foard	298	Lampasas	291	San Patricio	296
Bexar	291	Fort Bend	299	LaSalle	297	San Saba	298
Blanco	300	Franklin	295	Lavaca	300	Schleicher	298
Borden	298	Freestone	295	Lee	300	Scurry	298
Bosque	295	Frio	297	Leon	295	Shackelford	298
Bowie	55	Gaines	298	Liberty	299	Shelby	295
Brazoria	299	Galveston	299	Limestone	295	Sherman	298
Brazos	291	Garza	298	Lipscomb	298	Smith	55
Brewster	292	Gillespie	300	Live Oak	300	Somervell	295
Briscoe	298	Glasscock	298	Llano	300	Starr	297
Brooks	297	Goliad	296	Loving	298	Stephens	298
Brown	298	Gonzales	300	Lubbock	46	Sterling	298
Burleson	291	Gray	298	Lynn	298	Stonewall	298
Burnet	300	Grayson	294	Madison	295	Sutton	292
Caldwell	291	Gregg	55	Marion	295	Swisher	298
Calhoun	296	Grimes	295	Martin	298	Tarrant	294
Callahan	46	Guadalupe	291	Mason	300	Taylor	46
Cameron	51	Hale	298	Matagorda	300	Terrell	292
Camp	295	Hall	298	Maverick	297	Terry	298
Carson	46	Hamilton	295	McCulloch	298	Throckmorton	298
Cass	295	Hansford	298	McLennan	291	Titus	295
Castro	298	Hardeman	298	McMullen	297	Tom Green	46
Chambers	299	Hardin	299	Medina	291	Travis	291
Cherokee	295	Harris	299	Menard	298	Trinity	295
Childress	298	Harrison	55	Midland	46	Tyler	295
Clay	46	Hartley	298	Milam	295	Upshur	55
Cochran	298	Haskell	298	Mills	298	Upton	298
Coke	298	Hays	291	Mitchell	298	Uvalde	297
Coleman	298	Hemphill	298	Montague	298	Val Verde	292
Collin	294	Henderson	295	Montgomery	299	Van Zandt	295
Collingsworth	298	Hidalgo	51	Moore	298	Victoria	296
Colorado	300	Hill	295	Morris	295	Walker	295
Comal	291	Hockley	298	Motley	298	Waller	299
Comanche	298	Hood	295	Nacogdoches	295	Ward	298
Concho	298	Hopkins	295	Navarro	295	Washington	295
Cooke	298	Houston	295	Newton	295	Webb	51
Coryell	291	Howard	298	Nolan	298	Wharton	300
Cottle	298	Hudspeth	292	Nueces	296	Wheeler	298
Crane	298	Hunt	294	Ochiltree	298	Wichita	46
Crockett	292	Hutchinson	298	Oldham	298	Wilbarger	298
Crosby	46	Irion	46	Orange	299	Willacy	297
Culberson	292	Jack	295	Palo Pinto	295	Williamson	291
Dallam	298	Jackson	300	Panola	295	Wilson	291
Dallas	294	Jasper	295	Parker	294	Winkler	298
Dawson	298	Jeff Davis	292	Parmer	298	Wise	294
Deaf Smith	298	Jefferson	299	Pecos	292	Wood	295
Delta	294	Jim Hogg	297	Polk	295	Yoakum	298
Denton	294	Jim Wells	300	Potter	46	Young	298
DeWitt	300	Johnson	294	Presidio	292	Zapata	297
Dickens	298	Jones	46	Rains	295	Zavala	297
Dimmit	297			Randall	46		

CHILD SUPPORT STATEMENT

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

State of Texas Child Support Business Ownership Form

County: _____ Project Name: _____

TxDOT CSJ: _____ LG Project Number: _____

Business Entity Submitting Bid:_____

Section 231.006, Family Code, requires a bid for a contract paid from state funds to include the names and social security number of individuals owning 25% or more of the business entity submitting the bid.

1. In the spaces below please provide the names and social security number of individuals owning 25% or more of the business.

Name	Social Security Number
_____	_____
_____	_____
_____	_____
_____	_____

2. Please check the box below if no individual owns 25% or more of the business.

( ) No individual own 25% or more of the business.

Except as provided by Section 231.302(d), Family Code, a social security number is confidential and may be disclosed only for the purpose of responding to a request for information from an agency operating under the provisions of Part A and D to Title IV of the Federal Social Security Act (42 USC Section 601-617 and 651-699).

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

The information collected on this form will be maintained by Enter Local Government Name. With few exceptions, you are entitled on request to be informed about the information collected about you. Under Sections 552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under Section 559.004 of the Government Code, you are also entitled to have information about you corrected that you believe is incorrect.

_____ _____

Signature Date

_____

Printed Name

IF THIS PROJECT IS A JOINT VENTURE,

ALL PARTIES TO THE JOINT VENTURE MUST PROVIDE A COMPLETED FORM.

Prohibition on Certain Telecommunications Equipment or Services

The Federal Register Notice issued the Final Rule and states that the amendment to 2 CFR 200.216 is effective on August 13, 2020. The new 2 CFR 200.471 regulation provides clarity that the telecommunications and video surveillance costs associated with 2 CFR 200.216 are unallowable for services and equipment from these specific providers. OMB's Federal Register Notice includes the new 2 CFR 200.216 and 2 CFR 200.471 regulations.

Per the Federal Law referenced above, use of services, systems, or services or systems that contain components produced by any of the following manufacturers is strictly prohibited for use on this project. Therefore, for any telecommunications, CCTV, or video surveillance equipment, services or systems cannot be manufactured by, or have components manufactured by:

- Huawei Technologies Company,
- ZTE Corporation (any subsidiary and affiliate of such entities),
- Hyatera Communications Corporation,
- Hangzhou Hikvision Digital Technology Company,
- Dahua Technology Company (any subsidiary and affiliate of such entities).

Violation of this requirement will require replacement of the equipment at the contractor's expense.

Special Provision to Item 000
Nondiscrimination

1. DESCRIPTION

All recipients of federal financial assistance are required to comply with various nondiscrimination laws, including Title VI of the Civil Rights Act of 1964, as amended (Title VI). Title VI forbids discrimination against anyone in the United States on the grounds of race, color, or national origin by any agency receiving federal funds.

The Owner, as a recipient of federal financial assistance, and under Title VI and related statutes, ensures that no person will on the grounds of race, religion (where the primary objective of the financial assistance is to provide employment in accordance with 42 USC 2000d-3), color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any of Owner's programs or activities.

2. DEFINITION OF TERMS

Where the term "Contractor" appears in the following six nondiscrimination clauses, the term "Contractor" is understood to include all parties to Contracts or agreements with the Owner.

3. NONDISCRIMINATION PROVISIONS

During the performance of this Contract, the Contractor agrees as follows.

3.1. **Compliance with Regulations**. The Contractor must comply with the Regulations pertinent to nondiscrimination in federally assisted programs of the United States Department of Transportation 49 CFR 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

3.2. **Nondiscrimination**. The Contractor, regarding the work performed during the Contract, must not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor must not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.

3.3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment**. In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, the Contractor must notify each potential subcontractor or supplier of the Contractor's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

3.4. **Information and Reports**. The Contractor must provide all information and reports required by the Regulations or directives issued pursuant thereto, and must permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the Recipient or the Owner to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor must so certify to the Owner, or the Texas Department of Transportation as appropriate, and must set forth what efforts it has made to obtain the information.

3.5. **Sanctions for Noncompliance**. In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the Owner must impose such Contract sanctions as it or the Owner may

determine to be appropriate, including, but not limited to actions defined in Article 5.1., "Authority of Engineer."

3.6. **Incorporation of Provisions**. The Contractor must include the provisions of Sections 3.1–3.6 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Contractor must take such action with respect to any subcontract or procurement as the Owner may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that, in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the Owner to enter into such litigation to protect the interests of the Owner, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Special Provision to Item 000
Certification of Nondiscrimination in Employment

1. GENERAL

By signing this proposal, the Bidder certifies that it has participated in a previous Contract or subcontract subject to the equal opportunity clause, as required by Executive Order (EO) 10925, 11114, or 11246, or if it has not participated in a previous Contract of this type, or if it has had previous Contracts or subcontracts and has not filed, it will file with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the former President's Committee on Equal Employment Opportunity (EEO), all reports due under the applicable filing requirements.

Note—The above certification is required by the EEO Regulations of the Secretary of Labor [41 CFR 60-1.7(b)(1)], and must be submitted by Bidders and proposed subcontractors only in connection with Contracts and subcontracts that are subject to the equal opportunity clause. Contracts and subcontracts that are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5. (Generally only Contracts or subcontracts of $10,000 or less are exempt.)

Currently, Standard Form 100 (EEO-1) is the only report required by the EOs or their implementing regulations.

Proposed prime Contractors and subcontractors that have participated in a previous Contract or subcontract subject to the EO and have not filed the required reports should note that 41 CFR 60-1.7(b)(1) prevents the award of Contracts and subcontracts unless such Contractor submits a report covering the delinquent period or such other period specified by FHWA or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

Special Provision 000

Cargo Preference Act Requirements in Federal Aid Contracts

1. DESCRIPTION

All recipients of federal financial assistance are required to comply with the U.S. Department of Transportation's Cargo Preference Act requirements, 46 CFR 381, "Use of United States-Flag Vessels."

This requirement applies to material or equipment that is acquired specifically for a federal-aid highway project. It is not applicable to goods or materials that come into inventories independent of an FHWA-funded Contract.

When oceanic shipments are necessary for materials or equipment acquired for a specific federal-aid construction project, the Contractor agrees to:

- use privately owned United States-flag commercial vessels to ship at least 50% of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to this Contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels;

- furnish a legible copy of a rated, onboard commercial ocean bill of lading in English for each shipment of cargo described in Paragraph (b)(1) of 46 CFR 381, Section 7, "Federal Grant, Guaranty, Loan and Advance of Funds Agreements," within 20 days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, to both the Engineer (through the prime Contractor in the case of subcontractor bills of lading) and to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590; and

- insert the substance of the provisions of this clause in all subcontracts issued pursuant to this Contract.

Special Provision to Item 000
Schedule of Liquidated Damages

The dollar amount of daily contract administration Liquidated Damages per Working Day is $1000

In addition to the amount shown above, the Liquidated Damages will be increased by the amount shown in Item 8 of the General Notes for Road User Cost (RUC), when applicable.

Special Provision to Item 2L
Instructions to Bidders

Item 2, "Instructions to Bidders" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 7., "Nonresponsive Bid," is voided and replaced by the following.

The Owner will not accept a nonresponsive bid. A bid that has one or more of the deficiencies listed below is considered nonresponsive:

- the bid was not in the hands of the Letting Official at the time and location specified in the advertisement,
- a proposal form was submitted for the same project by a Bidder or Bidders and one or more of its partners or affiliates
- the Bidder was not authorized to receive a proposal form under Article 2.3., "Issuing Proposal Forms,"
- the Bidder failed to acknowledge receipt of all addenda issued,
- the proposal form was signed by a person who was not authorized to bind the Bidder or Bidders,
- the proposal guaranty did not comply with the requirements contained in this Item,
- the bid was in a form other than the official proposal form issued by the Owner,
- the Bidder modified the bid in a manner that altered the conditions or requirements for work as stated in the proposal form,
- the Bidder bid more than the maximum or less than the minimum number of allowable working days shown on the plans when working days was an item,
- a typed proposal form does not contain the information in the format shown on the "Example of Bid Prices Submitted by Computer Printout" on the proposal form,
- the Bidder did not meet the requirements of the technical qualification,
- the Bidder failed to submit a DBE commitment as specified in Article 2.14., "Disadvantaged Business Enterprise (DBE),"
- the Bidder failed to participate in the DHS E-Verify system as specified in Article 2.15., "Department of Homeland Security (DHS) E-Verify System," or
- the apparent low bid is mathematically and materially unbalanced.
- The bidder is not prequalified by TxDOT

Special Provision to Item 3L
Award and Execution of Contract

Item 3L, "Award and Execution of Contract," of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Section 1.2., "Rejection," is voided and replaced by the following.

1.2. **Rejection**. The Owner will reject the Contract if:

- collusion may have existed among the Bidders. Collusion participants will not be allowed to bid future proposals for the same Contract,
- the lowest bid is higher than the Owner's estimate, and re-advertising for bids may result in a lower bid,
- the low bid contains a bid error that satisfies the requirements and criteria in Article 2.12., "Consideration of Bid Errors," or
- rejection of the Contract is in the best interest of the Owner.

Special Provision to Item 6L
Control of Materials

Item 6L, "Control of Materials" of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Section 1.1. "Buy America," and Section 1.2., "Buy America Exceptions," are voided and replaced by the following.

1.1. **Buy America**. Comply with the latest provisions of Build America, Buy America Act (BABA Act) and applicable CFR, which restrict funds being made available from Federal financial assistance programs unless all the iron products, steel products, manufactured products, and construction materials used in the project are manufactured in the United States. Use iron or steel products, manufactured products, or construction materials manufactured in the United States for all permanently installed materials and products except when defined in Section 1.1.5., "Buy America Exceptions."

A material is solely classified based on its status at the time it is brought to the work site as either an iron or steel product, construction material, manufactured product, or excluded material. Refer to the Buy America Material Classification Sheet found at https://www.txdot.gov/business/resources/materials/buy-america/buy-america-material-classification-sheet.html for additional clarification on material classification.

Texas Department of Transportation's MPLs include Gold Star listings for certain manufacturers, construction materials, or products. Gold Star items are manufacturers, materials, or products that have submitted a Buy America certification (as listed on an MPL) to be in compliance with the Buy America requirements. For items identified as a Gold Star manufacturer, material, or product; the only Material Sourcing documentation as stated in Table 1 BABA Submissions is required.

Table1
BABA Submission Requirements

Classification	Form 1818 [2 & 3] (notarized original Form D-9 USA-1)	Material Sourcing Documentation [4]	Form 2806 [5 & 6]	De Minimis Tracking Log [7]
Iron or Steel Products	✓	✓		✓
Construction Material		✓	✓	✓
Manufactured Product [1]		✓	✓	✓

1. For ITS enclosures and precast concrete products as stated under Manufactured Products, submission requirements for Iron and Steel Products and Manufactured Products apply. Reinforcing Steel or items covered by TxDOT's Gold Star Program do not require a Form 1818 submission.
2. For miscellaneous steel exceptions may be allowed to submit a notarized certification letter in lieu of submitting Form 1818, as approved by the Owner. There are no exceptions for iron or steel products required to be furnished in accordance with item 441, "Steel Structures", or requested otherwise. Items covered by TxDOT's Gold Star Program do not require a Form 1818.
3. Item 450 aluminum metal railing and Item 610 aluminum roadway illumination poles, will require Form 1818 to be submitted when requested by the Owner.
4. For materials that are BABA compliant and are on TxDOT's Material Producer List (MPL). Material Sourcing Documentation is documentation, along with any necessary attachments, that connects the Material's source to project. Provide additional documentation at the request of the Owner.
5. Form 2806 is required to be submitted for products and materials to certify BABA compliance when an MPL does not exist for the corresponding material.
6. Form 2806 is required for materials that are not listed as BABA compliant on the associated MPL.
7. De Minimis Tracking Log is required for materials that are not BABA compliant and must be submitted in advance when de minimis waiver is being pursued. De Minimis Tracking Log must track non-compliant iron or steel products separately from non-compliant construction materials and manufactured products. Contact the Owner when either thresholds in 6.1.1.5, "Buy America Exceptions" is reached. Non-compliant items above the de minimis threshold will require removal and replacement with BABA compliant item, or not paid for as determined by the Engineer.

1.1.1. **Materials Excluded from Buy America.** Excluded Materials mean cement and cementitious material; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. Excluded Materials do not require domestic sourcing or Buy America certification.

Materials combined as an unsettled mixture delivered to a work site without final form, for incorporation into a project, such as hot mix asphalt, or wet concrete mixtures, are not a manufactured product and are considered excluded from Buy America.

1.1.2. **Iron or Steel Product**. Iron or steel products means articles, materials, or supplies that consist wholly or predominantly of iron or steel or a combination of both.

Predominantly of iron or steel or a combination of both means the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

For iron or steel products, manufacturing includes any process that modifies the chemical content, physical shape or size, or final finish of a product. The manufacturing process begins with initial melting and mixing and continues through fabrication (e.g., cutting, drilling, welding, bending.) and coating (e.g., paint, galvanizing, epoxy).

1.1.3. **Construction Materials**. Construction materials are classified as articles, materials, or supplies that consist of only one of the items listed in bullets below. Minor additions of articles, materials, supplies, or binding agents (as determined by the plans or the Engineer) to any of the items listed does not change the classification of a construction material.

- non-ferrous metals,
- plastic and polymer-based products (including polyvinyl chloride, composite building materials, and polymers used in fiber optic cables),
- glass (including optic glass),
- fiber optic cable (including drop cable),
- optical fiber,
- lumber,
- engineered wood, or
- drywall.

Each construction material has specific certification requirements stated below which constitute Buy America Compliance. Provide additional documentation as requested.

For non-ferrous metals, certification requires all manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.

For plastic and polymer-based products (including polyvinyl chloride, composite building materials, and polymers used in fiber optic cables), certification requires all manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.

For glass (including optic glass), certification requires all manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.

For fiber optic cable (including drop cable), certification requires all manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.

For optical fiber, certification requires all manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.

For lumber, certification requires all manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.

For engineered wood, certification requires all manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

For drywall, certification requires all manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.

1.1.4. **Manufactured Product** means articles, materials, or supplies that have been processed into a specific form and shape, or combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. Manufactured products may include components that are iron or steel products, excluded materials, or construction materials. Any product classified as an iron or steel product, excluded material, or construction material is not a manufactured product. In addition, mixtures of excluded materials, such as asphalt or concrete mixtures, delivered to a work site without final form for incorporation into a project are not a manufactured product and are considered excluded.

Manufactured products are required to be Manufactured in the United States. For manufactured products, submit per submission table above.

Manufactured in the United States (for Manufactured Products) means the final assembly occurred in the United States of America.

Precast Concrete products classified as a manufactured product (not predominantly of iron and steel) are to be Manufactured in the United States and require iron or steel components to comply with manufacturing requirements for Iron or Steel Products stated in Section 6.1.1.2.

Intelligent Transportation Systems and other electronic hardware systems classified as a manufactured product are to be Manufactured in the United States and must require iron or steel cabinets or other enclosures of such systems to comply with manufacturing requirements for Iron or Steel Products stated in Section 6.1.1.2

Component means an article, material, or supply, whether manufactured or unmanufactured, incorporated directly into a manufactured product or where applicable, an iron or steel product.

1.1.5. **Buy America Exceptions**. Use of iron or steel products, construction materials, and manufactured products manufactured in the United States is required unless the material meets an exception below.

- A waiver exists exempting the material from Buy America compliance.
- The total value of the non-compliant products (other than iron or steel products) is no more than the lesser of $1,000,000 or 5% of Total Applicable Costs for the project. Total Applicable Cost means the actual cost of all materials requiring Buy America compliance including iron, steel, or other materials that are within the scope of existing waivers. Contractor must provide documentation showing under threshold in advance for Engineer's consideration.
- The total value of foreign iron or steel products, including delivery, does not exceed 0.1% of the total Contract cost or $2,500, whichever is greater. The Contractor must provide documentation showing under threshold in advance for the Engineer's consideration.
- Foreign iron or steel products may be allowed when the Contract contains an alternate item for a foreign source iron or steel product and the Contract is awarded based on the alternate item.
- The materials are temporarily installed or are supplies, tools, and equipment not incorporated into the project. Temporarily installed means the materials and products must be removed at the end of the project or may be removed at the Contractor's convenience with the Engineer's approval.

Special Provision to Item 506

Temporary Erosion, Sedimentation, and Environmental Controls

For this project, item 506, "Temporary Erosion, Sedimentation, and Environmental Controls," of the standard specifications, is hereby voided and replaced with the following.

1. DESCRIPTION

Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants in accordance with the Storm Water Pollution Prevention Plan (SWP3) in the plans and the Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR150000.

2. MATERIALS

Furnish materials in accordance with the following:

- Item 161, "Compost"
- Item 432, "Riprap"
- Item 556, "Pipe Underdrains"

2.1. **Rock Filter Dams**.

2.1.1. **Aggregate**. Furnish aggregate with hardness, durability, cleanliness, and resistance to crumbling, flaking, and eroding acceptable to the Owner. Provide the following:

- Types 1, 2, and 4 Rock Filter Dams. Use 3 to 6 in. aggregate.
- Type 3 Rock Filter Dams. Use 4 to 8 in. aggregate.

2.1.2. **Wire**. Provide minimum 20 gauge galvanized wire for the steel wire mesh and tie wires for Types 2 and 3 rock filter dams. Type 4 dams require:

- a double-twisted, hexagonal weave with a nominal mesh opening of 2-1/2 in. × 3-1/4 in.;
- minimum 0.0866 in. steel wire for netting;
- minimum 0.1063 in. steel wire for selvages and corners; and
- minimum 0.0866 in. for binding or tie wire.

2.1.3. **Sandbag Material**. Furnish sandbags meeting Section 506.2.8., "Sandbags," except that any gradation of aggregate may be used to fill the sandbags.

2.2. **Temporary Pipe Slope Drains**. Provide corrugated metal pipe, polyvinyl chloride (PVC) pipe, flexible tubing, watertight connection bands, grommet materials, prefabricated fittings, and flared entrance sections that conform to the plans. Recycled and other materials meeting these requirements are allowed if approved.

Furnish concrete in accordance with Item 432, "Riprap."

2.3. **Temporary Paved Flumes**. Furnish asphalt concrete, hydraulic cement concrete, or other comparable non-erodible material that conforms to the plans. Provide rock or rubble with a minimum diameter of 6 in. and a maximum volume of 1/2 cu. ft. for the construction of energy dissipaters.

2.4. **Construction Exits**. Provide materials that meet the details shown on the plans and this Section.

2.4.1. **Rock Construction Exit**. Provide crushed aggregate for long- and short-term construction exits. Furnish aggregates that are clean, hard, durable, and free from adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials, and organic and injurious matter. Use 4- to 8-in. aggregate for Type 1. Use 2- to 4-in. aggregate for Type 3.

2.4.2. **Timber Construction Exit**. Furnish No. 2 quality or better railroad ties and timbers for long-term construction exits, free of large and loose knots and treated to control rot. Fasten timbers with nuts and bolts or lag bolts, of at least 1/2 in. diameter, unless otherwise shown on the plans or allowed. Provide plywood or pressed wafer board at least 1/2 in. thick for short-term exits.

2.4.3. **Foundation Course**. Provide a foundation course consisting of flexible base, bituminous concrete, hydraulic cement concrete, or other materials as shown on the plans or directed.

2.5. **Embankment for Erosion Control**. Provide rock, loam, clay, topsoil, or other earth materials that will form a stable embankment to meet the intended use.

2.6. **Pipe**. Provide pipe outlet material in accordance with Item 556, “Pipe Underdrains,” and details shown on the plans.

2.7. **Construction Perimeter Fence**.

2.7.1. **Posts**. Provide essentially straight wood or steel posts that are at least 60 in. long. Furnish soft wood posts with a minimum diameter of 3 in., or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/5 in. Furnish T- or L-shaped steel posts with a minimum weight of 0.5 lb. per foot.

2.7.2. **Fence**. Provide orange construction fencing as approved.

2.7.3. **Fence Wire**. Provide 11 gauge or larger galvanized smooth or twisted wire. Provide 16 gauge or larger tie wire.

2.7.4. **Flagging**. Provide brightly-colored flagging that is fade-resistant and at least 3/4 in. wide to provide maximum visibility both day and night.

2.7.5. **Staples**. Provide staples with a crown at least 1/2 in. wide and legs at least 1/2 in. long.

2.7.6. **Used Materials**. Previously used materials meeting the applicable requirements may be used if approved.

2.8. **Sandbags**. Provide sandbag material of polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 oz. per square yard, a Mullen burst-strength exceeding 300 psi, and an ultraviolet stability exceeding 70%.

Use natural coarse sand or manufactured sand meeting the gradation given in Table 1 to fill sandbags. Filled sandbags must be 24 to 30 in. long, 16 to 18 in. wide, and 6 to 8 in. thick.

Table 1
Sand Gradation

Sieve #	Retained (% by Weight)
4	Maximum 3%
100	Minimum 80%
200	Minimum 95%

Aggregate may be used instead of sand for situations where sandbags are not adjacent to traffic. The aggregate size shall not exceed 3/8 in.

2.9. **Temporary Sediment Control Fence**. Provide a net-reinforced fence using woven geo-textile fabric. Logos visible to the traveling public will not be allowed.

2.9.1. **Fabric**. Provide fabric materials in accordance with DMS-6230, "Temporary Sediment Control Fence Fabric."

2.9.2. **Posts**. Provide essentially straight wood or steel posts with a minimum length of 48 in., unless otherwise shown on the plans. Furnish soft wood posts at least 3 in. in diameter, or use nominal 2 × 4 in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/2 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.3 lb. per foot.

2.9.3. **Net Reinforcement**. Provide net reinforcement of at least 12-1/2 gauge galvanized welded wire mesh, with a maximum opening size of 2 × 4 in., at least 24 in. wide, unless otherwise shown on the plans.

2.9.4. **Staples**. Provide staples with a crown at least 3/4 in. wide and legs 1/2 in. long.

2.9.5. **Used Materials**. Use recycled material meeting the applicable requirements if approved.

2.10. **Biodegradable Erosion Control Logs**.

2.10.1. **Core Material**. Furnish core material that is biodegradable or recyclable. Use compost, mulch, aspen excelsior wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or any other acceptable material unless specifically called out on the plans. Permit no more than 5% of the material to escape from the containment mesh. Furnish compost meeting the requirements of Item 161, "Compost."

2.10.2. **Containment Mesh**. Furnish containment mesh that is 100% biodegradable, photodegradable, or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or any other acceptable material.

Furnish biodegradable or photodegradable containment mesh when log will remain in place as part of a vegetative system.

Furnish recyclable containment mesh for temporary installations.

2.10.3. **Size**. Furnish biodegradable erosion control logs with diameters shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

3. CONSTRUCTION

3.1. **Contractor Responsibilities**. Implement the Owner's Storm Water Pollution Prevention Plan (SWP3) for the project in accordance with the plans and specifications, TPDES General Permit TXR150000, and as directed by the Owner. Develop and implement an SWP3 for project-specific material supply plants within and outside of the Owner's right of way in accordance with the specific or general storm water permit requirements. Prevent water pollution from storm water associated with construction activity from entering any surface water or private property on or adjacent to the project site.

3.2. **General.**

3.2.1. **Phasing**. Implement control measures in the area to be disturbed before beginning construction, or as directed. Limit the disturbance to the area shown on the plans or as directed. If, in the opinion of the Owner, the Contractor cannot control soil erosion and sedimentation resulting from construction operations, the Owner will limit the disturbed area to that which the Contractor is able to control. Minimize disturbance to vegetation.

3.2.2. **Maintenance**. Immediately correct ineffective control measures. Implement additional controls as directed. Remove excavated material within the time requirements specified in the applicable storm water permit.

3.2.3. **Stabilization**. Stabilize disturbed areas where construction activities will be temporarily stopped in accordance with the applicable storm water permit. Establish a uniform vegetative cover. The project will not be accepted until a 70% density of existing adjacent undisturbed areas is obtained, unless otherwise shown on the plans. When shown on the plans, the Owner may accept the project when adequate controls are in place that will control erosion, sedimentation, and water pollution until sufficient vegetative cover can be established.

3.2.4. **Finished Work**. Upon acceptance of vegetative cover, remove and dispose of all temporary control measures, temporary embankments, bridges, matting, falsework, piling, debris, or other obstructions placed during construction that are not a part of the finished work, or as directed.

3.2.5. **Restricted Activities and Required Precautions**. Do not discharge onto the ground or surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment on-site to prevent actual or potential water pollution. Manage, control, and dispose of litter on-site such that no adverse impacts to water quality occur. Prevent dust from creating a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Wash out concrete trucks only as described in the TPDES General Permit TXR150000. Utilize appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water (i.e. dewatering). Prevent discharges that would contribute to a violation of Edwards Aquifer Rules, water quality standards, the impairment of a listed water body, or other state or federal law.

3.3. **Installation, Maintenance, and Removal Work**. Perform work in accordance with the SWP3, according to manufacturers' guidelines, and in accordance with the TPDES General Permit TXR150000. Install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until soil disturbing activities are completed and permanent erosion control features are in place or the disturbed area has been adequately stabilized as determined by the Owner. . If a device ceases to function as intended, repair or replace the device or portions thereof as necessary. Remove sediment, debris, and litter. When approved, sediments may be disposed of within embankments, or in the right of way in areas where the material will not contribute to further siltation. Dispose of removed material in accordance with federal, state, and local regulations.

Remove devices upon approval or as directed. Finish-grade and dress the area upon removal. Stabilize disturbed areas in accordance with the permit, and as shown on the plans or directed. Materials removed are considered consumed by the project. Retain ownership of stockpiled material and remove it from the project when new installations or replacements are no longer required.

3.3.1. **Rock Filter Dams for Erosion Control.** Remove trees, brush, stumps, and other objectionable material that may interfere with the construction of rock filter dams. Place sandbags as a foundation when required or at the Contractor's option.

Place the aggregate to the lines, height, and slopes specified, without undue voids for Types 1, 2, 3, and 5. Place the aggregate on the mesh and then fold the mesh at the upstream side over the aggregate and secure it to itself on the downstream side with wire ties, or hog rings for Types 2 and 3, or as directed. Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams according to the following criteria unless otherwise shown on the plans:

3.3.1.1. **Type 1 (Non-reinforced)**.

3.3.1.1.1. **Height**. At least 18 in. measured vertically from existing ground to top of filter dam.

3.3.1.1.2. **Top Width**. At least 2 ft.

3.3.1.1.3. **Slopes**. No steeper than 2:1.

3.3.1.2. **Type 2 (Reinforced)**.

3.3.1.2.1. **Height**. At least 18 in. measured vertically from existing ground to top of filter dam.

3.3.1.2.2. **Top Width**. At least 2 ft.

3.3.1.2.3. **Slopes**. No steeper than 2:1.

3.3.1.3. **Type 3 (Reinforced)**.

3.3.1.3.1. **Height**. At least 36 in. measured vertically from existing ground to top of filter dam.

3.3.1.3.2. **Top Width**. At least 2 ft.

3.3.1.3.3. **Slopes**. No steeper than 2:1.

3.3.1.4. **Type 4 (Sack Gabions)**. Unfold sack gabions and smooth out kinks and bends. Connect the sides by lacing in a single loop–double loop pattern on 4- to 5-in. spacing for vertical filling. Pull the end lacing rod at one end until tight, wrap around the end, and twist 4 times. Fill with stone at the filling end, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires 4 times.

Place the sack flat in a filling trough, fill with stone, connect sides, and secure ends as described above for horizontal filling.

Lift and place without damaging the gabion. Shape sack gabions to existing contours.

3.3.1.5. **Type 5**. Provide rock filter dams as shown on the plans.

3.3.2. **Temporary Pipe Slope Drains**. Install pipe with a slope as shown on the plans or as directed. Construct embankment for the drainage system in 8-in. lifts to the required elevations. Hand-tamp the soil around and under the entrance section to the top of the embankment as shown on the plans or as directed. Form the top of the embankment or earth dike over the pipe slope drain at least 1 ft. higher than the top of the inlet pipe at all points. Secure the pipe with hold-downs or hold-down grommets spaced a maximum of 10 ft. on center. Construct the energy dissipaters or sediment traps as shown on the plans or as directed. Construct the sediment trap using concrete or rubble riprap in accordance with Item 432, “Riprap,” when designated on the plans.

3.3.3. **Temporary Paved Flumes**. Construct paved flumes as shown on the plans or as directed. Provide excavation and embankment (including compaction of the subgrade) of material to the dimensions shown on the plans unless otherwise indicated. Install a rock or rubble riprap energy dissipater, constructed from the materials specified above, to a minimum depth of 9 in. at the flume outlet to the limits shown on the plans or as directed.

3.3.4. **Construction Exits**. Prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits when tracking conditions exist. Construct exits for either long- or short-term use.

3.3.4.1. **Long-Term**. Place the exit over a foundation course as required. Grade the foundation course or compacted subgrade to direct runoff from the construction exits to a sediment trap as shown on the plans or as directed. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed.

3.3.4.1.1. **Type 1**. Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.

3.3.4.1.2. **Type 2**. Construct using railroad ties and timbers as shown on the plans or as directed.

3.3.4.2. **Short-Term**.

3.3.4.2.1. **Type 3**. Construct using crushed aggregate, plywood, or wafer board. This type of exit may be used for daily operations where long-term exits are not practical.

3.3.4.2.2. **Type 4**. Construct as shown on the plans or as directed.

3.3.5. **Earthwork for Erosion Control**. Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.

3.3.5.1. **Excavation and Embankment for Erosion Control Features**. Place earth dikes, swales, or combinations of both along the low crown of daily lift placement, or as directed, to prevent runoff spillover. Place swales and dikes at other locations as shown on the plans or as directed to prevent runoff spillover or to divert runoff. Construct cuts with the low end blocked with undisturbed earth to prevent erosion of hillsides. Construct sediment traps at drainage structures in conjunction with other erosion control measures as shown on the plans or as directed.

Create a sediment basin, where required, providing 3,600 cu. ft. of storage per acre drained, or equivalent control measures for drainage locations that serve an area with 10 or more disturbed acres at one time, not including offsite areas.

3.3.5.2. **Excavation of Sediment and Debris**. Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.

3.3.6. **Construction Perimeter Fence**. Construct, align, and locate fencing as shown on the plans or as directed.

3.3.6.1. **Installation of Posts**. Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8 to 10 ft.

3.3.6.2. **Wire Attachment**. Attach the top wire to the posts at least 3 ft. from the ground. Attach the lower wire midway between the ground and the top wire.

3.3.6.3. **Flag Attachment**. Attach flagging to both wire strands midway between each post. Use flagging at least 18 in. long. Tie flagging to the wire using a square knot.

3.3.7. **Sandbags for Erosion Control**. Construct a berm or dam of sandbags that will intercept sediment-laden storm water runoff from disturbed areas, create a retention pond, detain sediment, and release water in sheet flow. Fill each bag with sand so that at least the top 6 in. of the bag is unfilled to allow for proper tying of the open end. Place the sandbags with their tied ends in the same direction. Offset subsequent rows of sandbags 1/2 the length of the preceding row. Place a single layer of sandbags downstream as a secondary debris trap. Place additional sandbags as necessary or as directed for supplementary support to berms or dams of sandbags or earth.

3.3.8. **Temporary Sediment-Control Fence**. Provide temporary sediment-control fence near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the fence into erosion-control measures used to control sediment in areas of higher flow. Install the fence as shown on the plans, as specified in this Section, or as directed.

3.3.8.1. **Installation of Posts**. Embed posts at least 18 in. deep, or adequately anchor, if in rock, with a spacing of 6 to 8 ft. and install on a slight angle toward the runoff source.

3.3.8.2. **Fabric Anchoring**. Dig trenches along the uphill side of the fence to anchor 6 to 8 in. of fabric. Provide a minimum trench cross-section of 6 × 6 in. Place the fabric against the side of the trench and align approximately 2 in. of fabric along the bottom in the upstream direction. Backfill the trench, then hand-tamp.

3.3.8.3. **Fabric and Net Reinforcement Attachment**. Attach the reinforcement to wooden posts with staples, or to steel posts with T-clips, in at least 4 places equally spaced unless otherwise shown on the plans. Sewn vertical pockets may be used to attach reinforcement to end posts. Fasten the fabric to the top strand of reinforcement by hog rings or cord every 15 in. or less.

3.3.8.4. **Fabric and Net Splices**. Locate splices at a fence post with a minimum lap of 6 in. attached in at least 6 places equally spaced unless otherwise shown on the plans. Do not locate splices in concentrated flow areas.

Requirements for installation of used temporary sediment-control fence include the following:

- fabric with minimal or no visible signs of biodegradation (weak fibers),
- fabric without excessive patching (more than 1 patch every 15 to 20 ft.),
- posts without bends, and
- backing without holes.

3.3.9. **Biodegradable Erosion Control Logs**. Install biodegradable erosion control logs near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the biodegradable erosion control logs into the erosion measures used to control sediment in areas of higher flow. Install, align, and locate the biodegradable erosion control logs as specified below, as shown in plans or as directed.

Secure biodegradable erosion control logs in a method adequate to prevent displacement as a result of normal rain events, prevent damage to the logs, and to the satisfaction of the Owner such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs as to facilitate daily work is allowed at the Contractor's expense.

3.3.10. **Vertical Tracking**. Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring a minimum of 12 in. long × 2 to 4 in. wide × 1/2 to 2 in. deep. Do not exceed 12 in. between track impressions. Install continuous linear track impressions where the 12 in. length impressions are perpendicular to the slope. Vertical tracking is required on projects where soil disturbing activities have occurred unless otherwise approved.

4. MEASUREMENT

4.1. **Rock Filter Dams**. Installation or removal of rock filter dams will be measured by the foot or by the cubic yard. The measured volume will include sandbags, when used.

4.1.1. **Linear Measurement**. When rock filter dams are measured by the foot, measurement will be along the centerline of the top of the dam.

4.1.2. **Volume Measurement**. When rock filter dams are measured by the cubic yard, measurement will be based on the volume of rock computed by the method of average end areas.

4.1.2.1. **Installation**. Measurement will be made in final position.

4.1.2.2. **Removal**. Measurement will be made at the point of removal.

4.2. **Temporary Pipe Slope Drains**. Temporary pipe slope drains will be measured by the foot.

4.3. **Temporary Paved Flumes**. Temporary paved flumes will be measured by the square yard of surface area. The measured area will include the energy dissipater at the flume outlet.

4.4. **Construction Exits**. Construction exits will be measured by the square yard of surface area.

4.5. **Earthwork for Erosion and Sediment Control**.

4.5.1. **Equipment and Labor Measurement**. Equipment and labor used will be measured by the actual number of hours the equipment is operated and the labor is engaged in the work.

4.5.2. **Volume Measurement**.

4.5.2.1. **In Place**.

4.5.2.1.1. **Excavation**. Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.

4.5.2.1.2. **Embankment**. Embankment will be measured by the cubic yard in its final position by the method of average end areas. The volume of embankment will be determined between:

- the original ground surfaces or the surface upon that the embankment is to be constructed for the feature and
- the lines, grades and slopes of the accepted embankment for the feature.

4.5.2.2. **In Vehicles**. Excavation and embankment quantities will be combined and paid for under "Earthwork (Erosion and Sediment Control, In Vehicle)." Excavation will be measured by the cubic yard in vehicles at the point of removal. Embankment will be measured by the cubic yard in vehicles measured at the point of delivery. Shrinkage or swelling factors will not be considered in determining the calculated quantities.

4.6. **Construction Perimeter Fence**. Construction perimeter fence will be measured by the foot.

4.7. **Sandbags for Erosion Control**. Sandbags will be measured as each sandbag or by the foot along the top of sandbag berms or dams.

4.8. **Temporary Sediment-Control Fence**. Installation or removal of temporary sediment-control fence will be measured by the foot.

4.9. **Biodegradable Erosion Control Logs**. Installation or removal of biodegradable erosion control logs will be measured by the foot along the centerline of the top of the control logs.

4.10. **Vertical Tracking**. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

5. PAYMENT

The following will not be paid for directly but are subsidiary to pertinent Items:

- erosion-control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (such as construction and haul roads, field offices, equipment and supply areas, plants, and material sources);
- removal of litter, unless a separate pay item is shown on the plans;
- repair to devices and features damaged by Contractor operations;
- added measures and maintenance needed due to negligence, carelessness, lack of maintenance, and failure to install permanent controls;
- removal and reinstallation of devices and features needed for the convenience of the Contractor;
- finish grading and dressing upon removal of the device; and
- minor adjustments including but not limited to plumbing posts, reattaching fabric, minor grading to maintain slopes on an erosion embankment feature, or moving small numbers of sandbags.

Stabilization of disturbed areas will be paid for under pertinent Items.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly but is subsidiary to the excavation and embankment under this Item.

5.1. **Rock Filter Dams**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

5.1.1. **Installation**. Installation will be paid for as "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

5.1.2. **Removal**. Removal will be paid for as "Rock Filter Dams (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

When the Owner directs that the rock filter dam installation or portions thereof be replaced, payment will be made at the unit price bid for "Rock Filter Dams (Remove)" and for "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

5.2. **Temporary Pipe Slope Drains**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Pipe Slope Drains" of the size specified. This price is full compensation for furnishing materials, removal and disposal, furnishing and operating equipment, labor, tools, and incidentals.

Removal of temporary pipe slope drains will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the pipe slope drain installation or portions thereof be replaced, payment will be made at the unit price bid for "Temporary Pipe Slope Drains" of the size specified, which is full compensation for the removal and reinstallation of the pipe drain.

Earthwork required for the pipe slope drain installation, including construction of the sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

Riprap concrete or stone, when used as an energy dissipater or as a stabilized sediment trap, will be measured and paid for in accordance with Item 432, "Riprap."

5.3. **Temporary Paved Flumes**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Paved Flume (Install)" or "Temporary Paved Flume (Remove)." This price is full compensation for furnishing and placing materials, removal and disposal, equipment, labor, tools, and incidentals.

When the Owner directs that the paved flume installation or portions thereof be replaced, payment will be made at the unit prices bid for "Temporary Paved Flume (Remove)" and "Temporary Paved Flume (Install)." These prices are full compensation for the removal and replacement of the paved flume and for equipment, labor, tools, and incidentals.

Earthwork required for the paved flume installation, including construction of a sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

5.4. **Construction Exits**. Contractor-required construction exits from off right of way locations or on-right of way PSLs will not be paid for directly but are subsidiary to pertinent Items.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for construction exits needed on right of way access to work areas required by the Owner will be paid for at the unit price bid for "Construction Exits (Install)" of the type specified or "Construction Exits (Remove)." This price is full compensation for furnishing and placing materials, excavating, removal and disposal, cleaning vehicles, labor, tools, and incidentals.

When the Owner directs that a construction exit or portion thereof be removed and replaced, payment will be made at the unit prices bid for "Construction Exit (Remove)" and "Construction Exit (Install)" of the type specified. These prices are full compensation for the removal and replacement of the construction exit and for equipment, labor, tools, and incidentals.

Construction of sediment traps used in conjunction with the construction exit will be measured and paid for under "Earthwork for Erosion and Sediment Control."

5.5. **Earthwork for Erosion and Sediment Control**.

5.5.1. **Initial Earthwork for Erosion and Sediment Control**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Erosion and Sediment Control, In Place)," "Embankment (Erosion and Sediment Control, In Place)," "Excavation (Erosion and Sediment Control, In Vehicle)," "Embankment (Erosion and Sediment Control, (In Vehicle)," or "Earthwork (Erosion and Sediment Control, In Vehicle)."

This price is full compensation for excavation and embankment including hauling, disposal of material not used elsewhere on the project; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

5.5.2. **Maintenance Earthwork for Erosion and Sediment Control for Cleaning and Restoring Control Measures**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid under a Contractor Force Account Item from invoice provided to the Owner.

This price is full compensation for excavation, embankment, and re-grading including removal of accumulated sediment in various erosion control installations as directed, hauling, and disposal of material not used elsewhere on the project; excavation for construction of erosion-control features; embankments including furnishing material from approved sources and construction of erosion-control features; and equipment, labor, tools, and incidentals.

Earthwork needed to remove and obliterate erosion-control features will not be paid for directly but is subsidiary to pertinent Items unless otherwise shown on the plans.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

5.6. **Construction Perimeter Fence**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Construction Perimeter Fence." This price is full compensation for furnishing and placing the fence; digging, fence posts, wire, and flagging; removal and disposal; and materials, equipment, labor, tools, and incidentals.

Removal of construction perimeter fence will be not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the perimeter fence installation or portions thereof be removed and replaced, payment will be made at the unit price bid for "Construction Perimeter Fence," which is full compensation for the removal and reinstallation of the construction perimeter fence.

5.7. **Sandbags for Erosion Control**. Sandbags will be paid for at the unit price bid for "Sandbags for Erosion Control" (of the height specified when measurement is by the foot). This price is full compensation for materials, placing sandbags, removal and disposal, equipment, labor, tools, and incidentals.

Removal of sandbags will not be paid for directly but is subsidiary to the installation Item. When the Owner directs that the sandbag installation or portions thereof be replaced, payment will be made at the unit price bid for "Sandbags for Erosion Control," which is full compensation for the reinstallation of the sandbags.

5.8. **Temporary Sediment-Control Fence**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

5.8.1. **Installation**. Installation will be paid for as "Temporary Sediment-Control Fence (Install)." This price is full compensation for furnishing and operating equipment finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

5.8.2. **Removal**. Removal will be paid for as "Temporary Sediment-Control Fence (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

5.9. **Biodegradable Erosion Control Logs**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows:

5.9.1. **Installation**. Installation will be paid for as "Biodegradable Erosion Control Logs (Install)" of the size specified. This price is full compensation for furnishing and operating equipment finish backfill and grading, staking, proper disposal, labor, materials, tools, and incidentals.

5.9.2. **Removal**. Removal will be paid for as "Biodegradable Erosion Control Logs (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

5.10. **Vertical Tracking**. Vertical tracking will not be measured or paid for directly but is considered subsidiary to this Item.

Item 500
Mobilization

1. DESCRIPTION

Establish and remove offices, plants, and facilities. Move personnel, equipment, and supplies to and from the project or the vicinity of the project site to begin work or complete work on Contract Items. Bonds and insurance are required for performing mobilization.

For Contracts with emergency mobilization, provide a person and method of contact available 24 hr. per day, 7 days per week, unless otherwise shown on the plans. The time of notice will be the transmission time of the written notice or notice provided orally by the Department's representative.

2. MEASUREMENT

This Item will be measured by the lump sum or each as the work progresses. Mobilization is calculated on the base bid only and will not be paid for separately on any additive alternate items added to the Contract.

3. PAYMENT

For this Item, the adjusted Contract amount will be calculated as the total Contract amount less the lump sum for mobilization. Material on hand will not be considered as a construction item earned when calculating mobilization payment. Except for Contracts with callout or emergency work, mobilization will be paid in partial payments as follows.

- Payment will be made upon presentation of a paid invoice for the payment or performance bonds and required insurance.
- Payment will be made upon verification of documented expenditures for plant and facility setup. The combined amount for all these facilities will be no more than 10% of the mobilization lump sum or 1% of the total Contract amount, whichever is less.
- When 1% of the adjusted Contract amount for construction Items is earned, 50% of the mobilization lump sum bid or 5% of the total Contract amount, whichever is less, will be paid. Previous payments under this Item will be deducted from this amount.
- When 5% of the adjusted Contract amount for construction Items is earned, 75% of the mobilization lump sum bid or 10% of the total Contract amount, whichever is less, will be paid. Previous payments under the Item will be deducted from this amount.
- When 10% of the adjusted Contract amount for construction Items is earned, 90% of the mobilization lump sum bid or 10% of the total Contract amount, whichever is less, will be paid. Previous payments under this Item will be deducted from this amount.
- Upon final acceptance, 97% of the mobilization lump sum bid will be paid. Previous payments under this Item will be deducted from this amount.
- Payment for the remainder of the lump sum bid for "Mobilization" will be made after all submittals are received, after final quantities have been determined, and when any separate vegetative establishment and maintenance, test, and performance periods provided for in the Contract have been successfully completed.

For projects with extended maintenance or performance periods, payment for the remainder of the lump sum bid for "Mobilization" will be made 6 mo. after final acceptance.

For Contracts with callout or emergency work, "Mobilization" will be paid as follows.

- Payment will be made upon presentation of a paid invoice for the payment of performance bonds and required insurance.
- Mobilization for callout work will be paid for each callout work request.
- Mobilization for emergency work will be paid for each emergency work request.

Item 502
Barricades, Signs, and Traffic Handling

1. DESCRIPTION

Provide, install, move, replace, maintain, clean, and remove all traffic control devices shown on the plans and as directed.

Temporary work zone (TWZ) traffic control devices manufactured after December 31, 2019, must have been successfully tested to the crashworthiness requirements of the 2016 edition of the AASHTO *Manual for Assessing Safety Hardware* (MASH). An exception to the manufacture date applies when, based on the project's date of letting, a category of MASH-2016 compliant TWZ traffic control devices was not approved, or was not self-certified. In such case, devices that meet NCHRP-350 or MASH-2009 may be used.

Temporary work zone (TWZ) traffic control devices manufactured on or before December 31, 2019, must at a minimum have been successfully tested to the crashworthiness requirements of NCHRP-350 or MASH-2009. These devices may continue to be used throughout their normal service lives.

Such TWZ traffic control devices include:

- portable sign supports,
- barricades,
- portable traffic barriers designated exclusively for use in TWZs,
- crash cushions designated exclusively for use in TWZs,
- longitudinal channelizers, and
- truck-mounted attenuators (TMAs) and trailer attenuators (TAs).

Category I devices (i.e., lightweight devices), such as cones, tubular markers, and drums without lights or signs attached, may be self-certified by the vendor or provider, with documentation provided to the Department, or as shown on Department's Compliant Work Zone Traffic Control Device List.

2. CONSTRUCTION

Comply with the requirements of Article 7.2., "Safety."

Implement the traffic control plan (TCP) shown on the plans.

Install traffic control devices straight and plumb. Make changes to the TCP only as approved. Minor adjustments to meet field conditions are allowed.

Submit Contractor-proposed TCP changes, signed and sealed by a licensed professional engineer, for approval. The Engineer may develop, sign, and seal Contractor-proposed changes. Changes must conform to guidelines established in the TMUTCD using approved products from the Department's Compliant Work Zone Traffic Control Device List.

Maintain traffic control devices by taking corrective action when notified. Corrective actions include, but are not limited to, cleaning, replacing, straightening, covering, and removing devices. Maintain the devices such that they are properly positioned and spaced, are legible, and have retroreflective characteristics that meet requirements day or night and in all weather conditions.

The Engineer may authorize or direct in writing the removal or relocation of project limit advance warning signs. When project limit advance warning signs are removed before final acceptance, provide traffic control in accordance with the TMUTCD for minor operations as approved.

Remove all traffic control devices upon completion of the work as shown on the plans or as directed.

3. MEASUREMENT

"Barricades, Signs, and Traffic Handling" will be measured by the month. Law enforcement personnel with patrol vehicles will be measured by the hour for each person.

4. PAYMENT

4.1. **Barricades, Signs, and Traffic Handling.** Except for Contracts with callout work and work orders, the work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Barricades, Signs, and Traffic Handling." This price is full compensation for installation, maintenance, adjustments, replacements, removal, materials, equipment, labor, tools, and incidentals.

When the plans establish pay items for particular work in the TCP, that work will be measured and paid for under pertinent Items.

TMAs and TAs will be paid for under Item 505, "Truck-Mounted Attenuator (TMA) and Trailer Attenuator (TA)." Portable changeable message signs will be paid for under Item 503, "Portable Changeable Message Sign." Portable traffic signals will be paid for under Item 510, "One-Way Traffic Control," unless otherwise shown on the plans.

In accordance with Section 7.2.3., "Safety Contingency," funds have been included in the project budget to improve the effectiveness of traffic handling and enhance safety during the course of this project.

4.1.1. **Initiation of Payment.** Payment for this Item will begin on the first estimate after barricades, signs, and traffic handling devices have been installed in accordance with the TCP.

4.1.2. **Paid Months.** Monthly payment will be made each succeeding month for this Item provided the barricades, signs, and traffic handling devices have been installed and maintained in accordance with the TCP until the Contract amount has been paid.

If, within the timeframe established by the Engineer, the Contractor fails to provide or properly maintain signs and barricades in compliance with the Contract requirements, as determined by the Engineer, the Contractor will be considered in noncompliance with this Item. No payment will be made for the months in question, and the total final payment quantity will be reduced by the number of months the Contractor was in noncompliance.

4.1.3. **Maximum Total Payment Before Acceptance.** The total payment for this Item will not exceed 10% of the total Contract amount before final acceptance in accordance with Article 5.12., "Final Acceptance." The remaining balance will be paid in accordance with Section 502.4.1.5., "Balance Due."

4.1.4. **Total Payment Quantity**. The quantity paid under this Item will not exceed the total quantity shown on the plans, except as modified by change order and as adjusted in accordance with Section 502.4.1.2., "Paid Months." An overrun of the plans quantity for this Item will not be allowed for approving designs; testing; material shortages; closed construction seasons; curing periods; establishment, performance, test, and maintenance periods; failure to complete the work in the number of months allotted; or delays caused directly or indirectly by Contract requirements.

4.1.5. **Balance Due.** The remaining unpaid months of barricades less non-compliance months will be paid on final acceptance of the project, if all work is complete and accepted in accordance with Article 5.12., "Final Acceptance."

4.1.6. **Contracts with Callout Work and Work Orders.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be subsidiary to pertinent Items, except for federally funded Contracts.

4.2. **Law Enforcement Personnel**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid by Contractor force account for "Law Enforcement Personnel." This price is full compensation for furnishing all labor, materials, supplies, equipment, patrol vehicles, fees, and incidentals necessary to complete the work as directed.

Item 505

Truck-Mounted Attenuator (TMA) and Trailer Attenuator (TA)

1. DESCRIPTION

Furnish, operate, maintain, and remove upon completion of work, a truck-mounted attenuator (TMA) or trailer attenuator (TA).

2. MATERIALS

Furnish, operate, and maintain new or used TMAs or TAs. Assure used attenuators are in good working condition and are approved for use. A list of approved TMA and TA units can be found on the Department's Compliant Work Zone Traffic Control Devices List. The host vehicle for the TMA and TA must weigh at least 19,000 lb. Host vehicles may be ballasted to achieve the required weight. Any weight added to the host vehicle must be properly attached to or contained within the vehicle so that the weight does not present a hazard and that proper energy dissipation occurs if the attenuator is impacted from behind. The weight of a TA will not be considered in the weight of the host vehicle, but the weight of a TMA may be included in the weight of the host vehicle. Upon request, provide either a manufacturer's curb weight or a certified scale weight ticket to the Engineer.

3. CONSTRUCTION

Place or relocate TMAs or TAs as shown on the plans or as directed. The plans show the number of TMAs or TAs required, the number of days or hours, and for which construction phases.

4. MEASUREMENT

4.1. **Truck-Mounted Attenuator or Trailer Attenuator (Stationary)**. This Item will be measured by the day. TMAs or TAs must be set up in a work area and operational before a calendar day can be considered measurable. A day will be measured for each TMA or TA set up and operational on the worksite.

4.2. **Truck-Mounted Attenuator or Trailer Attenuator (Mobile Operation)**. This Item will be measured by the hour or by the day. The time begins once the TMA or TA is ready for operation at the predetermined site and stops when notified by the Engineer. When measurement by the hour is specified, at least 4 hr. will be paid each day for each operating TMA or TA used in a mobile operation. When measurement by the day is specified, a day will be measured for each TMA or TA set up and operational on the worksite.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Truck-Mounted Attenuators/Trailer Attenuators (Stationary)" or "Truck-Mounted Attenuators/Trailer Attenuators (Mobile Operation)." This price is full compensation for furnishing TMA or TA; setup; relocating; removing; operating; fuel; and equipment, materials, tools, labor, and incidentals. Reimbursement for the repair of damaged devices will be in accordance with Section 7.17.1., "Reimbursable Repair."

Item 506

Temporary Erosion, Sedimentation, and Environmental Controls

1. DESCRIPTION

Install, maintain, and remove erosion, sedimentation, and environmental control measures to prevent or reduce the discharge of pollutants and protect environmental resources in accordance with the Stormwater Pollution Prevention Plan (SWP3) and environmental layout shown on the plans. Comply with Texas Pollutant Discharge Elimination System (TPDES) Construction General Permit (CGP) TXR150000 requirements. Control measures are defined as Best Management Practices (BMPs) used to prevent or reduce the discharge of pollutants and measures to protect environmental resources. Control measures include, but are not limited to, rock filter dams, temporary pipe slope drains, temporary paved flumes, construction exits, earthwork for erosion control, pipe, construction perimeter fence, sandbags, temporary sediment control fence, biodegradable erosion control logs, vertical tracking, temporary or permanent seeding, and other measures. Erosion and sediment control devices must be selected from the Erosion Control Approved Products List. Perform work in a manner to prevent degradation of receiving waters, protect environmental resources, facilitate project construction, and comply with applicable federal, state, and local regulations. Ensure the installation and maintenance of control measures are performed in conformance with the manufacturer's or designer's specifications.

2. MATERIALS

Furnish materials in accordance with the following.

- Item 161, "Compost"
- Item 432, "Riprap"
- Item 556, "Pipe Underdrains"

2.1. **Rock Filter Dams.**

2.1.1. **Aggregate.** Furnish aggregate with approved hardness, durability, cleanliness, and resistance to crumbling, flaking, and eroding. Provide the following.

- **Types 1, 2, and 4 Rock Filter Dams**. Use 3–6-in. aggregate.
- **Type 3 Rock Filter Dams.** Use 4–8-in. aggregate.

2.1.2. **Wire.** Provide minimum 20-gauge galvanized wire for the steel wire mesh and tie wires for Types 2 and 3 rock filter dams. Type 4 dams require:

- a double-twisted, hexagonal weave with a nominal mesh opening of 2-1/2 × 3-1/4 in.,
- minimum 0.0866-in. steel wire for netting,
- minimum 0.1063-in. steel wire for selvages and corners, and
- minimum 0.0866 in. for binding or tie wire.

2.1.3. **Sandbag Material.** Furnish sandbags meeting Section 506.2.8., "Sandbags," except that any gradation of aggregate may be used to fill the sandbags.

2.2. **Temporary Pipe Slope Drains.** Provide corrugated metal pipe, polyvinyl chloride (PVC) pipe, flexible tubing, watertight connection bands, grommet materials, prefabricated fittings, and flared entrance sections as shown on the plans. Recycled and other materials meeting these requirements are allowed if approved.

Furnish concrete in accordance with Item 432.

2.3. **Temporary Paved Flumes.** Furnish asphalt concrete, hydraulic cement concrete, or other comparable non-erodible material as shown on the plans. Provide rock or rubble with a minimum diameter of 6 in. and a maximum volume of 1/2 cu. ft. for the construction of energy dissipaters.

2.4. **Construction Exits.** Provide materials as shown on the plans and in accordance with this Section.

2.4.1. **Rock Construction Exit.** Provide crushed aggregate for long- and short-term construction exits. Furnish aggregates that are clean, hard, durable, and free of adherent coatings such as salt, alkali, dirt, clay, loam, shale, soft or flaky materials, and organic and injurious matter. Use 4–8-in. aggregate for Type 1. Use 2–4-in. aggregate for Type 3.

2.4.2. **Timber Construction Exit.** Furnish No. 2 quality or better railroad ties and timbers for long-term construction exits, free of large and loose knots and treated to control rot. Fasten timbers using nuts and bolts or lag bolts, of at least 1/2 in. diameter, unless otherwise shown on the plans or allowed. Provide plywood or pressed wafer board at least 1/2 in. thick for short-term exits.

2.4.3. **Foundation Course.** Provide a foundation course consisting of flexible base, bituminous concrete, hydraulic cement concrete, or other materials as shown on the plans or directed.

2.5. **Embankment for Erosion Control.** Provide rock, loam, clay, topsoil, or other earth materials that will form a stable embankment to meet the intended use.

2.6. **Pipe.** Provide pipe outlet material in accordance with Item 556 and as shown on the plans.

2.7. **Construction Perimeter Fence.**

2.7.1. **Posts.** Provide essentially straight wood or steel posts that are at least 60 in. long. Furnish soft wood posts with a minimum diameter of 3 in. or use nominal 2 × 4-in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/5 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.25 lb. per foot.

2.7.2. **Fence.** Provide orange construction fencing as approved.

2.7.3. **Fence Wire.** Provide 14-gauge or larger galvanized smooth or twisted wire. Provide 16-gauge or larger tie wire.

2.7.4. **Flagging.** Provide brightly colored flagging that is fade-resistant and at least 3/4 in. wide to provide maximum visibility both day and night.

2.7.5. **Staples.** Provide staples with a crown at least 1/2 in. wide and legs at least 1/2 in. long.

2.7.6. **Used Materials.** Previously used materials meeting the applicable requirements may be used if approved.

2.8. **Sandbags.** Provide sandbag material of polypropylene, polyethylene, or polyamide woven fabric with a minimum unit weight of 4 oz. per square yard, a Mullen burst-strength exceeding 300 psi, and an ultraviolet (UV) stability exceeding 70%.

Use natural coarse sand or manufactured sand meeting the gradation shown in Table 1 to fill sandbags. Filled sandbags must be 24–30 in. long, 16–18 in. wide, and 6–8 in. thick.

Table 1
Sand Gradation

Sieve Size	Retained (% by Weight)
#4	Maximum 3%
#100	Minimum 80%
#200	Minimum 95%

Aggregate may be used instead of sand for situations where sandbags are not adjacent to traffic. The aggregate size must not exceed 3/8 in.

2.9. **Temporary Sediment Control Fence**. Provide a net-reinforced fence using woven geotextile fabric. Logos visible to the traveling public will not be allowed.

2.9.1. **Fabric**. Provide fabric materials in accordance with DMS-6230, "Temporary Sediment Control Fence Fabric."

2.9.2. **Posts**. Provide essentially straight wood or steel posts with a minimum length of 48 in., unless otherwise shown on the plans. Furnish soft wood posts at least 3 in. in diameter or use nominal 2 × 4-in. boards. Furnish hardwood posts with a minimum cross-section of 1-1/2 × 1-1/2 in. Furnish T- or L-shaped steel posts with a minimum weight of 1.25 lb. per foot.

2.9.3. **Net Reinforcement**. Provide net reinforcement of at least 12.5-gauge (Standard Wire Gauge) galvanized welded wire mesh, with a maximum opening size of 2 × 4 in., at least 24 in. wide, unless otherwise shown on the plans.

2.9.4. **Staples**. Provide staples with a crown at least 3/4 in. wide and legs 1/2 in. long.

2.9.5. **Used Materials**. Use recycled material meeting the applicable requirements if approved.

2.10. **Biodegradable Erosion Control Logs**.

2.10.1. **Core Material**. Furnish core material that is biodegradable or recyclable. Use compost, mulch, aspen excelsior wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or any other acceptable material unless specifically shown on the plans. Permit no more than 5% of the material to escape from the containment mesh. Furnish compost in accordance with Item 161.

2.10.2. **Containment Mesh**. Furnish containment mesh that is 100% biodegradable, photodegradable, or recyclable, such as burlap, twine, UV photodegradable plastic, polyester, or any other acceptable material.

Furnish biodegradable or photodegradable containment mesh when log will remain in place as part of a vegetative system.

Furnish recyclable containment mesh for temporary installations.

2.10.3. **Size**. Furnish biodegradable erosion control logs with diameters as shown on the plans or as directed. Stuff containment mesh densely so logs do not deform.

3. QUALIFICATIONS, TRAINING, AND EMPLOYEE REQUIREMENTS

3.1. **Contractor Responsible Person Environmental (CRPE) Qualifications and Responsibilities**. Provide and designate in writing at the preconstruction conference a CRPE and alternate CRPE who have overall responsibility for managing environmental compliance. The CRPE will implement stormwater and erosion control practices, oversee and observe stormwater control measure monitoring and management, oversee environmental compliance requirements, and monitor the project site daily and produce daily monitoring reports as long as there are BMPs in place or soil disturbing activities are evident to ensure compliance with the SWP3 and TPDES CGP TXR150000. Take required training in accordance with Section 7.7.4.4, "Training."

Maintain daily monitor reports and make them available within 24 hr. upon request. During time suspensions when work is not occurring or on Contract non-work days, daily inspections are not required unless a rain event has occurred. The CRPE will provide recommendations on how to improve the effectiveness of control measures. Attend the Department's preconstruction conference for the project.

Ensure training is completed in accordance with Section 7.7.4.4., "Training," by all applicable personnel before employees work on the project. Document, maintain, and make available within 24 hr. of a request, a list, signed by the CRPE, of all applicable Contractor and subcontractor employees who have completed the training. Include the employee's name, the training course name, and the date the employee completed the training.

3.2. **Contractor Superintendent Qualifications and Responsibilities.** Provide a superintendent who is competent, has experience with and knowledge of stormwater management, and is knowledgeable of the requirements and the conditions of the TPDES CGP TXR150000. The superintendent will manage and oversee the day-to-day operations and activities at the project site, work with the CRPE to provide effective stormwater management at the project site, represent and act on behalf of the Contractor, and attend the Department's preconstruction conference for the project. Take training as required in Section 7.7.4.4., "Training."

4. CONSTRUCTION

4.1. **Contractor Responsibilities**. Implement the SWP3 for the project site in accordance with the plans and specifications, TPDES CGP TXR150000, and as directed. Coordinate stormwater management with all other work on the project. Develop and implement an SWP3 for project-specific material supply plants within and outside the Department's right of way in conformance with the specific or general stormwater permit requirements. Prevent water pollution from stormwater associated with construction activity from entering any surface water or private property on or adjacent to the project site.

4.2. **Implementation.** The CRPE, or alternate CRPE, must be accessible by telephone and able to respond to project-related stormwater management or other environmental emergencies 24 hr. per day.

4.2.1. **Commencement**. Implement the SWP3 as shown on the plans and as directed. Contractor-proposed recommendations for changes will be allowed as approved. Conform to the established guidelines in the TPDES CGP TXR150000 to make changes. Do not implement changes until approval has been received and changes have been incorporated into the plans. Minor adjustments to meet field conditions are allowed and will be recorded in the SWP3.

4.2.2. **Phasing**. Implement control measures before the commencement of activities that result in soil disturbance. Phase and minimize the soil disturbance to the areas shown on the plans. Coordinate temporary control measures with permanent control measures and all other work activities on the project to assure economical, effective, safe, and continuous water pollution prevention. Provide control measures that are appropriate to the construction means, methods, and sequencing allowed by the Contract. Exercise precaution throughout the life of the project to prevent pollution of ground waters and surface waters. Schedule and perform clearing and grubbing operations so that stabilization measures will follow immediately thereafter if project conditions permit. Bring all grading sections to final grade as soon as possible and implement temporary and permanent control measures at the earliest time possible. Implement temporary control measures when required by TPDES CGP TXR150000 or otherwise necessitated by project conditions.

Do not prolong final grading and shaping. Preserve vegetation where possible throughout the project, and minimize clearing, grubbing, and excavation within stream banks, bed, and approach sections.

4.3. **General.**

4.3.1. **Temporary Alterations or Control Measure Removal.** Altering or removal of control measures is allowed when control measures are restored within the same working day.

4.3.2. **Stabilization**. Initiate stabilization for disturbed areas no more than 14 days after the construction activities in that portion of the site have temporarily or permanently ceased. Establish a uniform vegetative cover or use another stabilization practice in accordance with TPDES CGP TXR150000.

4.3.3. **Finished Work**. Remove and dispose of all temporary control measures upon acceptance of vegetative cover or other stabilization practice unless otherwise directed. Complete soil disturbing activities and establish a uniform perennial vegetative cover. A project will not be considered for acceptance until a vegetative cover of 70% density of existing adjacent undisturbed areas is obtained or equivalent permanent stabilization is obtained in accordance with TPDES CGP TXR150000. The Engineer may accept the work before vegetative cover of 70% density of existing adjacent undisturbed areas. An exception will be allowed in arid areas as defined in TPDES CGP TXR150000.

4.3.4. **Restricted Activities and Required Precautions**. Do not discharge onto the ground or into surface waters any pollutants such as chemicals, raw sewage, fuels, lubricants, coolants, hydraulic fluids, bitumens, or any other petroleum product. Operate and maintain equipment onsite to prevent actual or potential water pollution. Manage, control, and dispose of litter onsite such that no adverse impacts to water quality occur. Prevent dust from creating a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property. Wash out concrete trucks only as described in TPDES CGP TXR150000. Use appropriate controls to minimize the offsite transport of suspended sediments and other pollutants if it is necessary to pump or channel standing water (i.e., dewatering). Immediately address chemical and hydrocarbon spills caused by the Contractor. Keep a spill kit onsite. Prevent discharges that would contribute to a violation of Edwards Aquifer Rules, water quality standards, the impairment of a listed water body, or other state or federal law.

4.4. **Installation, Maintenance, and Removal Work**. Perform work in accordance with the SWP3, in conformance with manufacturers' guidelines, and in accordance with TPDES CGP TXR150000. Install and maintain the integrity of temporary erosion and sedimentation control devices to accumulate silt and debris until soil disturbing activities are completed and permanent erosion control features are in place, or the disturbed area has been adequately stabilized as approved.

The Department will inspect and document the condition of the control measures at the frequency shown on the plans and will provide the Construction SWP3 Field Inspection and Maintenance Reports to the Contractor. Make corrections as soon as possible before the next anticipated rain event or within 7 calendar days after being able to enter the worksite for each control measure. The only acceptable reason for not accomplishing the corrections within the timeframe specified is when site conditions are considered "too wet to work." Take immediate action if a correction is deemed critical as directed. When corrections are not made within the established timeframe, all work will cease on the project and time charges will continue while the control measures are brought into compliance. Commence work once the Engineer reviews and documents the project is in compliance. Commencing work does not release the Contractor of the liability for noncompliance with the SWP3, the plans, or TPDES CGP TXR150000.

The Engineer may limit the disturbed area if the Contractor cannot control soil erosion and sedimentation resulting from the Contractor's operations. Implement additional controls as directed.

Remove devices upon approval or as directed. Finish-grade and dress the area upon removal. Stabilize disturbed areas in accordance with TPDES CGP TXR150000, and as shown on the plans or directed. Materials removed are considered consumed by the project. Retain ownership of stockpiled material and remove it from the project when new installations or replacements are no longer required.

4.4.1. **Rock Filter Dams for Erosion Control**. Remove trees, brush, stumps, and other objectionable material that may interfere with the construction of rock filter dams. Place sandbags as a foundation when required or at the Contractor's option.

Place the aggregate to the lines, height, and slopes specified, without undue voids for Types 1, 2, 3, and 5. Place the aggregate on the mesh and then fold the mesh at the upstream side over the aggregate and secure it to itself on the downstream side using wire ties, or hog rings for Type 2 and Type 3, or as directed.

Place rock filter dams perpendicular to the flow of the stream or channel unless otherwise directed. Construct filter dams in accordance with the following criteria unless otherwise shown on the plans.

4.4.1.1. **Type 1 (Non-Reinforced).**

- **Height.** At least 18 in. measured vertically from existing ground to top of filter dam.
- **Top Width.** At least 2 ft.
- **Slopes.** No steeper than 2:1.

4.4.1.2. **Type 2 (Reinforced).**

- **Height.** At least 18 in. measured vertically from existing ground to top of filter dam.
- **Top Width.** At least 2 ft.
- **Slopes.** No steeper than 2:1.

4.4.1.3. **Type 3 (Reinforced).**

- **Height.** At least 36 in. measured vertically from existing ground to top of filter dam.
- **Top Width.** At least 2 ft.
- **Slopes.** No steeper than 2:1.

4.4.1.4. **Type 4 (Sack Gabions).** Unfold sack gabions and smooth out kinks and bends. Connect the sides by lacing in a single-loop-double-loop pattern on 4–5-in. spacing for vertical filling. Pull the end lacing rod at one end until tight, wrap around the end, and twist four times. Fill with stone at the filling end, pull the rod tight, cut the wire with approximately 6 in. remaining, and twist wires four times.

Place the sack flat in a filling trough, fill with stone, connect sides, and secure ends as described above for horizontal filling.

Lift and place without damaging the gabion. Shape sack gabions to existing contours.

4.4.1.5. **Type 5.** Provide rock filter dams as shown on the plans.

4.4.2. **Temporary Pipe Slope Drains.** Install pipe with a slope as shown on the plans or as directed. Construct embankment for the drainage system in 8-in. lifts to the required elevations. Hand-tamp the soil around and under the entrance section to the top of the embankment as shown on the plans or as directed. Form the top of the embankment or earth dike over the pipe slope drain at least 1 ft. higher than the top of the inlet pipe at all points. Secure the pipe with hold-downs or hold-down grommets spaced at most 10 ft. on center. Construct the energy dissipaters or sediment traps as shown on the plans or as directed. Construct the sediment trap using concrete or rubble riprap in accordance with Item 432, when shown on the plans.

4.4.3. **Temporary Paved Flumes.** Construct paved flumes as shown on the plans or as directed. Provide excavation and embankment (including compaction of the subgrade) of material to the dimensions shown on the plans unless otherwise indicated. Install a rock or rubble riprap energy dissipater, constructed from the materials specified above, to a minimum depth of 9 in. at the flume outlet to the limits shown on the plans or as directed.

4.4.4. **Construction Exits.** Prevent traffic from crossing or exiting the construction site or moving directly onto a public roadway, alley, sidewalk, parking area, or other right of way areas other than at the location of construction exits when tracking conditions exist. Construct exits for either long- or short-term use.

4.4.4.1. **Long-Term.** Place the exit over a foundation course as required. Grade the foundation course or compacted subgrade to direct runoff from the construction exits to a sediment trap as shown on the plans or as directed. Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed.

4.4.4.1.1. **Type 1.** Construct to a depth of at least 8 in. using crushed aggregate as shown on the plans or as directed.

4.4.4.1.2. **Type 2.** Construct using railroad ties and timbers as shown on the plans or as directed.

4.4.4.2. **Short-Term.**

4.4.4.2.1. **Type 3.** Construct using crushed aggregate, plywood, or wafer board. This type of exit may be used for daily operations where long-term exits are not practical.

4.4.4.2.2. **Type 4.** Construct as shown on the plans or as directed.

4.4.5. **Earthwork for Erosion Control.** Perform excavation and embankment operations to minimize erosion and to remove collected sediments from other erosion control devices.

4.4.5.1. **Excavation and Embankment for Erosion Control Features.** Place earth dikes, swales, or combinations of both along the low crown of daily lift placement, or as directed, to prevent runoff spillover. Place swales and dikes at other locations as shown on the plans or as directed to prevent runoff spillover or to divert runoff. Construct cuts with the low end blocked with undisturbed earth to prevent erosion of hillsides. Construct sediment traps at drainage structures in conjunction with other erosion control measures as shown on the plans or as directed.

Create a sediment basin, where required, providing 3,600 cu. ft. of storage per acre drained, or equivalent control measures for drainage locations that serve an area with 10 or more disturbed acres at one time, not including offsite areas.

4.4.5.2. **Excavation of Sediment and Debris.** Remove sediment and debris when accumulation affects the performance of the devices, after a rain, and when directed.

4.4.6. **Construction Perimeter Fence.** Construct, align, and locate fencing as shown on the plans or as directed.

4.4.6.1. **Installation of Posts.** Embed posts 18 in. deep or adequately anchor in rock, with a spacing of 8–10 ft.

4.4.6.2. **Wire Attachment.** Attach the top wire to the posts at least 3 ft. from the ground. Attach the lower wire midway between the ground and the top wire.

4.4.6.3. **Flag Attachment.** Attach flagging to both wire strands midway between each post. Use flagging at least 18 in. long. Tie flagging to the wire using a square knot.

4.4.7. **Sandbags for Erosion Control.** Construct a berm or dam of sandbags that will intercept sediment-laden stormwater runoff from disturbed areas, create a retention pond, detain sediment, and release water in sheet flow. Fill each bag with sand so that at least the top 6 in. of the bag is unfilled to allow for proper tying of the open end. Place the sandbags with their tied ends in the same direction. Offset subsequent rows of sandbags 1/2 the length of the preceding row. Place a single layer of sandbags downstream as a secondary debris trap. Place additional sandbags as necessary or as directed for supplementary support to berms or dams of sandbags or earth.

4.4.8. **Temporary Sediment Control Fence.** Provide temporary sediment control fence near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the fence into erosion control measures used to control sediment in areas of higher flow. Install the fence as shown on the plans, in accordance with this Section, or as directed.

4.4.8.1. **Installation of Posts.** Embed posts at least 18 in. deep or adequately anchor, if in rock, with a spacing of 6–8 ft., and install on a slight angle toward the runoff source.

4.4.8.2. **Fabric Anchoring.** Dig trenches along the uphill side of the fence to anchor 6–8 in. of fabric. Provide a minimum trench cross-section of 6 × 6 in. Place the fabric against the side of the trench and align approximately 2 in. of fabric along the bottom in the upstream direction. Backfill the trench, then hand-tamp.

4.4.8.3. **Fabric and Net Reinforcement Attachment.** Attach the reinforcement to wooden posts using staples, or to steel posts using T-clips, in at least four places equally spaced unless otherwise shown on the plans. Sewn vertical pockets may be used to attach reinforcement to end posts. Fasten the fabric to the top strand of reinforcement using hog rings or cord every 15 in. or less.

4.4.8.4. **Fabric and Net Splices.** Locate splices at a fence post with a minimum lap of 6 in. attached in at least six places equally spaced unless otherwise shown on the plans. Do not locate splices in concentrated flow areas.

Requirements for installation of used temporary sediment control fence include the following:

- fabric with minimal or no visible signs of biodegradation (weak fibers),
- fabric without excessive patching (more than one patch every 15–20 ft.),
- posts without bends, and
- backing without holes.

4.4.9. **Biodegradable Erosion Control Logs.** Install biodegradable erosion control logs near the downstream perimeter of a disturbed area to intercept sediment from sheet flow. Incorporate the biodegradable erosion control logs into the erosion measures used to control sediment in areas of higher flow. Install, align, and locate the biodegradable erosion control logs as specified below, as shown on the plans, or as directed.

Secure biodegradable erosion control logs in a method adequate to prevent displacement resulting from normal rain events, to prevent damage to the logs, and as approved, such that flow is not allowed under the logs. Temporarily removing and replacing biodegradable erosion logs to facilitate daily work is allowed at the Contractor's expense.

4.4.10. **Vertical Tracking.** Perform vertical tracking on slopes to temporarily stabilize soil. Provide equipment with a track undercarriage capable of producing a linear soil impression measuring at least 12 in. long × 2–4 in. wide × 1/2–2 in. deep. Do not exceed 12 in. between track impressions. Install continuous linear track impressions where the 12-in. length impressions are perpendicular to the slope. Vertical tracking is required on projects where soil disturbing activities have occurred, unless otherwise approved.

4.5. **Monitoring and Documentation.** Monitor the control measures daily as long as there are BMPs in place or soil disturbing activities are evident to ensure compliance with the SWP3 and TPDES CGP TXR150000. During time suspensions when work is not occurring or contract non-work days, daily inspections are not required unless a rain event has occurred. Monitoring will consist of, but is not limited to, observing, inspecting, and documenting site locations with control measures and discharge points to provide maintenance and inspection of controls in accordance with the SWP3. Keep written records of daily monitoring. Document in the daily monitoring report the control measure condition, the date of inspection, required corrective actions, the responsible person for making the corrections, and the date corrective actions were completed. Maintain records of all monitoring reports at the project site or at an approved place. Provide copies within 7 days. Together, the CRPE and an Engineer's representative will complete the Construction Stage Gate Checklist periodically as directed.

5. MEASUREMENT

5.1. **Rock Filter Dams.** Installation or removal of rock filter dams will be measured by the foot or by the cubic yard. The measured volume will include sandbags, when used.

5.1.1. **Linear Measurement.** When rock filter dams are measured by the foot, measurement will be along the centerline of the top of the dam.

5.1.2. **Volume Measurement.** When rock filter dams are measured by the cubic yard, measurement will be based on the volume of rock computed by the method of average end areas.

5.1.2.1. **Installation.** Measurement will be made in final position.

5.1.2.2. **Removal**. Measurement will be made at the point of removal.

5.2. **Temporary Pipe Slope Drains.** Temporary pipe slope drains will be measured by the foot.

5.3. **Temporary Paved Flumes**. Temporary paved flumes will be measured by the square yard of surface area. The measured area will include the energy dissipater at the flume outlet.

5.4. **Construction Exits.** Construction exits will be measured by the square yard of surface area.

5.5. **Earthwork for Erosion and Sediment Control**.

5.5.1. **Equipment and Labor Measurement.** Equipment and labor used will be measured by the actual number of hours the equipment is operated and the labor is engaged in the work.

5.5.2. **Volume Measurement**.

5.5.2.1. **In Place**.

5.5.2.1.1. **Excavation.** Excavation will be measured by the cubic yard in its original position and the volume computed by the method of average end areas.

5.5.2.1.2. **Embankment**. Embankment will be measured by the cubic yard in its final position by the method of average end areas. The volume of embankment will be determined between:

- the original ground surfaces or the surface upon which the embankment is to be constructed for the feature and
- the lines, grades, and slopes of the accepted embankment for the feature.

5.5.2.2. **In Vehicles.** Excavation and embankment quantities will be combined and paid for under "Earthwork (Erosion and Sediment Control, In Vehicle)." Excavation will be measured by the cubic yard in vehicles at the point of removal. Embankment will be measured by the cubic yard in vehicles measured at the point of delivery. Shrinkage or swelling factors will not be considered in determining the calculated quantities.

5.6. **Construction Perimeter Fence.** Construction perimeter fence will be measured by the foot.

5.7. **Sandbags for Erosion Control**. Sandbags will be measured as each sandbag or by the foot along the top of sandbag berms or dams.

5.8. **Temporary Sediment Control Fence**. Installation or removal of temporary sediment control fence will be measured by the foot.

5.9. **Biodegradable Erosion Control Logs.** Installation or removal of biodegradable erosion control logs will be measured by the foot along the centerline of the top of the control logs.

5.10. **Vertical Tracking.** Vertical tracking will not be measured or paid for directly, but will be subsidiary to this Item.

6. PAYMENT

The following will not be paid for directly, but will be subsidiary to pertinent Items:

- erosion control measures for Contractor project-specific locations (PSLs) inside and outside the right of way (e.g., construction and haul roads, field offices, equipment and supply areas, plants, and material sources);
- removal of litter, unless a separate pay item is shown on the plans;
- repair to devices and features damaged by Contractor operations;

- added measures and maintenance needed due to negligence, carelessness, lack of maintenance, and failure to install permanent controls;
- removal and reinstallation of devices and features needed for the convenience of the Contractor;
- finish grading and dressing upon removal of the device; and
- minor adjustments including but not limited to plumbing posts, reattaching fabric, minor grading to maintain slopes on an erosion embankment feature, or moving small numbers of sandbags.

Stabilization of disturbed areas will be paid for under pertinent Items except vertical tacking, which will be subsidiary.

Furnishing and installing pipe for outfalls associated with sediment traps and ponds will not be paid for directly, but will be subsidiary to the excavation and embankment under this Item.

6.1. **Rock Filter Dams**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows.

6.1.1. **Installation**. Installation will be paid for as "Rock Filter Dams (Install)" of the type and slope as specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

6.1.2. **Removal**. Removal will be paid for as "Rock Filter Dams (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

When the Engineer directs that the rock filter dam installation or portions thereof be replaced, payment will be made at the unit price bid for "Rock Filter Dams (Remove)" and for "Rock Filter Dams (Install)" of the type specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

6.2. **Temporary Pipe Slope Drains**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Pipe Slope Drains" of the size specified. This price is full compensation for furnishing materials, removal and disposal, furnishing and operating equipment, labor, tools, and incidentals.

Removal of temporary pipe slope drains will not be paid for directly, but will be subsidiary to the installation Item. When the Engineer directs that the pipe slope drain installation or portions thereof be replaced, payment will be made at the unit price bid for "Temporary Pipe Slope Drains" of the size specified, which is full compensation for the removal and reinstallation of the pipe drain.

Earthwork required for the pipe slope drain installation, including construction of the sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

Riprap concrete or stone, when used as an energy dissipater or as a stabilized sediment trap, will be measured and paid for in accordance with Item 432.

6.3. **Temporary Paved Flumes**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Paved Flume (Install)" or "Temporary Paved Flume (Remove)." This price is full compensation for furnishing and placing materials, removal and disposal, equipment, labor, tools, and incidentals.

When the Engineer directs that the paved flume installation or portions thereof be replaced, payment will be made at the unit prices bid for "Temporary Paved Flume (Remove)" and "Temporary Paved Flume (Install)." These prices are full compensation for the removal and replacement of the paved flume and for equipment, labor, tools, and incidentals.

Earthwork required for the paved flume installation, including construction of a sediment trap, will be measured and paid for under "Earthwork for Erosion and Sediment Control."

6.4. **Construction Exits.** Contractor-required construction exits from off right of way locations or on right of way PSLs will not be paid for directly, but will be subsidiary to pertinent Items.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" for construction exits needed on right of way access to work areas required by the Department will be paid for at the unit price bid for "Construction Exits (Install)" of the type specified or "Construction Exits (Remove)." This price is full compensation for furnishing and placing materials, excavating, removal and disposal, cleaning vehicles, labor, tools, and incidentals.

When the Engineer directs that a construction exit or portion thereof be removed and replaced, payment will be made at the unit prices bid for "Construction Exit (Remove)" and "Construction Exit (Install)" of the type specified. These prices are full compensation for the removal and replacement of the construction exit and for equipment, labor, tools, and incidentals.

Construction of sediment traps used in conjunction with the construction exit will be measured and paid for under "Earthwork for Erosion and Sediment Control."

6.5. **Earthwork for Erosion and Sediment Control**.

6.5.1. **Initial Earthwork for Erosion and Sediment Control.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Erosion and Sediment Control, In Place)," "Embankment (Erosion and Sediment Control, In Place)," "Excavation (Erosion and Sediment Control, In Vehicle)," "Embankment (Erosion and Sediment Control, (In Vehicle)," or "Earthwork (Erosion and Sediment Control, In Vehicle)."

This price is full compensation for excavation and embankment, including hauling; disposal of material not used elsewhere on the project; embankments including furnishing material from approved sources and construction of erosion control features; and equipment, labor, tools, and incidentals.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

6.5.2. **Maintenance Earthwork for Erosion and Sediment Control for Cleaning and Restoring Control Measures.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid under a Contractor Force Account Item from invoice provided to the Engineer.

This price is full compensation for excavation, embankment, and re-grading, including dewatering for removal of accumulated sediment, and the removal of accumulated sediment in various erosion control installations as directed, hauling, and disposal of material not used elsewhere on the project; excavation for construction of erosion control features; embankments, including furnishing material from approved sources and construction of erosion control features; and equipment, labor, tools, and incidentals.

Earthwork needed to remove and obliterate erosion control features will not be paid for directly, but will be subsidiary to pertinent Items unless otherwise shown on the plans.

Sprinkling and rolling required by this Item will not be paid for directly, but will be subsidiary to this Item.

6.6. **Construction Perimeter Fence.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Construction Perimeter Fence." This price is full compensation for furnishing and placing the fence; digging, fence posts, wire, and flagging; removal and disposal; and materials, equipment, labor, tools, and incidentals.

Removal of construction perimeter fence will not be paid for directly, but will be subsidiary to the installation Item. When the Engineer directs that the perimeter fence installation or portions thereof be removed and replaced, payment will be made at the unit price bid for "Construction Perimeter Fence," which is full compensation for the removal and reinstallation of the construction perimeter fence.

6.7. **Sandbags for Erosion Control**. Sandbags will be paid for at the unit price bid for "Sandbags for Erosion Control" (of the height specified when measurement is by the foot). This price is full compensation for materials, placing sandbags, removal and disposal, equipment, labor, tools, and incidentals.

Removal of sandbags will not be paid for directly, but will be subsidiary to the installation Item. When the Engineer directs that the sandbag installation or portions thereof be replaced, payment will be made at the unit price bid for "Sandbags for Erosion Control," which is full compensation for the reinstallation of the sandbags.

6.8. **Temporary Sediment Control Fence.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows.

6.8.1. **Installation**. Installation will be paid for as "Temporary Sediment-Control Fence (Install)." This price is full compensation for furnishing and operating equipment, finish backfill and grading, lacing, proper disposal, labor, materials, tools, and incidentals.

6.8.2. **Removal**. Removal will be paid for as "Temporary Sediment-Control Fence (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

6.9. **Biodegradable Erosion Control Logs**. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid as follows.

6.9.1. **Installation**. Installation will be paid for as "Biodegradable Erosion Control Logs (Install)" of the size specified. This price is full compensation for furnishing and operating equipment, finish backfill and grading, staking, proper disposal, labor, materials, tools, and incidentals.

6.9.2. **Removal.** Removal will be paid for as "Biodegradable Erosion Control Logs (Remove)." This price is full compensation for furnishing and operating equipment, proper disposal, labor, materials, tools, and incidentals.

6.10. **Vertical Tracking.** Vertical tracking will not be measured or paid for directly, but will be subsidiary to this Item.

Item 618
Conduit

1. DESCRIPTION

Furnish and install conduit; prepare existing conduit.

2. MATERIALS

Provide new materials that comply with the details shown on the plans, the requirements of this Item, and the pertinent requirements of the following Items.

- Item 400, "Excavation and Backfill for Structures"
- Item 476, "Jacking, Boring, or Tunneling Pipe or Box"

When specified on the plans, provide:

- rigid metal conduit (RMC),
- polyvinyl chloride (PVC) conduit,
- high density polyethylene (HDPE) conduit,
- liquid-tight flexible metal conduit (LFMC), or
- liquid-tight flexible nonmetallic conduit (LFNC).

Furnish conduit from new materials in accordance with DMS-11030, "Conduit."

Provide prequalified conduit from the Department's MPL. When required by the Engineer, notify the Department in writing of selected materials from the MPL intended for use on each project.

Provide other types of conduit not on the MPL that comply with the details shown on the plans and the NEC. Fabricate fittings such as junction boxes and expansion joints from a material like the connecting conduit, unless otherwise shown on the plans. Use watertight fittings. Do not use set screw fittings. Steel compression fittings are permissible. When using HDPE conduit, provide fittings that are UL-listed as electrical conduit connectors, or connect conduit by thermal fusing with an electrically heated welding method.

Use red 3-in. 4-mil polyethylene underground warning tape that continuously states, "Caution Buried Electrical Line Below."

3. CONSTRUCTION

Perform work as shown on the plans and in accordance with this Item.

Use established industry and utility safety practices when installing conduit located near underground utilities. Consult with the appropriate utility company before beginning work.

3.1. **Installation of Conduit**. Install conduit at least 18 in. deep below finished grade to top of conduit unless otherwise shown on the plans. Meet the requirements of the NEC when installing conduit. Secure and support conduit placed for concrete encasement such that the alignment will not be disturbed during placement of the concrete. Cap ends of conduit and close box openings before concrete is placed.

Ream conduit to remove burrs and sharp edges. Use a standard conduit cutting die with a 3/4-in. taper per foot when conduit is threaded in the field. Galvanize or paint threads in accordance with Item 445, "Galvanizing." Fasten conduit placed on structures with conduit straps or hangers as shown on the plans or

as directed. Fasten conduit within 3 ft. of each box or fitting and at other locations shown on the plans or as directed. Use two-hole type clamps for 2-in. diameter or larger conduit.

Fit PVC and HDPE conduit terminations with bushings or bell ends. Fit metal conduit terminations with a grounding type bushing, except conduit used for duct cable casing that does not terminate in a ground box and is not exposed at any point. Conduit terminating in threaded bossed fittings does not need a bushing. Before installation of conductors or final acceptance, pull a properly sized mandrel or piston through the conduit to ensure that it is free of obstruction. Cap or plug empty conduit placed for future use.

Perform trench excavation and backfilling as shown on the plans or as directed, and in accordance with Item 400. Excavation and backfilling will be subsidiary to the installation of the conduit.

Jack and bore as shown on the plans or as directed, and in accordance with Item 476.

Place warning tape approximately 10 in. above trenched conduit. Where existing surfacing is removed for placing conduit, repair by backfilling with material equal in composition and density to the surrounding areas and by replacing any removed surfacing, such as asphalt pavement or concrete riprap, with like material to equivalent condition. Mark conduit locations as directed.

3.2. **Preparation of Conduit.** Pull a mandrel through empty conduits. Use a mandrel with a diameter greater than 70% of the inside diameter of the conduit and 2-in. length. Repair or replace conduit runs that will not allow passage of the mandrel. Replace conduit deemed impractical to repair or that remains unsuitable in accordance with Item 618, "Conduit." Clean the conduit by pulling a rubber swab slightly larger in diameter than the conduit.

Blow compressed air through conduits that contain wires. Remove debris from the conduit by pushing a fish tape through the conduit. Do not use water to clear debris. Retest the conduit by blowing compressed air.

Install one pull cord in each conduit for use in installing the conductors, cables, or innerduct.

4. MEASUREMENT

This Item will be measured by the foot of conduit installed, or by the foot of conduit cleared, tested, replaced, and repaired.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

5.1. **Installation of Conduit.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Conduit" of the type and size specified and the installation method specified as applicable, or for "Conduit (Prepare)." This price is full compensation for furnishing and installing conduit; cleaning and testing conduit; hanging, strapping, jacking, boring, tunneling, trenching, and furnishing and placing backfill; encasing in steel or concrete; replacing pavement structure, sod, riprap, curbs, or other surface; marking location of conduit (when required); furnishing and installing fittings, junction boxes, and expansion joints; and materials, equipment, labor, tools, and incidentals.

Flexible conduit will not be paid for directly, but will be subsidiary to pertinent Items. Unless otherwise shown on the plans, no payment will be allowed under this Item for conduit used on electrical services or in foundations.

Repair of existing conduit will be paid for by the Department in accordance with Article 9.7., "Payment for Extra Work and Force Account Method."

Item 620
Electrical Conductors

1. DESCRIPTION

Furnish and install electrical conductors, except conductors specifically covered by other Items.

2. MATERIALS

Provide new materials that comply with the details shown on the plans and the requirements of this Item. Use stranded insulated conductors that are rated for 600V, approved for wet locations, and marked in conformance with UL, NEC, and Canadian Standards Association (CSA) requirements. Furnish electrical conductors in accordance with DMS-11040, "Electrical Conductors."

Provide pre-qualified electrical conductors from the Department's MPL. When required by the Engineer, notify the Department in writing of selected materials from the MPL intended for use on each project.

Ensure all grounding conductors Size 8 AWG and larger are stranded, except for the grounding electrode conductor at the electrical service, which will be a 6-AWG solid conductor.

Use white insulation for grounded (neutral) conductors, except grounded conductors Size 4 AWG and larger may be black with white tape marking at every accessible location. Do not use white insulation or marking for any other conductor except control wiring specifically shown on the plans.

Ensure insulated grounding conductors are green, except insulated grounding conductors Size 4 AWG and larger may be black with green tape marking at every accessible location. Do not use green insulation or marking for any other conductor except control wiring specifically shown on the plans.

3. CONSTRUCTION

Perform work as shown on the plans and in accordance with this Item.

Splice conductors only in junction boxes, ground boxes, and transformer bases, and in poles and structures at the handholes. Splice as shown on the plans. Do not exceed the manufacturer's recommended pulling tension. Use lubricant as recommended by the manufacturer. Install conductors in accordance with the NEC.

Test insulation resistance on the conductors before making final connections and ensure each continuous run of insulated conductor has a minimum direct-current (DC) resistance of 5 megohms (MΩ) when tested at 1,000V DC. The Engineer may require verification testing of all or part of the conductor system. The Engineer will witness these verification tests. Replace conductors exhibiting an insulation resistance of less than 5 MΩ at no additional cost to the Department.

4. MEASUREMENT

This Item will be measured by the foot of each single conductor.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Electrical Conductors" of the types and sizes specified. This price is full compensation for furnishing, installing, and testing electrical conductors; furnishing and installing breakaway connectors; and materials, equipment, labor, tools, and incidentals, with the following exceptions:

- conductors used in connecting the components of electrical services will be paid for under Item 628, "Electrical Services";
- conductors inside roadway illumination assemblies will be paid for under Item 610, "Roadway Illumination Assemblies";
- conductors inside traffic signal pole assemblies will be paid for under this Item; and
- conductors used for internal wiring of equipment will not be paid for directly, but will be subsidiary to pertinent Items.

Item 624
Ground Boxes

1. DESCRIPTION

1.1. **Installation.** Construct, furnish, and install ground boxes complete with lids.

1.2. **Removal.** Remove existing ground boxes.

2. MATERIALS

Provide new materials that comply with the details shown on the plans, the requirements of this Item, and the pertinent requirements of the following Items.

- Item 420, "Concrete Substructures"
- Item 421, "Hydraulic Cement Concrete"
- Item 432, "Riprap"
- Item 440, "Reinforcement for Concrete"
- Item 618, "Conduit"
- Item 620, "Electrical Conductors"

Provide fabricated precast polymer concrete ground boxes in accordance with DMS-11070, "Ground Boxes." Provide pre-qualified ground boxes from the Department's MPL. When required by the Engineer, notify the Department in writing of selected materials from the MPL intended for use on each project.

Provide other precast or cast-in-place ground boxes that comply with the details shown on the plans.

3. CONSTRUCTION

Perform work as shown on the plans and in accordance with this Item.

Use established industry and utility safety practices when installing or removing ground boxes located near underground utilities. Consult with the appropriate utility company before beginning work.

3.1. **Installation.** Fabricate and install ground boxes as shown on the plans. Install ground box to approved line and grade.

Construct precast and cast-in-place concrete ground boxes in accordance with Item 420 and Item 440.

Construct concrete aprons as shown on the plans and in accordance with Item 432 and Item 440.

3.2. **Removal.** Remove existing ground boxes and concrete aprons to at least 6 in. below the conduit level. Uncover conduit to a sufficient distance so that 90° bends can be removed and conduit reconnected. Clean the conduit in accordance with Item 618. Replace conduit within 5 ft. of the ground box. Remove old conductors and install new conductors as shown on the plans. Backfill area with material equal in composition and density to the surrounding area. Replace surfacing material with similar material to an equivalent condition.

4. MEASUREMENT

This Item will be measured by each ground box installed complete in place or each ground box removed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Ground Box" of the types and sizes specified and for "Remove Ground Box."

5.1. **Installation.** This price is full compensation for excavating, backfilling, and aggregate; constructing, furnishing, and installing ground boxes and concrete aprons; and material, equipment, labor, tools, and incidentals. All wiring connections required inside the ground box will be subsidiary to this Item. Conduit will be paid for under Item 618. Electrical conductors will be paid for under Item 620.

5.2. **Removal.** This price is full compensation for removing and disassembling ground boxes and concrete aprons; excavating, backfilling, and surface placement; removing old conductors; disposal of unsalvageable materials; and materials, equipment, labor, tools, and incidentals. Cleaning of conduit will be subsidiary to this Item. Conduit replaced within 5 ft. of the ground box will be subsidiary to this Item. Additional conduit will be paid for under Item 618. Installation of conductors will be paid for under Item 620.

Item 628
Electrical Services

1. DESCRIPTION

- **Installation.** Furnish and install electrical services.
- **Relocation**. Relocate existing electrical services.
- **Removal**. Remove existing electrical services.

2. MATERIALS

Provide materials that comply with the details shown on the plans, the requirements of this Item, and the pertinent requirements of the following Items.

- Item 441, "Steel Structures"
- Item 445, "Galvanizing"
- Item 449, "Anchor Bolts"
- Item 618, "Conduit"
- Item 620, "Electrical Conductors"
- Item 627, "Treated Timber Poles"
- Item 656, "Foundations for Traffic Control Devices"

For the installation of electrical services, use new materials that meet the requirements of the NEC, UL, the Canadian Standards Association (CSA), and NEMA, and are in accordance with DMS-11080, "Electrical Services."

Provide pre-qualified electrical services from the Department's MPL. When required, notify the Department in writing of selected materials from the MPL intended for use on each project.

3. CONSTRUCTION

Perform work as shown on the plans and in accordance with this Item. Use established industry and utility safety practices when installing, relocating, or removing electrical services located near overhead or underground utilities. Consult with the appropriate utility company before beginning work.

3.1. **Installation.** Furnish and install electrical service equipment. Ensure components of the electrical service meet the requirements of the Electrical Detail Standards. Install the electrical equipment in accordance with the NEC and in conformance with local utility company requirements. Coordinate the utility companies' work for providing service.

3.2. **Relocation**. Coordinate relocation with the appropriate utility company before beginning work. Remove existing electrical service in accordance with Section 628.3.3., "Removal." Reinstall existing electrical service in accordance with Section 628.3.1., "Installation." Replace or add circuit breakers as shown on the plans.

3.3. **Removal**. Coordinate removal with the appropriate utility company before beginning work. Before the removal of the electrical service, disconnect and isolate any existing electrical service equipment in conformance with the utility company's requirements.

Remove existing electrical service support at least 2 ft. below finished grade unless otherwise shown on the plans. Repair the remaining hole by backfilling with material equal in composition and density to the surrounding area. Replace any surfacing, such as asphalt pavement or concrete riprap, with like material to equivalent condition.

Disconnect and remove conductors from the conduit. Cut off and cap all protruding conduit 6 in. below finished grade. Abandoned conduit need not be removed unless otherwise shown on the plans.

Reconnect conductors and conduit to be reused when shown on the plans. Make all splices in ground boxes unless otherwise shown on the plans.

Accept ownership and dispose of unsalvageable materials in conformance with federal, state, and local regulations.

4. MEASUREMENT

This Item will be measured by each electrical service installed, relocated, or removed.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Electrical Services" of the types specified, "Relocate Electrical Services," or "Remove Electrical Services."

Costs for utility-owned power line extensions, connection charges, meter charges, consumption charges, and other charges will be paid for by the Department. The Department will reimburse the Contractor the amount billed by the utility, plus an additional 5% of the invoice cost will be paid for labor, equipment, administrative costs, superintendence, and profit.

Applications for a permanent utility service will designate the Department as the service owner unless otherwise shown in the plans.

5.1. **Installation**. This price is full compensation for paying all fees, testing, permits, utility company inspections, connection or meter charges, and other costs; making arrangements with the utility company for all work and materials provided by the utility company; furnishing, installing, and connecting all components, including poles, service supports, foundations, anchor bolts, riprap, enclosures, switches, breakers, service conduit (from the service equipment, including the elbow below ground), fittings, service conductors (from the service equipment, including the elbow below ground), brackets, bolts, hangers, and hardware; and materials, equipment, labor, tools, and incidentals.

5.2. **Relocation**. This price is full compensation for disconnecting and isolating the existing electrical service; relocating the service supports; new service support foundation; backfilling holes; paying all fees, testing, permits, utility company inspections, connection or meter charges, and other costs; making arrangements with the utility company for all work and materials provided by the utility company; removing, disconnecting, installing, and connecting all components, including poles, service supports, foundations, anchor bolts, riprap, enclosures, switches, breakers, service conduit (from the service equipment, including the elbow below ground), fittings, service conductors (from the service equipment, including the elbow below ground), brackets, bolts, hangers, and hardware; and materials, equipment, labor, tools, and incidentals.

5.3. **Removal**. This price is full compensation for coordinating with the utility company to disconnect and isolate the electrical service; removing the service supports; backfilling holes; and materials, equipment, labor, tools, and incidentals.

Exhibit I

GENERAL CONDITIONS

ARTICLE 1- DEFINITIONS
Wherever used in these General Conditions or in the other CONTRACT DOCUMENTS the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

ADDENDA- Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the bidding documents or the CONTRACT DOCUMENTS.

AGREEMENT- The written Agreement between OWNER and CONTRACTOR covering the Work to be performed; other CONTRACT DOCUMENTS are attached to the Agreement and made a part thereof as provided therein.

APPLICATION FOR PAYMENT- The form accepted by the ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to include such supporting documentation as is required by the CONTRACT DOCUMENTS.

BID- The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

BONDS- Bid, performance and payment bonds and other instruments of security.

CHANGE ORDER- A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revisions in the Work, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

CONTRACT DOCUMENTS- The Agreement, Addenda (which pertain to the CONTRACT DOCUMENTS), CONTRACTOR'S Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all amendments, modifications and supplements issued pursuant to paragraphs 3.4 and 3.5 on or after the Effective Date of the Agreement.

CONTRACT PRICE- The moneys payable by OWNER to CONTRACTOR under the CONTRACT DOCUMENTS as stated in the Agreement.

CONTRACT TIME- The number of days (computed as provided in paragraph 17.2) or the date

stated in the Agreement for the completion of the Work.

CONTRACTOR- The person, firm or corporation with whom OWNER has entered into the Agreement.

DEFECTIVE- An adjective which when modifying the word Work refers to work that is unsatisfactory, faulty or deficient, or does not conform to the CONTRACT DOCUMENTS, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the CONTRACT DOCUMENTS, or has been damaged prior to ENGINEER'S recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

DRAWING- The drawings which show the character and Scope of Work to be performed and which have been prepared or approved by ENGINEER and are referred to in the CONTRACT DOCUMENTS.

EFFECTIVE DATE OF THE AGREEMENT- The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

ENGINEER- The person, firm or corporation named as such in the Agreement.

FIELD ORDER- A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Time.

GENERAL REQUIREMENTS- Those described in Pages TS-1 through TS-7 of the Specifications.

LAW AND REGULATIONS; LAW OR REGULATIONS- Laws, rules, regulations, ordinances, codes and/or orders.

NOTICE OF AWARD- The written notice by OWNER or ENGINEER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

NOTICE TO PROCEED- A written notice given by OWNER or ENGINEER to CONTRACTOR fixing the date on which the Contract Time will commence to run and on which the CONTRACTOR shall start to perform CONTRACTOR'S obligations under the CONTRACT DOCUMENTS.

OWNER- The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.
PARTIAL UTILIZATION- Placing a portion of the Work in service for the purpose for which it is intended (or a related purpose) before reaching Substantial Completion for all the Work.

PROJECT- The total construction of which the Work to be provided under the CONTRACT DOCUMENTS may be the whole, or a part as indicated elsewhere in the CONTRACT DOCUMENTS.

RESIDENT PROJECT REPRESENTATIVE- The authorized representative of ENGINEER, who is assigned to the site or any part thereof.

SHOP DRAWINGS- All drawings, diagrams, illustrations, schedules and other date which are specifically prepared by or for CONTRACTOR to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by Supplier and submitted by CONTRACTOR to illustrate material or equipment for some portion of the Work.

SPECIFICATIONS- The portions of the CONTRACT DOCUMENTS consisting of written technical description of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

SUB-CONTRACTOR- An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Sub-Contractor for the performance of a part of the Work at the site.

SUBSTANTIAL COMPLETION- The Work (or a specified part thereof) which has progressed to the point where, in the opinion of ENGINEER as evidence by ENGINEER'S definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the CONTRACT DOCUMENTS, so that the Work, (or specified part) can be utilized for the purpose for which it is intended; or if there by no such certificate issued, when final payment is due in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to any Work refer to Substantial Completion thereof.

SUPPLEMENTAL GENERAL CONDITIONS- The part of the CONTRACT DOCUMENTS which amends or supplements these General Conditions.

SUPPLIER- A manufacturer, fabricator, supplier, distributor, material-man or vendor.

UNDERGROUND FACILITIES- All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing

such facilities which have been installed underground to furnish any of the following service or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

UNIT PRICE WORK- Work to be paid for on the basis of unit prices.

WORK- The entire completed construction or the various separately identifiable parts thereof required to be furnished under the CONTRACT DOCUMENTS. Work is the result of performing services, furnishing labor and furnishing and incorporating materials and equipment into the construction, all as required by the CONTRACT DOCUMENTS.

WORK DIRECTIVE CHANGE- A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraphs 4.2 and 4.3 or to emergencies under paragraph 6.22. A Work Directive Change may not change the Contract Price or the Contract Time, but is evidence that the parties expect that the change directed or documented by a Work Directive Change will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Time as provided in paragraph 10.2.

WRITTEN AMENDMENT- A written amendment of the CONTRACT DOCUMENTS, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly Work-related aspects of the CONTRACT DOCUMENTS.

ARTICLE 2- PRELIMINARY MATTERS DELIVERY OF BONDS:
2.1. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as Contract may be required to furnish in accordance with paragraph 5.1.

COPIES OF DOCUMENTS:

2.2. OWNER shall furnish to CONTRACTOR up to five copies (unless otherwise specified in the Supplementary Conditions) of the CONTRACT DOCUMENTS as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

COMMENCEMENT OF CONTRACT TIME; NOTICE TO PROCEED:
2.3. The Contract Time will commence to run on the thirtieth day after the Effective Date of the Agreement, or if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Day of the Agreement. In no event will the Contract Time commence to run later than the seventy-fifth day after the day of Bid Opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

STARTING THE PROJECT:

2.4 CONTRACTOR shall start to perform the Work on the date when the Contract Time commences to run, but no Work shall be done at the site prior to the date on which the Contract

Time commences to run.

BEFORE STARTING CONSTRUCTION:

2.5 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error or discrepancy which CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy in the CONTRACT DOCUMENTS, unless CONTRACTOR has actual knowledge thereof or should reasonably have known thereof.

2.6 Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER FOR review:

2.6.1 An estimated progress schedule indicating the starting and completion dates of the various stages of the Work;

2.6.2 A preliminary schedule of Shop Drawings submissions; and

2.6.3 A preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis of progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work which will be confirmed in writing by CONTRACTOR at the time of submission.

2.7 Before any Work at the site is started, CONTRACTOR shall deliver to OWNER, with a copy to ENGINEER, certificates (and other evidence of insurance requested by OWNER) which CONTRACTOR is required to purchase and maintain in accordance with paragraphs 5.3 and 5.4.

PRE-CONSTRUCTION CONFERENCE:

2.8 Within twenty days after the Effective Date of the Agreement, but before CONTRACTOR starts the Work at the site, a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to discuss the schedules referred to in paragraph 2.6, to discuss procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work.

FINALIZING SCHEDULES:

2.9 At least ten days before submission of the First Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to finalize the schedules submitted in accordance with paragraph 2.6. The finalized progress schedule will be

acceptable to ENGINEER as providing an orderly progression of the Work to completion within the Contract Time, but such acceptance will neither impose on ENGINEER responsibility for the progress or scheduling of the Work nor relieve CONTRACTOR from full responsibility therefore. The finalized schedule of Shop Drawing submissions will be acceptable to ENGINEER as providing a workable arrangement for processing the submissions. The finalized schedule of values will be acceptable to ENGINEER as to form and substance.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE INTENT:
3.1. The CONTRACT DOCUMENTS comprise the entire Agreement between OWNER and CONTRACTOR concerning the WORK. The CONTRACT DOCUMENTS are complementary; what is called for by one is as binding as if called for by all. The CONTRACT DOCUMENTS will be construed in accordance with the law of the place of the Project.

3.2 It is the intent of the CONTRACT DOCUMENTS to describe a functionally complete Project (or part thereof) to be constructed in accordance with the CONTRACT DOCUMENTS. Any Work, materials or equipment that may reasonably be inferred from the CONTRACT DOCUMENTS as being required to produce the intended result will be supplied whether or not specifically called for. When words which have a well-known technical or trade meaning are used to describe Work, materials or equipment such works shall be interpreted in accordance with that meaning. Reference to standard specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated. However, no provision of any referenced standard specifications, manual or code (whether or not specifically incorporated by reference in the CONTRACT DOCUMENTS) shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their consultants, agents or employees from those set forth in the CONTRACT DOCUMENTS, nor shall it be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 9.15 or 9.16. Clarifications and interpretations of the CONTRACT DOCUMENTS shall be issued by ENGINEER as provided in paragraph 9.4.

3.3 If, during the performance of the Work, CONTRACTOR finds a conflict, error or discrepancy in the CONTRACT DOCUMENTS, CONTRACTOR shall so report to ENGINEER in writing at once and before proceeding with the Work affected thereby shall obtain a written interpretation or clarification from ENGINEER; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error or discrepancy on the CONTRACT DOCUMENTS unless CONTRACTOR had actual knowledge thereof or should reasonably have known thereof.

AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS:

3.4 The CONTRACT DOCUMENTS may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the

following ways:

3.4.1. A formal Written Amendment,

3.4.2. A Change Order (Pursuant to paragraph 10.4), or

3.4.3. A Work Directive Change (Pursuant to paragraph 10.1).

As indicated in paragraphs 11.2 and 12.1, Contract Price and Contract Time may only be changed by a Change Order or Written Amendment.

3.5. In addition, the requirements of the CONTRACT DOCUMENTS may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

3.5.1. A Field Order (Pursuant to paragraph 9.5),

3.5.2. ENGINEER'S approval of a Shop Drawing or sample (pursuant to paragraphs 6.26 and 6.27), or

3.5.3. ENGINEER'S written interpretation or clarification (pursuant to paragraph 9.4).

REUSE OF DOCUMENTS:

3.6 Neither CONTRACTOR nor any Sub-Contractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER; and they shall not reuse any of them on extensions of the Project of any other project without written consent of the OWNER.

ARTICLE 4 - AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

AVAILABILITY OF LANDS:

4.1 OWNER shall furnish, as indicated in the CONTRACT DOCUMENTS, the lands upon which the Work is to be performed, Rights-of-Way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the CONTRACT DOCUMENTS. If CONTRACTOR believes that any delay in OWNER'S furnishing these lands, Rights-of-Way or easements entitles CONTRACTOR to an extension of the Contract Time, CONTRACTOR may make a claim therefore as provided in Article 12. CONTRACTOR shall provide for all additional lands and

access thereto that may be required for temporary construction facilities or storage of materials and equipment.
PHYSICAL CONDITIONS:

4.2.1. Explorations and Reports: Reference is made to the Supplementary conditions for identification of those reports of explorations and tests of sub-surface conditions at the site that have been utilized by ENGINEER in preparation of the CONTRACT DOCUMENTS. CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, but not upon non-technical data, interpretations for opinions contained therein or for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to sub-surface conditions at the site.

4.2.2. Existing Structures: Reference is made to the Supplementary Conditions for identification of those drawings of physical conditions in or relating to existing surface and sub- surface structures (except Underground Facilities referred to in paragraph 4.3) which are at or contiguous to the site that have been utilized by ENGINEER in preparation of the CONTRACT DOCUMENTS. CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, but not for the completeness thereof for CONTRACTOR'S purposes. Except as indicated in the immediately preceding sentence and in paragraph 4.2.6, CONTRACTOR shall have full responsibility with respect to physical conditions in or relating to such structures.
4.2.3. Report to Differing Conditions: If CONTRACTOR believes that:

4.2.3.1 Any technical data on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is inaccurate, or

4.2.3.2. Any physical condition uncovered or revealed at the site differ materially from that indicated, reflected or referred to in the CONTRACT DOCUMENTS,

CONTRACTOR shall, promptly after becoming aware thereof and before performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.22), notify OWNER and ENGINEER in writing about the inaccuracy or difference.

4.2.4. ENGINEER'S Review: ENGINEER will promptly review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER'S findings and conclusions.

4.2.5. Possible Document Change: If ENGINEER concludes that there is a material error in the CONTRACT DOCUMENTS or that because of newly discovered conditions a change in the CONTRACT DOCUMENTS is required, a Work directive Change or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the inaccuracy or difference.

4.2.6. Possible Price and Time Adjustments: In each such case, an increase or decrease in the

Contract Price or an extension or shortening of the Contract Time, or any combination thereof, will be allowable to the extend that they are attributable to any such inaccuracy or difference.

If OWNER and CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made thereof, as provided in Articles 11 and 12.

PHYSICAL CONDITIONS - UNDERGROUND FACILITIES:

4.3.1. Shown or Indicated: The information and data shown or indicated in the CONTRACT DOCUMENTS with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.3.1.1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and,

4.3.1.2. CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Facilities shown or indicated in the CONTRACT DOCUMENTS, for coordination of the Work with the owners of such Underground Facilities during construction, for safety and protection thereof as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work, the cost of all of which will be considered as having been included in the Contract Price.

4.3.2. Not Shown or Indicated: If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the CONTRACT DOCUMENTS and which CONTRACTOR could not reasonable have been expected to be aware of, CONTRACTOR shall, promptly after becoming aware thereof and before performing and Work affected thereby (except in an emergency as permitted by paragraph 6.22), identify the owner of such Underground Facility and give written notice thereof to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility to determine the extent to which the CONTRACT DOCUMENTS should be modified to reflect and document the consequences of the existence of the Underground Facility, and the CONTRACT DOCUMENTS will be amended or supplemented to the extent necessary. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the CONTRACT DOCUMENTS and which CONTRACTOR could not reasonably have been expected to be aware of. If the parties are unable to agree as to the amount or length thereof, CONTRACTOR may make a claim thereof as provided in Articles 11 and 12.

REFERENCE POINTS:

4.4. OWNER shall provide engineering surveys to establish reference points for construction

which in ENGINEER'S judgement are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work (unless otherwise specified in the General Requirements), shall protect and preserve the established reference points and shall make no changes or relocations without written approval of OWNER.

CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

ARTICLE 5 - BOND AND INSURANCE PERFORMANCE AND OTHER BONDS:
5.1. CONTRACTOR shall furnish performance and payment Bonds, each in an amount at least equal to Contract Price as security for the faithful performance and payment of all CONTRACTOR'S obligations under the CONTRACT DOCUMENTS. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as otherwise provided by Law or Regulations or by the CONTRACT DOCUMENTS. CONTRACTOR shall also furnish such other Bond as are required by the Supplementary Conditions. All Bonds shall be in the forms prescribed by law or Regulation or by the Contract Documents and be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

5.2 If the surety on any Bond furnished CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within five days thereafter substitute another Bond and Surety, both of which must be acceptable to OWNER.

CONTRACTOR'S LIABILITY INSURANCE:

5.3. CONTRACTOR shall purchase and maintain such comprehensive general liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result form CONTRACTOR'S performance and furnishing of the Work and CONTRACTOR'S other obligations under the CONTRACT DOCUMENTS, whether it is to be performed or furnished by CONTRACTOR, by any Sub-Contractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:
5.3.1. Claims under worker's or workmen's compensation, disability benefits and other similar employee benefit acts;

5.3.2. Claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR'S employees;

5.3.3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR'S employees;

5.3.4. Claims for damages insured by personal injury liability coverage which are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, (b) by any other person for any other reason;

5.3.5. Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting there from;
5.3.6. Claims arising out of operation of Laws or Regulations for damages because of bodily injury or death of any person or for damage to property; and

5.3.7. Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of motor vehicle.

The insurance required by this paragraph 5.3 shall include the specific coverages and be written for not less than the limits of liability and coverages provided in the Supplemental General Conditions, or required by law, whichever is greater. The comprehensive general liability insurance shall include completed operations insurance. All of the policies of insurance so required to be purchased and maintained (or the certificates or other evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least thirty days' prior to a written notice been given to OWNER and ENGINEER by certified mail. All such insurance shall remain in effect until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective work in accordance with paragraph 13.12. In addition, CONTRACTOR shall maintain such completed operations insurance for at least two years after final payment and furnish OWNER with evidence of continuation of such insurance at final payment and one year thereafter.

CONTRACTUAL LIABILITY INSURANCE:

5.4. The comprehensive general liability insurance required by paragraph 5.3 will include contractual liability insurance applicable to CONTRACTOR'S obligations under paragraphs 6.30 and 6.31.

OWNER'S LIABILITY INSURANCE:

5.5. (Deleted) PROPERTY INSURANCE:
5.6. – 5.10 (Deleted)

WAIVER OF RIGHTS:
5.11.1. CONTRACTOR waives all rights against OWNER for all losses and damages caused by any of the perils covered by the policies of insurance provided under the Supplemental General Conditions and any other property insurance applicable to the Work, and also waives all such rights against the Sub-Contractors, ENGINEER, ENGINEER'S Consultants and all other parties

named as insured in such policies for losses and damages so caused. As required by paragraph 6.11, each sub-contract between CONTRACTOR, and a Sub-Contractor will contain similar waiver provisions by the Sub-Contractor in favor of OWNER, CONTRACTOR, ENGINEER, ENGINEER'S Consultants and all other parties named as insured. None of the above waivers shall extend to the rights that any of the insured parties may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

5.11.2. CONTRACTOR intends that any policies provided under the Supplemental General Conditions shall protect all of the parties insured and provide primary coverage for all losses and damages caused by the perils covered thereby. Accordingly, all such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights or recovery against any of the parties named as insured or additional insured and if the insurers require separate waiver forms to be signed by ENGINEER or ENGINEER'S consultant or any Sub- Contractor, CONTRACTOR will obtain the same.

RECEIPT AND APPLICATION OF PROCEEDS:

5.12. (Delete)

5.13. (Delete)

ACCEPTANCE OF INSURANCE:

5.14. If OWNER has any objection to the coverage afforded by or other provisions of the insurance required to be purchased and maintained by CONTRACTOR in accordance with paragraphs 5.3 and 5.4 on the basis of its not complying with the CONTRACT DOCUMENTS, OWNER shall notify CONTRACTOR in writing thereof within ten days of the date or delivery of such certificates to OWNER in accordance with paragraph 2.7. CONTRACTOR shall each provide to OWNER, such additional information in respect of insurance provided by each as the OWNER may reasonably request. Failure by OWNER to give such notice of objection within the time provided shall constitute acceptance of such insurance purchased by the CONTRACTOR as complying with the CONTRACT DOCUMENTS.

PARTIAL UTILIZATION- PROPERTY INSURANCE:

5.15 If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10. The insurers of CONTRACTORS providing the property insurance shall consent to such use or occupancy by endorsement on the policy or policies, but the property insurance shall not be canceled or lapse on account of any such partial use or occupancy.

ARTICLE 6- CONTRACTOR'S RESPONSIBILITIES SUPERVISION AND SUPERINTENDENCE:

6.1. CONTRACTOR shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skill and expertise as may be necessary to perform the Work in accordance with the CONTRACT DOCUMENTS. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or selection or a specific means, method, technique, sequence or procedure or construction which is indicated in and required by the CONTRACT DOCUMENTS. CONTRACTOR shall be responsible to see that the finished Work complies accurately with the CONTRACT DOCUMENTS.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR'S representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications given to the superintendent shall be as binding as if given to CONTRACTOR.

LABOR, MATERIALS AND EQUIPMENT:

6.3. CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the CONTRACT DOCUMENTS. CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons of the Work or property at the site or adjacent thereto, and except as otherwise indicated in the CONTRACT DOCUMENTS, all Work at the site shall be performed during regular working hours, and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER'S written consent after prior written notice to ENGINEER.

6.4. Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing start-up, and completion of Work.

6.5. All materials and equipment shall be of good quality and new, except, as otherwise provided in the CONTRACT DOCUMENTS. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with the instructions of the applicable Supplier, except as otherwise provided in the CONTRACT DOCUMENTS; but no provision of any such instructions will be effective to assign to ENGINEER, or any of ENGINEER'S consultants, agents or employees, any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.15 or 6.16.

ADJUSTING PROGRESS SCHEDULE:

6.6 CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.9) adjustments in the progress schedule to reflect the impact thereon of new developments; these will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

SUBSTITUTES OR "OR-EQUAL" ITEMS:

6.7.1. Whenever materials or equipment are specified or described in the CONTRACT DOCUMENTS by using the name of a proprietary item or the name of a particular Supplier the naming of the item is intended to establish the type, function and quality required. Unless the name is followed by words indicating that no substitution is permitted, materials or equipment of other Suppliers may be accepted by ENGINEER if sufficient information is submitted by CONTRACTOR to allow ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named. The procedure for review by ENGINEER will include the following as supplemented in the General Requirements. Requests for review of substitute items of material and equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified and be suited to the same use as that specified. The application will state that the evaluation and acceptance of the proposed substitute will not prejudice CONTRACTOR'S achievement of Substantial Completion on time, whether or not acceptance of the substitutes for use in the Work will require a change in any of the CONTRACT DOCUMENTS (or in the provisions of any other direct contract with OWNER for Work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment or any license fee of royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including cost of redesign and claims or other contractors affected by the resulting change, all of which shall be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish at CONTRACTOR'S expense additional data about the proposed substitute.

6.7.2. If a specific means, method, technique, sequence or procedure of construction is indicated in or required by the CONTRACT DOCUMENTS, CONTRACTOR may furnish or utilize a substitute means, method, sequence, technique or procedure of construction acceptable to ENGINEER, if CONTRACTOR submits sufficient information to allow ENGINEER to determine that the substitute proposed is equivalent to that indicated or required by the CONTRACT DOCUMENTS. The procedure for review by ENGINEER will be similar to that provided in paragraph 6.7.1, as applied by ENGINEER and as may be supplemented in the

General Requirements.

6.7.3. ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. ENGINEER will be sole judge of acceptability, and no substitute will be ordered, installed or utilized without ENGINEER'S prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR'S expense a special performance guarantee or other surety with respect to any substitute. ENGINEER will record time required by ENGINEER and ENGINEER'S consultants in evaluating substitutions proposed by CONTRACTOR and in making changes in the CONTRACT DOCUMENTS occasioned thereby. Whether or not ENGINEER accepts a proposed substitute, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER'S consultants for evaluating each proposed substitute.

CONCERNING SUB-CONTRACTORS, SUPPLIERS AND OTHER:

6.8.1. CONTRACTOR shall not employ any Sub-Contractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Sub- Contractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

If the Supplementary Conditions require the identity of certain Sub-Contractors, Suppliers or other persons or organizations (including those who are to furnish the principal items or materials and equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER'S or ENGINEER'S acceptance either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in bidding documents or the CONTRACT DOCUMENTS) of any such Sub-Contractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price will be increased by the difference in the cost occasioned by such substitution and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER or ENGINEER of any such Sub-Contractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

6.9. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Sub-Contractor's, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct and indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR'S own acts and omissions. Nothing in the CONTRACT DOCUMENT shall create any contractual relationship between OWNER or ENGINEER and any such Sub-Contractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of

any moneys due any such Sub-Contractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.10. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Sub-Contractors or Suppliers or delineating the Work to be performed by any specified trade.

6.11 All Work performed for CONTRACTOR by a Sub-Contractor will be pursuant to an appropriate agreement between CONTRACTOR and Sub-Contractor which specifically binds the Sub-Contractor to the applicable terms and conditions of the CONTRACT DOCUMENTS for the benefit of OWNER and ENGINEER and contains waiver provisions as required by paragraph 5.11.

PATENT FEES AND ROYALTIES:

6.12. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the CONTRACT DOCUMENTS for use in the performance of the Work and if to the actual knowledge of OWNER and ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the CONTRACT DOCUMENTS. CONTRACTOR shall indemnify, hold harmless and defend at its cost, OWNER and ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses and expenses (including attorneys' fees and court and arbitration costs) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the CONTRACT DOCUMENTS, and shall defend all such claims in connection with any alleged infringement of such rights.

6.13. Unless otherwise provided in the Supplemental General Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or if there are not Bids on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

LAWS AND REGULATIONS:

6.14.1. CONTRACTOR shall give all notices and comply with all laws and Regulations applicable to furnishing and performing of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for

monitoring CONTRACTOR'S compliance with any Law or Regulations.

6.14.2 If CONTRACTOR observes that the Specification of Drawings are at variance with any Laws or Regulations, CONTRACTOR shall give ENGINEER prompt written notice thereof, any necessary changes will be authorized by one of the methods indicated in paragraph 3.4.

If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to such Laws or Regulations, and without such notice to ENGINEER, CONTRACTOR shall bear all costs arising therefrom; however, it shall not be CONTRACTOR'S primary responsibility to made certain that the Specifications and Drawings are in accordance with such Laws and Regulations.

6.15. CONTRACTOR shall pay all sales, consumer use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

USE OF PREMISES:

6.16. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project site and land and areas identified in and permitted by the CONTRACT DOCUMENTS and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the Work. Should any claim be made against OWNER or ENGINEER by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim by at law. CONTRACTOR shall, to the fullest extend permitted by Law and Regulations, indemnify and hold OWNER and ENGINEER harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of Engineers, Architects, Attorneys and other professional and court and arbitration costs) arising directly, indirectly or consequently out of any action, legal or equitable, brought by any such other party against OWNER or ENGINEER to the extent based on a claim arising out of work done by CONTRACTOR under the CONTRACT DOCUMENTS. It is the expressed intention of the parties hereto, both OWNER and CONTRACTOR, that the indemnity provided for in this paragraph is indemnity by CONTRACTOR to indemnify and protect OWNER from the consequences of OWNER'S own negligence, whether that negligence is the sole or a concurring cause of the injury, death or damage.

6.17. During the progress of the Work, CONTRACTOR shall keep the premises free from such accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials, and shall leave the site clean and ready for occupancy by OWNER. CONTRACTOR shall restore to original condition all property not designated for

alteration by the CONTRACT DOCUMENTS.

6.18. CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

DOCUMENTS:

6.19. CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Directive Changes, Field Orders and Written Interpretations and Clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these Record Documents, Samples and Shop Drawings will be delivered to ENGINEER for OWNER.

SAFETY AND PROTECTION:

6.20. CONTRACTOR shall be responsible for initiation, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1. All employees on the Work and other persons and organizations who may be affected thereby;

6.20.2 All the Work and materials and equipment to be incorporated therein, whether in storage on or off the site.

6.20.3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damages, injury or loss to any property referred to in paragraphs 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, and Sub-Contractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omission of

OWNER or ENGINEER or anyone employed by either of them or anyone for whose acts either of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR). CONTRACTOR'S duties and responsibilities for the safety and protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion.

6.21. CONTRACTOR shall designate a responsible representative at the site whose duty shall be the prevention of accidents. This person shall be CONTRACTOR'S superintendent unless otherwise designated in writing by CONTRACTOR to OWNER.

EMERGENCIES:

6.22. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER or OWNER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the CONTRACT DOCUMENTS have been caused thereby. If ENGINEER determines that a change in the CONTRACT DOCUMENTS is required because of the action taken in response to any emergency, a Work Directive Change or Change Order will be issued to document the consequences of the changes or variations.

SHOP DRAWINGS AND SAMPLES:

6.23. After checking and verifying all field measurements and complying with applicable procedures specified in the General Requirements, CONTRACTOR shall submit to ENGINEER for review an approval in accordance with the accepted schedule of Shop Drawing submissions (see paragraph 2.9), or for other appropriate action if so indicated in the Supplementary Conditions, five copies (unless otherwise specified in General Requirements) of all Shop Drawings, which bear a stamp written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the CONTRACT DOCUMENTS with respect to the review of the submission. All submissions will be identified as ENGINEER may require. The data shown on the Shop Drawings will be completed with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to enable ENGINEER to review the information as required.

6.24. CONTRACTOR shall also submit to ENGINEER for review and approval with such promptness as to cause no delay in Work, all samples required by the CONTRACT DOCUMENTS. All samples will have been checked by and accompanied by a specific written indication that CONTRACTOR has satisfied CONTRACTOR'S responsibilities under the CONTRACT DOCUMENTS with respect to the review of the submission and will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended.

6.25.1. Before submission of each Shop Drawing or sample CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the Work and the CONTRACT DOCUMENTS.

6.25.2. At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of each variation that the Shop Drawings or samples may have from the requirements of the CONTRACT DOCUMENTS, and in addition, shall cause a specific notation to be made on each Shop Drawing submitted to ENGINEER for review and approval of each such variation.

ENGINEER will review and approve with reasonable promptness Shop Drawings and samples, ENGINEER'S review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in the CONTRACT DOCUMENTS and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated in or required by the CONTRACT DOCUMENTS) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit as required new samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called by ENGINEER or previous submittals.

6.27. ENGINEER'S review and approval of Shop Drawings or samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the CONTRACT DOCUMENTS unless CONTRACTOR has in writing called ENGINEER'S attention to each such variation at the time of submission as required by paragraph 6.25.2 and ENGINEER has given written approval of each such variation by a specific written notation thereof incorporated in or accompanying the Shop Drawing or sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for errors or omissions in the Shop Drawings or from responsibility for having complied with the provisions of paragraph 6.25.1.

6.28. Where a Shop Drawing or sample is required by the Specifications, any related Work performed prior to ENGINEER'S review and approval of the pertinent submission will be the sole expense and responsibility of CONTRACTOR.

CONTINUING THE WORK:

CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as CONTRACTOR and OWNER may otherwise agree in writing.

INDEMNIFICATION:

6.30. To the fullest extent permitted by Laws and Regulations CONTRACTOR shall indemnify and hold harmless OWNER and ENGINEER and their consultants, agents and employees from and against all claims, damages, losses and expense, direct, indirect or consequential (including but not limited to fees and charges of Engineers, Architects, Attorneys and other professional and court and arbitration costs) arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (a) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting there from and (b) is caused in whole or in part by any negligent act or omission of OWNER, CONTRACTOR, and Sub-Contractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a partly indemnified hereunder or arises by or is imposed by Law and Regulations regardless of the negligence of any such party. It is the expressed intention of the parties hereto, both OWNER and CONTRACTOR, that the indemnity provided for in this paragraph is indemnity by CONTRACTOR to indemnify and protect OWNER from the consequences of OWNER'S own negligence, whether that negligence is the sole or concurring cause of the injury, death or damage.

6.31. In any and all claims against OWNER or ENGINEER or any of their consultants, agents or employees by any employee or Contractor, any Sub-Contractor, and person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.30 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any Sub-Contractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

6.32. The obligations of CONTRACTOR under paragraph 6.30 shall not exceed to the liability of ENGINEER, ENGINEER'S consultants, agents or employees arising out of the preparation or approval or maps, drawings, opinions, reports, surveys, Change Orders, designs or Specifications.

ARTICLE 7-OTHER WORK RELATED WORK AT SITE:

7.1. OWNER may perform other work related to the Project at the site by OWNER'S own forces, have other work performed by utility owners or let other direct contracts therefore which shall contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the CONTRACT DOCUMENTS, written notice thereof will be given to CONTRACTOR prior to starting any such other work; and if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the extent thereof, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

7.2. CONTRACTOR shall afford each utility owner and other contractor who is a party to such a direct contract (or OWNER, if OWNER is performing the additional work with OWNER'S employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the Work with theirs. CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.3. If any part of CONTRACTOR'S Work depends for proper execution or results upon the work of any such other contractor or utility owner (or OWNER), CONTRACTOR shall inspect and promptly report to ENGINEER in writing any delays, defects or deficiencies in such work that render it unavailable or unsuitable for such proper execution and results. CONTRACTOR'S failure to report will constitute and acceptance of the other work as fit and proper for integration with CONTRACTOR'S work except for latent or non-apparent defects in the other work.

COORDINATION:

7.4. If OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Supplementary Conditions, and the specific matters to be covered by such authority and responsibility will be itemized, and the extent of such authority and responsibilities will be provided, in the Supplementary Conditions. Unless otherwise provided in the Supplementary Conditions, neither OWNER nor ENGINEER shall have any authority or responsibility in respect of such coordination.

ARTICLE 8-OWNER'S RESPONSIBILITIES

8.1. OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2. In case of termination of the employment or ENGINEER, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under the CONTRACT DOCUMENTS shall be that of the former ENGINEER. Any dispute in connection with such appointment shall be subject to arbitration.

OWNER shall furnish the data required of OWNER under the CONTRACT DOCUMENTS promptly and shall make payments to CONTRACTOR promptly after they are due as provided

in paragraphs 14.4 and 14.14.

8.4. OWNER'S duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER'S identifying and making available to CONTRACTOR copies of reports of explorations and tests of sub-surface conditions at the site and existing structures which have been utilized by ENGINEER in preparing the Drawings and Specifications.

8.5. (Delete)

8.6 OWNER is obliged to execute Change Orders as indicated in paragraph 10.4.

8.7. OWNER'S responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8. In connection with OWNER'S right to stop Work or suspend Work, see paragraph 13.10 and 15.1. Paragraph 15.2 deals with OWNER'S right to terminate services on CONTRACTOR under certain circumstances

ARTICLE 9-ENGINEER'S STATUS DURING CONSTRUCTION OWNER'S REPRESENTATIVE:
9.1. ENGINEER will be OWNER'S representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER'S representative during construction are set forth in the CONTRACT DOCUMENTS and shall not be extended without written consent of OWNER and ENGINEER.

VISITS TO SITE:

9.2. ENGINEER will make visits to the site at intervals appropriate to the various stages of construction to observe the progress and quality of the executed Work and to determine, in general, if the Work is proceeding in accordance with the CONTRACT DOCUMENTS. ENGINEER will not be required to made exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER'S efforts will be directed toward providing for OWNER a greater degree of confidence that the complete Work will conform to the CONTRACT DOCUMENTS. On the basis of such visits and on-site observations as an experienced and qualified design professional, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defects and deficiencies in the Work.

PROJECT REPRESENTATION:

9.3. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in observing the performance of the Work. The duties, responsibilities and limitations of authority of any such Resident Project Representative and assistants will be as provided in the Supplemental Conditions. If OWNER designates another

agent to represent OWNER at the site who is not the ENGINEER'S agent or employee, the duties, responsibilities and limitations of authority of such other person will be provided in Supplemental Conditions.

CLARIFICATIONS AND INTERPRETATIONS:

9.4. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the CONTRACT DOCUMENTS (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the CONTRACT DOCUMENTS. If CONTRACTOR believes that a written clarification or interpretation justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Article 11 or Article 12.

AUTHORIZED VARIATIONS IN WORK:

9.5. ENGINEER may authorize minor variations in the Work from the requirements of the CONTRACT DOCUMENTS which do not involve an adjustment in the Contract Price of the Contract Time and are consistent with the overall intent of the CONTRACT DOCUMENTS. These may be accomplished by a Field Order and will be binding on OWNER, and also on CONTRACTOR who shall perform the Work involved promptly. If CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time and the parties are unable to agree as to the amount thereof, CONTRACTOR may make a claim therefor as provided in Article 11 or 12.

REJECTING DEFECTIVE WORK:

9.6. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, and will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or complete.

SHOP DRAWINGS, CHANGE ORDERS AND PAYMENTS:

9.7. In connection with ENGINEER'S responsibility for Shop Drawings and samples, see paragraphs 6.23 through 6.29 inclusive.

9.8. In connection with ENGINEER'S responsibility as to Change Orders, see Articles 10,11, and 12.

9.9. In connection with ENGINEER'S responsibility in respect of Applications for Payment, etc, see Article 14.

DETERMINATIONS FOR UNIT PRICES:

9.10. (Delete)

DECISIONS ON DISPUTES:

9.11. ENGINEER will be the initial interpreter of the requirements of the CONTRACT DOCUMENTS and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the CONTRACT DOCUMENTS pertaining to the performance and furnishing of the Work and claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Time will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph, which ENGINEER will render in writing within a reasonable time. Written notice of each such claim, dispute and other matter will be delivered by the claimant to ENGINEER and the other party to the Agreement promptly (but in no event later than thirty days) after the occurrence of the event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within sixty days after such occurrence unless ENGINEER allows and additional period of time to ascertain more accurate data in support of the claim.

9.12. When functioning as interpreter and judge under paragraphs 9.10 and 9.11, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. Then rendering of a decision by ENGINEER pursuant to paragraphs 9.10 and 9.11 with respect to any such claim, dispute or other matter (except and which have been waived by the making or acceptance of final payments as provided in paragraph 14.16) will be a condition precedent to any exercise by OWNER or CONTRACTOR or such rights or remedies as either may otherwise have under the CONTRACT DOCUMENTS or by Laws or Regulations in respect of any such claim, dispute or other matter.

LIMITATIONS ON ENGINEER'S RESPONSIBILITIES:

9.13 Neither ENGINEER'S authority to act under this Article 9 or elsewhere in the CONTRACT DOCUMENTS nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of ENGINEER to CONTRACTOR, any Sub-Contractor, any Supplier, or any other person or organization performing any of the Work, or to any surety for any of them.

9.14. Whenever in the CONTRACT DOCUMENTS the terms "as ordered", "as directed", "as required", "as allowed", "as approved" or terms of like effect or import are used, or the adjectives "reasonable", "suitable", "acceptable", "proper", or "satisfactory" or adjectives of the effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction review or judgment will be solely to evaluate the Work for compliance with the CONTRACT DOCUMENTS (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or

performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraphs 9.15 and 6.16.

9.15. ENGINEER will not be responsible for CONTRACTOR'S means, methods, technique, sequences or procedures of construction, or the safety precautions and programs incident thereto, and ENGINEER will not be responsible for CONTRACTOR'S failure to perform or furnish the Work in accordance with the CONTRACT DOCUMENTS.

9.16. ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR or of any Sub-Contractor, any Supplier or any other person or organization performing or furnishing any of the Work.

ARTICLE 10-CHANGES IN THE WORK

Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work; these will be authorized, be a written amendment, a Change Order or a Work Directive Change. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the CONTRACT DOCUMENTS (except as otherwise specifically indicated).

10.2. If OWNER and CONTRACTOR are unable to agree as to the extent if any of an increase or decrease in the Contract Price or an extension of shortening of the Contract Time that should be allowed as a result of a work directive change, a claim may be made therefore as provided in Article 11 or Article 12.

10.3. CONTRACTOR shall not be entitled to any increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the CONTRACT DOCUMENTS as amended modified and supplemented as provided in paragraphs 3.4 and 3.5, except in the case of any emergency as provided in paragraph 6.22 and except in the case of uncovering Work as provided in paragraph 13.9.

10.4. OWNER and CONTRACTOR shall execute appropriate Change Orders (or Written Amendments) covering:

10.4.1. Changes in the Work that are ordered by OWNER pursuant to paragraph 10.1, are required because of acceptance of defective Work under paragraph 13.13 or correcting defective Work under paragraph 13.14, or are agreed to by the parties;

10.4.2. Changes in the Contract Price or Contract Time which are agreed to by the parties; and

10.4.3. Changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11, provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance

with the provisions of the CONTRACT DOCUMENTS and applicable laws and regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5. If notice of any change affecting the general scope of the Work of the provisions of the CONTRACT DOCUMENTS (including, but not limited to, Contract Price or Contract Time) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR'S responsibility, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 11-CHANGE OR CONTRACT PRICE

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at his expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an increase or decrease in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the amount claimed covers all known amounts (direct, indirect and consequential) to which the claimant is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3. The value of any Work covered by a Change Order of any claim for an increase or decrease in the Contract Price shall be determined in of the following ways:

11.3.1. (Delete)

11.3.2. By mutual acceptance of a lump sum, which at the discretion of OWNER may be based in whole or in part on the same unit costs outlined in the Bid included in the CONTRACT DOCUMENTS which may include an allowance for overhead and profit.

ARTICLE 12-CHANGE OF CONTRACT TIME

12.1. The Contract Time may only be changed by a Change Order or a Written Amendment. Any Claim for an extension or shortening of the Contract Time shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in

no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event.

All claims for adjustment in the Contract Time shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2. The Contract Time will be extended in an amount to time lost due to delays beyond the control of CONTRACTOR if a claim is made therefore as provided in paragraph 1.1. Such delays shall include, but not be limited to, acts or neglect by OWNER or others performing additional work as contemplated by Article 7, or to fires, floods, labor disputes, epidemics, abnormal weather conditions or acts of God.

12.3. All time limits stated in the CONTRACT DOCUMENTS are of the essence of the Agreement. The provisions of this Article 12 shall not exclude recovery for damages (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs) for delay by either party.

ARTICLE 13 - WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTIONS, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

WARRANTY AND GUARANTEE:

13.1. CONTRACTOR warrants and guarantees to OWNER and ENGINEER that all Work will be in accordance with the CONTRACT DOCUMENTS and will not be defective. Prompt notice of all defects shall be given to CONTRACTOR. All defective Work, whether or not in place, may be rejected, corrected or accepted as provided in this Article 13.

ACCESS TO WORK:

13.2. ENGINEER and ENGINEER'S representatives, other representatives of OWNER, testing agencies an governmental agencies with jurisdictional interests will have access to the work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide proper and safe conditions for such access.

TESTS AND INSPECTION:

13.3. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals.

13.4. If laws and Regulations of any public body having jurisdiction require any Work (or part thereof) to specifically be inspected, tested or approved, CONTRACTOR shall assume full responsibility therefore, pay all costs in connection therewith and furnish ENGINEER the required certificates of inspection, testing or approval.

CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with OWNER'S or ENGINEER'S acceptance of a supplier or materials or equipment proposed to be incorporated in the Work, or of materials or equipment submitted for approval prior to CONTRACTOR'S purchase thereof for incorporation in the Work. The cost of all inspections, tests and approvals other than those which are required by the CONTRACT DOCUMENTS shall be paid by OWNER (unless otherwise specified).

13.5. All inspections, tests or approvals other than those required by Laws or regulations of any public body having jurisdiction shall be performed by organizations acceptable to OWNER and CONTRACTOR (or by ENGINEER if so specified).

13.6. If any Work (including the work of others) that is to be inspected, tested or approved is covered without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation. Such uncovering shall be at CONTRACTOR'S expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR'S intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

13.7. Neither observations by ENGINEER nor inspections, tests or approvals by others shall relieve CONTRACTOR from CONTRACTOR'S obligations to perform the Work in accordance with the CONTRACT DOCUMENTS.

UNCOVERING WORK:

13.8. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER'S observation and replaced at CONTRACTOR'S EXPENSE.

13.9. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, a ENGINEER'S request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall bear all direct, indirect and consequential costs of such uncovering, exposure, observation, inspection and testing and of satisfactory reconstruction, (including but not limited to fees and charges of engineers, architects, attorneys and other professionals), and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim thereof, may make a claim therefore as provided in Article 11. If, however, such work is not found to be defective, CONTRACTOR shall be allowed to increase in the Contract Price or an extension of the contract time, or both, directly attributable to

such uncovering, exposure, observation, inspection, testing and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefore as provided in Articles 11 and 12.

OWNER MAY STOP THE WORK:

13.10. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the CONTRACT DOCUMENTS, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this rights for the benefit of CONTRACTOR or any other party.

CORRECTION OR REMOVAL OF DEFECTIVE WORK:

13.11. If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct al defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by Engineer, remove it from the site and replace it with non-defective Work. CONTRACTOR shall bear all direct, indirect and consequential costs of such correction or removal (including but not limited to fees and charges of engineers, architects, attorneys and other professionals) made necessary thereby.

ONE-YEAR CORRECTION PERIOD:

13.12. If within one year after the date of issue of the Certificate of Acceptance or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the CONTRACT DOCUMENTS or by any specific provision of the CONTRACT DOCUMENTS, any Work is found to be defective, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER'S written instructions, either correct such defective Work, or, if it has been rejected by OWNER, remove it from the site and replace it with non-defective work. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected pr the rejected work removed and replaced, and all direct, indirect and consequential costs and replacement (including but not limited to fees and charges of engineers, architect, attorneys, and other professionals) will be paid by CONTRACTOR.

ACCEPTANCE OF DEFECTIVE WORK:

13.13. If, instead of requiring correction of removal and replacement of defective Work, OWNER (and, prior to ENGINEER'S recommendation of final payment, also ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall bear all direct, indirect and consequential costs attributable to OWNER's evaluation of and determination to accept such defective Work (such cost to be approved by ENGINEER as to reasonableness and to include but not be limited to fees and charges of engineers, architects, attorneys and other professionals).

If any such acceptance occurs prior to ENGINEER'S recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the CONTRACT DOCUMENTS with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

OWNER MAY CORRECT DEFECTIVE WORK:

13.14. If COCNTRACTOR fails within a reasonable time after written notice of ENGINEER to proceed to correct and to correct defective Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11, or if CONTRACTOR fails to perform the Work in accordance with the CONTRACT DOCUMENTS, or if CONTRACTOR fails to comply with any other provision of the CONTRACT DOCUMENTS, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. To the extent necessary to complete corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR'S services related thereto, take possession of CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER'S representatives, agents and employees such access to the site as may be necessary to enable OWNER to exercise the rights and remedies under this paragraph. All direct, indirect and consequential costs of OWNER in Exercising such rights and remedies will be charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and charged against CONTRACTOR in an amount approved as to reasonableness by ENGINEER, and a Change Order will be issued incorporating the necessary revisions in the CONTRACT DOCUMENTS with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefore as provided in Article 11. Such direct, indirect and OWNER consequential costs will include but not be limited to fees and charges of engineers, architects, and other professionals, all court and arbitration costs and all costs of repair and replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR'S defective Work. CONTRACTOR shall not be allowed an extension of the Contract Time because of any delay in performance of the Work attributable to the exercise by OWNER of OWNER'S rights and remedies hereunder.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION SCHEDULE OF VALUES:

14.1 The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and will be incorporated into a form of Application of Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

APPLICATION FOR PROGRESS PAYMENT:

14.2 At least twenty days before each progress payment is scheduled (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the CONTRACT DOCUMENTS. If Payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all liens, charges, security interests and encumbrances (which are hereinafter in these General Conditions referred to as "Liens") and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER'S interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be 10% (ten percent). The retainage shall be held by the owner until all the work has been satisfactorily completed and accepted in writing. At that time the retainage may be released and included in the Final Payment.

CONTRACTOR'S WARRANTY OF TITLE:

14.3. CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT:

14.4 ENGINEER will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing ENGINEER'S reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and re-submit the Application twenty (20) days after the presentation of the Application for Payment with ENGINEER'S recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by OWNER to CONTRACTOR.

14.5 ENGINEER'S recommendation of any payment requested in an application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER'S on-site observations of the Work in progress as an experienced and qualified design professional and on ENGINEER'S review of the Application for Payment and the accompanying data and schedules that the work has progressed to the point indicated that to the best of the ENGINEER'S knowledge, information and belief, the quality of the Work is in accordance with the CONTRACT DOCUMENTS (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent test called for in the CONTRACT DOCUMENTS, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10, and to any other qualifications stated the recommendation); and that CONTRACTOR is entitled to payment of the amount recommended.

However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that exhaustive or continuous on-site inspection have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to ENGINEER in the CONTRACT DOCUMENTS or that there may be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or OWNER to withhold payment to CONTRACTOR.

14.6 ENGINEER'S recommendation of final payment will constitute an additional representation by ENGINEER to OWNER that the conditions precedent to CONTRACTOR'S being entitled to final payment as set forth in paragraph 14.13 have been fulfilled.

14.7. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER'S opinion, it would be incorrect to make such representation to OWNER. ENGINEER may also refuse to recommend any such payment, or because of tests, nullify any such payments previously recommended, to such extent as may be necessary in ENGINEER'S opinion to protect OWNER from loss because:

14.7.1 The Work is defective, or completed Work has been damaged requiring correction or replacement;

14.7.2. The Contract Price has been reduced by Written Amendment or Change Order,

14.7.3. OWNER has been required to correct defective Work or complete Work in accordance with paragraph 13.14.

14.7.4. ENGINEER'S actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.9 inclusive.

OWNER may refuse to make payment of the full amount recommended by ENGINEER because claims have been made against OWNER on account of CONTRACTOR'S performance of furnishing of the Work or Liens have been filed in connection with the Work or there are other items entitling OWNER to a set-off against the amount recommended, but OWNER must give CONTRACTOR immediate written Notice (with a copy to ENGINEER) stating the reasons for such action.

SUBSTANTIAL COMPLETION:

14.8 When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and ENGINEER shall make an inspection of the

Work to determine the status of completion. If ENGINEER considers The Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion.

There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefore. If, after consideration of OWNER'S objections, ENGINEER considers the Work substantially complete, ENGINEER will within said fourteen days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties. Unless OWNER and CONTRACTOR agree otherwise in writing and to inform ENGINEER prior to ENGINEER'S issuing the definitive certificate of Substantial completion, ENGINEER'S aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

PARTIAL UTILIZATION:

14.10. Use by OWNER of any finished part of the Work, which has specifically been identified in the CONTRACT DOCUMENTS, or which OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER without significant interference with CONTRACTOR'S performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees, CONTRACTOR will certify to OWNER and ENGINEER that said part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of

the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.10.2 OWNER at any time may request CONTRACTOR in writing to permit OWNER to take over operation of any such part of the Work although it is not substantially complete. A copy of such request will be sent to ENGINEER and within a reasonable time thereafter OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion and will prepare a list of the items remaining to be completed or corrected thereon before final payment. If CONTRACTOR does not object in writing to OWNER and ENGINEER that such part of the Work is not ready for separate operation by OWNER, ENGINEER will finalize the list of items to be completed or corrected and will deliver such list to OWNER and CONTRACTOR together with written recommendation as to the division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, utilities, insurance, warranties and guarantees for that part of the Work which will become binding upon OWNER and CONTRACTOR at the time when OWNER takes over such operation (unless they shall have otherwise agreed in writing and so informed ENGINEER). During such operation and prior to Substantial Completion of such part of the Work, OWNER shall allow CONTRACTOR reasonable access to complete or correct items on said list and to complete other related Work.

14.10.3 No occupancy or separate operation of part of the Work will be accomplished prior to
compliance with the requirements of paragraph 5.15 in respect of property insurance. FINAL INSPECTION:
14.11 Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. CONTRACTOR shall immediately take such measures as are necessary to remedy such deficiencies.

FINAL APPLICATION FOR PAYMENT:

14.12 After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered all maintenance and operating instructions, schedules, guarantees, Bonds certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents-all as required by the CONTRACT DOCUMENTS, and after ENGINEER has indicated that the Work is acceptable (subject to the provisions of paragraph 14.16), CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the CONTRACT DOCUMENTS, together with complete and legally effective releases or

waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu thereof and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full; an affidavit of CONTRACTOR that the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and that all payrolls, material and equipment bills, and other indebtedness connected with the Work for which OWNER or OWNER'S property might in any way be responsible, have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any Sub-Contractor or Supplier fails to furnish a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

FINAL PAYMENT AND ACCEPTANCE:

If, on the basis of ENGINEER'S observation of the Work during construction and final inspection, and ENGINEER'S review of the final Application for Payment and accompanying documentation, all required by the CONTRACT DOCUMENTS, ENGINEER is satisfied that the Work has been completed and CONTRACTOR'S other obligations under the CONTRACT DOCUMENTS have been fulfilled, ENGINEER will, within ten days after receipt of final Application for Payment, indicate in writing ENGINEER'S recommendation of payment and present the Application to OWNER for payment.

Thereupon ENGINEER will give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.16. otherwise, the ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and re-submit the Application. Thirty days after presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance, and with ENGINEER'S recommendation and notice of acceptability the amount recommended by ENGINEER will become due and will be paid by OWNER to CONTRACTOR.

14.14 If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR'S final Application for payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

CONTRACTOR'S CONTINUING OBLIGATION:

14.15. CONTRACTOR'S obligation to perform and complete the Work in accordance with the CONTRACT DOCUMENTS shall be absolute. Neither recommendation of any progress or final

payment by ENGINEER, nor the issuance of a certificate of Substantial Completion, nor any payment by OWNER to CONTRACTOR under the CONTRACT DOCUMENTS, nor any use or occupancy of the Work or any part thereof by OWNER, nor any act of acceptance by OWNER nor any failure to do so, nor any review and approval of a Shop Drawing or sample submission, nor the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13, nor any correction of defective Work by OWNER will constitute an acceptance of Work not in accordance with the CONTRACT DOCUMENTS or release of CONTRACTOR'S obligation to perform the Work in accordance with the CONTRACT DOCUMENTS.

WAIVER OF CLAIMS:

14.16. The making and acceptance of final payment will constitute:

14.16.1 A waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to paragraph 14.11 or from failure to comply with the CONTRACT DOCUMENTS or the terms of any special guarantees specified therein; however it will constitute a waiver by OWNER of any rights in respect of CONTRACTOR'S continuing obligations under the CONTRACT DOCUMENTS; and

14.16.2 A waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15- SUSPENSION OF WORK AND TERMINATION OWNER MAY SUSPEND WORK:

15.1 OWNER may at any time and without cause, suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume Work on the date so fixed. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if CONTRACTOR makes an approved claim therefore as provided in Articles 11 and 12.

OWNER MAY TERMINATE:

15.2 Upon the occurrence of any one or more of the following events:

15.2.1. If CONTRACTOR commences a voluntary case under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filling, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other Federal or State law in effect at the time relating to bankruptcy or insolvency;

15.2.2. If a petition is filed against CONTRACTOR under any chapter of the Bankruptcy Code as now or hereafter in effect at the time of filing, or if a petition is filed seeking any such equivalent or similar relief against CONTRACTOR under any other Federal or State law in

effect at the time relating to bankruptcy or insolvency;

15.2.3. If CONTRACTOR makes a general assignment for the benefit of creditors;

15.2.4. If a trustee, receiver, custodian or agent of CONTRACTOR is appointed under applicable law or under contract, whose appointment or authority to take charge of property of CONTRACTOR is for the purpose or enforcing a Lien against such property or for the purpose of general administration of such property for the benefit of CONTRACTOR'S creditors;

15.2.5. If CONTRACTOR admits in writing as inability to pay its debts generally as they become due;

15.2.6. If CONTRACTOR persistently fails to perform the work in accordance with the CONTRACT DOCUMENTS (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment of failure to supply sufficient skilled workers or suitable materials or equipment of failure to adhere to the progress schedule established under paragraph 2.9 as revised from time to time);

15.2.7. If CONTRACTOR disregards Law or Regulations of any public body having jurisdiction;

15.2.8. If CONTRACTOR disregards the authority of ENGINEER; or

15.2.9. If CONTRACTOR otherwise violates in any substantial way any provisions of the CONTRACT DOCUMENTS; OWNER (and the surety, if there be one) seven days written the extent notice and to permitted by Laws and Regulations, terminate the CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR'S tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion) incorporated in the Work all materials and equipment stored elsewhere and finish the Work as Owner may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds the direct, indirect and consequential costs of completing the Work (including but not limited to fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs), such excess will be paid to CONTRACTOR. If such costs exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such costs incurred by OWNER will be approved as to reasonableness by ENGINEER and incorporated in a Change Order, but when exercising any rights to remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3 Where CONTRACTOR'S services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter occur. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven days' written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy, elect to abandon the Work and terminate the Agreement. In such case, CONTRACTOR shall be paid for all Work executed and any expense sustained plus reasonable termination expense, which will include, but not be limited to, direct, indirect and consequential costs (including, but not limited to, fees and charges of engineers, architects, attorneys and other professionals and court and arbitration costs.

CONTRACTOR MAY STOP WORK OR TERMINATE:

15.5. If, through no act or fault of CONTRACTOR, the Work is suspended for a period or more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty days after it is submitted, or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days written notice to OWNER and ENGINEER, terminate the Agreement and recover from OWNER payment for all Work executed and any expense sustained plus reasonable termination expenses. In addition and in lieu of terminating the Agreement, if ENGINEER has failed to act on an Application for Payment or OWNER has failed to make any payment as aforesaid, CONTRACTOR may upon seven days' written notice to OWNER and ENGINEER stop the Work until payment of all amounts then due. The provisions of this paragraph shall not relieve CONTRACTOR of the obligations under paragraph 6.29 to carry on the Work in accordance with the progress schedule and without delay during disputes and disagreements with OWNER.

ARTICLE 16 - ARBITRATION
Deleted

ARTICLE 17 - MISCELLANEOUS GIVING NOTICE:
17.1 Whenever any provision of the CONTRACT DOCUMENTS requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address know to the giver of the notice.

17.2.1. When any period of time is referred to in the CONTRACT DOCUMENTS by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.2.2. A calendar day of twenty-four hours measured from midnight to the next midnight shall constitute a day.

GENERAL:

17.3. Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees

or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provision of this paragraph 17.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

17.4. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligation imposed upon CONTRACTOR by paragraphs 6.30, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws and Regulations, by special warranty or guarantee or by other provisions of the CONTRACT DOCUMENTS, and the provisions of this paragraph will be as effective as if repeated specifically in the CONTRACT DOCUMENTS in connection with each particular duty, obligation, right and remedy to which they apply. All representations, warranties and guarantees made in the CONTRACT DOCUMENTS will survive final payment and termination or completion of the Agreement.

17.5 STANDARD WORK HOURS: The standard work hours for the OWNER is 8:00 am to 5:00 pm, Monday through Friday. Should the Contractor elect to work on Saturday, Sundays or holidays, he shall be responsible for paying overtime charges for the OWNERS personnel involved. These charges will be at cost and will be calculated either at time and a half or double time, as applicable to the particular day being worked. Pre-approval shall be obtained from the Engineer or Engineer's representative by completing and signing a OWNER'S Form entitled "CONSTRUCTION INSPECTORS OVERTIME COMPENSATION AUTHORIZATION", prior to commencing any overtime work.

Any work done outside the standard workday, without prior authorization, shall be considered under unauthorized work. The Contractor is required to pay the overtime wages of the OWNER Inspectors that work overtime Mondays through Fridays at time in a half. The Contractor is responsible for the overtime wages of the ONWER inspectors that work Holidays at double time. Minimum hours will be billed to contractor for callouts or for insufficient notice of two (2) hours.

17.6 INDEMNIFICATION

TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAWS AND REGULATIONS, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER, ENGINEER, ENGINEER'S SUBCONSULTANTS AND THE OFFICERS, DIRECTORS, EMPLOYEES, AGENTS, AND OTHER CONSULTANTS OF EACH AND ANY OF THEM FROM AND AGAINST ALL CLAIMS, COSTS, LOSSES, AND DAMAGES (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OR ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS AND ALL COURT OR ARBITRATION OR OTHER DISPUTE RESOLUTION COSTS) CAUSED BY, ARISING OUT OF, OR RESULTING FROM, THE PERFORMANCE OF THE WORK, PROVIDED THAT ANY SUCH CLAIM, COST, LOSS OR DAMAGE: (i) IS ATTRIBUTABLE TO BODILY INJURY, SICKNESS,

DISEASE, OR DEATH, OR TO INJURY TO OR DESTRUCTION OF TANGIBLE PROPERTY (OTHER THAN THE WORK ITSELF), INCLUDING THE LOSS OF USE RESULTING THEREFROM, AND
(ii) IS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION OF CONTRACTOR, ANY SUBCONTRACTOR, ANY SUPPLIER, ANY PERSON, OR ORGANIZATION DIRECTLY OR INDIRECTLY EMPLOYED BY ANY OF THEM TO PERFORM OR FURNISH ANY OF THE WORK, OR ANYONE FOR WHOSE ACTS ANY OF THEM MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT CAUSED IN PART BY ANY NEGLIGENCE OR OMISSION OF A PERSON OR ENTITY INDEMNIFIED HEREUNDER OR WHETHER LIABILITY IS IMPOSED UPON SUCH INDEMNIFIED PARTY BY LAWS AND REGULATIONS REGARDLESS OF THE NEGLIGENCE OF ANY SUCH PERSON OR ENTITY. CLAIMS, COSTS, LOSSES, DAMAGES, SUITS AND CAUSES OF ACTION, AND ANY AND ALL LIABILITY, COSTS, EXPENSES, SETTLEMENTS, DAMAGES, AND JUDGEMENTS INCURRED IN CONNECTION THEREWITH (INCLUDING BUT NOT LIMITED TO ALL FEES AND CHARGES OF ENGINEERS, ARCHITECTS, ATTORNEYS, AND OTHER PROFESSIONALS, AND ALL COURT OR ARBITRATION OR OTHER DISPUTES RESOLUTION COSTS) WHETHER ARISING IN EQUITY, AT COMMON LAW, OR BY STATUTE, INCLUDING THE TEXAS DECEPTIVE TRADE PRACTICES ACTOR SIMILAR STATUTE OF OTHER JURISDICTIONS, OR UNDER THE LAW OF CONTRACTS, TORTS (INCLUDING WITHOUT LIMITATION, NEGLIGENCE AND STRICT LIABILITY WITHOUT REGARD TO FAULT) OR PROPERTY, OF EVERY KIND OR CHARACTER… (iii) IS CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION, OTHER FAULT, BREACH OF CONTRACT OR WARRANTY, VIOLATION OF THE TEXAS DECEPTIVE TRADE PRACTICES ACT, OR STRICT LIABILITY WITHOUT REGARD TO FAULT OF CONTRACTOR…. REGARDLESS OF WHETHER OR NOT CAUSED IN PART BY ANY NEGLIGENCE OR OMISSION, OTHER FAULT, BREACH OF CONTRACT OR WARRANTY, VIOLATION OF THE TEXAS DECEPTIVE TRADE PRACTICES ACT, OR STRICT LIABILITY WITHOUT REGARD TO FAULT OF A PERSON OR ENTITY INDEMNIFIED HEREUNDER…. CONTRACTOR'S OBLIGATIONS OF INDEMNIFICATION UNDER THIS PARAGRAPH 6.20.1 SHALL NOT BE LIMITED BY THE AMOUNT OF ANY INSURANCE.
VIDEOTAPING: The Contractor shall videotape the entire job site, including access to the job site, prior to commencing work. A copy of the videotape shall be provided to the City at the Pre-Construction Conference. The videotape will be held for historical purposes and for resolving complaints/claims from affected property owners. Failure to provide such a tape shall render the contractor liable for claims. Acceptable format is standard VHS tape. Beta format is not acceptable.
Monthly videotaping by the contractor during construction is recommended to protect the contractor's interest against claims and as a basis for extras.

Exhibit K

SPECIAL CONDITIONS

1. COMPLETION TIME AND LIQUIDATED DAMAGES

The project as indicated in the Plans and Specifications shall be completed within the number of consecutive calendar days stated in the Contract beginning the date of the notice to commence work. Contractors shall submit a monthly request for time extensions, and such requests shall include justification in conformance with the Contract. The time set forth in the Proposal for the completion of the work is an essential element of the contract. The Contractor and Owner understand and agree that a breach of this Contract as to completion on time will cause damage to the Owner. The parties agree that for each and every calendar day the work or an portion thereof shall remain uncompleted after the expiration of the time limits, the amount per day given in the following schedule will be deducted from the money due or to become due the Contractor, not as penalty, but as liquidated damages and added expense of engineering and overhead.

The Contractor shall within the (10) days from the beginning of any delay notify the Engineer, in writing, of the causes of delay. The Engineer shall ascertain the facts, and the extent of delay and his findings of the facts thereon shall be final and conclusive.

2. CONTRACT DRAWINGS

The Contractor will be furnished three (3) complete sets of drawings by the Engineer for use during construction of the project. Only Plans and Specifications marked "Approved for Construction" and bearing signature of the Engineer on said mark shall be used as construction drawings. Any additional set of construction plans can be provided to contractor upon payment of $100.00.

3. DISPOSAL OF RUBBISH

It shall be the responsibility of the Contractor to dispose of all rubbish, brush, fencing, trees or other objectionable materials by burning, removal form the site or whatever means necessary to effect such disposal.

4. UTILITY SERVICES FOR CONSTRUCTION

Contractor will be responsible for furnishing water or any other utility services required for construction of project.

5. TESTING, INSPECTION AND CONTROL

Testing and inspection of materials required by these specifications shall be by a commercial testing laboratory. The laboratory shall be selected by the Owner and laboratory services and field testing required by the Technical Specifications for control of work, such as testing of concrete cylinders made on the job shall be paid for by the Contractor. Additional laboratory services as dictated below shall be paid for y the Contractor:

A. The cost of laboratory services required to establish mix design for Portland Cement Concrete and Asphaltic concrete mixture, testing of aggregates, fixing gradations, the preparations and testing of design cylinders or specimens and other such services required to establish mix design, or to redesign the mix when required due to change in source of materials.

B. The Contractor shall furnish all materials and test specifications for testing as selected by the Testing Agency.

C. Mills test will be required for reinforcing steel, and cement, and mill certificates will be acceptable when it is definite that the test sheets apply to the material being supplied.

D. Any tests or inspections performed exclusively for the Contractor's convenience and for retests caused by initial nonconformance of the materials with the Contract Documents.

The testing mentioned in this section will be performed at a frequency required by the specification or at a frequency determined by the Engineer or the Engineer's representative. The Engineer shall require sufficient testing to ensure that the requirements of the specifications are met by the Contractor.

6. LICENSE, FEES AND PERMITS

It shall be the Contractor's responsibility to make necessary applications and obtain all permits required by all agencies, including, but not limited to, the City, County, State, and Federal government for this project.

7. TRAFFIC

It shall be the responsibility of the Contractor to provide for the safety and convenience of traffic so as to comply with all existing traffic regulations and ordinances as may apply.

8. UNDERGROUND OBSTACLES

Pipelines and other existing underground installations and structures in the vicinity of the work are shown on the drawings according o the best information available to the Owner. The Owner does not guarantee the accuracy of such information. The Contractor shall make every effort to locate all underground pipelines, conduits and structures by contacting owners of underground utilities an by prospecting in advance of trench excavation. The repair of existing utilities cut by

the Contractor shall be made at the expense of the Contractor, and shall be scheduled so as to cause the least possible inconvenience to the public. Any delay or extra cost to the Contractor caused by pipelines or other underground structures or obstructions not shown by the Plans, or found in location of different from those indicated, shall not constitute a claim for extra work, additional payment or damages.

9. RECORD DRAWINGS

Upon completion of the project and before final payment is made to the Contractor, the Contractor shall deliver one (1) complete set of record drawings and said drawings shall be neat, accurate and orderly and produced to the satisfaction of the Engineer.

10. OTHER CONTRACTS

Other contracts may be underway concurrently in this area. Contractor shall afford other contractors and utility companies reasonable opportunity for the introduction and storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs.

11. MATERIALS AND WORKSHIP

When materials are specified by a trade or brand name, it is not the intention of the Owner to discriminate against an equal product of another manufacturer, but to set a definite standard of quality or performance and to establish an equal basis for the evaluation of bids.

12. REPAIR TO ROADS

The Contractor shall be responsible for repairing any damage to City or County Roads and road owned by the Owner which are used by the Contractor in connection with operations under this Contract. Said repair work shall be at the Contractor's expense. Any debris, mud and related sources caused by contractor will need to be hauled off and cleaned.

13. PUBLIC UTILITIES

A. All poles, wires, cables, conduits, pipelines, or other structures within the work area, belonging to municipalities or public utility corporations, shall be protected by the Contractor.
B. The Contractor will conduct the work along any section of this project which is crossed by, or adjacent to, a public utility such as high lines, sewer lines, etc., in a manner so that no damages result to these utilities. The Contractor will be held solely responsible for damages to such utilities as a result of careless or negligent operations.

14. PRE-CONSTRUCTION CONFERENCE

Upon award of a Contract to the successful bidder, the Contractor shall meet with the Engineer at

a designated location and at a time set by the Engineer. A schedule of procedure for a sequence of construction shall be agreed upon at this conference.

15. LINES AND GRADES

Special attention is directed to Part 2, Paragraph 2.6, Page GC-5, of the General Conditions of Agreement. Special care should be taken by the Contractor to avoid disturbance of Engineer's horizontal and vertical control points. The protection of construction stakes (horizontal and vertical control points), is the Contractor's responsibility and re-staking or re-establishment of these points or stakes will be done by the Engineer at the Contractor's expense. Survey Party time for re-staking will be charged at hourly rates in accordance with the Engineer's schedule of hourly rates which is in effect at the time of the re-staking. (Refer to SG5 Notification)

16. STAKING FOR CONSTRUCTION General

The staking services that the Engineer will furnish and the responsibility of the Contractor respecting the uses of and maintenance of all stakes is outlined under this section. (Refer to Notification section on this document)

No stakes will be furnished until the right-of-way or easements are acceptable condition other than clearing stakes.

Notification

The Contractor shall notify the Engineer, in writing, at least three (3) full working days in advance of the date when specific staking services are desired, giving the specific location and/or limiting stations. The Contractor shall notify the Engineer five (5) days prior to start-up so as to allow the Engineer to set his control. The Engineer shall be notified of any change of sequence which is established at pre-construction conferences. Construction stakeout is the Contractor's responsibility. (non-pay item).

Control Stakes

Stakes which constitute reference points for all construction work will be conspicuously marked with flagging tape in accordance with the code in these Specifications. It will be the responsibility of the Contractor to inform his employees and his subcontractors of their importance, and the necessity for their preservation. The cost of replacing such controls, should it become necessary for any reason whatsoever, shall be at the Contractor's expense. If the removal of a control stake is required by the construction operations of the Contractor or his subcontractors, advance notice in writing, of at least three (3) full working days shall be given to the Engineer, who will reference and remove said stake or stakes at no cost to the Contractor.

The Contractor shall employ competent grade setters to control the grading operations from the

information provided on the reference stakes.

No additional stakes will be furnished, except as requested in writing by the Contractor and paid for by him. This applies to all re-staking for whatever reason, as well as for additional staking which the Contractor may request. Charges for the additional staking will be deducted from next progress payment that is issued to the Owner by the Engineer.

17. INSURANCE REQUIREMENTS

The Contractor, at his expense, shall take out and keep in force throughout the term of this Contract, the following insurance coverage in the amounts specified below to cover all of his operations in connection with the work to be performed under the Technical Specifications. The insurance certificates shall be submitted to the Owner for acceptance prior to move-in and beginning work

MINIMUM INSURANCE REQUIRMENTS

INSURANCE TYPE
Workman's Compensation General Liability
Comprehensive Form
Premises-Operations Products/Completed Operations Hazard Contractual Insurance Independent Contractors Personal Injury

Automobile Liability Comprehensive Owned
Hired
Non-owned

Excess Liability
Umbrella Form

LIMITS OF LIABILITY

As provided by Texas Workman's Compensation Act.

Bodily Injury
$300,000/Person
$500,000/Occurance Property Damage
$100,000/Occurance

$300,00/Aggregate Personal Injury
$500,000

Bodily Injury
$300,000/Person
$500,000/Occurance Property Damage
$300,000/Occurance

$100,000

The remaining term of all policies shall extend at least to the least to the completion date of this Contract; if the expiration date shall occur prior to final completion of all operations hereunder, Contractor shall, not less than fifteen (15) days prior to expiration date, furnish evidence of renewal of or extension of such insurance. All such evidence of insurance shall provide for ten (10) days prior notice to be given to Owner in the event of cancellations.

The Contractor agrees to indemnify and to hold the Owner and the Engineer harmless from and against any and all damages, claims, demands, suits, judgments and costs including attorney's fees and expenses for or on account of damage to property of any person, firm corporation, or Government agency, or death of or injury to any person or persons (including property and employees of the Owner, the Contractor, and employees of the Contractor) directly or indirectly arising out of, or caused by or in connection with the performance of or failure to perform any work provided for hereunder by the Contractor, his subcontractors, or their or the Contractor's agents, servants, or employees.
The Contractor will be held accountable for all insurance coverage's including those of sub-contractors, and provide that all the above mentioned policies will be with insurance carriers.

18. UNBALINCING OF BIDS AND USAGE OF SPECIAL ITEMS

The Contractor's attention is directed to the fact that unbalancing of unit bid prices for any reason shall be considered justification for rejection of the bid. The Contractor may not decrease these bid prices, however, he may increase the bid prices as he may see fit. In instances where subsurface seepage of water above trench bottom requires the drying up of trench bottom, the use of washed gravelor shell in trench bottom will be permitted.

19. ARBITRATION

Arbitration under this agreement shall be subject to the provisions of the Texas General Arbitration Act, Articles 224 to 238-6, V.A.C.S. To any extend that the provisions of Section 16 of the General Conditions are in conflict with or inconsistent with any provision of such Act, the provisions of such Act shall control. Both the Owner and Contractor shall concur on Arbitration as a method of settling any particular dispute.

20. PARTIAL PAYMENTS

Article 14.2 APPLICATION FOR PROGRESS PAYMENT (Standard General Conditions of the Construction Contract) is hereby supplemented with the following:
On or before the last Monday of each month, the CONTRACTOR shall prepare and submit to the Engineer for approval or modification a statement showing as completely as practicable the

total value of the work done by the Contractor up to and including the last day of the preceding month; said statement shall also include the value of all sound materials delivered on the site of the work that are to be fabricated into the work.
The OWNER shall then pay the CONTRACTOR on or before the 2nd Monday of the following month the total amount of the approved statement, less 10 percent of the amount thereof, which 10 percent shall be retained until final payment, and further less all previous payments and all further sums that may be retained by the OWNER under the terms of this Agreement. It is understood, however, that in case the whole work be near the completion and some unexpected and unusual delay occurs due to not fault or neglect on the part of the CONTRACTOR, the OWNER may-upon written recommendation of the ENGINEER- pay a reasonable and equitable portion of the retained percentage to the CONTRACTOR, or the CONTRACTOR at the OWNER'S option, may be relieved of the obligation to fully complete the work and, thereupon, the CONTRACTOR shall receive payment of the balance due him under the contract subject only to the conditions stated under "Final Payment".

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 5/26/2026

3/1/2027

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies, LLC DBA Lockton Insurance Brokers, LLC in CA CA license #0F15767 444 W. 47th St., Ste. 900 Kansas City MO 64112-1906 (816) 960-9000 kcasu@lockton.com	CONTACT NAME: PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS:
INSURED 1576114 AUSTIN TRAFFIC SIGNAL CONSTRUCTION COMPANY, LLC PO BOX 130 ROUND ROCK, TX 78680	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Zurich American Insurance Company — 16535 INSURER B : Indian Harbor Insurance Company — 36940 INSURER C : Convex Insurance UK Limited INSURER D : Navigators Specialty Insurance Company — 36056 INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 23558857 **REVISION NUMBER:** XXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:	N	N	GLO 4839723-13	3/1/2026	3/1/2027	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 100,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY SCHEDULED AUTOS X HIRED AUTOS ONLY X NON-OWNED AUTOS ONLY	N	N	BAP 4839724-13	3/1/2026	3/1/2027	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 2,000,000 $ XXXXXXX $ XXXXXXX $ XXXXXXX
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $	N	N	SXS0071593	3/1/2026	3/1/2027	EACH OCCURRENCE AGGREGATE	$ 2,000,000 $ 2,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N / N/A If yes, describe under DESCRIPTION OF OPERATIONS below		N	WC 4839722-14	3/1/2026	3/1/2027	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
C	EXCESS LIABILITY	N	N	XSC000160-0326	3/1/2026	3/1/2027	$3M PER OCC $3M PER AGG	
D	EXCESS LIABILITY			CH26EXCZ0KN39IC	3/1/2026	3/1/2027	$5M PER OCC $5M PER AGG	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE FOR ALL JOBS.

CERTIFICATE HOLDER

23558857
CITY OF BROWNSVILLE
600 E JACKSON ST.
BROWNSVILLE, TX 78520

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Joseph M Arnello

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Form 2 - Statement Of Conflicts Of Interest (If Any)

Conflict of Interest Disclosure Instructions

The Respondent must disclose any conflicts of interest related to the goods and/or services associated with this solicitation. A conflict-of-interest statement is required if any conflicts exist, along with a detailed plan for mitigating the conflict(s). The City reserves the sole discretion to determine whether a conflict disqualifies a firm and/or whether a conflict mitigation plan is acceptable.

If a conflict of interest exists, the Respondent must:

- Complete Form CIQ
- File the form with the City Secretary
- Include a copy of the completed Form CIQ with the proposal

If no conflict of interest exists, Form CIQ is not required. Regardless of whether a conflict exists, this Form 2 must be completed and signed.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Chapter 176, Texas Local Government Code, regarding conflict-of-interest disclosures.
2. The Respondent understands that a completed Texas Ethics Commission Form CIQ must be filed with the City Secretary's Office of the City of Brownsville, Texas, within seven (7) business days after the Respondent becomes aware of a conflict.
3. The Respondent acknowledges that the completed Form CIQ is a public record and will be made available by the City Secretary in accordance with state law.
4. The Respondent understands that failure to file a required Form CIQ is a violation of state law and may result in penalties under Texas Local Government Code §176.006 and possible disqualification from consideration for award.
5. The Respondent shall submit this acknowledgment form as part of its solicitation response and attach a copy of the completed TEC Form CIQ, if applicable.

City Secretary Contact Information

City of Brownsville – Office of the City Secretary
1034 E Levee Street, City Plaza, 1st Floor, Brownsville, TX 78520
Email: City.Secretary@brownsvilletx.gov
Phone: (956) 548-6042

Certification

By signing below, the Respondent certifies that they have reviewed and understand the requirements of Chapter 176, Texas Local Government Code and have determined whether a conflict of interest exists. The Respondent further certifies that, if a conflict of interest exists, a completed Conflict of Interest Questionnaire (Form CIQ) has been or will be filed with the City Secretary in accordance with state law and that a copy of the completed Form CIQ is included with this submission, if applicable. The Respondent affirms that all information provided is true and correct and that they are authorized to bind the entity.

Signature: _____

Printed Name: Stephen Rutledge

Title: Area Manager V.P.

Date: 5/20/2026

Company Name: Austin Traffic Signal Construction Co. LLC.

Phone: 512-255-9951

Email: stever@atscc.com

CONFLICT OF INTEREST QUESTIONNAIRE

FORM CIQ

For vendor doing business with local governmental entity

This questionnaire reflects changes made to the law by H.B. 23, 84th Leg., Regular Session.

This questionnaire is being filed in accordance with Chapter 176, Local Government Code, by a vendor who has a business relationship as defined by Section 176.001(1-a) with a local governmental entity and the vendor meets requirements under Section 176.006(a).

By law this questionnaire must be filed with the records administrator of the local governmental entity not later than the 7th business day after the date the vendor becomes aware of facts that require the statement to be filed. *See* Section 176.006(a-1), Local Government Code.

A vendor commits an offense if the vendor knowingly violates Section 176.006, Local Government Code. An offense under this section is a misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of vendor who has a business relationship with local governmental entity.**

N/A

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.** (The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than the 7th business day after the date on which you became aware that the originally filed questionnaire was incomplete or inaccurate.) N/A

3 **Name of local government officer about whom the information is being disclosed.**

N/A

Name of Officer

4 **Describe each employment or other business relationship with the local government officer, or a family member of the officer, as described by Section 176.003(a)(2)(A). Also describe any family relationship with the local government officer. Complete subparts A and B for each employment or business relationship described. Attach additional pages to this Form CIQ as necessary.**

A. Is the local government officer or a family member of the officer receiving or likely to receive taxable income, other than investment income, from the vendor?

☐ Yes ☐ No N/A

B. Is the vendor receiving or likely to receive taxable income, other than investment income, from or at the direction of the local government officer or a family member of the officer AND the taxable income is not received from the local governmental entity?

☐ Yes ☐ No

N/A

5 **Describe each employment or business relationship that the vendor named in Section 1 maintains with a corporation or other business entity with respect to which the local government officer serves as an officer or director, or holds an ownership interest of one percent or more.**

N/A

6 ☐ Check this box if the vendor has given the local government officer or a family member of the officer one or more gifts as described in Section 176.003(a)(2)(B), excluding gifts described in Section 176.003(a-1). N/A

7

Signature of vendor doing business with the governmental entity

5/20/2026

Date

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor doing business with local governmental entity

A complete copy of Chapter 176 of the Local Government Code may be found at http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm. For easy reference, below are some of the sections cited on this form.

Local Government Code § 176.001(1-a): "Business relationship" means a connection between two or more parties based on commercial activity of one of the parties. The term does not include a connection based on:

(A) a transaction that is subject to rate or fee regulation by a federal, state, or local governmental entity or an agency of a federal, state, or local governmental entity;

(B) a transaction conducted at a price and subject to terms available to the public; or

(C) a purchase or lease of goods or services from a person that is chartered by a state or federal agency and that is subject to regular examination by, and reporting to, that agency.

Local Government Code § 176.003(a)(2)(A) and (B):

(a) A local government officer shall file a conflicts disclosure statement with respect to a vendor if:

***

(2) the vendor:

(A) has an employment or other business relationship with the local government officer or a family member of the officer that results in the officer or family member receiving taxable income, other than investment income, that exceeds $2,500 during the 12-month period preceding the date that the officer becomes aware that

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor;

(B) has given to the local government officer or a family member of the officer one or more gifts that have an aggregate value of more than $100 in the 12-month period preceding the date the officer becomes aware that:

(i) a contract between the local governmental entity and vendor has been executed; or

(ii) the local governmental entity is considering entering into a contract with the vendor.

Local Government Code § 176.006(a) and (a-1)

(a) A vendor shall file a completed conflict of interest questionnaire if the vendor has a business relationship with a local governmental entity and:

(1) has an employment or other business relationship with a local government officer of that local governmental entity, or a family member of the officer, described by Section 176.003(a)(2)(A);

(2) has given a local government officer of that local governmental entity, or a family member of the officer, one or more gifts with the aggregate value specified by Section 176.003(a)(2)(B), excluding any gift described by Section 176.003(a-1); or

(3) has a family relationship with a local government officer of that local governmental entity.

(a-1) The completed conflict of interest questionnaire must be filed with the appropriate records administrator not later than the seventh business day after the later of:

(1) the date that the vendor:

(A) begins discussions or negotiations to enter into a contract with the local governmental entity; or

(B) submits to the local governmental entity an application, response to a request for proposals or bids, correspondence, or another writing related to a potential contract with the local governmental entity; or

(2) the date the vendor becomes aware:

(A) of an employment or other business relationship with a local government officer, or a family member of the officer, described by Subsection (a);

(B) that the vendor has given one or more gifts described by Subsection (a); or

(C) of a family relationship with a local government officer.

Form 3 – Texas Ethics Commission Certificate of Interested Parties (Form 1295)

Purpose

This form serves as an acknowledgment of the statutory requirement for certain vendors to file a Certificate of Interested Parties (Form 1295) with the Texas Ethics Commission (TEC) before a contract can be executed with the City of Brownsville.

The requirement applies to any contract that:

- Must be approved by the City Commission or executed by a City official before becoming effective, or
- Otherwise meets the criteria established by the Texas Ethics Commission under Texas Government Code §2252.908 and 1 Texas Administrative Code Chapter 46.

Respondent Acknowledgment

By signing below, the Respondent certifies and acknowledges the following:

1. The Respondent has reviewed the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46.
2. When applicable, the Respondent shall complete and file Form 1295 electronically at https://www.ethics.state.tx.us/filinginfo/1295/ to obtain a Certificate Number issued by the TEC.
3. The Respondent shall print, sign, and notarize the TEC Form 1295 and provide a PDF copy to the City of Brownsville Procurement Department **after** notice of intent to award but prior to contract execution.
4. The Respondent understands that the City may not execute a contract until a completed and verified Form 1295 is received.
5. The Respondent acknowledges that the Certificate of Interested Parties will be made publicly accessible on the TEC's website in accordance with state law.

Certification

By signing below, the undersigned Respondent certifies that they have read and understood the requirements of Texas Government Code §2252.908 and 1 TAC Chapter 46 and that a completed Form 1295 will be filed and provided to the City prior to contract execution, if applicable.

The Respondent further understands that the Form 1295 itself must be signed and notarized in accordance with TEC requirements.

Signature: _____

Printed Name: Stephen Rutledge

Title: Area Manager V.P.

Date: 5/20/2026

Company Name: Austin Traffic Signal Construction Co.LLC.

Phone: 512-255-9951

Email: stever@atscc.com



CERTIFICATE OF INTERESTED PARTIES — FORM 1295

OFFICE USE ONLY

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____ and my date of birth is _____

My address is _____ (street) _____ (city) _____ (state) _____ (zip code) _____ (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____ (month) _____ 20_____ (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

ADD ADDITIONAL PAGES AS NECESSARY

Form provided by Texas Ethics Commission www.ethics.state.tx.us Revised 12/22/2017

Must file online at www.ethics.state.tx.us/File

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1520098

Date Filed:
09/23/2026

Date Acknowledged:

1 **Name of business entity filing form, and the city, state and country of the business entity's place of business.**
AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO., LLC
ROUND ROCK TX. 78680, TX United States

2 **Name of governmental entity or state agency that is a party to the contract for which the form is being filed.**
CITY OF BROWNSVILLE TEXAS

3 **Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.**
143-26-EPW-IFB
TRAFFIC MONITORING & MANAGEMENT of SIGNALIZED ROADS

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
FOSTER, PAUL	EL PASO, TX United States	X	
KELL, WILLIAM	EL PASO, TX United States	X	
WOODY, DARREN	EL PASO, TX United States	X	
RAINES, ROY	EL PASO, TX United States	X	
GOODRICH, JOHN	EL PASO, TX United States	X	
WHITENIGHT, GEORGIAN	EL PASO, TX United States	X	

5 **Check only if there is NO Interested Party.** ☐

6 **UNSWORN DECLARATION**

My name is Ed Schroeder, and my date of birth is 5-14-61.

My address is 609 Lido, Gateway, TX, 78734, U.S.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Travis County County, State of Texas, on the 23rd day of Sept. (month), 20 26 (year)

Signature of authorized agent of contracting business entity
(Declarant)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2026-1520098

Date Filed:
09/23/2026

Date Acknowledged:
09/23/2026

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO., LLC
ROUND ROCK TX. 78680, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

CITY OF BROWNSVILLE TEXAS

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

143-26-EPW-IFB
TRAFFIC MONITORING & MANAGEMENT of SIGNALIZED ROADS

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
FOSTER, PAUL	EL PASO, TX United States	X	
KELL, WILLIAM	EL PASO, TX United States	X	
WOODY, DARREN	EL PASO, TX United States	X	
RAINES, ROY	EL PASO, TX United States	X	
GOODRICH, JOHN	EL PASO, TX United States	X	
WHITENIGHT, GEORGIAN	EL PASO, TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____ County, State of _____, on the _____ day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

Exhibit O

SAM.GOV®

AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO., INC.

Unique Entity ID	CAGE / NCAGE	Purpose of Registration
KTVBJ9HUL5C8	**908N2**	**All Awards**
Registration Status	Expiration Date	
Submitted Registration	**Dec 31, 2025**	
Physical Address	Mailing Address	
4615 Priem LN **Pflugerville, Texas 78660-7503** **United States**	**PO Box 130** **Round Rock, Texas 78680** **United States**	

Business Information

Doing Business as	Division Name	Division Number
(blank)	**(blank)**	**(blank)**
Congressional District	State / Country of Incorporation	URL
Texas 17	**Texas / United States**	**(blank)**

Registration Dates

Activation Date	Submission Date	Initial Registration Date
(blank)	**Dec 31, 2024**	**Apr 7, 2021**

Entity Dates

Entity Start Date	Fiscal Year End Close Date
Apr 5, 2011	**Dec 31**

Immediate Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Highest Level Owner

CAGE	Legal Business Name
(blank)	**(blank)**

Executive Compensation

In your business or organization's preceding completed fiscal year, did your business or organization (the legal entity to which this specific SAM record, represented by a Unique Entity ID, belongs) receive both of the following: 1. 80 percent or more of your annual gross revenues in U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements and 2. $25,000,000 or more in annual gross revenues from U.S. federal contracts, subcontracts, loans, grants, subgrants, and/or cooperative agreements?

No

Does the public have access to information about the compensation of the senior executives in your business or organization (the legal entity to which this specific SAM record, represented by a Unique Entity ID, belongs) through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986?

Not Selected

Proceedings Questions

Is your business or organization, as represented by the Unique Entity ID on this entity registration, responding to a Federal procurement opportunity that contains the provision at FAR 52.209-7, subject to the clause in FAR 52.209-9 in a current Federal contract, or applying for a Federal grant opportunity which contains the award term and condition described in 2 C.F.R. 200 Appendix XII?

No

Does your business or organization, as represented by the Unique Entity ID on this specific SAM record, have current active Federal contracts and/or grants with total value (including any exercised/unexercised options) greater than $10,000,000?

Not Selected

Within the last five years, had the business or organization (represented by the Unique Entity ID on this specific SAM record) and/or any of its principals, in connection with the award to or performance by the business or organization of a Federal contract or grant, been the subject of a Federal or State (1) criminal proceeding resulting in a conviction or other acknowledgment of fault; (2) civil proceeding resulting in a finding of fault with a monetary fine, penalty, reimbursement, restitution, and/or damages greater than $5,000, or other acknowledgment of fault; and/or (3) administrative proceeding resulting in a finding of fault with either a monetary fine or penalty greater than $5,000 or reimbursement, restitution, or damages greater than $100,000, or other acknowledgment of fault?

Not Selected

Exclusion Summary

Active Exclusions Records?

No

SAM Search Authorization

I authorize my entity's non-sensitive information to be displayed in SAM public search results:

Yes

Entity Types

Business Types

Entity Structure
Corporate Entity (Not Tax Exempt)

Entity Type
Business or Organization

Organization Factors
(blank)

Profit Structure
For Profit Organization

Socio-Economic Types

Self Certified Small Disadvantaged Business

Check the registrant's Reps & Certs, if present, under FAR 52.212-3 or FAR 52.219-1 to determine if the entity is an SBA-certified HUBZone small business concern. Additional small business information may be found in the SBA's Dynamic Small Business Search if the entity completed the SBA supplemental pages during registration.

Financial Information

Accepts Credit Card Payments
Yes

Debt Subject To Offset
No

EFT Indicator
0000

CAGE Code
908N2

Electronic Funds Transfer

Account Type
Checking

Routing Number
*******55**

Lock Box Number
(blank)

Financial Institution
PROSPERITY BANK

Account Number
*******19**

Automated Clearing House

Phone (U.S.)
5128559951

Email
(blank)

Phone (non-U.S.)
(blank)

Fax
(blank)

Remittance Address

Austin Traffic Signal Const Co INC
4615 Priem Lane
Pflugerville, Texas 78660
United States

Taxpayer Information

EIN
*****4960**

Type of Tax
Applicable Federal Tax

Taxpayer Name
Austin Traffic Signal Const Co Inc

Tax Year (Most Recent Tax Year)
2023

Name/Title of Individual Executing Consent
President

TIN Consent Date
Dec 31, 2024

Address
4615 Priem LN
Pflugerville, Texas 78660

Signature
Fred Shin

Points of Contact

Accounts Receivable POC

Ed Schroeder, VP
eschroeder@atscc.com
5122559951

Electronic Business

Ed Schroeder, VP
eschroeder@atscc.com
5122559951

3310 Agnes Street
Corpus Christi, Texas 78405
United States

Government Business

Mason Myska
mmyska@atscc.com
5122559951

4615 Priem LN
Pflugerville, Texas 78660
United States

Service Classifications

NAICS Codes

Primary	NAICS Codes	NAICS Title
Yes	**237310**	**Highway, Street, And Bridge Construction**
	236220	**Commercial And Institutional Building Construction**
	237990	**Other Heavy And Civil Engineering Construction**
	238990	**All Other Specialty Trade Contractors**

Product and Service Codes

PSC	PSC Name
Z2LB	**Repair Or Alteration Of Highways, Roads, Streets, Bridges, And Railways**

Size Metrics

IGT Size Metrics

Annual Revenue (from all IGTs)
(blank)

Worldwide

Annual Receipts (in accordance with 13 CFR 121)
$30,000,000.00

Number of Employees (in accordance with 13 CFR 121)
100

Location

Annual Receipts (in accordance with 13 CFR 121)
(blank)

Number of Employees (in accordance with 13 CFR 121)
(blank)

Industry-Specific

Barrels Capacity
(blank)

Megawatt Hours
(blank)

Total Assets
(blank)

Electronic Data Interchange (EDI) Information

This entity did not enter the EDI information

Disaster Response

Yes, this entity appears in the disaster response registry.

Bonding Levels	Dollars
(blank)	**(blank)**

States
Any

Counties
(blank)

Metropolitan Statistical Areas
(blank)

Exhibit P

State of Texas Child Support Business Ownership Form

County: CAMERON CO

Project Name: 12TH STREET TRAFFIC SIGNAL

TxDOT CSJ: 0921-06-398

LG Project Number: 145-26-EPW-IFB

Business Entity Submitting Bid: AUSTIN TRAFFIC SIGNAL CONST.CO.LLC.

Section 231.006, Family Code, requires a bid for a contract paid from state funds to include the names and social security number of individuals owning 25% or more of the business entity submitting the bid.

1. In the spaces below please provide the names and social security number of individuals owning 25% or more of the business.

Name	Social Security Number
N/A	N/A

2. Please check the box below if no individual owns 25% or more of the business.

(0) No individual own 25% or more of the business.

Except as provided by Section 231.302(d), Family Code, a social security number is confidential and may be disclosed only for the purpose of responding to a request for information from an agency operating under the provisions of Part A and D to Title IV of the Federal Social Security Act (42 USC Section 601-617 and 651-699).

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

The information collected on this form will be maintained by Enter Local Government Name. With few exceptions, you are entitled on request to be informed about the information collected about you. Under Sections 552.021 and 552.023 of the Texas Government Code, you also are entitled to receive and review the information. Under Section 559.004 of the Government Code, you are also entitled to have information about you corrected that you believe is incorrect.

Signature

5/22/2026

Date

STEPHEN RUTLEDGE

Printed Name

IF THIS PROJECT IS A JOINT VENTURE,

ALL PARTIES TO THE JOINT VENTURE MUST PROVIDE A COMPLETED FORM.

Texas Department of Transportation
125 E 11th St | Austin, Texas 78701
512.463.8588
txdot.gov

March 28, 2026

AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO., LLC
PO BOX 130
ROUND ROCK TX, 78680

RE: TxDOT Vendor Number 32280

Dear Contractor:

Your Confidential Questionnaire is satisfactory and qualifies you to bid on projects let by the Texas Department of Transportation (TxDOT) from the date of this letter through December 31, 2026.

Your bidding capacity has been set at $366,476,040.00. You may request and receive bidding proposals for projects on which the engineer's estimate does not exceed your bidding capacity, less any uncompleted work currently under contract with TxDOT.

If we may be of further assistance, please contact our Pre-qualification Branch at 512/416-2584.

Sincerely,

Greg Williams

Greg Williams
Director, Letting Management Section
Construction Division

City of Brownsville Federal Clauses Certification Form

FEDERAL CERTIFICATIONS
AGREEMENT FUNDED BY U.S. FEDERAL GRANT

TO WHOM IT MAY CONCERN:

Federal Funds will be used therefore this form should be completed and returned.

Instructions for Completing this Form
Suppliers and contractors must review each federal clause and indicate whether it applies to the specific contract. For every section below, please initial **"YES"** to confirm agreement and compliance, or **"N/A"** (Not applicable) if the clause does not apply to the scope of work or funding source.
Yes – contractor/supplier agrees to comply with the clause as written and, where applicable, will provide all required documentation or certifications.
N/A – Clause is not applicable to the contract (e.g., Davis Bacon Act for non-construction work, Buy America for non-transportation projects, etc.) Contractor/supplier must initial next to "N/A" to confirm inapplicability.
Incomplete forms or unmarked sections may disqualify contractor/supplier and/or delay contract approval.

Vendor Responsibility for Regulatory Compliance
It is the responsibility of the contractor/supplier to review, verify, and comply with the most current versions of all applicable federal provisions, clauses, and regulations referenced in this document. The contractor/supplier shall refer to official U.S. Government websites, including the Code of Federal Regulations (www.ecfr.gov), Federal Acquisition Regulation (www.acquisition.gov), and agency-specific resources (e.g., HUD, DOT, Treasury, or OMB), to ensure full and current compliance at the time of bid submission and throughout the contract term.

DEFINITIONS

Contract: A legal agreement by which a non-Federal entity purchases property or services to carry out a federally funded project.

Contractor: An entity that receives a contract as defined in Contract.

Cooperative agreement: A form of federal financial assistance used when substantial involvement is expected between the federal agency or pass-through entity and the recipient.

Federal awarding agency: The U.S. federal agency providing the funding.

Federal award: The financial assistance or cost-reimbursement contract provided directly by a federal agency or indirectly through a pass-through entity to carry out a public purpose.

Non–Federal entity (NFE): A state, local government, tribe, institution of higher education, or non profit organization that receives and administers federal funds.

Pass-Through Entity (PTE): A Non-Federal entity that provides part of its federal award to another organization (a subrecipient) to carry out a portion of the program.

Subrecipient/Subaward: A Non-Federal entity that receives federal funds from a pass-through entity to carry out part of federal program. The legal instrument documenting this relationship is the subaward.

Recipient: A Non–Federal entity receiving funds directly from a federal agency.

Simplified acquisition threshold: The current small-purchase limit established under the FAR (presently $250,000, adjusted periodically for inflation).

Obligations: Orders placed on contracts or subawards made that require payment by the Non-Federal entity.

Termination: The ending of a federal award, in whole or in part, prior to the planned end of the period of performance. These definitions are provided for reference only. For full regulatory text, see 2 C.F.R. Part 200, Subpart A (§§ 200.0-200.1).

Certification Regarding Certain Telecommunications and Video Surveillance Services or Equipment (FAR 52.204-24 & 52.204-25)

The contractor/supplier certifies compliance with the prohibitions under Section 889 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) and the Federal Acquisition Regulation (FAR) 52.204-24 and 52.204-25.

The contractor/supplier shall not provide or use any equipment, system, or service that includes covered telecommunications equipment or services from Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, Dahua Technology Company, or any subsidiary or affiliate of such entities.

If the contractor/supplier identifies any covered telecommunications equipment or services during performance, it shall immediately notify the contracting agency or the City of Brownsville in writing and provide all information required under FAR 52.204-25(d).

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

APPENDIX II TO 2 CFR PART 200 – Contract Provision for Non-Federal Entity Contracts Under Federal Awards

(A) Contracts for more than the simplified acquisition threshold currently set at $250,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

Pursuant to Federal Rule (A) above, when a Participating Agency expends federal funds, the Participating Agency reserves all rights and privileges under the applicable laws and regulations with respect to this procurement in the event of breach of contract by either party.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(B) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000)

Pursuant to Federal Rule (B) above, when a Participating Agency expends federal funds, the Participating Agency reserves the right to immediately terminate any agreement in excess of $10,000 resulting from this procurement process in the event of a breach or default of the agreement by Contractor/Supplier as detailed in the terms of the contract.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(C) **Equal Employment Opportunity. Except as otherwise provided under 41 CFR Part 60, all contracts that meet the definition of "federally assisted construction contract" in 41 CFR Part 60-1.3 must include the equal opportunity**

clause provided under 41 CFR 60-1.4(b), in accordance with Executive Order 11246, "Equal Employment Opportunity" (30 CFR 12319, 12935, 3 CFR Part, 1964-1965 Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at 41 CFR part 60, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

Pursuant to Federal Rule (C) above, when a Participating Agency expends federal funds on any federally assisted construction contract, the equal opportunity clause is incorporated by reference herein.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(D) Davis-Bacon Act, as amended (40 U.S.C. 3141-3148). When required by Federal program legislation, all prime construction contracts in excess of $2,000 awarded by non-Federal entities must include a provision for compliance with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the statute, contractors must be required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must be required to pay wages not less than once a week. The non-Federal entity must place a copy of the current prevailing wage determination issued by the Department of Labor in each solicitation. The decision to award a contract or subcontract must be conditioned upon the acceptance of the wage determination. The non- Federal entity must report all suspected or reported violations to the Federal awarding agency. The contracts must also include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.
Pursuant to Federal Rule (D) above, when a Participating Agency expends federal funds during the term of an award for all contracts and subgrants for construction or repair, contractor/supplier will be in compliance with all applicable Davis-Bacon Act provisions.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(E) Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708). Where applicable, all contracts awarded by the non-Federal entity in excess of $100,000 that involve the employment of mechanics or laborers must include a provision for compliance with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each contractor must be required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

Pursuant to Federal Rule (E) above, when a Participating Agency expends federal funds, contractor/supplier certifies that contractor/supplier will be in compliance with all applicable provisions of the Contract Work Hours and Safety Standards Act during the term of an award for all contracts by Participating Agency resulting from this procurement process.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(F) Rights to Inventions Made Under a Contract or Agreement. If the Federal award meets the definition of "funding agreement" under 37 CFR §401.2 (a) and the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that "funding agreement," the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

Pursuant to Federal Rule (F) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (F) above.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(G) Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended—Contracts and subgrants of amounts in excess of $150,000 must contain a provision that requires the non- Federal award to agree to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251- 1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA)

In the event Federal Transit Administration (FTA) or Department of Transportation (DOT) funding is used by Participating Public Agency, contractor/Supplier also agrees to include Clean Air and Clean Water requirements in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

Pursuant to Federal Rule (G) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency member resulting from this procurement process, the contractor/supplier agrees to comply with all applicable requirements as referenced in Federal Rule (G) above.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(H) Prohibition on Fraud, Waste, and Abuse - The contractor/supplier certifies that it will take all reasonable steps to prevent, detect, and disclose any suspected fraud, waste, or abuse of federal funds associated with this contract, consistent with applicable laws and agency guidance. Any such activity will be promptly reported to the awarding agency, pass-through entity, or the Office of Inspector General, as appropriate.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(I) Debarment and Suspension (Executive Orders 12549 and 12689)—A contract award (see 2 CFR 180.220 cross-reference to Treasury/OMB Guidance Subpart C) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the Executive Office of the President Office of Management and Budget (OMB) guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), "Debarment and Suspension." SAM Exclusions contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549.

Pursuant to Federal Rule (H) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term of an award for all contracts by Participating Agency resulting from this procurement process, the

contractor/supplier certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency. If at any time during the term of an award the contractor/supplier or its principals becomes debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation by any federal department or agency, the contractor/supplier will notify the Participating Agency.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

(J) Byrd Anti-Lobbying Amendment (31 U.S.C. 1352)—Contractors that apply or bid for an award exceeding $100,000 must file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the non-Federal award.

Pursuant to Federal Rule (I) above, when federal funds are expended by Participating Agency, the contractor/supplier certifies that during the term and after the awarded term of an award for all contracts by Participating Agency resulting from this procurement process, the contractor/supplier certifies that it is in compliance with all applicable provisions of the Byrd Anti-Lobbying Amendment (31 U.S.C. 1352). The undersigned further certifies that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

(3) The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such subrecipients shall certify and disclose accordingly.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Procurement of Recovered Materials 2 C.F.R. § 200.323 / 40 C.F.R Part 247

A non-Federal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable,

consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired during the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with 2 C.F.R. § 200.323

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

RECORD RETENTION REQUIREMENTS FOR CONTRACTS INVOLVING FEDERAL FUNDS

When federal funds are expended by Participating Agency for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the record retention requirements detailed in 2 CFR §§ 200.334-200.337. The contractor/supplier further certifies that contractor/supplier will retain all records as required by 2 CFR § 200.334 for a period of three years after grantees or subgrantees submit final expenditure reports or quarterly or annual financial reports, as applicable, and all other pending matters are closed.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH THE ENERGY POLICY AND CONSERVATION ACT

When Participating Agency expends federal funds for any contract resulting from this procurement process, contractor/supplier certifies that it will comply with the mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6321 et seq.; 49 C.F.R. Part 18). Cross-link 2 CFR § 200.323(b)

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF COMPLIANCE WITH BUY AMERICA PROVISIONS

To the extent purchases are made with Federal Highway Administration, Federal Railroad Administration, or Federal Transit Administration funds, contractor/supplier certifies that its products comply with all applicable provisions of the Buy America Act and agrees to provide such certification or applicable waiver with respect to specific products to any Participating Agency upon request. Purchases made in accordance with the Buy America Act must still follow the applicable procurement rules calling for free and open competition. Additionally:

(1) The Contractor agrees to comply with 49 USC 5323(j) and 49 CFR Part 661, which provide that federal funds may not be obligated unless steel, iron and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 CFR 661.7.A general public interest waiver from the Buy America requirements applies to microprocessors, computers, microcomputers, software or other such devices, which are used solely for the purpose of processing or storing data. This general waiver does not extend to a product or device that merely contains a microprocessor or microcomputer and is not used solely for the purpose of processing or storing data. Separate requirements for rolling stock are set out at 5323(j)(2)(C) and 49 CFR 661.11.

(2) A bidder or contractor/supplier must submit to the FTA recipient the appropriate Buy America certification with all bids on FTA- funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower-tier subcontractors.

The following certificates titled FTA and DOT Buy America Certification should be completed and returned with the response as part of FTA and DOT requirements.

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT) - BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF ROLLING STOCK

CERTIFICATE OF COMPLIANCE
(select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j), and the applicable regulations of 49 CFR 661.11.
Check for YES: ☒

OR

Certificate of Non-Compliance with 49 USC §5323(j)

The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C), and the applicable regulations in 49 CFR 661.7.
Check for YES: ☒

FEDERAL TRANSIT ADMINISTRATION (FTA) AND DEPARTMENT OF TRANSPORTATION (DOT)
-
BUY AMERICA: CERTIFICATION REQUIREMENT FOR PROCUREMENT OF STEEL OR MANUFACTURED PRODUCTS

CERTIFICATE OF COMPLIANCE (select one of the two options, NOT BOTH)
Certificate of Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j)(1), and the applicable regulations in 49 CFR part 661.
Check for YES: ☐

OR

Certificate of Non-Compliance with 49 USC §5323(j)(1)
The proposer hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but it may qualify for an exception to the requirement pursuant to 49 U.S.C. 5323(j)(2), as amended, and the applicable regulations in 49 CFR 661.7.
Check for YES: ☐

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Contractor/Supplier's Name: _____
Address, City, State, and Zip Code: _____
Phone Number: _____
Fax Number: _____

Printed Name and Title of Authorized Representative: _____
Email Address: _____
Signature of Authorized Representative: _____
Date: _____

Does contractor/supplier agree? **YES** _____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

If any portion of this project is funded with U.S Department of Transportation (DOT) funds, the contractor/supplier shall also complete a Disadvantage Business Enterprise (DBE) Certification Form in accordance with 49 C.F.R. Part 26. This requirement applies only to DOT-funded projects and is not applicable to HUD, ARPA, or Treasury-funded programs.

CERTIFICATION OF COMPLIANCE WITH BUILD AMERICA, BUY AMERICA ACT (BABA) 2 C.F.R. 184

The contractor/supplier acknowledges that certain federally funded infrastructure projects are subject to the Build America, Buy America Act (Pub. L. 117-58 §§ 70901-70927) and implementing regulations at 2 C.F.R. Part 184. When applicable, the contractor/supplier certifies that all iron, steel, manufactured products, and construction materials used in the project are produced in the United States, as required by the Act.

The contractor/supplier further agrees to provide appropriate documentation, origin certifications, or approved waivers upon request by the awarding agency or pass-through entity. Where a waiver is sought, the contractor/supplier shall support the request in writing and shall not proceed with procurement or installation of foreign materials until such waiver is granted in accordance with federal guidance.

The Build America, Buy America Act applies to all federally funded infrastructure projects, except where otherwise waived or exempted by the awarding agency.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Domestic Preference for Procurements– 2 C.F.R. § 200.322

The contractor/supplier agrees to comply with the requirements of 2 C.F.R. § 200.322, which establishes a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States. To the greatest extent practicable, the contractor/supplier shall provide domestic end products, materials, and construction products that are manufactured in the United States. This preference applies to all procurements under federal awards, consistent with applicable statutes, regulations, and the Build America, Buy America Act requirements.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF ACCESS TO RECORDS – 2 C.F.R. § 200.337

Contractor/Supplier agrees that the Inspector General of the Agency or any of their duly authorized representatives shall have access to any documents, papers, or other records of contractor/supplier that are pertinent to contractor's/supplier's discharge of its obligations under the Contract for the purpose of making audits, examinations, excerpts, and transcriptions. The right also includes timely and reasonable access to contractor/supplier's personnel for the purpose of interview and discussion relating to such documents.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

CERTIFICATION OF APPLICABILITY TO SUBCONTRACTORS

Contractor/Supplier agrees that all contracts it awards pursuant to the Contract shall be bound by the foregoing terms and conditions.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Conflict of Interest - 2 C.F.R. § 200.318(c)(1)

The Contractor/supplier affirms compliance with 2 C.F.R. § 200.318(c)(1), which requires the maintenance of written standards of conduct covering conflict of interest in the selection, award, and administration of contracts. No employee, officer, agent, or subcontractor shall participate in any procurement or contract decision where a real or apparent conflict of interest exists. The contractor/supplier further agrees to disclose in writing any potential conflicts of interest to the City of Brownsville prior to award or during contract performance.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Executive Order 14173 (2025) – Anti-DEI Certification

The Contractor/supplier certifies compliance with Executive Order 14173 (2025), affirming that it operates in accordance with all applicable federal anti-discrimination laws and that no diversity, equity, or inclusion (DEI) program or policy maintained by the contractor violates such laws. The contractor/supplier acknowledges that compliance with these requirements is a material condition of this contract and that any false certification or noncompliance may subject the contractor/supplier to remedies available under the False Claims Act (31 U.S.C. §§ 3729-3733) and other applicable laws.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Civil Rights Compliance Assurance

The Contractor/supplier agrees to comply with all applicable federal civil rights laws and regulations, including Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq.), Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. § 794), the Americans with Disabilities Act of 1990 (42 U.S.C. § 12101 et seq.), the Age Discrimination Act of 1975 (42 U.S.C. § 6101 et seq.), and any other nondiscrimination provisions applicable to this contract. The contractor/supplier shall ensure that no person is excluded from participation in, denied the benefits of, or subjected to discrimination under this contract on the basis of race, color, national origin, sex, age, or disability.

Does contractor/supplier agree? **YES** SLR Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Whistleblower Protection (41 U.S.C 4712)

The contractor/supplier shall comply with the whistleblower protections established under 41 U.S.C. 4712. Employees of contractors, subcontractors, and subrecipients are protected from reprisal for disclosing evidence of gross mismanagement, waste of federal funds, abuse of authority, or violations of law related to a federal contract or grant. The contractor/supplier must inform its employees in writing of their rights and remedies under this statute. Compliance with these protections is a material condition of this contract.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Remedies for Non-Compliance - 2 C.F.R. § 200.339

The contractor/supplier acknowledges that failure to comply with the terms and conditions of this agreement or any applicable federal requirements may result in enforcement actions as provided under 2 C.F.R. § 200.339. Remedies may include, but are not limited to, temporarily withholding payments, disallowing costs, wholly or partly suspending or terminating the contract, initiating suspension or debarment proceedings, or pursuing other legally available remedies.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Termination – 2 C.F.R. § 200.340

The contractor/supplier acknowledges that this contract may be terminated in whole or in part for cause, for convenience, or by mutual agreement, in accordance with 2 C.F.R. § 200.340. The basis for termination, applicable notice, and settlement provisions shall be clearly documented in writing.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

Subrecipient Monitoring – 2 C.F.R. § 200.332

The contractor/supplier acknowledges that, when acting as a pass-through entity or subrecipient of federal funds, it must comply with the requirements of 2 C.F.R. § 200.332. The contractor/supplier shall monitor the activities of any subrecipients as necessary to ensure that federal funds are used in accordance with applicable statues, regulations, and the terms and conditions of the award. This includes performing risk assessments, issuing written subaward agreements with required flow-down clauses, reviewing financial and performance reports, and taking enforcement action when necessary to address noncompliance.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

COMMUNITY DEVELOPMENT BLOCK GRANTS

Purchases made under this contract may be partially or fully funded with federal grant funds. Funding for this work may include Federal Funding sources, including Community Development Block Grant (CDBG) funds from the U.S. Department of Housing and Urban Development. When such funding is provided, Contractor/Supplier shall comply with all terms, conditions and requirements enumerated by the grant funding source, as well as requirements of the State statutes for which the contract is utilized, whichever is the more restrictive requirement. When using Federal Funding, Contractor/Supplier shall comply with all wage and latest reporting provisions of the Federal Davis-Bacon Act. HUD-4010 Labor Provisions also applies to this contract.

In addition, the Contractor/supplier shall comply with the requirements of Section 3 of the Housing and Urban Development Act of 1968 (24 C.F.R. Part 75), ensuring, to the greatest extent feasible, that employment and contracting opportunities are directed to low- and moderate-income residents and Section 3 businesses.

If the project involves acquisition, demolition, or displacement activities, the contractor/supplier shall also comply with the Uniform Relocation Assistance and Real Property Acquisition Act (49 C.F.R. Part 24), ensuring fair compensation and relocation assistance for affected persons and property owners.

Does contractor/supplier agree? **YES** SLR_____Initials of Authorized Representative of contractor/supplier.
N/A (Not applicable to this contract) _____

The City of Brownsville reserves the right to request a signed or notarized certification, affidavit, or other supporting documentation for any of the provisions or clauses contained in this document at any time during the procurement process or contract term.

By signing below, the contractor/supplier certifies that all information provided in this document is true and accurate to the best of their knowledge and understand that any false statement may be subject to penalties under the False Claims Act (31 U.S.C. §§ 3729-3733).

The contractor/supplier further agrees to comply with all applicable federal, state, and local laws, rules, regulations, and ordinances. It is acknowledged that the contractor/supplier certifies compliance with all provisions, laws, acts, and regulations specifically noted above.

Contractor's/Supplier's Name: AUSTIN TRAFFIC SIGNAL CONSTRUCTION CO LLC

Address, City, State, and Zip Code: P.O. BOX 130 ROUND ROCK, TX 78680

Phone Number: 512-255-9951 Fax Number 512-255-0146

Printed Name and Title of Authorized Representative:
STEPHEN RUTLEDGE AREA MANAGER V.P.

Email Address: STEVER@ATSCC.COM

Signature of Authorized Representative: STEPHEN RUTLEDGE Date: 9-23-2026

"General Decision Number: TX20260051 05/18/2026

State: Texas

Construction Types: Highway

Counties: Texas Counties of
Cameron, Hidalgo and Webb

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

SATX2025-002 11/15/2023

	Rates	Fringes
WORK ZONE BARRICADE SERVICER	$ 15.81	0.00
WELDER	$ 21.35	0.00
TRUCK DRIVER, TRANSIT-MIX	$ 18.00	0.00
TRUCK DRIVER, TANDEM AXLE TRACTOR WITH SEMI TRAILER	$ 19.81	0.00
TRUCK DRIVER, SINGLE OR TANDEM AXLE DUMP TRUCK	$ 18.50	0.00
TRUCK DRIVER, SINGLE AXLE	$ 17.93	0.00
TRUCK DRIVER LOWBOY FLOAT	$ 27.10	0.00
SERVICER	$ 20.03	0.00
SCRAPER OPERATOR	$ 14.88	0.00
ROLLER OPERATOR, OTHER	$ 14.88	0.00
ROLLER OPERATOR, ASPHALT	$ 14.88	0.00
REINFORCING STEEL WORKER	$ 19.62	0.00
PIPELAYER	$ 15.48	0.00
MOTOR GRADER OPERATOR, ROUGH	$ 18.78	0.00
MOTOR GRADER OPERATOR, FINE GRADE	$ 21.55	0.00
MILLING MACHINE OPERATOR	$ 18.47	0.00
MECHANIC	$ 23.80	0.00
LOADER/BACKHOE OPERATOR	$ 16.37	0.00
LABORER, UTILITY	$ 16.79	0.00
LABORER, COMMON	$ 14.88	0.00
FRONT END LOADER OPERATOR, OVER 3 CY	$ 16.41	0.00
FRONT END LOADER OPERATOR, 3 CY OR LESS	$ 15.59	0.00
FORM SETTER, PAVING & CURB	$ 17.31	0.00

FORM BUILDER/SETTER, STRUCTURES.....$ 18.59 0.00
FLAGGER.....$ 14.56 0.00
EXCAVATOR OPERATOR, OVER 50,000 POUNDS.....$ 19.29 0.00
EXCAVATOR OPERATOR, 50,000 POUNDS OR LESS.....$ 18.99 0.00
CRAWLER TRACTOR OPERATOR.....$ 20.27 0.00
CRANE OPERATOR, LATTICE BOOM 80 TONS OR LESS.....$ 29.80 0.00
CONCRETE FINISHER, PAVING AND STRUCTURES.....$ 19.13 0.00
BROOM OR SWEEPER OPERATOR.....$ 15.22 0.00
ASPHALT RAKER.....$ 15.02 0.00
ASPHALT PAVING MACHINE OPERATOR.....$ 15.99 0.00
ASPHALT DISTRIBUTOR OPERATOR.....$ 19.62 0.00

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.
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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave
for Federal Contractors applies to all contracts subject to the
Davis-Bacon Act for which the contract is awarded (and any
solicitation was issued) on or after January 1, 2017. If this
contract is covered by the EO, the contractor must provide
employees with 1 hour of paid sick leave for every 30 hours
they work, up to 56 hours of paid sick leave each year.
Employees must be permitted to use paid sick leave for their
own illness, injury or other health-related needs, including
preventive care; to assist a family member (or person who is
like family to the employee) who is ill, injured, or has other
health-related needs, including preventive care; or for reasons
resulting from, or to assist a family member (or person who is
like family to the employee) who is a victim of, domestic
violence, sexual assault, or stalking. Additional information
on contractor requirements and worker protections under the EO
is available at
https://www.dol.gov/agencies/whd/government-contracts.

Note: Executive Order 13658 generally applies to contracts subject
to the Davis-Bacon Act that were awarded on or between January 1,
2015 and January 29, 2022, and that have not been renewed or
extended on or after January 30, 2022. Executive Order 13658 does
not apply to contracts subject only to the Davis-Bacon Related Acts
regardless of when they were awarded. If a contract is subject to
Executive Order 13658, the contractor must pay all covered workers
at least $13.65 per hour (or the applicable wage rate listed on this
wage determination, if it is higher) for all hours spent performing on
the contract from May 11, 2026, through December 31, 2026. The
applicable Executive Order minimum wage rate will be adjusted annually.
Additional information on contractor requirements and worker
protections under Executive Order 13658 is available at

www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications
and wage rates that have been found to be prevailing for the
type(s) of construction and geographic area covered by the wage
determination. The classifications are listed in alphabetical
order under rate identifiers indicating whether the particular
rate is a union rate (current union negotiated rate), a survey
rate, a weighted union average rate, a state adopted rate, or a
supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than
SU, UAVG, SA, or SC denotes that a union rate was
prevailing for that classification in the survey. Example:
PLUM0198-005 07/01/2024. PLUM is an identifier of the union
whose collectively bargained rate prevailed in the survey for
this classification, which in this example would be Plumbers.
0198 indicates the local union number or district council
number where applicable, i.e., Plumbers Local 0198. The next
number, 005 in the example, is an internal number used in
processing the wage determination. The date, 07/01/2024 in the
example, is the effective date of the most current negotiated
rate.

Union prevailing wage rates are updated to reflect all changes
over time that are reported to WHD in the rates
in the collective bargaining agreement (CBA) governing the
classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for
those classifications, but that 100% of the data reported for
the classifications reflected union rates. EXAMPLE:
UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a
weighted union average rate. OH indicates the State of Ohio.
The next number, 0010 in the example, is an internal number
used in producing the wage determination. The date, 01/01/2024
in the example, indicates the date the wage determination was
updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to

reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The ◆SU◆ identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

◆SU◆ wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The ◆SA◆ identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ◆SA◆ identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION

"

Docusign Envelope ID: 7E0FCDCE-C137-89CD-8306-4A4D1FE861FE

Exhibit W

600 W Interstate 2 | Pharr, Texas 78577
956.702.6100
txdot.gov

August 21, 2026

The Honorable Mayor John Cowen, Jr.
City of Brownsville
1001 E. Elizabeth St.,
Brownsville, Texas 78520

RE: Concurrence to Award
Brownsville Traffic Monitoring & Management of Signalized Roads
CSJ: 0921-06-400

Dear Mayor Cowen,

We have completed our review of the bid package and analysis that was included with the City of Brownsville letter dated July 23rd, 2026, and do concur with awarding the contract to Austin Traffic Signal Construction Co. LLC, with their low bid amount of $2,537,330.00. The City of Brownsville may now award the contract and move forward with construction operations.

Mr. Angel Treviño, E.I.T., out of the San Benito Area Office will serve as the construction project manager and will be your point of contact from this point forward. Please work directly with him to ensure all requirements are met for you to receive the federal funding participation outlined in the Advance Funding Agreement. In addition, and as a reminder, the local government construction procedures that the City of Brownsville will need to follow can be found at http://www.txdot.gov/government/processes-procedures/lgp-toolkit.html.

Docusign Envelope ID: 7E0FCDCE-C137-89CD-8306-4A4D1FE861FE

If you have any questions, feel free to call me or our Traffic Section Supervisor Ms. Nayely Parra, P.E. at (956) 702-6152.

Sincerely,

DocuSigned by:
Pedro R. Alvarez
EABA335C2DAA48C...

Pedro R. Alvarez, P.E.
Pharr District Engineer

CC: Alan Guard, ICMA-CM, CGFO, City Manager, City of Brownsville
Carlos Lastra, P.E., City Engineer, City of Brownsville
Lucio S. Gutierrez, P.E., Traffic Manager, City of Brownsville, RPIC City of Brownsville
Doroteo Garcia Jr., P.E., Assistant City Manager
Rex A. Costley, P.E., Pharr Deputy District Engineer
Norma Y. Garza, P.E., Pharr District Director of Transportation Planning & Development
Gabriel I. Garcia, P.E., Pharr District Director of Transportation Operations
Andres Espinoza, P.E., San Benito Area Engineer
Beethoven Garcia, P.E., Pharr District Advanced Project Delivery Supervisor
Nayely Parra, P.E., Pharr District Traffic Section Supervisor
Gabriel Villarreal, P.E., San Benito Assistant Area Engineer
Jose L. Mena Jr., P.E., Pharr District Project Manager, Traffic Section
Angel Treviño, E.I.T., Pharr District Project Manager, San Benito Area Office

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** on **Resolution Number 2026-132** to appoint members of the City of Brownsville Sports Commission Advisory Board. (Convention & Visitors Bureau and Office of Space Commerce)

Summary:

Project Scope and Analysis:

Funding:

Source:

Amount:

Local Contribution if Applicable:

Recommendation:

Commission Pillar:

Attachments:

1. Brownsville Sports Commission Resolution 2026-132
2. Board Template - Sports Commission Oct 6, 2026 - Resolution 2026-132

RESOLUTION NUMBER 2026-132

A RESOLUTION OF THE CITY OF BROWNSVILLE APPOINTING MEMBERS TO THE BROWNSVILLE SPORTS COMMISSION ADVISORY BOARD.

WHEREAS, the purpose of the Brownsville Sports Commission is to provide guidance and recommendations to the Brownsville Convention and Visitors Bureau (CVB) on strategies to attract sporting events, tournaments, and sports-related visitors, and to enhance the city's image as a premier sports tourism destination; and

WHEREAS, the Brownsville CVB serves as the official destination marketing organization for the City of Brownsville;and

WHEREAS, the Brownsville Sports Commission strives to be an economic engine for the City of Brownsville by increasing demand in the Brownsville Metropolitan Statistical Area (MSA) for hotel rooms, attractions, retail, and restaurants, and by supporting local agencies and organizations through local, regional, national, and international promotion of sporting events; and

WHEREAS, the Brownsville Sports Commission supports the development of sports marketing initiatives, events, and partnerships that drive economic growth and strengthen Brownsville's hospitality and tourism industry; and

WHEREAS, the total number of Sports Commission members shall be nine (7) voting members, as designated by the affirmative vote of the majority of members then in office, and one (1) non-voting ex officio member; and

WHEREAS, the City Commission shall appoint seven (7) of the voting members, and the term of the voting members shall commence October 2026 for a term of two (2) years.

NOW, THEREFORE, BE IT RESOLVED by the City Commission of the City of Brownsville, Texas, that the Brownsville Sports Commission Advisory Board is hereby established in accordance with the terms set forth above, and shall serve in an advisory capacity to the Brownsville Convention and Visitors Bureau.

The following individuals are appointed to serve as members on the Brownsville Sports Commission Advisory Board.

Name	**Appointed By**

PASSED and **APPROVED o**n this 6th day of October 2026

City of Brownsville

_____

John Cowen, Jr.
Mayor

ATTEST:

_____

Mayra Rios, City Secretary

Resolution Number: 2026-132 Borad Liaison: Malinalli Montesam	Name of the Board or Commission: Brownsville Sports Commission Advisory Board	City Commission Meeting Date: October 6, 2026
Composition: 7	Special Requirements: (7) Selected by City Commission	
Highlighted in Yellow: Are interested in seeking reappointment	Vacancies: 7	

Members	Residing District	Term	Appointed on	Expires	Eligible for Re-Appt (Y/N)	Appointed by	Serving on Other City Boards
						EX-Officio	
				06/30/2027		Mayor	
				06/30/2027		At-Large "A"	
				06/30/2027		At-Large ''B''	
				06/30/2027		District 1	
				06/30/2027		District 2	
				06/30/2027		District 3	
				06/30/2027		District 4	

APPLICATIONS ON FILE - PROSPECTIVE BOARD MEMBERS

Applicants Name	Residing District	Application Received Date	Serving on Other City Boards	Areas of Interest
Ismael Miles Sanchez	1	9/28/2026		
Jacquelyn R Gonzalez	1	9/28/2026		
Francisco Lozano	1	9/1/2026		
Lysset E Rivera	1	9/28/2026		
Michael C Barron	1	9/29/2026		
Alfredo Villarreal	1	9/28/2026		
Derek Benavides	2	9/3/2026		
Francisco Chavez	2	9/1/2026		
Adrian Delgado	2	9/21/2026		
Juan Antonio Granja	2	9/1/2026		
Ernesto Hernandez	2	9/1/2026		

Luis Gonzalez	2	9/28/2026		
Matthew L Rosas	2	9/22/2026		
Nathaniel Hite	2	9/28/2026		
Juan Sanchez	2	9/1/2026		
Delia Soto	2	9/2/2026		
Marco Valdez	2	9/1/2026		
Cecilio Bañuelos	3	9/21/2026		
Eduardo Arredondo	3	9/28/2026		
Erik A Gomez	3	9/3/2026		
Julian G Maldonado	3	9/28/2026		
Jorge I Montero	3	9/3/2026		
Guillermo Perez	3	9/10/2026		
Samantha Quezada	3	9/1/2026		
Blanca Y Hernandez	4	9/28/2026		
Jorge A Hernandez	4	9/3/2026		
Roberto Ramirez	4	9/1/2026		
Ramiro Maldonado	4	9/28/2026		
Jesus M Saldivar	4	9/2/2026		
Juan Vela	Outside of city limits	9/2/2026		

To:	Mayor and City Commission
Through:	Alan Guard, Interim City Manager
From:	
Date:	Tuesday, October 6, 2026
Agenda #:	Consideration and **ACTION** on **Resolution Number 2026-131-A** to appoint members to the City of Brownsville Environmental and Conservation Task Force pursuant to Resolution Number 2026-121-A. (City Manager's Office/ Office of the City Attorney/ Planning and Redevelopment Department)

Summary:

Membership: Up to 11 members

The Task Force shall consist of no more than **11 members**, who should be Brownsville residents, where feasible.

7 Voting Members

- •Community representatives
- •One nominated by each member of the City Commission
- •Appointed by majority vote of the City Commission

4 Ex Officio, Non-Voting Members

- •Brownsville Public Utilities Board representative
- •UTRGV representative with expertise in **data center operations or technology infrastructure**
- •**Health Expert:** Dr. Arturo Rodriguez, DNP
- •**Infrastructure Expert:** Doroteo Garcia, P.E

Project Scope and Analysis:

Funding:

Source:

Amount:

Local Contribution if Applicable:

Recommendation:

Commission Pillar:

Economic Development, Planning & Zoning, Infrastructure, Public Safety, Quality of Life & Vibrancy, Governance

Attachments:

1. RESOLUTION NUMBER 2026-131 Taskforce rWT

RESOLUTION NUMBER 2026-131-A

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF BROWNSVILLE, TEXAS, APPOINTING MEMBERS TO THE CITY OF BROWNSVILLE ENVIRONMENTAL AND CONSERVATION TASK FORCE PURSUANT TO RESOLUTION NO. 2026-121-A; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Brownsville, Texas, adopted Resolution No. 2026-121-A establishing the City of Brownsville Environmental and Conservation Task Force to review and evaluate matters relating to data center development and its potential impacts in the City limits of Brownsville; and

WHEREAS, the Task Force is charged with reviewing matters including electricity and energy reliability, ratepayer impacts, water demand and local resource capacity, land use and siting, other considerations, noise, lighting, screening, neighborhood impacts, economic development, tax-base benefits, incentives, and other fiscal considerations; and

WHEREAS, Resolution No. 2026-121-A provides for a Task Force consisting of no more than eleven (11) members, including seven (7) voting community representatives and four (4) ex officio, non-voting members with relevant institutional or subject-matter expertise; and

WHEREAS, the seven voting community representatives are to be nominated by members of the City Commission and appointed by majority vote of the City Commission, with members being Brownsville residents where feasible; and

WHEREAS, the City Commission now desires to formally appoint members of the Environmental and Conservation Task Force so that the Task Force may begin carrying out the responsibilities established by Resolution No. 2026-121-A.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BROWNSVILLE, TEXAS, THAT:

SECTION 1. The findings and recitals contained in the preamble of this Resolution are hereby found to be true and correct and are incorporated herein for all purposes.

SECTION 2. The following individuals are hereby appointed to serve as the seven (7) voting community representatives of the City of Brownsville Environmental and Conservation Task Force:

NAME	**APPOINTED BY**
Dr. Lisa Mitchell Bennett	Mayor
Dr. Etienne Rosas	At Large "A"
	At Large "B"
	District 1
Scott Fry	District 2
Carolyn Wood	Districts 3
Dr. Joseph L. Hollmann	District 4

Each voting member shall have one vote on matters presented to the Task Force.

SECTION 3. The following individuals or organizational representatives shall serve as **ex officio, non-voting members** of the Environmental and Conservation Task Force:

1. **Brownsville Public Utilities Board Representative:** _____;
2. **The University of Texas Rio Grande Valley Representative:** A representative with expertise, as designated by UTRGV: Dr. Jude Benavides;
3. **Health Expert:** Dr. Arturo Rodriguez, DNP; and
4. **Infrastructure Expert:** Doroteo Garcia, P.E.

Ex officio members may participate fully in Task Force discussions and provide technical, institutional, professional, and subject-matter expertise, but shall not vote on Task Force recommendations or official actions.

SECTION 4. The Environmental and Conservation Task Force shall consist of no more than eleven (11) members, comprised of:

- Seven (7) voting community representatives; and
- Four (4) ex officio, non-voting members.

Voting community representatives should be residents of the City of Brownsville.

SECTION 5. A quorum shall consist of a majority of the voting members then appointed and serving.

Ex officio members shall not be counted in determining the existence of a quorum.

Official recommendations or actions of the Task Force shall require the affirmative vote of a majority of the voting members present when a quorum exists.

SECTION 6. Consistent with Resolution No. 2026-121-A, the Environmental and Conservation Task Force shall review and evaluate matters including, but not limited to:

a. Electricity, energy reliability, and ratepayer impacts;

b. Water demand and local resource capacity;

c. Land use, siting, noise, lighting, screening, and neighborhood impacts;

d. Economic development, tax-base benefits, incentives, and fiscal considerations; and

e. Other matters related to data center policies, regulations, and community impacts as directed by the City Commission.

The Task Force shall use clearly defined data and methodologies, present its findings publicly, and develop a public-facing dashboard. The Task Force may also conduct public meetings, town halls, or other forums to receive community input.

SECTION 7. The Task Force shall present a final report containing its findings and recommendations regarding data center policies and regulations to the City Commission no later than March 16, 2027, unless such deadline is extended by the City Manager.

The Task Force shall sunset upon submission of its final report unless continued by majority vote of the City Commission.

SECTION 8. This resolution shall take effect immediately upon adoption.

DULY PASSED and **APPROVED** by the City Commission of the City of Brownsville, Texas, on the 6th day of October 2026.

CITY OF BROWNSVILLE

_____

John Cowen Jr., Mayor

ATTEST:

_____

Mayra A. Rios, City Secretary

APPROVED AS TO FORM:

_____

Guillermo (Will) S. Trevino, City Attorney

CITY OF BROWNSVILLE
ORDINANCE NO. 2026-1828

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF BROWNSVILLE, TEXAS, AMENDING CHAPTER 1, "GENERAL PROVISIONS", SECTION 1-13, "GENERAL PENALTY" OF THE CODE OF ORDINANCES TO UPDATE THE PENALTY PROVISIONS FOR VIOLATIONS OF THE CITY'S CODE OF ORDINANCES; PROVIDING SAVINGS, REPEALING AND SEVERABILITY CLAUSES; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Brownsville, Texas (the "City") is a Home Rule Municipality acting under its Charter adopted by the electorate pursuant to Article XI, Section 5 of the Texas Constitution and Chapter 9 of the Texas Local Government Code; and

WHEREAS, the City is authorized by Texas Local Government Code §51.001 to adopt or amend any ordinance that is for the good government, peace, or order of the municipality or for the trade and commerce of the municipality; and

WHEREAS, Chapter 54 of the Texas Local Government Code authorizes the City to adopt a fine or penalty for the violation of a rule, ordinance, or other police regulation; and

WHEREAS, Section 54.004 allows the City to enforce ordinances necessary to protect health, life, and property, and to preserve the good government, order, and security of the municipality and its inhabitants; and

WHEREAS, the City Commission of the City of Brownsville has reviewed the proposed changes and finds them to be necessary and appropriate; and

WHEREAS, after complying with all legal notices, requirements, and conditions, a public hearing was held before the City Commission at which the City Commission considered the requested amendments, and the City Commission does hereby find that the amendments herein accomplish such objectives of promoting the public health, safety, morals, or general welfare, and protecting and preserving places and areas of historical, cultural, or architectural importance and significance within the City.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BROWNSVILLE, TEXAS:

Section 1. Incorporation of Premises. The findings and recitals set forth herein are true and correct and are incorporated herein and made a part hereof for all purposes as the legislative findings of the City Commission.

Section 2. Amendments. Chapter 1, "General Provisions", Section 1-13, "General penalty" of the Code of Ordinances, is hereby amended as follows (with deletions in strikethrough text and additions in underline text):

Chapter 1 - GENERAL PROVISIONS

Sec. 1-13. - General penalty.

(a) Notwithstanding any contrary provision in the city Charter, whenever in this Code or in any ordinance of the city an act is prohibited or is made or declared to be unlawful or an offense or a misdemeanor or wherever in such Code or ordinance the doing of any act is required or the failure to do any act is declared to be unlawful, and no specific penalty is provided therefor, the violation of any such section of this Code or any such provision of an ordinance shall be punished by a fine of not less than $1.00 for each offense nor more than the following:

1) For each offense under a rule, ordinance, or police regulation that governs fire safety, zoning, or public health and sanitation, including dumping of refuse, $2,000.00; or

2) For each offense under any other rule, ordinance, or police regulation, $500.00.

(b) Unless otherwise specifically stated in this code, any violation of this code or of any ordinance that is punishable by a fine that does not exceed $500 does not require a culpable mental state, and a culpable mental state is hereby not required to prove any such offense. Unless otherwise specifically stated in this code, any violation of this code or of any ordinance that is punishable by a fine that exceeds $500 shall require a culpable mental state as specified by Tex. Penal Code § 6.02(c).

(c) ~~(b) Whenever state law conflicts with this section, state law shall govern~~ If the amount of any penalty imposed by this Code or in any ordinance conflicts with a penalty amount specified by state law, the penalty amount specified by state law shall govern.

(d) ~~(c)~~ Unless otherwise stated in this Code or in any ordinance, e~~E~~ach day any violation of this Code or of any ordinance shall continue shall constitute a separate offense.

(e) ~~(d)~~ Under no circumstances shall the imposition of any such fine for any violation constitute an estoppel for other relief against any such violation available at law.

(f) The prohibition of any act in this Code, and in any rule or regulation adopted hereunder, shall include the causing, procuring, aiding, or abetting of another person to do such act.

(g) ~~(e) If any such violation is designated as a nuisance under this Code, such nuisance may be summarily abated by the police department~~ In addition to the penalties otherwise provided, any condition caused or permitted to exist in violation of any provision of this Code or any ordinance, which provision is intended for the protection of the public health, safety or morals, shall be deemed a public nuisance and may be abated by the city as provided by law.

(h) In any prosecution for any violation of this Code, it shall not be necessary for the prosecution to negative any provisions of exception, but the same may be raised by the defendant by way of defense.

(i) The suspension, revocation, cancellation, or denial of any license, permit, or certificate by the city shall not prohibit the imposition of any civil or criminal penalty. The imposition of a civil or criminal penalty by the city shall not prohibit the suspension, revocation, cancellation, or denial of any license, permit, or certificate.

(j) A City employee or agent does not commit an offense under this Code if the employee or agent fails to perform a ministerial or administrative duty or take an action required under the Code.

~~(Code 1971, § 1-10; Ord. No. 95-763-A, pt. 1, 11-28-1995)~~

Section 3. City Code of Ordinance Revisions. The publisher of the City's Code of Ordinances is hereby authorized to revise the Code of Ordinances to reflect changes provided for in this Ordinance; to correct typographical errors where necessary; and to format and number paragraphs to conform to the existing City's Code of Ordinances.

Section 4. Savings/Repealing Clause. All provisions of any ordinance in conflict with this Ordinance are hereby repealed to the extent they are in conflict; but such repeal shall not abate any pending prosecution for violation of the repealed ordinance, nor shall the repeal prevent a prosecution from being commenced for any violation if occurring prior to the repeal of the ordinance. Any remaining portions of said ordinances shall remain in full force and effect.

Section 5. Severability. Should any section, subsection, sentence, clause, phrase of this Ordinance be declared unconstitutional or invalid by a court of competent jurisdiction, it is expressly provided that any and all remaining portions of this Ordinance shall remain in full force and effect. Brownsville hereby declares that it would have passed this Ordinance, and each section, subsection, sentence, clause or phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional or invalid.

Section 6. Effective Date. Pursuant to the City Charter, this Ordinance shall become effective upon its second and final reading and passage.

Section 7. Open Meetings. That it is hereby found and determined that the meeting at which this Ordinance was passed was open to the public as required by law, and that public notice of the time, place and purpose of said meeting was given, all as required by Article 551.041, Texas Government Code.

INTRODUCED and PASSED at a PUBLIC HEARING and FIRST READING on the 6th day of October, 2026.

APPROVED AND PASSED at a PUBLIC HEARING and on the SECOND and FINAL READING on this the 20th day of October, 2026.

_____

John Cowen, Jr.
Mayor

ATTEST:

Mayra Rios, TRMC
City Secretary

APPROVED AS TO FORM AND LEGALITY:

Guillermo (Will) S. Trevino
City Attorney