

NOTIFICATION OF ADDENDUM

ADDENDUM NO. 1

DATED 12/23/2015

Control	0924-06-154, ETC.
Project	BR 2008(321), ETC.
Highway	CS
County	EL PASO

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an addendum notification which details the changes and the respective proposal pages which were added and/or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped "This Proposal Issued for Informational Purposes."

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: BR 2008(321)

CONTROL: 0924-06-154

COUNTY: EL PASO

LETTING: 01/06/2016

REFERENCE NO: 1218

PROPOSAL ADDENDUMS

- PROPOSAL COVER
- BID INSERTS (SH. NO.:
- GENERAL NOTES (SH. NO.: A thru p

- SPEC LIST (SH. NO.:
- SPECIAL PROVISIONS:
- ADDED:

DELETED:

- SPECIAL SPECIFICATIONS:
- ADDED:

DELETED:

X OTHER: See Changes Below

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

Plan Sheet 6 the fourth and fifth paragraphs were modified to include notes for EPCWID No 1 property to protect the Franklin Canal
Plan Sheets 6A thru 6G have been revised due to shifting of text from page to page due to the additional notes.

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GENERAL NOTES:

Tests to be in accordance with the Texas Department of Transportation Standard Test Methods

**TABLE 1
COMPACTION REQUIREMENTS FOR BASE COURSES**

ITEM	DESCRIPTION	OUTSIDE ROADWAY COURSE DENSITY
132 ^{1,2,3}	Embankment (Final)(Density Control) (TY A)	(See Below)

1. To a depth of 6 in. below natural ground scarify and compact to a 95% minimum.
2. From natural ground to 24 in. below finished subgrade, 98% minimum compaction.
3. From 24 in. below finished subgrade to finished subgrade, 100% minimum compaction.

**TABLE 2
BASIS OF ESTIMATE**

ITEM	DESCRIPTION	RATE
168	Vegetative Watering	168 MG/AC
310	Prime Coat (Multi Option)	0.15 gal./sq. yd.
315	Fog Seal (SS-1H or CSS-1H)	0.15 gal./sq. yd.
340	D-GR HMA(SQ) Ty-C PG 70-22	1 in. = 110 lb./sq. yd.

1. Deviation from the rates shown will require approval.
2. Prime Coat shall be either SS-1H or CSS-1H.

GENERAL REQUIREMENTS

Maintain the entire project area in a neat and orderly manner throughout the duration of the work. Remove all construction litter and undesirable vegetation within the right of way inside the project limits. This work will be subsidiary to the various bid items.

Where nighttime work is approved, provide adequate lighting for the entire work site as directed. This shall be considered subsidiary to the various bid items.

Refer to the various traffic control plan project overview sheets for the proposed sequence of work. Changes will not be permitted, except as approved in writing by the Engineer.

Electronic copies of earthwork cross-sections are available for copying, at bidding Contractor's expense, at the Area Engineer's office. Horizontal and vertical alignment data and design roadway cross-section data are available in print or electronic format upon request.

The following Standard Detail sheets have been modified:

- SGEB (MOD)
- SGMB (MOD)
- PRD-13 (MOD)
- T221 (MOD)
- RIP (1)-11 (MOD)

Demolish bridge outside of swallow nesting season. Between October 1 and February 15, remove all existing migratory bird nests from any structure that would be affected by the proposed project, and complete bridge demolition. In the event that migratory birds are encountered on-site during project construction, adverse impacts on protected birds, active nests, eggs, and/or young shall be avoided.

Notify Department of State Health Services (DSHS) licensed asbestos consultant 15 days before demolition as shown on Environmental Permits, Issues and Commitments (EPIC) sheet 202.

Construction work within El Paso County Water Improvement District No. 1's property will only be allowed during work window from October 15 to February 15 of 2016 and 2017, and must be coordinated 48 hours in advance with Mr. Jay Ornelas, Jr. P.E. – El Paso County Water Improvement District No. 1 (EPCWID No.1) – at (915) 872-4200 office, (915) 238-2456 mobile, or by email at jornelas@epcwid1.org. No work, contractor vehicles, personnel, or equipment will be allowed within the limits of EPCWID No. 1 property from February 15 to October 15. Time on the project will be credited only if the Critical Path of the project cannot be advanced due to EPCWID No.1 work restriction.

Installation of nettings for bridge demolition at the EPCWID No. 1 property will be required if contractor requests to work within the irrigation season from February 15, to October 15, and payment for this work and materials will be subsidiary to all bid items. Contractor will be held responsible for ensuring that no construction debris falls in the Franklin Canal's waterway. The Contractor is required to develop a contingency plan to mitigate any damages and interruption of water flow. Contingency plan shall be submitted to the EPCWID for their review and approval prior to implementation. This contingency plan and all cost associated with the plan will be subsidiary to all bid items, if approved to be used.

Damages to the Franklin Channel or interruption to water flow by the Contractor due to construction activities will be the sole responsibility of the Contractor and shall be addressed under the EPCWID License No. L-1300 at no cost to the Department, the City of El Paso, or EPCWID. A copy of the referenced license will be made available upon request.

Railroad requirements: Refer to "Bridge Layout", "Railroad Scope of Work", and "Railroad Requirements for Bridge Construction" sheets for notes and requirements of working within UPRR right of way.

ITEM 4 – SCOPE OF WORK

Schedule and perform all work to assure proper drainage during the course of construction operations. All labor, tools, equipment and supervision required, to ensure drainage, removal, and handling of water shall be considered incidental work.

Repair any existing pavement, utilities, structures, etc., damaged as a result of construction operations, at no additional cost to the Department.

Maintain all Contract items until final acceptance of the project.

Plan datum for this project is NAD 83 for horizontal and NAVD 88 for elevation based.

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ITEM 5 – CONTROL OF THE WORK

The Department will furnish horizontal and vertical reference points. The contractor shall verify all dimensions and grades before proceeding. Report any discrepancies found immediately. Inform the Engineer and the respective utility companies, when it becomes apparent that the utility lines will interfere with the work in progress. Submit shop drawings electronically as per Item 5.2

ITEM 7 – LEGAL RELATIONS AND RESPONSIBILITIES

Comply with all requirements of the Environmental Permits Issues and Commitments (EPIC) Sheet.

Dispose all waste materials in compliance with Local, State, and Federal regulations. Submit list of all approved waste sites to the Engineer for review.

Do not discharge any liquid pollutant from vehicles onto the roadside. Immediately clean spills and dispose in compliance with local, state, and federal regulations to the satisfaction of the Engineer at no additional cost to the Department.

OSHA regulations prohibit operations that bring people or equipment within 10 feet of an energized electrical line. Where workers and/or equipment may be close to an energized electrical line, notify the electrical power company and make all necessary adjustments to ensure the safety of workers near the energized line.

ITEM 8 – PROSECUTION AND PROGRESS

Working days are calculated based on Section 8.3.1.1, “Five Day Work Week.”

A CPM schedule is required for this project. Provide updates as directed by the Engineer.

Prior to beginning operations, schedule and attend a preconstruction conference with the Engineer. Provide the Department a written outline of the proposed sequence of work (CPM) and an estimated progress schedule.

An updated schedule shall be turned in by the 5th of each month.

Keep traveled surfaces used in hauling operations clear and free of dirt or other material.

Existing pavement, utilities, structures, etc. damaged as a result of the operations will be repaired at no additional cost to the Department.

Protect from damage all areas of the right of way, which are not included in the actual limits of the proposed construction areas, from destruction, exercise care to prevent damage to trees, vegetation, and other natural features.

Protect those trees, shrubs, and other landscape features within the actual construction and/or fenced protection area, as designated for preservation, from abuse, marring, or damage. Restore

any area disturbed or damaged as a result of this operation, to a condition as good as or better than prior to start of construction operation. This work will be at the Contractor's expense.

ITEM 9 – MEASUREMENT AND PAYMENT

Submit Material on Hand (MOH) payment requests at least **three (3)** working days before the end of the month for payment consideration on that month's estimate.

Payment cutoff dates shall be determined by the engineer.

ITEM 100 – PREPARING RIGHT OF WAY

Refer to Specification for a list of items covered under this Item.

This Item shall cover all items requiring removal as directed by the Engineer not governed otherwise by individual removal pay items elsewhere in the plans.

Accept ownership of all removed materials and dispose at approved locations off the right of way in accordance with local, state, and federal requirements.

ITEM 110 – EXCAVATION

All requirements to saw-cut the existing pavement, concrete sidewalks, driveways, etc., as shown in the plans, or as directed, will be considered subsidiary to this Item.

To eliminate all drop-off conditions, construct tapers as directed. This work will not be paid for directly, but will be considered subsidiary to pertinent bid items.

ITEM 132 – EMBANKMENT

All delivered material used for this Item is to meet minimum Triaxial Class 4 when tested in accordance with Tex-117-E, "Triaxial Compression Tests for Disturbed Soils and Base Materials," Part I, before delivery to the roadway.

The maximum allowable plasticity index (PI) is 15.

Locate all material sources out of sight from the highway at an approved location.

Use only approved embankment material sources away from the project site.

If necessary, the proposed material may be blended, but shall be stockpiled, tested, and approved before delivery to the roadway. Perform blending at the source of the proposed embankment material.

Survey blue tops shall be required subsidiary to this item.

ITEM 164 – SEEDING FOR EROSION CONTROL

Provide and install temporary or permanent seeding for erosion control as shown on the plans or as directed. The seed mix and rates will be as follows:

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TABLE 3
Seed Mix and Rates

SCIENTIFIC NAME	COMMON NAME	RATE (LB PLS/AC)
<i>LEPTOCHLOA DUBIA (KUNTH) NEES</i>	Green Sprangletop	0.3
<i>BOUTELOUA DACTYLOIDES</i>	Buffalograss (Texoka)	1.6
<i>SPOROBOLUS CRYPTANDRUS</i>	Sand Dropseed	0.4
<i>BOUTELOUA GRACILIS</i>	Blue Grama (Hachita)	1.8

ITEM 204 – SPRINKLING

PROVIDE A FLOW METER OF AN APPROVED TYPE FOR THE MEASUREMENT OF THE WATER TO BE SUBSIDIARY TO THIS ITEM. ITEM 310 – PRIME COAT

Prepare and treat existing or newly constructed surface with a bituminous material as provided or as directed by the Engineer. Apply blotter material as required with approved self-propelled distributor.

Cure prime coat on the embankment material for at least 48 hours prior to beginning hot-mix asphalt placement operations.

Allow Engineer approval for dilution and payment will be for emulsion used and not for dilution water.

Prime Coat shall be either SS-1H or CSS-1H, unless otherwise approved.

ITEM 340 – DENSE GRADED Hot MIX ASPHALT (SMALL QUANTITY)

Prepare the surface by removing raised pavement markers and objectionable material such as moisture, dirt, sand, leaves, and other loose impediments from the surface before placing mixture. Remove vegetation from pavement edges.

This item governs all hot-mix operations.

Do not cover asphaltic material, any existing survey monuments, manholes, or valve covers, etc. Adjustments will be done in coordination with the respective utility owners.

Place a stringline or other suitable marking to ensure smooth, neat lines, or as directed.

Supply warm-mix under this item.

Use Surface Aggregate Classification “A” material in all riding surface mixes.

Use fractionated recycled asphalt pavement (RAP) in the production of hot-mix asphaltic concrete. When RAP is included in the mixture, use Department-owned RAP from the following location:

- East Area Office & Maintenance Section
- McCombs (at North East El Paso)
- Canutillo Sub-Section (at West El Paso)

Use Superpave Gyratory Compactor (SEC) to achieve laboratory molded density with N design equal to 50.

ITEM 360 – CONCRETE PAVEMENT

Use Type II Cement for this Item.

A pre-paving meeting will be required. Submit a paving plan detailing the location of joints and the sequence of paving for approval to the Engineer a minimum of seven days before the pre-paving meeting.

A minimum of two additional sets of cylinders will be required for early-strength determination when concrete placement is at one of the specified locations, which requires opening to traffic immediately after 72 hours of placement.

Only multiple piece tie bars, as described in Section 360.2.2.2 of the 2014 Standard Specifications book and as noted on Standard sheet “Continuously Reinforced Concrete Pavement,” CRCP (1)-6in-13, will be used at longitudinal construction joints and only threaded couplings will be permitted for these tie bars.

New concrete pavement adjacent to existing concrete paving will require a neat sawcut edge and drilling as per Item 361, “Full-Depth Repair of Concrete Pavement,” regardless whether transverse or longitudinally. This work will be considered subsidiary to this Item.

When freezing weather or windy conditions in excess of 25 MPH are forecasted to occur within 12 hours from the last CRCP placement of the day, cover and protect the entire CRCP placed that day with cotton blankets and polyethylene film immediately after the membrane curing has been applied. Place and weigh the film so it will remain in direct contact with the surface for a period of 48 hours and to the satisfaction of the Engineer.

Place longitudinal joints at a minimum distance of six inches from the lane lines to minimize any conflicts with the pavement markings. Ensure that these joints do not fall within the anticipated wheelpath area.

Use poured joint sealer Class 4 on all sawed joints. Use method “B” (TxDOT Standard JS-14).

ITEM 416 – DRILLED SHAFT FOUNDATIONS

Retaining wall and drilled shaft construction at all abutments will be by an approved method.

Stake all foundations and locations approved by the Engineer prior to commencement of drilling operations in order to ensure no conflicts with utility lines. Coordinate with the Utility companies for utility location within the project limits. Repair any damage to existing utilities to the satisfaction of the Engineer and the Utility owner at no additional cost to the Department.

Use Class “C” concrete.

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Cover drilled shafts with plywood and delineate them with cones, to the satisfaction of the Engineer, when not working in them and after work hours.

ITEM 420 – CONCRETE SUBSTRUCTURES

Concrete trucks will be allowed to wash out or discharge surplus concrete or drum-wash water at designated areas approved by the Engineer.

Personnel will be certified by the El Paso District Laboratory in the handling, transporting, and curing of all concrete test specimens. In addition, all equipment will be certified prior to being used. Only Department personnel will perform all concrete quality tests and molding of all test specimens.

All concrete designs and concrete aggregate sources shall be approved by the Engineer.

ITEM 421 – HYDRAULIC CEMENT CONCRETE

Personnel will be certified by the El Paso District Laboratory in the handling, transporting, and curing of all concrete test specimens. In addition, all equipment will be certified prior to being used. Only Department personnel will perform all concrete quality tests and molding of all test specimens.

Furnish and properly maintain all test molds. The test molds shall meet the requirements of Tex-447-A and Tex-448-A. The test molds must be ready for use when needed. The Contractor shall be responsible for curing and transporting cylinder specimens as directed. Furnish proper equipment to remove concrete cylinder specimens from the molds. For all concrete items, provide a wheelbarrow or other acceptable container to the Engineer. This will not be paid directly, but will be subsidiary to the various bid items.

Test Method Tex-418-A is allowable for 7-day job control tests.

Use approved concrete mix designs and concrete aggregate sources.

Provide sulfate-resistant concrete for all structural concrete in contact with soil or groundwater.

ITEM 427 – SURFACE FINISHES FOR CONCRETE

Apply a rub-finish to concrete rail, bents and visible surfaces of abutments and columns as directed subsidiary to Item 420.

ITEM 432 – RIPRAP

Use "Class B" concrete for this Item.

No wire mesh will be allowed on this project for this Item. Reinforce all concrete riprap using bar reinforcement conforming to Item 440, "Reinforcing Steel," as shown on the plans, or as directed. For roadway illuminations assemblies, riprap aprons may include wire mesh as per "RID (FND)-11." Finish concrete riprap with a smooth (wood float) finish, unless otherwise directed.

ITEM 442 – METAL FOR STRUCTURES

Field erection drawings shall comply with Item 441, “Steel Structures” and shall provide for additional temporary lateral bracing to be used to secure plate girders from wind loads during erection and construction. Additional temporary shoring may include, but is not limited to guy wires with deadman anchors, etc. Temporary lateral bracing may be removed upon approval. Field erection drawings including temporary lateral bracing shall be submitted for approval by the Engineer prior to construction. Temporary lateral bracing shall not be paid for directly, but shall be subsidiary to Item 442.

ITEM 450 – RAILING

Paint concrete rail in Federal Standard Color #30233 (Awning Red) in accordance with Item 427, surface finishes for concrete. Labor and materials to perform this work are subsidiary to this item.

ITEM 502 – BARRICADES, SIGNS, AND TRAFFIC HANDLING

Once a month, the Contractor’s responsible person for TCP compliance will accompany Department personnel on at least one daytime inspection and one nighttime inspection of the traffic control devices used on the project.

Prior to beginning construction, the Engineer will approve the routing of traffic and sequence of work.

Additional signs and barricades, placed as directed, will be considered subsidiary to Item 502.

In addition to providing a Contractor’s Responsible Person and a phone number for emergency contact, have an employee(s) available to respond to emergencies on the project and for taking corrective measures within 30 minutes.

Existing regulatory signs, route marker auxiliaries, guide signs, and warning signs that must be removed due to widening will be relocated temporarily and erected on approved supports at locations shown in the plans, or as directed. This work will not be paid directly, but considered subsidiary to this Item.

Notify Texas Department of Transportation officials when major traffic changes are to be made, such as detours. Coordinate with the Texas Department of Transportation on all traffic changes. Advance notification for the following week’s work must be made by 5 P.M. on Wednesdays.

Law enforcement assistance will be required for this project and is expected to be required for traffic signal work. Coordinate with local law enforcement as directed or agreed. Complete the weekly tracking form provided by the Department and submit invoices that agree with the tracking form for payment at the end of each month where approved services were provided.

Provide access to intersecting side roads and driveways at all times, unless otherwise directed.

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The Contractor assumes the responsibility for any additional barricade signs and devices for any approved change to the sequence of work or Traffic Control Plan.

Use portable changeable message signs (PCMS) to alert public of construction two weeks prior to construction. Continue to use PCMS throughout the duration of the project as directed. PCMS will be paid under Item 6001 Portable Changeable Message Sign.

Truck-mounted attenuators shall be used as shown in the plans and shall be subsidiary to this Item.

Place and maintain sufficient additional warning signs, beacons, delineators, and barricades to warn and guide the public of all hazards through the construction zone at all times, and as directed.

Use flashing arrow boards on all tapers for each lane closure.

Some signs, barricades, and channelization devices may not be shown at the precise or measured position. Place the barricades, devices, or signs, with approval, in positions to meet field conditions.

Fill any holes left by barricade or sign supports and restore the area to its original condition.

Use "Type A" flashing warning lights or delineators to mark open excavation, footings, foundations, or other obstructions near lanes that may be open to traffic, as directed.

For additional information pertaining to channelization, signing, spacing details, and flagging procedures required to regulate, warn, and guide traffic through project, refer to the "Barricade and Construction" Standards and to the current *Texas Manual on Uniform Traffic Control Devices*.

Remove signs that do not apply to current conditions at the end of each day's work.

Repair and/or replace all signs damaged by the public or due to weather events subsidiary to this item.

Hard hats and vests are required at all times.

The "Contractor Force Account Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The Engineer may choose to use existing bid items if it does not slow the implementation of enhancement.

ITEM 504 – FIELD OFFICE AND LABORATORY

Provide one type “B” structure field office and laboratory for use by state personnel. The structure will be located at an approved site

Provide tablet microcomputers, printers, and internet service in compliance with specification “DMS 10101-Computer Equipment” for use by TxDOT personnel for this project. System components include all hardware, software, documentation and other materials necessary to utilize components fully, even if not specifically noted in this specification. Provide a minimum 32GB or 4G, as requested by the Engineer subsidiary to the project various bid items.

ITEM 506 - TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS

Place Best Method Practices (BMP’s) in locations as designated in the plans or as directed to meet field conditions.

Place a weatherproof bulletin board containing the Texas Commission on Environmental Quality (TCEQ) required information on the project at a site as directed. Post the following documents:

- TCEQ “TPDES Storm Water Program” Construction Site Notice

Place rain gauge(s) at locations as designated.

The total disturbed area for this project is **2.14** acres. The soil disturbed area in this project, all project locations in the Contract, and Contractor Project Specific Locations (PSLs), within one mile of the project limits, for the Contract will further establish the authorization requirements for Storm Water Discharges. The Department will obtain an authorization to discharge storm water from TCEQ for the construction activities shown on the plans. The Contractor is to obtain any required authorization from the TCEQ for any Contractor PSLs for construction support activities on or off right of way. When the total area disturbed for all projects in the Contract and PSLs within one mile of the project limits exceeds five acres, provide a copy of the Contractor NOI PSLs on the right of way to the Engineer (to the appropriate MS4 Operator when on an Off-system State route).

Place BMP’s as shown on the plans, or as directed. Maintain and properly place the erosion control measures to prevent storm water pollution to the Waters of the United States, as directed. Within the project limits, keep all inlets functional as long as possible to accept storm water as part of the Storm Water Pollution Prevention Plan (SWP3), as directed.

Grading operations will be limited to the catch point of the proposed cross-sections.

Preserve any vegetation outside these limits.

ITEM 529 & 531 – CONCRETE CURB & SIDEWALK

In lieu of the gradation of coarse aggregate for these Items, use aggregate of the following gradation:

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Table 4
Gradations

SIEVE SIZE	% RETAINED
1 in sieve	0%
3/4 in sieve	0-10%
3/8 in sieve	45-80%
#4 in sieve	90-100%
#8 in sieve	95-100%

All rebar needed for construction will be considered subsidiary.

Use Type II cement and Class A concrete for these Items, unless otherwise shown in the plans. Wire mesh will not be allowed. Reinforce all concrete for these Items using bar reinforcement conforming to Item 440, "Reinforcement for Concrete", as shown in the plans or as directed.

Construct the curb opening with metal plate configuration detailed in the plans, or as directed, to ensure roadway drainage. All required manipulations or incidentals required to complete the work will be considered subsidiary to these Items.

Detectable warning surface for new ADA ramps shall be made from a Department approved surface applied vitrified polymer composite tile, red in color.

ITEM 585 – RIDE QUALITY FOR PAVEMENT SURFACES

Use Surface Test Type A to govern ride quality.

ITEM 610 – ROADWAY ILLUMINATION ASSEMBLIES

Conductor runs in Illumination Layouts contain 5 ft. of slack.

Limitations on Use of the RIP-11 Standard

The Roadway Illumination Pole (RIP-11) Standard Details were developed for installations in locations where the 3-second gust basic maximum wind speed is 110 MPH, and where the elevation of the base of the pole is less than (i.e. not more than) 25 ft. above the elevation of surrounding terrain, in accordance with the AASHTO *Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals*, 4th Edition (2001) (AASHTO Design Specifications). For poles to be installed in regions where the maximum basic wind speed exceeds 110 mph or to be mounted more than 25-ft. above the surrounding terrain, the Contractor shall provide poles meeting the following requirements:

- **Submittals.** Following the electronic shop drawing submittal process (see [Guide Electronic Shop Drawing Submittal](#)), the Contractor shall submit to the Engineer, for approval, fabrication drawings and calculations for the poles. The drawings and calculations shall be sealed by a Texas registered or licensed professional engineer (P.E.).
- **Luminaire Structural Support Requirements.** Lighting poles, arms, and anchor bolt assemblies shall have a 25-year design life to resist dead loads, ice loads, and the required basic wind speeds safely at the location of installation in accordance with the current edition of the AASHTO Design Specifications. For transformer base poles, the fabricator

shall include transformer base and connecting hardware in calculations and shop drawing submittals. All transformer bases shall have been structurally tested to resist the theoretical plastic moment capacity of the pole. Certification of the plastic moment load test and FHWA breakaway requirement test of the model of base being furnished shall be submitted with the shop drawings. Shop drawings shall show breakaway base model number, and manufacturer's name and logo. Manufacturer's shop drawings shall include the ASTM designations for all materials to be used.

Fabricate steel roadway illumination poles in accordance with Department standards RIP-2011 (Roadway Illumination Poles – 2011). Poles fabricated according to RIP-2011 require no shop drawings. Alternate designs to RIP-2011 or the use of aluminum to fabricate poles will require the submission of shop drawings electronically.

For instructions on submitting shop drawings electronically go to the Texas Department of Transportation (TxDOT) home page, <http://www.txdot.gov>, Business with TxDOT, Bridge, Shop drawings. File is titled: Guide to Electronic Shop Drawing Submittal.

ITEM 618 – CONDUIT

Work and backfilling for all new conduits shall be in accordance with Item 400, "Excavation and Backfill for Structures," except for measurement and payment.

For conduit placement in pavement, an earth-saw may be used provided the cut does not exceed 6 in. Backfill as shown on the trench details in the plans.

When shown on the plans, the Contractor shall use "Underground Electrical Marking Tape" in the trench installation of conduit (PVC). The marking tape shall be a minimum of 3 in. wide, red in color, made of inert polyethylene plastic that is impervious to all known alkalis, acids, chemical reagents, etc., that may be encountered in the soil. The marking tape shall have the words, "Caution, electrical line buried below" continuously printed on the tape. The marking tape is subsidiary to this item.

All underground conduit bends of 45° or more shall be made with rigid metal conduit. Where the rigid metal conduit is exposed at any point and where rigid metal extends into ground boxes, bond the metal conduit to the grounding conductor with grounding type bushings or by other UL-listed grounding connectors, approved by the Engineer. Rigid metal bends shall not be paid for separately but shall be considered incidental to the PVC conduit system.

When crossing bridges or culverts, use rigid metal conduit. All clamps, expansion joints, bolts and accessories necessary to install the rigid metal shall be subsidiary to this Item.

Backfill the trench for the roadway with cement-stabilized backfill, at the end of each working day. The Asphaltic Concrete Pavement (ACP) patch shall be in place at the end of the week, or as directed.

All conduit elbows and rigid metal extensions required to be installed on PVC conduit systems, will not be paid for separately, but will be considered subsidiary to the various bid items.

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All bore items shall be directional and shall be paid for under this item. Bore quantity shown in plans, will pay only for the distance beneath the roadway, plus an additional 2 ft. to each side past the curb, sidewalk, or edge of pavement.

For conduit placement, using the open-trench method, backfill as shown on the plans.

Place conduit for fiber optic cable at a minimum of 48 in. below pavement surface. Place all other conduit at a minimum depth of 18 in. below the pavement surface. Conduit placement shall be accomplished prior to new pavement construction.

Fit both ends of each raceway with a temporary cap to prevent dirt and debris from entering during construction.

Install a continuous bare or green insulated copper wire No. 8 AWG or larger in every conduit throughout the electrical system in accordance with the electrical detail sheets, and the latest edition of the National Electrical Code.

When conduit is to be installed where riprap presently exists, take care in breaking out existing riprap for placement of the conduit. Do not break out a greater area that is required for placement of the conduit. Replace broken out riprap with Class "C" concrete to the exact slope, pattern, color and thickness of the existing riprap. Replacement of riprap shall be subsidiary to this Item.

ITEM 620 – ELECTRICAL CONDUCTORS

Use NEC type XHHW for all conductors.

Insulate grounding conductors with a green jacket and neutral conductors shall have a white jacket.

Bond together grounding conductors that share the same conduit, junction box, ground box or structure at every accessible point, in accordance with the electrical detail sheets and the latest edition of the National Electrical Code.

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holder as shown on the Texas Department of Transportation (TxDOT) Materials Producers List. Category is "Roadway Illumination and Electrical Supplies." Fuse holder is shown on list under Items 610 and 620. Provide 10 amp time delay fuses.

Include extra cable length in each ground box or foundation for each run, to provide adequate slack, as provided in the plans or as directed.

Ensure a properly bonded electrical system by running one No. 8 wire between foundations and grounding it at each foundation ground-rod.

Bond metal junction boxes and metal conduit to the circuit grounding conductor, in accordance to the National Electrical Code.

For electrical certification and electrical licensing requirements see Item 7, Section 19 “Electrical Requirements” and any special provisions to Item 7 for additional details.

The required electrical certifications course is available and is scheduled periodically by Texas Engineering Extension Service (TEEX). Alternatively, Contractors may purchase an entire course for their personnel to be held at a time and location of their choice as negotiated through TEEX. For more information contact:

Texas Engineering Extension Service (TEEX)
TxDOT Electrical System Course
(979) 845-6563

ITEM 624 – GROUND BOXES

Remove all conductors in ground boxes shown on the plans to be abandoned. Payment for removal of conductors shall be subsidiary to this item.

ITEM 628 – ELECTRICAL SERVICES

Meet at the service locations with representatives of the Department, electrical utility company, and the City of El Paso Engineering Section (Traffic Section) two weeks prior to the time electrical power is required. This meeting will finalize exact service pole placement and resolve any issues.

Any electrical costs for connection, test, and operation will be the responsibility of the government agency that will have the final operational control of the items built.

Remove the existing service enclosure and conduit on service poles that are to be reused or abandoned. Payment for removal will be considered subsidiary to this Item.

ITEM 644 – SMALL ROADSIDE ASSEMBLIES

Stake all sign locations and receive approval prior to sign placement.

For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metalizing with zinc wire per ASTM B833.

Verify all post lengths to ensure the proper sign height above sidewalk/pedestrian path and ornamental fence for visibility. Remove and replace any sign installed incorrectly. This work will be done at no expense to the State.

ITEM 666 – REFLECTORIZED PAVEMENT MARKINGS

Use a pilot line for final striping and remove pilot line after all striping is complete. Removal will be in accordance with the methods specified in Item 677, “Eliminating Existing Pavement Markings and Markers” and will be subsidiary to this pay Item.

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ITEM 672 – RAISED PAVEMENT MARKERS

Use a pilot line for final striping and remove pilot line after all striping is complete. Removal will be in accordance with the methods specified in Item 677, “Eliminating Existing Pavement Markings, and Markers,” and will be subsidiary to this pay item.

Furnish adhesives that conform to DMS-6100, “Epoxyes and Adhesives” and DMS-6130, “Bituminous Adhesive for Pavement Markers” for this Item.

Do not place raised pavement markers when the pavement surface temperature is below 60°F.

Removal of all existing raised pavement markers will be considered subsidiary to the various bid items for payment.

ITEM 678 – PAVEMENT SURFACE PREPARATION FOR MARKINGS

Air blasting is required as pavement surface preparation.

ITEM 680 – HIGHWAY TRAFFIC SIGNALS

Transformer bases or shoe bases for steel mast arm pole assemblies capable of a minimum 15-degree rotation will be acceptable.

Use metallic material for traffic signal heads and mounting hardware. Do not use polycarbonate material.

Cover signal heads when not in operation.

Data needed prior to final acceptance during construction of traffic signals of:

1. Freeway Management System Geographic Information System-FMSGIS data by providing survey information (NAD 83 State Plane) on all poles, controller cabinets, and signal heads.
2. Digital photos and serials on all poles, controller cabinets, and signal heads.

Final acceptance of traffic signals shall be determined by the City of El Paso and/or the State and will require coordination with the Contractor for interim and final inspections.

ITEM 681 – TEMPORARY TRAFFIC SIGNALS

Use this item to provide signal operation and maintenance at Alameda Avenue during all project phases.

ITEM 6001 – PORTABLE CHANGEABLE MESSAGE SIGN

Portable changeable message signs to be available as deemed necessary.

Install PCMS as shown on plans or as directed.

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SHEET

Payment by EA shall be for duration of project and is not to be one time use.

Provide messages as directed.