ADDENDUM NO. 1 TO
CONTRACT DOCUMENTS, SPECIFICATIONS AND PLANS
FOR ANGELINA COUNTY AIRPORT
TXDOT CSJ # 2511LUFKN

TO ALL BIDDERS: YOU ARE REQUESTED TO CONSIDER AND ACKNOWLEDGE ALL CHANGES AND/OR ADDITIONS CONTAINED IN THIS ADDENDUM. FAILURE TO ACKNOWLEDGE THIS ADDENDUM IN THE PROPOSAL DOCUMENT SHALL RESULT IN REJECTION OF THE BID.

1. PRE-BID MEETING AGENDA AND NOTES

Highlights indicate updates to agenda as per the meeting.

Attendees: See Sign-In Sheet
Agenda:

1. **RECORDING OF ATTENDEES**
   - A. Recording of attendees, firm represented, address and phone number.
   - B. Attendance & plan holder's list will be sent to all attendees.

2. **PROJECT DESCRIPTION & INTRODUCTIONS**
   - A. Project Scope of Work.
     - I. Schedule I Taxiway E, Taxiway F, and Apron.
     - II. Additive Alternate 1: Runway 7/25 Remarking.
     - III. Additive Alternate 2: Runway Guard Lights
   - B. Airport Sponsor.
     - I. Gary Letney, Airport Manager
   - C. Airport Engineering. (Woolpert, Inc.)
     - I. Thomas Hart, Project Manager
   - D. Project Schedules.
     - I. Schedule I Taxiway E, Taxiway F, and Apron.
     - II. Additive Alternate 1: Runway 7/25 Remarking.
     - III. Additive Alternate 2: Runway Guard Lights

3. **Bidding Procedures**
   - A. Sealed bids for construction of airport improvements at Angelina County Airport need to be addressed and delivered to Kelle Chancey, TxDOT Aviation Division, 6230 E. Stassney Lane, 2nd Floor, Austin, Texas 78744. The delivery package must be clearly marked as "Bid Proposal".
   - B. Bids will be received until 2:00 p.m., Tuesday July 15, 2025, then publicly opened and read. Any bid received after closing will be returned unopened.
   - C. Technical questions regarding the plans and specifications should be directed to Thomas Hart, PE at Tom.Hart@woolpert.com, Please call Kelle Chancey, TxDOT Aviation at 512-633-0253 for questions concerning the bid document for further information.
   - D. The deadline for questions is July 7, 2025, close of business.
   - E. Bidder Qualifications

I. If Contractor is Pre-Qualified with the Texas Department of Transportation, the Contractor shall include the necessary Full Prequalification with the Bid Proposal.
II. If Contractor is not Pre-Qualified, the Contractor shall include the bidder's qualifications per General Provision 20-02. Pre-qualification of Bidder along with the Bid Proposal.

F. Required Documents:
I. Bid Form
II. Bid Bond
III. Required Language in Proposal for AIP Contracts
IV. Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion
V. Buy American Certification
VI. Certification of Non-Segregated Facilities
VII. DBE Participation Plan – Submitted no later than 5 calendar days from bid opening. This includes weekend days.

G. Contract Time:
I. Base Bid – 100 Calendar Days.
II. Additive Alternates 1, 2 is accounted for in Base Bid time-frame and does not add additional time.

4. **Federal Provisions**
A. DBE Goal is 2%
I. Documentation required to complete DBE requirements:
(1) DBE Commitment Agreement Form No. SMS 4901
(2) DBE Program Material/Supplier Form No. SMS.4901-MS
(3) DBE Trucking Commitment Form No. SMS.4901-T
(4) Form 4000 Contractor's certification Good Faith Effort (**if unable to meet specified goal**)
II. Please download the appropriate DBE Commitment Agreement or Good Faith effort form from the TxDOT website at http://www.txdot.gov/business/partnerships/dbe-forms.html .
In accordance with 49 CFR Part 26.53 the bidder/offerer must submit an acceptable DBE plan and commitment or good faith effort no later than 5 calendar days after bid opening as a matter of responsibility.
For all federally funded construction projects with a DBE goal, bidders shall use the attached DBE participation plan and appropriate commitment agreement form/s and submit these documents to TxDOT Aviation within 5 calendar days after the bid opening via email to AVNRFQ@txdot.gov
B. Contractor shall follow all Davis Bacon Wage Rate Requirements.
C. Contractor shall follow all Buy American clauses.

5. **Construction Contract General Provisions** shall be TxDOT Aviation Division Construction Contract General Provisions (2013) – and as amended by Special Provisions in the Contract Documents.

6. **Construction Plans**
A. See Drawing G001 to discuss the overall project and major construction items.
I. Some of the Base Bids major work items are listed below:

Schedule I			
Item No.	**Description**	**Units**	**Quantity**
TX-105	Full Depth Asphalt Pavement (Max 6 Inch) and Base Removal	SY	4,300
TX-110	Excavation/Embankment (Native)	CY	3,200

TX-354	Planing Asphalt Concrete Pavement	SY	900
TX-464/467	18" & 12" Reinforced Concrete Pipe & End Sections	LF/EA	185/4
TX-132	Subbase (Import)	CY	2,500
TX-247	Crushed Aggregate Base Course (6 Inch)	CY	1,300
TX-300	Tack Coat	SY	7,200
TX-341	Hot Mix Asphalt: 4-Inch (Dense Graded)	TON	1,800
L-108-5.1	Install #8 AWG, L-824C, 5KV Cable, Installed in Duct Bank or Conduit	LF	1,600
L-108-5.2	Install #6 AWG, Solid, Bare Copper Counterpoise Including Ground Rods and Connections/Terminations	LF	800
L-110	Sch 40 PVC Duct, Direct Earth Buried/Concrete Encased	LF	780
L-125	Edge Lights, SIgns	EA	6
TX-162	Seeding	SY	20,500

II. Additive Alternate 1 bid items are listed below:

Additive Alternate 1: Runway 7/25 Remarking			
Item No.	**Description**	**Units**	**Quantity**
P-620	Marking Removal	SF	10,000
P-620	Reflectorized Pavement Marking (Yellow, White)	SF	72,000

III. Additive Alternate 2 bid items are listed below:

Additive Alternate 2: Runway Guard Lights			
Item No.	**Description**	**Units**	**Quantity**
L-108-5.1	Install #8 AWG, L-824C, 5KV Cable, Installed in Duct Bank or Conduit	LF	5,400
L-108-5.2	Install #6 AWG, Solid, Bare Copper Counterpoise Including Ground Rods and Connections/Terminations	LF	1,600
L-110-5.1	Install ½" Sch. 40 PVC Duct, Direct Earth Buried	LF	950
L-110-5.3	Install ½" Sche. 40 HDPE Duct, Directionally Bored	LF	600
L-115-5.1	Install L-867B Junction Box, Complete	EA	5
L-125-5.2	Install L-804 LED Runway Guard Light, Complete	EA	6

7. **Construction Specifications**
   A. See Specifications for all bid items in Technical Specifications. Note C-105 Mobilization at 10% of bid amount.

8. **INSURANCE REQUIREMENTS**
   A. Refer to Section 30-10.
   Within 14 days after receipt of written notification of conditional award of the contract the bidder shall furnish a TxDOT - Aviation Division Certificate of Insurance form covering:
   a. Worker's Compensation Insurance Amount - Statutory
   b. Commercial General Liability Amount-$600,000 each occurrence
   c. Texas Business Automobile Amount - $600,000 combined single limit

9. **FEDERAL WAGE RATES (DAVIS BACON ACT)**
   A. Federal wage rates are required for this project. Refer to Wage Rates.
   B. Contractor and all Subcontractors are required to submit certified payrolls.

10. **ENGINEER/RESIDENT PROJECT REPRESENTATIVE (RPR) FIELD OFFICE**
    A. Not Required.

11. **CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)**
    A. Construction Safety and Phasing Plan (CSPP).
    B. The Contractor shall review and adhere to the CSPP prepared by the Engineer.
    C. The Contractor shall submit a Safety Plan Compliance Document (SPCD) to the engineer for approval PRIOR to the issuance of Notice to Proceed as required by FAA Advisory Circular (AC) 150/5370-2G "Operational Safety on Airports During Construction".

12. **ENVIRONMENTAL REQUIREMENTS**
    A. Discuss all project specific requirements for environmentally sensitive areas. Discuss protocols for working in and around these sensitive areas. Adherence to these requirements will be strictly enforced.
    B. All changes to haul routes, staging areas, material storage areas, borrow/waste areas, and limits of disturbance will require approval by FAA Environmental.
    C. Extra pavement millings should be removed from the site by the Contractor and can be stockpiled near the AOA access point as shown on Sheet 15 of the plans.

13. **LIQUIDATED DAMAGES**
    A. Refer to Bid Form
    B. As compensation for non-use, the Contractor shall be assessed a liquidated damage of $1,500/DAY for each day that the work remains uncompleted beyond the contract period of 100 days.

14. **MISCELLANEOUS**
    A. Airport Security – Badging is not required for this project.
    B. Airport Driving – The airport (will not) require driver safety training class (approx ½ hour) for supervising personnel working in the aircraft movement area. The airport will inform drivers of expectations.
    C. Review Construction Layout and Safety Drawings G050 thru G057 – note the Staging Area & Airport Access gate. Contractor will need to keep gates closed when not used.
    D. Review Construction Layout Phase 1 G053, Phase 2 G054, Phase 3 G055, and Phase 4 G056 – the contractor shall install flasher barricades around the perimeter of the construction site bordering the airfield to isolate the contractor from aircraft.
    E. Contractor shall stay within project boundaries.
    F. Radios for the project to be provided by Contractor. Contractor's supervisor will need one.
    G. State Sales & Use Tax Exempt – Generally, materials incorporated into a project, such as concrete, rebar, asphalt, etc., are tax exempt. Other items not incorporated into the project such as barricades and equipment rental may be subject to sales tax. A copy of the Texas Sales and Use Tax Exemption form is available through the State Comptroller website at https://comptroller.texas.gov/forms/01-339.pdf This form is a self-certification process. The contractor must complete the form and retain the document in their files. A copy of the form should be sent to the seller/supplier. Bidders should contact their tax consultant or the Texas Office of the Comptroller with any questions related to the payment of sales tax.
    H. Quality Assurance testing will be completed by Rodriguez Engineering Laboratories under the direction of the Engineer. The Quality Control testing and Quality Assurance testing shall be completed by separate firms.
    I. Quality Control by Contractor – As required By Specifications and Section 100 of General Provisions. QA cannot serve as QC. As per GP-50-1: *All quality assurance costs associated with replacing or otherwise correcting any work item determined to be unacceptable shall be borne by the Contractor.*

J. Survey requirements. See Sheets G003, G006 of Plans.
   I. Contractor shall verify airport and project control points prior to construction activities and report discrepancies to the engineer.
   II. Prior to the pre-construction meeting, the contractor shall provide the engineer with a pre-construction survey verifying existing elevations of all pavement areas and other critical areas determined by the engineer. The survey shall be performed using specified project control and shall provide sufficient shots to accurately represent the existing surface. Survey shall be provided to the engineer in electronic format that is acceptable to the engineer. This survey will be used to determine if any modifications to design grades are required. This survey will be incidental to C-105. Pre-construction survey shall be performed by a state licensed land surveyor.
   III. Grade Verification – To be performed by Engineer. Advance Notice Required

K. Site Soil Conditions - Geotechnical Information in Plans and contract documents.

L. Water availability – Contact Ramon Johnson, City of Lufkin Water. There is a hydrant on the airfield near Runway 7-25. Due to proximity to an active runway, contractor shall coordinate with the Airport prior to using the hydrant.

M. Bidders should be advised that Adobe Pro sometimes works better than other programs in accessing and filling the Bid Form. We encourage contractors to access and work out any issues with software and the Bid Form well in advance of the deadline to make sure the software is working correctly.

N. We anticipate a start date somewhere near Labor Day of 2025, although this is not a firm timeframe.

O. If desired, Contractors may use the gate near the "Ag Pad" off County Road 2108 on the north side of the Airport, for work in the vicinity, to reduce access across taxiways and runways from the south.

P. It was noted that currently Taxiway "F" is a high spot in the area, but that other lower-lying areas on the airport have been known to have softer native ground.

15. **ADDENDUM UPDATE**

16. **QUESTIONS / ANSWERS**

17. **PROJECT SITE TOUR**

[end of agenda]

2. QUESTIONS

Q: Will the construction estimate be made available?

A: Engineer's Estimate for all bid schedules totals approximately $1.5 million.

Q: Does the pavement removal item associated with the apron include both asphalt and concrete paving to remove?

A: Yes, please see Sheet 22 of the plan set. The specification is updated in this addendum to include concrete in addition to asphalt pavement removal.

Q: To achieve the radius/fillet dimensions as called for, may the contractor overbuild and then sawcut back?

A. Yes.

Q: Will time charges be incurred when asphalt paving is curing in advance of painting?

A: Time charges will pause as long as other activities are not occurring. See note on bottom left of Sheet 15 of the plans.

Q: Do subcontractors need to be pre-qualified?

A: No, pre-qualification or other evidence of qualification does not apply to subcontractors. Prime contractors must submit qualifications or pre-qualification as per Bidder Qualifications and Instructions to Bidders in the Contract Documents.

3. SUMMARY OF PLAN AND SPECIFICATION CHANGES

a. Specifications have been revised to clarify that Portland Cement Concrete used on the project shall be TxDOT-Specification concrete (TX-421) rather than FAA-specification concrete.

b. Specifications have been revised to include concrete pavement as part of the Pavement Removal item.

REPLACE THE FOLLOWING PAGES IN THE CONTRACT DOCUMENTS:
Item L-108 Underground Power Cables for Airports, Page L-108-3
Item L-110 Airport Underground Electrical Duct Banks and Conduits, Page L-110-2
Item L-115 Electrical Manholes and Junction Structures, Page L-115-1
Item L-115 Electrical Manholes and Junction Structures, Page L-115-2
Item L-115 Electrical Manholes and Junction Structures, Page L-115-4
Item TX-105 Removing Treated and Untreated Base and Asphalt Pavement, Page 1

ADD THE FOLLOWING PAGE TO THE CONTRACT DOCUMENTS:
Summary of Changes for Item TX-105
Summary of Changes for Item L-108
Summary of Changes for Item L-110
Summary of Changes for Item L-115

CERTIFIED BY:

7-11-25

Thomas Hart, P.E.
Woolpert, Inc.
TBPE #1001

Woolpert, Inc.
11750 Katy Freeway
Suite 1260
Houston, TX 77079
Phone: 346.409.2067

WOOLPERT

Pre-Bid Meeting Sign In

Meeting Date / Location: June 25, 2025, Angelina County Airport
800 Airport Blvd., Burke, TX 75941

Time: 1:00 P.M. (Local Time)

Project Name: TW E Extension, TW F Relocation, and Apron Reconstruction

Project #: 2511LUFKN

Name	Company	Telephone No.	E-mail
Gary Letney	Angelina County Airport	936-635-1542	airport@angelinacounty.net
CAITLIN MCGUNIGLE	TXDOT	(737) 256-9075	caitlin.mcgunigle@txdot.gov
Robert Johnson	TxDOT	(512) 701-9702	robert.n.johnson@txdot.gov
Christian Cox	TxDot	512 4468557	christian.cox@txdot.gov
Ryan Hindman	TxDOT	(512) 520-7467	ryan.hindman@txdot.gov
John Alonzo	Lone Wolf	817 501-6712	John@Lone-Wolf-Contracting.com
Tom Hart	Woolpert	801 735 8525	tom.hart@woolpert.com

ITEM 105 REMOVING TREATED AND UNTREATED BASE AND ASPHALT PAVEMENT – Summary of Changes

1. 1- Description, 2-Construction, 3-Measurement. Added references to concrete pavement removal included in the item of work.
2. 4-Payment: Changed Pay Item to FULL DEPTH ASPHALT PAVEMENT AND BASE REMOVAL.

Item 105

Removing Treated and Untreated Base and Asphalt Pavement

1. DESCRIPTION

Break, remove, and store or dispose of existing asphalt and/or concrete pavement, including surface treatments, and treated or untreated base materials.

2. CONSTRUCTION

Break material retained by the Department into pieces not larger than 24 in. unless otherwise shown on the plans. Remove existing asphalt or concrete pavement before disturbing stabilized base. Avoid contamination of the asphalt or concrete materials and damage to adjacent areas. Repair material damaged by operations outside the designated locations.

Stockpile materials designated salvageable at designated sites when shown on the plans or as directed. Prepare stockpile site by removing vegetation and trash and by providing for proper drainage. Material not designated to be salvaged will become the property of the Contractor. When this material is disposed of, do so in conformance with federal, state, and local regulations.

3. MEASUREMENT

This Item will be measured by the 100-ft. station along the baseline of each roadbed, by the square yard of existing treated or untreated base and asphalt or concrete pavement in their original position, or by the cubic yard of existing treated or untreated base and asphalt or concrete pavement in their original position, as calculated by the average end area method or as shown on the plans. Square yard and cubic yard measurement will be established by the widths and depths shown on the plans and the lengths measured in the field.

4. PAYMENT

The work performed in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "~~Removing Treated and Untreated Base and Asphalt Pavement~~" **Full Depth Asphalt Pavement and Base Removal** of the depth specified. This price is full compensation for breaking the material, loading, hauling, unloading, and stockpiling or disposing; repair to areas outside designated locations for removal; and equipment, labor, tools, and incidentals.

ITEM L-108 UNDERGROUND POWER CABLE FOR AIRPORTS
Summary of Changes

1. 2.6 - Reference to type of concrete changed to TxDOT-specification concrete.

d. The taped or heat-shrink splice. Taped splices employing field-applied rubber, or synthetic rubber tape covered with plastic tape is acceptable. The rubber tape should meet the requirements of ASTM D4388 and the plastic tape should comply with Military Specification MIL-I-24391 or Commercial Item Description A-A-55809. Heat shrinkable tubing shall be heavy-wall, self-sealing tubing rated for the voltage of the wire being spliced and suitable for direct-buried installations. The tubing shall be factory coated with a thermoplastic adhesive-sealant that will adhere to the insulation of the wire being spliced forming a moisture- and dirt-proof seal. Additionally, heat shrinkable tubing for multi-conductor cables, shielded cables, and armored cables shall be factory kits that are designed for the application. Heat shrinkable tubing and tubing kits shall be manufactured by Tyco Electronics/ Raychem Corporation, Energy Division, or approved equivalent.

In all the above cases, connections of cable conductors shall be made using crimp connectors using a crimping tool designed to make a complete crimp before the tool can be removed. All L-823/L-824 splices and terminations shall be made per the manufacturer's recommendations and listings.

All connections of counterpoise, grounding conductors and ground rods shall be made by the exothermic process or approved equivalent, except that a light base ground clamp connector shall be used for attachment to the light base. All exothermic connections shall be made per the manufacturer's recommendations and listings.

108-2.5 Splicer qualifications. Every airfield lighting cable splicer shall be qualified in making airport cable splices and terminations on cables rated at or above 5,000 volts AC. The Contractor shall submit to the RPR proof of the qualifications of each proposed cable splicer for the airport cable type and voltage level to be worked on. Cable splicing/terminating personnel shall have a minimum of three (3) years continuous experience in terminating/splicing medium voltage cable.

108-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item TXDOT-421, Hydraulic Cement Concrete.

108-2.7 Flowable backfill. Flowable material used to backfill trenches for power cable trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

108-2.8 Cable identification tags. Cable identification tags shall be made from a non-corrosive material with the circuit identification stamped or etched onto the tag. The tags shall be of the type as detailed on the plans.

108-2.9 Tape. Electrical tapes shall be Scotch™ Electrical Tapes –Scotch™ 88 (1-1/2 inch (38 mm) wide) and Scotch™ 130C® linerless rubber splicing tape (2-inch (50 mm) wide), as manufactured by the Minnesota Mining and Manufacturing Company (3M™), or an approved equivalent.

108-2.10 Electrical coating. Electrical coating shall be Scotchkote™ as manufactured by 3M™, or an approved equivalent.

108-2.11 Existing circuits. Whenever the scope of work requires connection to an existing circuit, the existing circuit's insulation resistance shall be tested, in the presence of the RPR. The test shall be performed per this item and prior to any activity that will affect the respective circuit. The Contractor shall record the results on forms acceptable to the RPR. When the work affecting the circuit is complete, the circuit's insulation resistance shall be checked again, in the presence of the RPR. The Contractor shall record the results on forms acceptable to the RPR. The second reading shall be equal to or greater than the first reading or the Contractor shall make the necessary repairs to the existing circuit to bring the second reading above the first reading. All repair costs including a complete replacement of the L-823 connectors, L-830 transformers and L-824 cable, if necessary, shall be borne by the Contractor. All test results shall be submitted in the Operation and Maintenance (O&M) Manual.

108-2.12 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) Red (electrical power lines, cables, conduit and lighting cable) with continuous legend tape shall be polyethylene film with a metalized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid

ITEM L-110 AIRPORT UNDERGROUND ELECTRICAL DUCT BANKS AND CONDUITS – Summary of Changes

1. 2.6 - Reference to type of concrete changed to TxDOT-specification concrete.

painted with a 10-mil thick coat of asphaltum sealer or shall have a factory-bonded polyvinyl chloride (PVC) cover. Any exposed galvanizing or steel shall be coated with 10 mils of asphaltum sealer. When using PVC coated RGS conduit, care shall be exercised not to damage the factory PVC coating. Damaged PVC coating shall be repaired per the manufacturer's written instructions. In lieu of PVC coated RGS, corrosion wrap tape shall be permitted to be used where RGS is in contact with direct earth."

110-2.3 Plastic conduit. Plastic conduit and fittings-shall conform to the following requirements:

- UL 514B covers W-C-1094-Conduit fittings all types, classes 1 thru 3 and 6 thru 10.
- UL 514C covers W-C-1094- all types, Class 5 junction box and cover in plastic (PVC).
- UL 651 covers W-C-1094-Rigid PVC Conduit, types I and II, Class 4.
- UL 651A covers W-C-1094-Rigid PVC Conduit and high-density polyethylene (HDPE) Conduit type III and Class 4.

Underwriters Laboratories Standards UL-651 and Article 352 of the current National Electrical Code shall be one of the following, as shown on the plans:

a. Type I–Schedule 40 and Schedule 80 PVC suitable for underground use either direct-buried or encased in concrete.

b. Type II–Schedule 40 PVC suitable for either above ground or underground use.

c. Type III – Schedule 80 PVC suitable for either above ground or underground use either direct-buried or encased in concrete.

d. Type III –HDPE pipe, minimum standard dimensional ratio (SDR) 11, suitable for placement with directional boring under pavement.

The type of solvent cement shall be as recommended by the conduit/fitting manufacturer.

110-2.4 Split conduit. Split conduit shall be pre-manufactured for the intended purpose and shall be made of steel or plastic.

110-2.5 Conduit spacers. Conduit spacers shall be prefabricated interlocking units manufactured for the intended purpose. They shall be of double wall construction made of high grade, high density polyethylene complete with interlocking cap and base pads. They shall be designed to accept No. 4 reinforcing bars installed vertically.

110-2.6 Concrete. Concrete shall be proportioned, placed, and cured per Item TXDOT-421, Hydraulic Cement Concrete.

110-2.7 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program. Precast concrete structures shall conform to ASTM C478.

110-2.8 Flowable backfill. Flowable material used to back fill conduit and duct bank trenches shall conform to the requirements of Item P-153, Controlled Low Strength Material.

110-2.9 Detectable warning tape. Plastic, detectable, American Public Works Association (APWA) red (electrical power lines, cables, conduit and lighting cable), orange (telephone/fiber optic cabling) with continuous legend magnetic tape shall be polyethylene film with a metallized foil core and shall be 3-6 inches (75-150 mm) wide. Detectable tape is incidental to the respective bid item.

ITEM L-115 ELECTRICAL MANHOLES AND JUNCTION STRUCTURES
Summary of Changes

1. 2.2 - Reference to type of concrete changed to TxDOT-specification concrete.
2. 2.6 - Reference to type of concrete changed to TxDOT-specification concrete.
3. 3.2 – Reference to type of concrete changed to TxDOT-specification concrete.

Item L-115 Electrical Manholes and Junction Structures

DESCRIPTION

115-1.1 This item shall consist of electrical manholes and junction structures (hand holes, pull boxes, junction cans, etc.) installed per this specification, at the indicated locations and conforming to the lines, grades and dimensions shown on the plans or as required by the RPR. This item shall include the installation of each electrical manhole and/or junction structures with all associated excavation, backfilling, sheeting and bracing, concrete, reinforcing steel, ladders, appurtenances, testing, dewatering and restoration of surfaces to the satisfaction of the RPR including removal of existing manholes and junction structures as shown on the plans.

EQUIPMENT AND MATERIALS

115-2.1 General.

a. All equipment and materials covered by referenced specifications shall be subject to acceptance through manufacturer's certification of compliance with the applicable specification when so requested by the RPR.

b. Manufacturer's certifications shall not relieve the Contractor of the responsibility to provide materials per these specifications. Materials supplied and/or installed that do not comply with these specifications shall be removed (when directed by the RPR) and replaced with materials that comply with these specifications at the Contractor's cost.

c. All materials and equipment used to construct this item shall be submitted to the RPR for approval prior to ordering the equipment. Submittals consisting of marked catalog sheets or shop drawings shall be provided. Submittal data shall be presented in a clear, precise and thorough manner. Original catalog sheets are preferred. Photocopies are acceptable provided they are as good a quality as the original. Clearly and boldly mark each copy to identify products or models applicable to this project. Indicate all optional equipment and delete any non-pertinent data. Submittals for components of electrical equipment and systems shall identify the equipment to which they apply on each submittal sheet. Markings shall be made bold and clear with arrows or circles (highlighting is not acceptable). The Contractor is solely responsible for delays in the project that may accrue directly or indirectly from late submissions or resubmissions of submittals.

d. The data submitted shall be sufficient, in the opinion of the RPR, to determine compliance with the plans and specifications**.** The Contractor's submittals shall be electronically submitted in pdf format, tabbed by specification section. The RPR reserves the right to reject any and all equipment, materials or procedures that do not meet the system design and the standards and codes, specified in this document.

e. All equipment and materials furnished and installed under this section shall be guaranteed against defects in materials and workmanship for a period of at least twelve (12) months from the date of final acceptance by the Owner. The defective materials and/or equipment shall be repaired or replaced, at the Owner's discretion, with no additional cost to the Owner.

115-2.2 Concrete structures. Concrete shall be proportioned, placed, and cured per Item TXDOT-421, Hydraulic Cement Concrete. Cast-in-place concrete structures shall be as shown on the plans.

115-2.3 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another engineer approved third party certification program. Provide precast concrete structures where shown on the plans.

Precast concrete structures shall be an approved standard design of the manufacturer. Precast units shall have mortar or bitumastic sealer placed between all joints to make them watertight. The structure shall be designed to withstand 100,000 lb aircraft loads, unless otherwise shown on the plans. Openings or knockouts shall be provided in the structure as detailed on the plans.

Threaded inserts and pulling eyes shall be cast in as shown on the plans.

If the Contractor chooses to propose a different structural design, signed and sealed shop drawings, design calculations, and other information requested by the RPR shall be submitted by the Contractor to allow for a full evaluation by the RPR. The RPR shall review per the process defined in the General Provisions.

115-2.4 Junction boxes. Junction boxes shall be L-867 Class 1 (non-load bearing) or L-868 Class 1 (load bearing) airport light bases that are encased in concrete. The light bases shall have a L-894 blank cover, gasket, and stainless steel hardware. All bolts, studs, nuts, lock washers, and other similar fasteners used for the light fixture assemblies must be fabricated from 316L (equivalent to EN 1.4404), 18-8, 410, or 416 stainless steel. If 18-8, 410, or 416 stainless steel is utilized it shall be passivated and be free from any discoloration. Covers shall be 3/8-inch (9-mm) thickness for L-867 and 3/4-inch (19-mm) thickness for L-868. All junction boxes shall be provided with both internal and external ground lugs.

115-2.5 Mortar. The mortar shall be composed of one part of cement and two parts of mortar sand, by volume. The cement shall be per the requirements in ASTM C150, Type I. The sand shall be per the requirements in ASTM C144. Hydrated lime may be added to the mixture of sand and cement in an amount not to exceed 15% of the weight of cement used. The hydrated lime shall meet the requirements of ASTM C206. Water shall be potable, reasonably clean and free of oil, salt, acid, alkali, sugar, vegetable, or other substances injurious to the finished product.

115-2.6 Concrete. All concrete used in structures shall conform to the requirements of Item TXDOT-421, Hydraulic Cement Concrete.

115-2.7 Frames and covers. The frames shall conform to one of the following requirements:

a. ASTM A48 Gray iron castings

b. ASTM A47 Malleable iron castings

c. ASTM A27 Steel castings

d. ASTM A283 Grade D Structural steel for grates and frames

e. ASTM A536 Ductile iron castings

f. ASTM A897 Austempered ductile iron castings

All castings specified shall withstand a maximum tire pressure of 250 psi and maximum load of 100,000 lbs.

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings specified.

Each frame and cover unit shall be provided with fastening members to prevent it from being dislodged by traffic, but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

Each cover shall have the word “ELECTRIC” or other approved designation cast on it. Each frame and cover shall be as shown on the plans or approved equivalent. No cable notches are required.

The Contractor shall provide all bracing, sheeting and shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheeting and shoring shall be included in the unit price bid for the structure.

Unless otherwise provided, bracing, sheeting and shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall be effected in a manner that will not disturb or mar finished masonry. The cost of removal shall be included in the unit price bid for the structure.

After each excavation is completed, the Contractor shall notify the RPR. Structures shall be placed after the RPR has approved the depth of the excavation and the suitability of the foundation material.

Prior to installation the Contractor shall provide a minimum of 6 inches (150 mm) of sand or a material approved by the RPR as a suitable base to receive the structure. The base material shall be compacted and graded level and at proper elevation to receive the structure in proper relation to the conduit grade or ground cover requirements, as indicated on the plans.

115-3.2 Concrete structures. Concrete structures shall be built on prepared foundations conforming to the dimensions and form indicated on the plans. The concrete and construction methods shall conform to the requirements specified in Item TXDOT-421, Hydraulic Cement Concrete. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

115-3.3 Precast unit installations. Precast units shall be installed plumb and true. Joints shall be made watertight by use of sealant at each tongue-and-groove joint and at roof of manhole. Excess sealant shall be removed and severe surface projections on exterior of neck shall be removed.

115-3.4 Placement and treatment of castings, frames and fittings. All castings, frames and fittings shall be placed in the positions indicated on the Plans or as directed by the RPR and shall be set true to line and to correct elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place and position before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

Field connections shall be made with bolts, unless indicated otherwise. Welding will not be permitted unless shown otherwise on the approved shop drawings and written approval is granted by the casting manufacturer. Erection equipment shall be suitable and safe for the workman. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and fitting of parts shall be reported immediately to the RPR and approval of the method of correction shall be obtained. Approved corrections shall be made at Contractor's expense.

Anchor bolts and anchors shall be properly located and built into connection work. Bolts and anchors shall be preset by the use of templates or such other methods as may be required to locate the anchors and anchor bolts accurately.

Pulling-in irons shall be located opposite all conduit entrances into structures to provide a strong, convenient attachment for pulling-in blocks when installing cables. Pulling-in irons shall be set directly into the concrete walls of the structure.

115-3.5 Installation of ladders. Ladders shall be installed such that they may be removed if necessary. Mounting brackets shall be supplied top and bottom and shall be cast in place during fabrication of the structure or drilled and grouted in place after erection of the structure.

115-3.6 Removal of sheeting and bracing. In general, all sheeting and bracing used to support the sides of trenches or other open excavations shall be withdrawn as the trenches or other open excavations are being refilled. That portion of the sheeting extending below the top of a structure shall be withdrawn, unless otherwise directed, before more than 6 inches (150 mm) of material is placed above the top of the structure and before any bracing is removed.