

Control	6473-05-001
Project	RMC - 647305001
Highway	SL0025
County	VAL VERDE

ADDENDUM ACKNOWLEDGMENT

Each bidder is required to acknowledge receipt of an addendum issued for a specific project. This page is provided for the purpose of acknowledging an addendum.

FAILURE TO ACKNOWLEDGE RECEIPT OF AN ADDENDUM WILL RESULT IN THE BID NOT BEING READ.

In order to properly acknowledge an addendum place a mark in the box next to the respective addendum.

- ADDENDUM NO. 1
- ADDENDUM NO. 2
- ADDENDUM NO. 3
- ADDENDUM NO. 4
- ADDENDUM NO. 5

In addition, the bidder by affixing their signature to the signature page of the proposal is acknowledging that they have taken the addendum(s) into consideration when preparing their bid and that the information contained in the addendum will be included in the contract, if awarded by the Commission or other designees.

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Control	6473-05-001
Project	RMC - 647305001
Highway	SL0025
County	VAL VERDE

PROPOSAL TO THE TEXAS TRANSPORTATION COMMISSION

2024 SPECIFICATIONS

WORK CONSISTING OF TRAVEL INFORMATION CENTER VAL VERDE COUNTY, TEXAS

The quantities in the proposal are approximate. The quantities of work and materials may be increased or decreased as considered necessary to complete the work as planned and contemplated.

This project is to be completed in 180 working days and will be accepted when fully completed and finished to the satisfaction of the Executive Director or designee.

Provide a proposal guaranty in the form of a Cashier's Check, Teller's Check (including an Official Check) or Bank Money Order on a State or National Bank or Savings and Loan Association, or State or Federally chartered Credit Union made payable to the Texas Transportation Commission in the following amount:

EIGHTEEN THOUSAND (Dollars) (\$18,000)

A bid bond may be used as the required proposal guaranty. The bond form may be detached from the proposal for completion. The proposal may not be disassembled to remove the bond form. The bond must be in accordance with Item 2 of the specifications.

Any addenda issued amending this proposal and/or the plans that have been acknowledged by the bidder, become part of this proposal.

By signing the proposal the bidder certifies:

1. the only persons or parties interested in this proposal are those named and the bidder has not directly or indirectly participated in collusion, entered into an agreement or otherwise taken any action in restraint of free competitive bidding in connection with the above captioned project.
2. in the event of the award of a contract, the organization represented will secure bonds for the full amount of the contract.
3. the signatory represents and warrants that they are an authorized signatory for the organization for which the bid is submitted and they have full and complete authority to submit this bid on behalf of their firm.
4. that the certifications and representations contained in the proposal are true and accurate and the bidder intends the proposal to be taken as a genuine government record.

• **Signed: ****

(1) _____ (2) _____ (3) _____

Print Name:

(1) _____ (2) _____ (3) _____

Title:

(1) _____ (2) _____ (3) _____

Company:

(1) _____ (2) _____ (3) _____

- Signatures to comply with Item 2 of the specifications.

**Note: Complete (1) for single venture, through (2) for joint venture and through (3) for triple venture.

* **When the working days field contains an asterisk (*) refer to the Special Provisions and General Notes.**

NOTICE TO CONTRACTORS

FOR THIS PROJECT THE AUDITED FINANCIAL PREQUALIFICATION REQUIREMENT IS WAIVED. ANY CONTRACTOR INTENDING TO BID ON THIS WORK MUST SUBMIT A COMPLETED “BIDDERS QUESTIONNAIRE”, WITH ANY ADDITIONAL INFORMATION REQUESTED IN THAT FORM, AT LEAST TEN DAYS PRIOR TO THE LETTING DATE.

CONTRACTORS THAT ARE CURRENTLY PREQUALIFIED BASED ON AN AUDITED FINANCIAL STATEMENT DO NOT NEED TO SUBMIT A “BIDDERS QUESTIONNAIRE” SINCE THE NECESSARY INFORMATION IS CONTAINED IN THE AUDITED PREQUALIFICATION DOCUMENTS.

UNIT PRICES MUST BE SUBMITTED IN ACCORDANCE WITH ITEM 2 OF THE STANDARD SPECIFICATIONS OR SPECIAL PROVISION TO ITEM 2 FOR EACH ITEM LISTED IN THIS PROPOSAL.

TEXAS DEPARTMENT OF TRANSPORTATION

BID BOND

KNOW ALL PERSONS BY THESE PRESENTS,

That we, (Contractor Name) _____

Hereinafter called the Principal, and (Surety Name) _____

a corporation or firm duly authorized to transact surety business in the State of Texas, hereinafter called the Surety, are held and firmly bound unto the Texas Department of Transportation, hereinafter called the Oblige, in the sum of not less than two percent (2%) of the department's engineer's estimate, rounded to the nearest one thousand dollars, not to exceed one hundred thousand dollars (\$100,000) as a proposal guaranty (amount displayed on the cover of the proposal), the payment of which sum will and truly be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the principal has submitted a bid for the following project identified as:

Control	6473-05-001
Project	RMC - 647305001
Highway	SL0025
County	VAL VERDE

NOW, THEREFORE, if the Oblige shall award the Contract to the Principal and the Principal shall enter into the Contract in writing with the Oblige in accordance with the terms of such bid, then this bond shall be null and void. If in the event of failure of the Principal to execute such Contract in accordance with the terms of such bid, this bond shall become the property of the Oblige, without recourse of the Principal and/or Surety, not as a penalty but as liquidated damages.

Signed this _____ Day of _____ 20_____

By: _____
(Contractor/Principal Name)

(Signature and Title of Authorized Signatory for Contractor/Principal)

*By: _____
(Surety Name)

(Signature of Attorney-in-Fact)

*Attach Power of attorney (Surety) for Attorney-in-Fact

Impressed
Surety Seal
Only

This form may be removed from the proposal.

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BIDDER'S CHECK RETURN

IMPORTANT

The space provided for the return address must be completed to facilitate the return of your bidder's check. Care must be taken to provide a legible, accurate, and complete return address, including zip code. A copy of this sheet should be used for each different return address.

NOTE

Successful bidders will receive their guaranty checks with the executed contract.

RETURN BIDDERS CHECK TO (PLEASE PRINT):

Control	6473-05-001
Project	RMC - 647305001
Highway	SL0025
County	VAL VERDE

IMPORTANT

PLEASE RETURN THIS SHEET IN ITS ENTIRETY

Please acknowledge receipt of this check(s) at your earliest convenience by signing below in longhand, in ink, and returning this acknowledgement in the enclosed self addressed envelope.

Check Received By: _____ Date: _____

Title: _____

For (Contractor's Name): _____

Project _____ County _____

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NOTICE TO THE BIDDER

In the space provided below, please enter your total bid amount for this project. Only this figure will be read publicly by the Department at the public bid opening.

It is understood and agreed by the bidder in signing this proposal that the total bid amount entered below is not binding on either the bidder or the Department. It is further agreed that **the official total bid amount for this proposal will be determined by multiplying the unit bid prices for each pay item by the respective estimated quantities shown in this proposal and then totaling all of the extended amounts.**

\$ _____
Total Bid Amount

Control 0001-03-030
 Project STP 2000(938)HES
 Highway SH 20
 County EL PASO

ALT	ITEM	DESC	SP	Bid Item Description	Unit	Quantity	Bid Price	Amount	Seq
	I04	509	X	REMOV CONC (SDWLK)	MSY	266.400	\$10.000	\$2,664.00	1
							Total Bid Amount	\$2,664.00	

Signed _____
 Title _____
 Date _____

Additional Signature for Joint Venture:

Signed _____
 Title _____
 Date _____

EXAMPLE OF BID PRICES SUBMITTED BY COMPUTER PRINTOUT

EXAMPLE

EXAMPLE

EXAMPLE

EXAMPLE

EXAMPLES

BID PRICES SUBMITTED BY HAND WRITTEN FORMAT

ALT	ITEM-CODE			UNIT BID PRICE <u>ONLY</u> WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC NO	S.P. NO.				
	190	026		RED OAK 1 1/2 - 1 3/4 GAL BB 	EA	9.000	1

Unit price for each plant in place

	249	014		FLEX BASE(DEL)(DENSOT)(TY A GR4 CL2) 	TON	56,787.00	14
--	-----	-----	--	--	-----	-----------	----

Unit price for each ton of Flexible Base

	430	001	001	CL A CONC FOR EXT STR (CULV) 	CY	45.000	27
--	-----	-----	-----	---	----	--------	----

Unit price for each cubic yard of Concrete

	610	007	001	RDWY ILL ASSEM(TY ST 50T-8-8)(.4 KW)S 	EA	13.000	7
--	-----	-----	-----	--	----	--------	---

Unit price of each Roadway Illumination Assembly

EXAMPLE

EXAMPLE

EXAMPLE

EXAMPLE

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PROJECT RMC - 647305001
 COUNTY VAL VERDE

Proposal Sheet
 TxDOT
 FORM 234-B I-61-5M

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	7028	7001		TRAVEL INFORMATION CENTER DOLLARS and CENTS	LS	1.000	1

CERTIFICATION OF INTEREST IN OTHER BID PROPOSALS FOR THIS WORK

By signing this proposal, the bidding firm and the signer certify that the following information, as indicated by checking "Yes" or "No" below, is true, accurate, and complete.

- A. Quotation(s) have been issued in this firm's name to other firm(s) interested in this work for consideration for performing a portion of this work.

_____ YES

_____ NO

- B. If this proposal is the low bid, the bidder agrees to provide the following information prior to award of the contract.

1. Identify firms which bid as a prime contractor and from which the bidder received quotations for work on this project.
2. Identify all the firms which bid as a prime contractor to which the bidder gave quotations for work on this project.

PROPOSAL – SPECIFICATIONS

For The
LANGTRY TRAVEL INFORMATION CENTER RENOVATION
VAL VERDE COUNTY, LAREDO DISTRICT
US 90 W at SL 25 at TORRES AVENUE
LANGTRY, TEXAS 78871
PROJECT NO. RMC 647305001
CSJ 6473-05-001
ESTIMATED CONSTRUCTION COST: \$894,784.85
BID GUARANTY or BID BOND: \$18,000.00

PRE-BID CONFERENCE: Wednesday, November 20, 2024, at 10:00 AM (CST)
At The Langtry Travel Information Center
BID DATE: December 4, 2024 - 1:00 P.M. (CST) in AUSTIN, TEXAS



LANGTRY TRAVEL INFORMATION CENTER

VAL VERDE COUNTY, TEXAS
LAREDO DISTRICT

OWNERS REPRESENTATIVE:

Jim Tate, Project Manager
Maintenance Division – Roadside Facilities
6230 E. Stassney Lane, Austin, TX 78744
Jim.Tate@txdot.gov
Phone: (512) 552-7045

BID DATE:

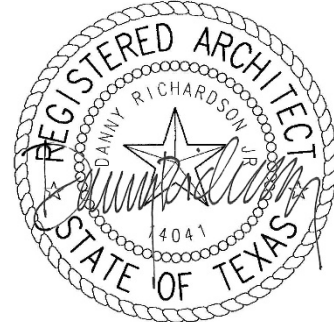
December 4, 2024

RETURN PROPOSAL AS YOUR BID PROPOSAL-DO NOT DISASSEMBLE OR REMOVE PAGES

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PROPOSAL – SPECIFICATIONS

For The
LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATION PROJECT
VAL VERDE COUNTY, LAREDO DISTRICT
PROJECT NO.: RMC 647305001
CSJ: 6473-05-001
ESTIMATED CONSTRUCTION COST: \$ 894,784.85
BID GUARANTY or BID BOND: \$ 18,000.00
PRE-BID CONFERENCE: NOVEMBER 20, 2024 at 10:00 A.M. (CST)
AT THE LANGTRY TRAVEL INFORMATION CENTER
BID DATE: DECEMBER 4, 2024 – 1:00 P.M. (CDT) AUSTIN, TEXAS



07/19/2024

LANGTRY TRAVEL INFORMATION CENTER SITE RENOVATION PROJECT

LANGTRY, TEXAS
LAREDO DISTRICT

ENGINEERS & ARCHITECTS:

ARCHITECT

Secord & Lebow Architects, L.L.P.
2004 Quail Creek, Suite 200
Wichita Falls, TX 76308

CIVIL ENGINEER

Eckermann Engineering, Inc.
202 Spring Ho Avenue
Lampasas, TX 78550

LANDSCAPE ARCHITECTURE

Circle V Landscape Architecture
PO Box 170822
Austin, Texas 78717

<i>BID DATE:</i> DECEMBER 4, 2024

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Section	Title
00 01 00	Table of Contents
00 01 17	Seals Page
00 01 15	List of Drawing Sheets
00 31 32	Geotechnical Information
00 85 00	Special Conditions
DIVISION 01	GENERAL REQUIREMENTS
01 10 00	Summary
01 25 00	Modification Procedures
01 30 00	Prohibition of Asbestos Containing Materials
01 31 00	Project Management and Coordination
01 32 00	Construction Progress Documentation
01 33 00	Submittal Procedures
01 40 00	Quality Requirements
01 41 00	Testing Laboratory Services
01 50 00	Temporary Facilities and Controls
01 60 00	Product Requirements
01 73 00	Execution Requirements
01 74 19	Construction Waste Management
01 77 00	Closeout Procedures
01 78 23	Operation and Maintenance Data
01 78 39	Project Record Documents
01 79 00	Demonstration and Training
DIVISION 31	EARTHWORK
31 20 00	Earth Moving
31 23 17	Trenching
DIVISION 32	EXTERIOR IMPROVEMENTS
32 13 17	Trenching
32 13 13	Concrete Paving
32 13 73	Concrete Paving Joint Sealants
32 17 23	Pavement Markings
DIVISION 33	UTILITIES
33 40 00	Stormwater Utilities

END OF TABLE OF CONTENTS

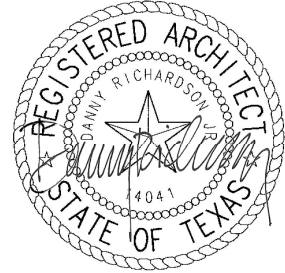
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DOCUMENT 000107 - SEALS PAGE

1.1 DESIGN PROFESSIONALS OF RECORD

A. Architect:

1. Danny Richardson Jr.
2. Registration Number: 14041.
3. Responsible for Divisions 00 & 01.



B. Civil Engineer:

1. Derrek Eckermann
2. Registration Number: 98278
3. Responsible for Division 31, 32 & 33.



END OF DOCUMENT 000107

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DOCUMENT 00 01 15 - LIST OF DRAWING SHEETS

1.1 LIST OF DRAWINGS

- A. List of Drawings: Drawings consist of the following Contract Drawings and other drawings of type indicated:

GENERAL

- G-001 – COVER SHEET
- G-002 – GENERAL NOTES & ABBREVIATIONS
- G-010 – ACCESSIBILITY STANDARDS
- G-011 – ACCESSIBILITY STANDARDS
- G-012 – ACCESSIBILITY STANDARDS
- G-013 – ACCESSIBILITY STANDARDS
- G-014 – ACCESSIBILITY STANDARDS

DEMOLITION

- CD-100 – EXST. SITE / CONSTRUCTION LAYDOWN PLAN
- CD-101 – EXISTING SITE PHOTO PLAN
- CD-102 – PHOTO DETAILS
- CD-103 – PHOTO DETAILS
- CD-104 – PHOTO DETAILS
- CD-201 – DEMOLITION SITE PLAN

CIVIL

- C-101 – SITE PLAN – REFERENCE
- C-201 – SITE PLAN – DIMENSIONAL CONTROL
- C-202 – GRADING PLAN
- C-203 – ENLARGED GRADING PLAN
- C-204 – STORM DRAIN PLAN
- C-401 – SITE DETAILS
- C-402 – STORM DRAIN PLAN
- C-501 – ENLARGED SITE PLANS & DETAILS
- C-502 – ENLARGED SITE PLANS & DETAILS
- C-503 – ENLARGED SITE PLANS & DETAILS – BID OPTIONS

LANDSCAPE

- L-100 – PLANTING PLAN
- L-101 – PLANTING PLAN ENLARGEMENT
- L-102 – PLANT LIST & IMAGERY
- L-103 – PLANTING DETAILS
- L-104 – SPECIFICATIONS

IRRIGATION

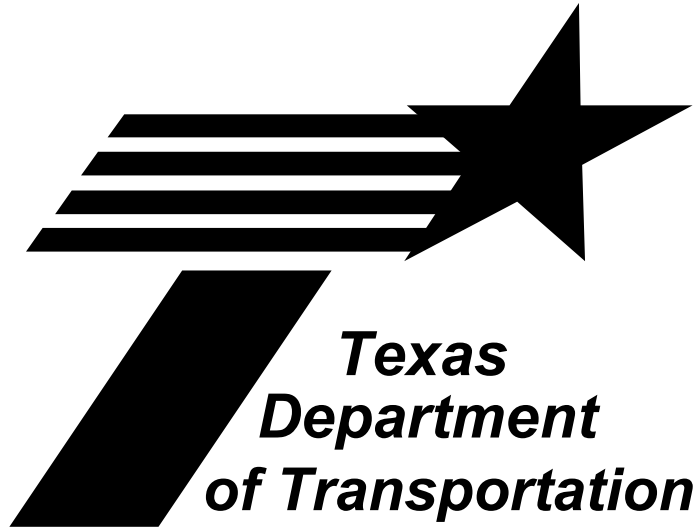
- I-100 – IRRIGATION PLAN

Langtry Travel Information Center
Langtry, TX

I-101 – IRRIGATION NOTES
I-102 – IRRIGATION DETAILS

Langtry Travel Information Center
Langtry, TX

LANGTRY TRAVEL INFORMATION CENTER
VAL VERDE COUNTY, TEXAS
LAREDO DISTRICT



GEOTECHNICAL INFORMATION

A Geotechnical Report was prepared for the Texas Department of Transportation for the Site Renovation of the Langtry Travel Information Center, located in Langtry, Texas on Texas Loop 25. The Geotechnical Report was prepared on July 26, 2024 by Terracon, Inc., 10400 State Highway 191, Midland, TX 79707. Data was provided in a single report.

The following boring log and fertility data is provided to the Contractor and Subcontractors for information only. Refer for Drawings for design recommendations.

Site Location and Exploration Plans

Contents:

Site Location Plan
Exploration Plan

Note: All attachments are one page unless noted above.

SITE LOCATION

Langtry Travel Information Center Site Renovations ■ Langtry, TX
July 26, 2024 ■ Terracon Project No. A4245123

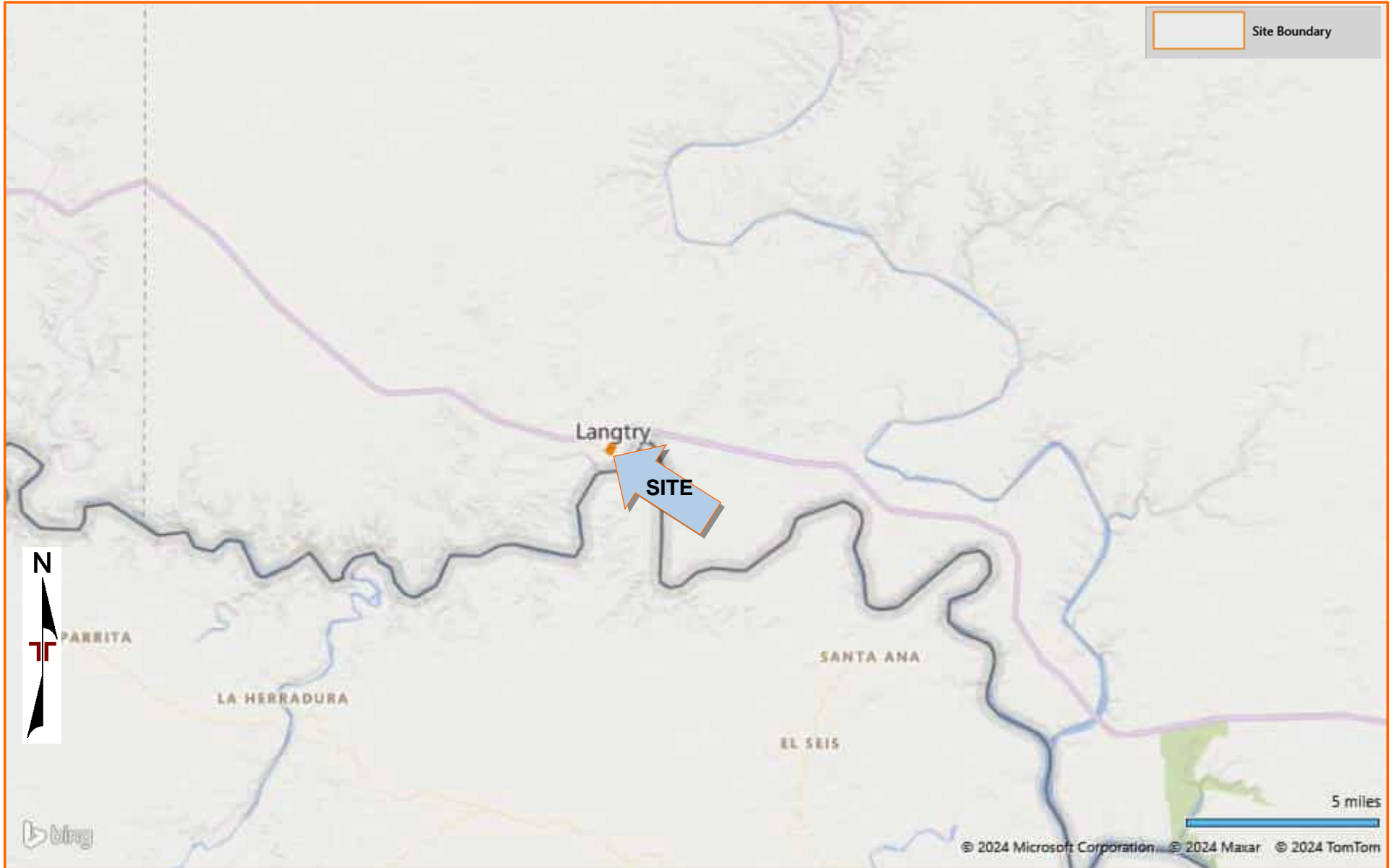


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT
INTENDED FOR CONSTRUCTION PURPOSES

TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
QUADRANGLES INCLUDE: LANGTRY, TX (1/1/1973).

EXPLORATION PLAN

Langtry Travel Information Center Site Renovations ■ Langtry, TX
July 26, 2024 ■ Terracon Project No. A4245123



DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS


Exploration and Laboratory Results

Contents:

Boring logs (5 Pages)
Atterberg Limit Results
Grainsize Distribution
Fertility Test Results (5 Pages)
Moisture-Density Relationship Curve


Note: All attachments are one page unless noted above.

Boring Log No. B-1

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Water Content (%)	Atterberg Limits	Percent Fines
		Latitude: 29.8092° Longitude: -101.5611°						LL-PL-PI	
		Depth (Ft.)	Elevation: 1326 (Ft.) +/-						
1		CLAYEY SAND WITH GRAVEL (SC) , brown		1			5.0	27-17-10	15
		1.3 refusal due to limestone 1324.75							
		Auger Refusal at 1.25 Feet							


<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>Elevation Reference: Elevations obtained from google earth</p>	<p>Water Level Observations No groundwater encountered while drilling Dry at completion of drilling</p>	<p>Drill Rig Skid Steer</p> <p>Hammer Type Automatic</p> <p>Driller Russell Graham</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with auger cuttings upon completion.</p>	<p>Logged by Eddie</p> <p>Boring Started 06-25-2024</p> <p>Boring Completed 06-25-2024</p>

Boring Log No. B-2

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 29.8092° Longitude: -101.5605°	Depth (Ft.)	Water Level Observations	Sample Type	Water Content (%)	Atterberg Limits	Percent Fines
							LL-PL-PI	
		Depth (Ft.) Elevation: 1316 (Ft.) +/-						
1		SILTY CLAYEY SAND WITH GRAVEL (SC-SM) , brown			☞	4.6	27-20-7	17
		1.0 refusal due to limestone 1315	1					
		Auger Refusal at 1 Foot						


<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>Elevation Reference: Elevations obtained from google earth</p>	<p>Water Level Observations No groundwater encountered while drilling Dry at completion of drilling</p>	<p>Drill Rig Skid Steer</p> <p>Hammer Type Automatic</p> <p>Driller Russell Graham</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with auger cuttings upon completion.</p>	<p>Logged by Eddie</p> <p>Boring Started 06-25-2024</p> <p>Boring Completed 06-25-2024</p>

Boring Log No. B-3

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Water Content (%)	Atterberg Limits	
		Latitude: 29.8097° Longitude: -101.5604°						LL-PL-PI	Percent Fines
		Depth (Ft.) Elevation: 1312 (Ft.) +/-							
1		CLAYEY SAND WITH GRAVEL (SC) , brown		1			5.7	31-17-14	32
		1.3 refusal due to limestone 1310.75							
		Auger Refusal at 1.25 Feet							


<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>Elevation Reference: Elevations obtained from google earth</p>	<p>Water Level Observations No groundwater encountered while drilling Dry at completion of drilling</p>	<p>Drill Rig Skid Steer</p> <p>Hammer Type Automatic</p> <p>Driller Russell Graham</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with auger cuttings upon completion.</p>	<p>Logged by Eddie</p> <p>Boring Started 06-25-2024</p> <p>Boring Completed 06-25-2024</p>

Boring Log No. B-4

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Water Content (%)	Atterberg Limits	
		Latitude: 29.8101° Longitude: -101.5596°	Elevation: 1316 (Ft.) +/-					LL-PL-PI	Percent Fines
1		Depth (Ft.) Elevation: 1316 (Ft.) +/- CLAYEY GRAVEL (GC), brown		1			4.8	45-22-23	20
		1.5 refusal due to limestone 1314.5 Auger Refusal at 1.5 Feet							

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>Elevation Reference: Elevations obtained from google earth</p>	<p>Water Level Observations No groundwater encountered while drilling Dry at completion of drilling</p>	<p>Drill Rig Skid Steer</p> <p>Hammer Type Automatic</p> <p>Driller Russell Graham</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with auger cuttings upon completion.</p>	<p>Logged by Eddie</p> <p>Boring Started 06-25-2024</p> <p>Boring Completed 06-25-2024</p>

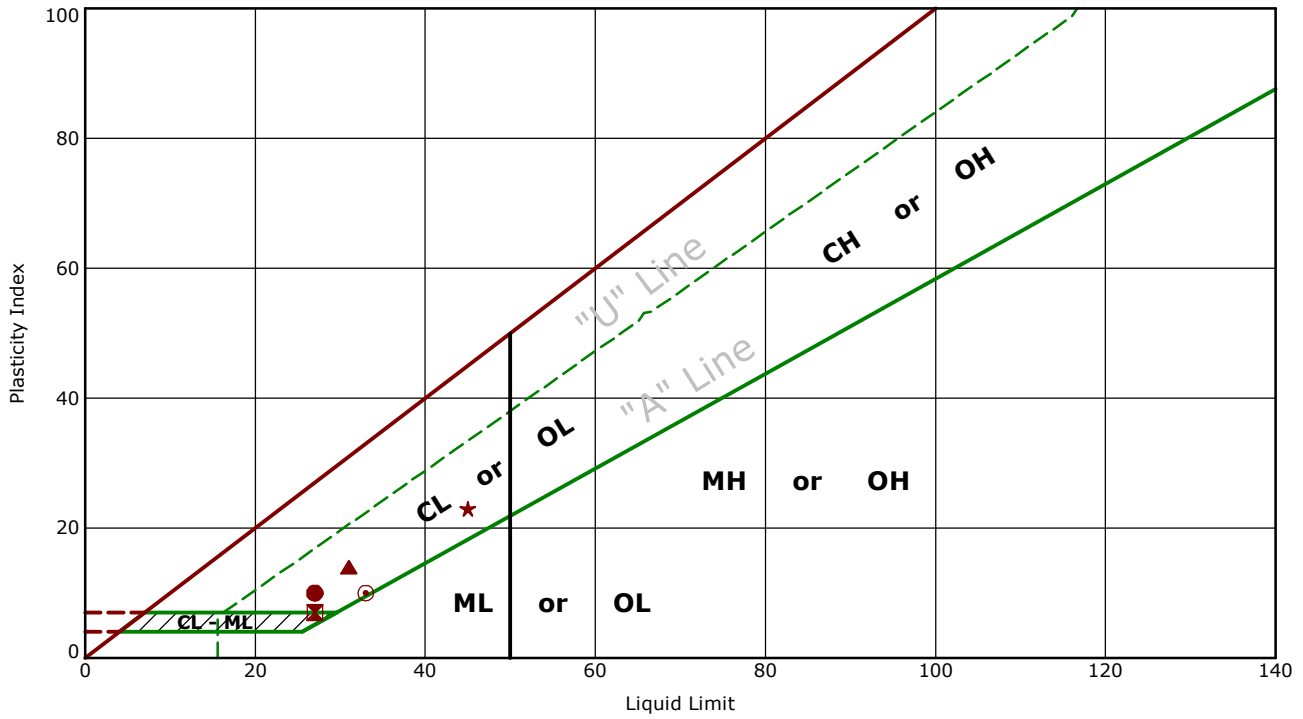
Boring Log No. B-5

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Water Content (%)	Atterberg Limits	
		Latitude: 29.8103° Longitude: -101.5600°	Depth (Ft.)					Elevation: 1324 (Ft.) +/-	LL-PL-PI
1		<p>CLAYEY GRAVEL (GC), brown</p> <p>1.0 refusal due to limestone</p>		1		Hand	3.9	33-23-10	21
		<p>Auger Refusal at 1 Foot</p>		1					

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>Elevation Reference: Elevations obtained from google earth</p>	<p>Water Level Observations No groundwater encountered while drilling Dry at completion of drilling</p>	<p>Drill Rig Skid Steer</p> <p>Hammer Type Automatic</p> <p>Driller Russell Graham</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with auger cuttings upon completion.</p>	<p>Logged by Eddie</p> <p>Boring Started 06-25-2024</p> <p>Boring Completed 06-25-2024</p>

Atterberg Limit Results

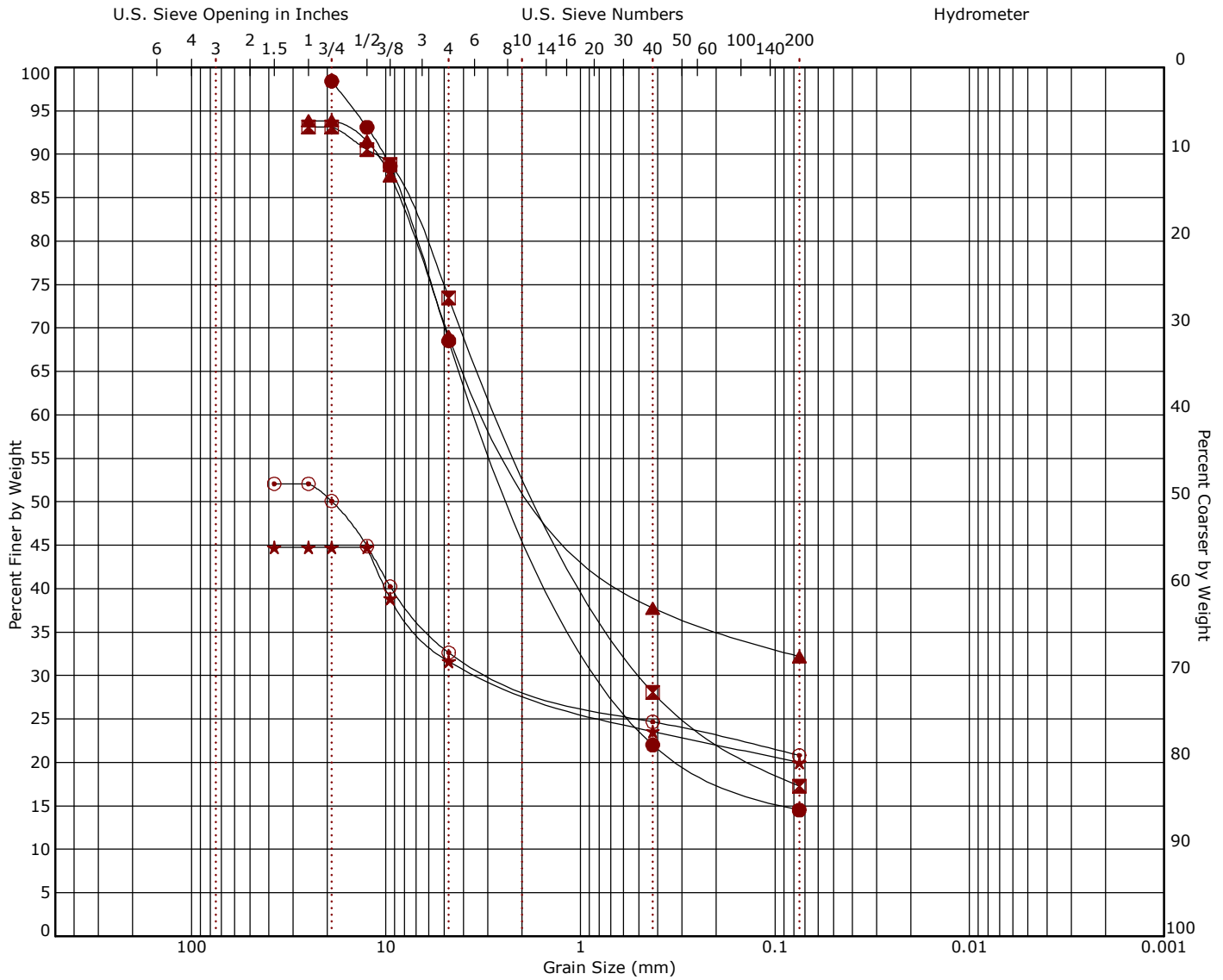
ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-1	0 - 1.3	27	17	10	14.5	SC	CLAYEY SAND with GRAVEL
⊠	B-2	0 - 1	27	20	7	17.3	SC-SM	SILTY, CLAYEY SAND with GRAVEL
▲	B-3	0 - 1.3	31	17	14	32.2	SC	CLAYEY SAND with GRAVEL
★	B-4	0 - 1.5	45	22	23	20.0	GC	CLAYEY GRAVEL
⊙	B-5	0 - 1	33	23	10	20.8	GC	CLAYEY GRAVEL

Grain Size Distribution

ASTM D422 / ASTM C136



Cobbles |
 Gravel |
 Sand |
 Silt or Clay

coarse | fine | coarse | medium | fine

Boring ID	Depth (Ft)	Description					LL	PL	PI	Cc	Cu
● B-1	0 - 1.3	CLAYEY SAND with GRAVEL					27	17	10		
⊠ B-2	0 - 1	SILTY, CLAYEY SAND with GRAVEL					27	20	7		
▲ B-3	0 - 1.3	CLAYEY SAND with GRAVEL					31	17	14		
★ B-4	0 - 1.5	CLAYEY GRAVEL					45	22	23		
⊙ B-5	0 - 1	CLAYEY GRAVEL					33	23	10		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	%Cobbles	%Gravel	%Sand	%Fines	%Silt	%Clay
● B-1	0 - 1.3	19	3.051	0.643			29.9	54.0	14.5		
⊠ B-2	0 - 1	25	2.322	0.472			19.7	56.2	17.3		
▲ B-3	0 - 1.3	25	2.366				24.8	36.8	32.2		
★ B-4	0 - 1.5	37.5		2.925			13.1	11.6	20.0		
⊙ B-5	0 - 1	37.5		2.133			19.4	11.8	20.8		

SOIL ANALYSIS

Send To: Terracon 10400 State Hwy 191 Midland, TX 79707	Project : A4245123 - Langtry	Report No : 24-192-0005 Cust No : 12723 Date Printed : 07/15/2024 Date Received : 07/10/2024 Page : 1 of 3 Lab Number : 08860
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Sample Id : **B-1**

SATURATION EXTRACT - PLANT SUITABILITY

Test	Result	Effect on Plant Growth				
		Negligible	Sensitive Crops Restricted	Many Crops Restricted	Only Tolerant Crops Satisfactory	Few Crops Survive
Salinity (ECe)	0.5 dS/m					
Sodium Adsorption Ratio (SAR) *	0.3					
Boron (B)	0.05 ppm					
Sodium (Na)	0.4 meq/L					
Chloride (Cl)						
Carbonate (CO3)						
Bicarbonate (HCO3)						
Fluoride (F)						

* Structure and water infiltration of mineral soils potentially adversely affected at SAR values higher than 6.

Test	Result	Strongly Acidic	Moderately Acidic	Slightly Acidic	Neutral	Slightly Alkaline	Moderately Alkaline	Strongly Alkaline	Qualitative Lime
pH	7.9 s.u.								High

EXTRACTABLE NUTRIENTS

Test	Result	Sufficiency Factor	SOIL TEST RATINGS					NO3-N
			Very Low	Low	Medium	Optimum	Very High	
Available-N	10 ppm	0.4						8 ppm
Phosphorus (P) - Olsen	25 ppm	1.6						NH4-N
Potassium (K)	91 ppm	1.1						2 ppm
Potassium - sat. ext.	0.3 meq/L							Total Exchangeable Cations(TEC)
Calcium (Ca)	747 ppm	1.0						44 meq/kg
Calcium - sat. ext.	3.3 meq/L							
Magnesium (Mg)	73 ppm	0.7						
Magnesium - sat. ext.	1.1 meq/L							
Copper (Cu)	0.7 ppm	1.2						
Zinc (Zn)	2 ppm	1.0						
Manganese (Mn)	10 ppm	2.1						
Iron (Fe)	57 ppm	2.6						
Boron (B) - sat. ext.	0.05 ppm	0.2						
Sulfate - sat. ext.	0.7 meq/L	0.2						
Exch Aluminum								

Cu, Zn, Mn and Fe were analyzed by DTPA extract.

PARTICLE SIZE ANALYSIS

Half Sat	Organic Matter	Weight Percent of Sample Passing 2mm Screen							USDA Soil Classification
		Gravel		Sand			Silt	Clay	
		Coarse 5-12	Fine 2-5	Very Coarse 1-2	Coarse 0.5-1	Med. to Very Fine 0.05-0.5	.002-.05	0-.002	
13 %	0.24 %								

SOIL ANALYSIS

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Sample Id : **B-2**

SATURATION EXTRACT - PLANT SUITABILITY

Test	Result	Effect on Plant Growth				
		Negligible	Sensitive Crops Restricted	Many Crops Restricted	Only Tolerant Crops Satisfactory	Few Crops Survive
Salinity (ECe)	1.9 dS/m					
Sodium Adsorption Ratio (SAR) *	2.52					
Boron (B)	0.29 ppm					
Sodium (Na)	7.1 meq/L					
Chloride (Cl)						
Carbonate (CO3)						
Bicarbonate (HCO3)						
Fluoride (F)						

* Structure and water infiltration of mineral soils potentially adversely affected at SAR values higher than 6.

Test	Result	Strongly Acidic	Moderately Acidic	Slightly Acidic	Neutral	Slightly Alkaline	Moderately Alkaline	Strongly Alkaline	Qualitative Lime
pH	7.8 s.u.								High

EXTRACTABLE NUTRIENTS

Test	Result	Sufficiency Factor	SOIL TEST RATINGS					NO3-N
			Very Low	Low	Medium	Optimum	Very High	
Available-N	18 ppm	0.8						16 ppm
Phosphorus (P) - Olsen	31 ppm	2.3						NH4-N
Potassium (K)	176 ppm	2.4						2 ppm
Potassium - sat. ext.	0.8 meq/L							
Calcium (Ca)	1160 ppm	1.3						Total Exchangeable Cations(TEC)
Calcium - sat. ext.	14.0 meq/L							
Magnesium (Mg)	45 ppm	0.4						64 meq/kg
Magnesium - sat. ext.	1.6 meq/L							
Copper (Cu)	0.5 ppm	0.7						
Zinc (Zn)	1 ppm	0.3						
Manganese (Mn)	3 ppm	0.5						
Iron (Fe)	20 ppm	0.7						
Boron (B) - sat. ext.	0.29 ppm	1.0						
Sulfate - sat. ext.	9.7 meq/L	3.2						
Exch Aluminum								

Cu, Zn, Mn and Fe were analyzed by DTPA extract.

PARTICLE SIZE ANALYSIS

Half Sat	Organic Matter	Weight Percent of Sample Passing 2mm Screen							USDA Soil Classification
		Gravel		Sand			Silt	Clay	
		Coarse 5-12	Fine 2-5	Very Coarse 1-2	Coarse 0.5-1	Med. to Very Fine 0.05-0.5	.002-.05	0-.002	
11 %	0.18 %								

Graphical interpretation is a general guide. Optimum levels will vary by crop and objectives.

SOIL ANALYSIS

Send To: Terracon 10400 State Hwy 191 Midland, TX 79707	Project : A4245123 - Langtry	Report No : 24-192-0005 Cust No : 12723 Date Printed : 07/15/2024 Date Received : 07/10/2024 Page : 3 of 3 Lab Number : 08862
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Sample Id : **B-3**

SATURATION EXTRACT - PLANT SUITABILITY

Test	Result	Effect on Plant Growth				
		Negligible	Sensitive Crops Restricted	Many Crops Restricted	Only Tolerant Crops Satisfactory	Few Crops Survive
Salinity (ECe)	7.1 dS/m	[Bar chart showing Salinity in the 'Many Crops Restricted' and 'Only Tolerant Crops Satisfactory' categories]				
Sodium Adsorption Ratio (SAR) *	16.68	[Bar chart showing SAR in the 'Many Crops Restricted' and 'Only Tolerant Crops Satisfactory' categories]				
Boron (B)	1.47 ppm	[Bar chart showing Boron in the 'Negligible' and 'Sensitive Crops Restricted' categories]				
Sodium (Na)	72.1 meq/L	[Bar chart showing Sodium in the 'Only Tolerant Crops Satisfactory' and 'Few Crops Survive' categories]				
Chloride (Cl)						
Carbonate (CO3)						
Bicarbonate (HCO3)						
Fluoride (F)						

* Structure and water infiltration of mineral soils potentially adversely affected at SAR values higher than 6.

Test	Result	Strongly Acidic	Moderately Acidic	Slightly Acidic	Neutral	Slightly Alkaline	Moderately Alkaline	Strongly Alkaline	Qualitative Lime
pH	7.7 s.u.	[Bar chart showing pH in the 'Neutral' and 'Slightly Alkaline' categories]							High

EXTRACTABLE NUTRIENTS

Test	Result	Sufficiency Factor	SOIL TEST RATINGS					NO3-N
			Very Low	Low	Medium	Optimum	Very High	
Available-N	42 ppm	1.5	[Bar chart showing Available-N in the 'Low' and 'Medium' categories]					41 ppm
Phosphorus (P) - Olsen	32 ppm	1.9	[Bar chart showing Phosphorus in the 'Low' and 'Medium' categories]					NH4-N
Potassium (K)	126 ppm	1.1	[Bar chart showing Potassium in the 'Low' and 'Medium' categories]					1 ppm
Potassium - sat. ext.	0.9 meq/L							
Calcium (Ca)	1830 ppm	1.3	[Bar chart showing Calcium in the 'Low' and 'Medium' categories]					Total Exchangeable Cations(TEC)
Calcium - sat. ext.	32.0 meq/L							
Magnesium (Mg)	109 ppm	0.6	[Bar chart showing Magnesium in the 'Low' and 'Medium' categories]					116 meq/kg
Magnesium - sat. ext.	5.4 meq/L							
Copper (Cu)	1.5 ppm	1.3	[Bar chart showing Copper in the 'Low' and 'Medium' categories]					
Zinc (Zn)	2 ppm	0.4	[Bar chart showing Zinc in the 'Low' and 'Medium' categories]					
Manganese (Mn)	1 ppm	0.1	[Bar chart showing Manganese in the 'Very Low' category]					
Iron (Fe)	4 ppm	0.1	[Bar chart showing Iron in the 'Very Low' category]					
Boron (B) - sat. ext.	1.47 ppm	4.9	[Bar chart showing Boron in the 'Low' and 'Medium' categories]					
Sulfate - sat. ext.	54.0 meq/L	18.0	[Bar chart showing Sulfate in the 'Very High' category]					
Exch Aluminum								

Cu, Zn, Mn and Fe were analyzed by DTPA extract.

PARTICLE SIZE ANALYSIS





Half Sat	Organic Matter	Weight Percent of Sample Passing 2mm Screen							USDA Soil Classification
		Gravel		Sand			Silt	Clay	
		Coarse 5-12	Fine 2-5	Very Coarse 1-2	Coarse 0.5-1	Med. to Very Fine 0.05-0.5	.002-.05	0-.002	
14 %	0.69 %								

SOIL ANALYSIS


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Sample Id : **B-4**












SATURATION EXTRACT - PLANT SUITABILITY

Test	Result	Effect on Plant Growth				
		Negligible	Sensitive Crops Restricted	Many Crops Restricted	Only Tolerant Crops Satisfactory	Few Crops Survive
Salinity (ECe)	2.7 dS/m					
Sodium Adsorption Ratio (SAR) *	6.55					
Boron (B)	0.33 ppm					
Sodium (Na)	16.9 meq/L					
Chloride (Cl)						
Carbonate (CO3)						
Bicarbonate (HCO3)						
Fluoride (F)						

* Structure and water infiltration of mineral soils potentially adversely affected at SAR values higher than 6.

Test	Result	Strongly Acidic	Moderately Acidic	Slightly Acidic	Neutral	Slightly Alkaline	Moderately Alkaline	Strongly Alkaline	Qualitative Lime
pH	7.8 s.u.								High

EXTRACTABLE NUTRIENTS

Test	Result	Sufficiency Factor	SOIL TEST RATINGS					NO3-N
			Very Low	Low	Medium	Optimum	Very High	
Available-N	14 ppm	0.3						12 ppm
Phosphorus (P) - Olsen	163 ppm	6.2						NH4-N
Potassium (K)	57 ppm	0.4						2 ppm
Potassium - sat. ext.	0.1 meq/L							Total Exchangeable Cations(TEC)
Calcium (Ca)	1540 ppm	0.9						109 meq/kg
Calcium - sat. ext.	8.4 meq/L							
Magnesium (Mg)	336 ppm	1.4						
Magnesium - sat. ext.	4.9 meq/L							
Copper (Cu)	0.6 ppm	0.4						
Zinc (Zn)	3 ppm	0.6						
Manganese (Mn)	2 ppm	0.2						
Iron (Fe)	8 ppm	0.2						
Boron (B) - sat. ext.	0.33 ppm	1.1						
Sulfate - sat. ext.	10.0 meq/L	3.3						
Exch Aluminum								

Cu, Zn, Mn and Fe were analyzed by DTPA extract.

PARTICLE SIZE ANALYSIS

Half Sat	Organic Matter	Weight Percent of Sample Passing 2mm Screen							USDA Soil Classification
		Gravel		Sand			Silt	Clay	
		Coarse 5-12	Fine 2-5	Very Coarse 1-2	Coarse 0.5-1	Med. to Very Fine 0.05-0.5	.002-.05	0-.002	
22 %									





Graphical interpretation is a general guide. Optimum levels will vary by crop and objectives.

SOIL ANALYSIS


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Sample Id : **B-5**












SATURATION EXTRACT - PLANT SUITABILITY

Test	Result	Effect on Plant Growth				
		Negligible	Sensitive Crops Restricted	Many Crops Restricted	Only Tolerant Crops Satisfactory	Few Crops Survive
Salinity (ECe)	1.1 dS/m					
Sodium Adsorption Ratio (SAR) *	2.3					
Boron (B)	0.34 ppm					
Sodium (Na)	4.4 meq/L					
Chloride (Cl)						
Carbonate (CO3)						
Bicarbonate (HCO3)						
Fluoride (F)						

* Structure and water infiltration of mineral soils potentially adversely affected at SAR values higher than 6.

Test	Result	Strongly Acidic	Moderately Acidic	Slightly Acidic	Neutral	Slightly Alkaline	Moderately Alkaline	Strongly Alkaline	Qualitative Lime
pH	7.8 s.u.								High

EXTRACTABLE NUTRIENTS

Test	Result	Sufficiency Factor	SOIL TEST RATINGS					NO3-N
			Very Low	Low	Medium	Optimum	Very High	
Available-N	13 ppm	0.4						11 ppm
Phosphorus (P) - Olsen	30 ppm	1.4						NH4-N
Potassium (K)	59 ppm	0.4						2 ppm
Potassium - sat. ext.	0.1 meq/L							Total Exchangeable Cations(TEC)
Calcium (Ca)	1510 ppm	0.9						
Calcium - sat. ext.	4.8 meq/L							98 meq/kg
Magnesium (Mg)	263 ppm	1.2						
Magnesium - sat. ext.	2.5 meq/L							
Copper (Cu)	0.3 ppm	0.2						
Zinc (Zn)	2 ppm	0.4						
Manganese (Mn)	2 ppm	0.2						
Iron (Fe)	4 ppm	0.1						
Boron (B) - sat. ext.	0.34 ppm	1.1						
Sulfate - sat. ext.	3.2 meq/L	1.1						
Exch Aluminum								

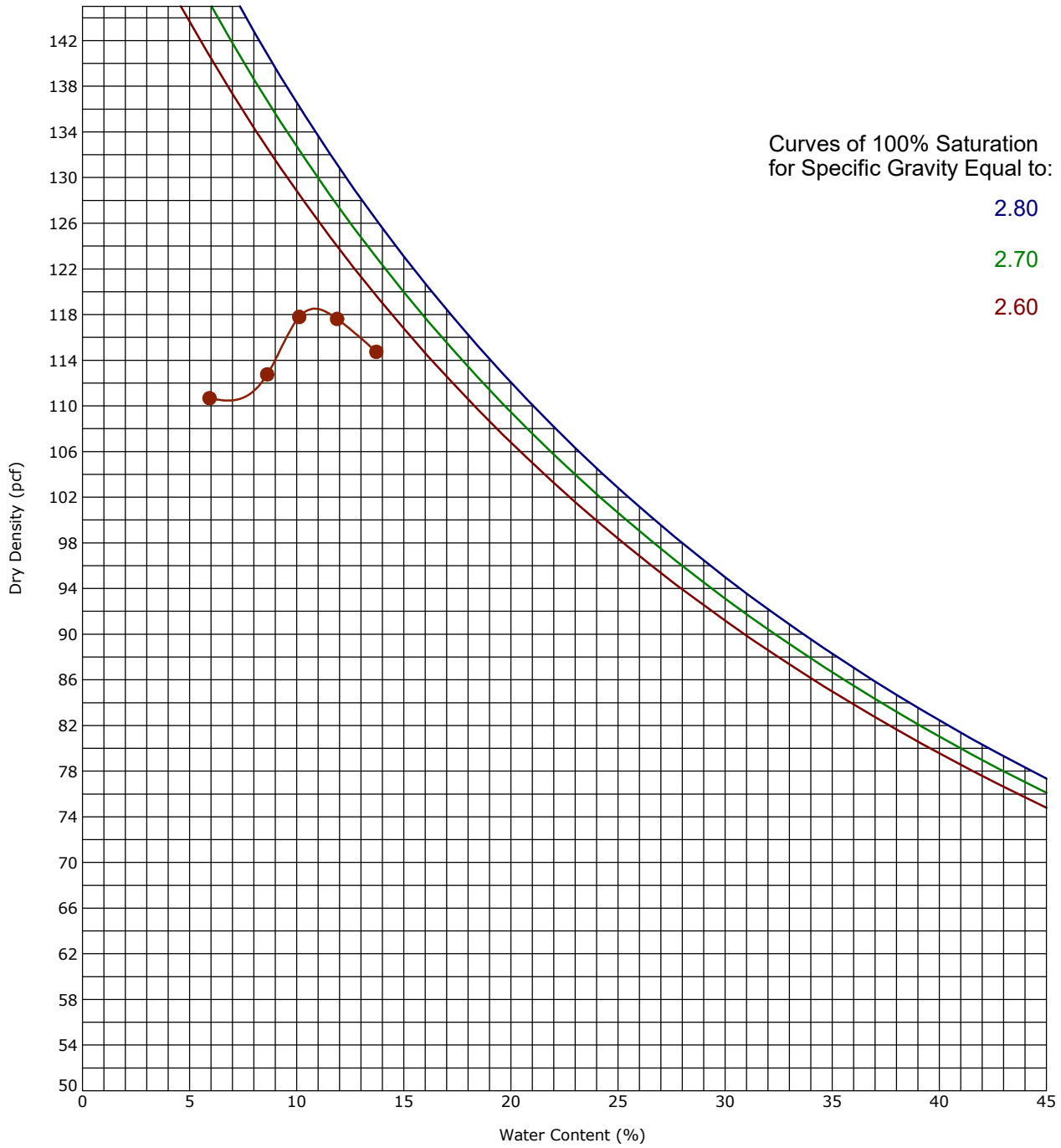
Cu, Zn, Mn and Fe were analyzed by DTPA extract.

PARTICLE SIZE ANALYSIS

Half Sat	Organic Matter	Weight Percent of Sample Passing 2mm Screen							USDA Soil Classification
		Gravel		Sand			Silt	Clay	
		Coarse 5-12	Fine 2-5	Very Coarse 1-2	Coarse 0.5-1	Med. to Very Fine 0.05-0.5	.002-.05	0-.002	
18 %									

Moisture-Density Relationship

ASTM D698-Method A



Boring ID		Depth (Ft)			Description of Materials			
B-3		0 - 1.25			CLAYEY SAND with GRAVEL (SC)			
Fines (%)	Fraction > mm size	LL	PL	PI	Test Method	Maximum Dry Density (pcf)	Optimum Water Content (%)	
10	0.0	28	19	9	ASTM D698-Method A	118.5	10.9	

SECTION 00 85 00

SPECIAL CONDITIONS

1.1 SCOPE AND RELATED DOCUMENTS:

A. This Section contains the following requirements:

1. The Contract and Contractor.
2. Time of Completion
3. Site Visitation and Inspection.
4. Wage Rates
5. Fees, Permits and Notices.
6. Protection of Property, Utilities and Personnel.
7. Furnishing and Storage of Materials.
8. Security.
9. Cutting, Patching and Installation of Sleeves
10. Precedence of Contract Documents and Necessary Work.
11. Record Drawings.
12. Contractor's Representatives and Communications Equipment.
13. Asbestos Containing Materials
14. Construction Layout.
15. Environmental Conditions
16. Schedule of Values
17. Warranty

C. Refer to Section 01 10 00 Summary for the following topics relating to this project:

1. Project/Work Identification.
2. General Descriptions of the Scope of Work.

D. Refer to Section 01 50 00 Temporary Facilities and Controls

1. Temporary Field Office and Storage Area.
2. Temporary Facilities and Utilities

1.2 THE CONTRACT AND CONTRACTOR

- A. Materials, labor and MEASUREMENT AND PAYMENT for the construction and completion of work of this project, shall be based on 2014 TxDOT STANDARD SPECIFICATIONS requirements.
- B. Materials, labor and payment for the construction and completion of work of this project, shall be based on a SINGLE LUMP SUM BID.
- C. The Contractor's work includes the furnishing of all materials, labor, permits, machinery, tools, supplies and incidentals to construct a complete and functional project in accordance with the Contract Documents.

1.3 TIME OF COMPLETION

- A. The Contractor agrees to commence work on or before the date to be specified in a written "Notice to Proceed" to be issued by the Owner and to complete construction of all improvements, as required by the Contract Documents.
- B. Contractor further agrees that should he fail to complete the work within the time limits specified herein or as subsequently adjusted as provided in the General Conditions of Agreement, he shall pay the liquidated damages for each consecutive calendar day thereafter as provided in Article VI, Supplementary General Conditions.

1.4 SITE VISITATION AND INSPECTION

- A. Contractor shall visit the site prior to submitting his Bid to acquaint himself with all work and conditions to be performed under this contract.
- B. The Contractor shall verify all existing items indicated on plans and/or specified, and familiarize himself with the existing work conditions, hazards, grades, existing utility services and conditions which affect his work. The submission of bids shall be deemed evidence of such visits. All proposals shall take these existing conditions into consideration, and the lack of specific information on the Drawings shall not relieve the Contractor of any responsibility.

1.5 WAGE RATES

- A. Refer to wage rates furnished and incorporated into these Specifications. Wage rates shown within these schedules shall be maintained as a requirement for the duration of the Contract.

1.6 FEES, PERMITS AND NOTICES

- A. Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for all permits and governmental fees, licenses and inspections necessary for the proper execution of the Work.
- B. No local building permits will be required for this project for work on State property.

1.7 PROTECTION OF PROPERTY, UTILITIES AND PERSONNEL:

- A. General:
 - 1. The Contractor shall provide all equipment and labor necessary to protect all workers, building personnel and the general public from hazards associated with the contract. The Owner and his agents shall not be held responsible for failure of the Contractor to perform the job in a safe manner.
 - 2. The Contractor shall be responsible for initiating, maintaining, and supervising safety precautions and programs associated with the work. It shall be the duty

and responsibility of the Contractor to comply with all pertinent sections of the Occupational Safety and Health Act of 1975, and all amendments thereto. Provide appropriate safety measures with regard to trenching barricades, staging, scaffolding and similar operations this project may require.

3. Trench Safety: Contractor shall comply with Trench Safety requirements contained in the Uniform General Conditions and Supplemental General Conditions. The Contractor shall ensure that all vertical embankments are graded to the minimum recommended angle of repose for the soils encountered for that specified backfill is placed and compacted in such areas to eliminate the possibility of soil collapse.
4. Remove all fences, temporary structures, barricades, etc. Replace all vegetation damaged by construction operations, including grass, shrubs, and trees, to the satisfaction of the Owner. Contractor shall coordinate protection of existing tree and vegetation as per VOLUME 1.

B. Protection of Utilities:

1. The Contractor shall be solely responsible for the location and protection of any and all utility lines in the work area. The Contractor shall exercise due care to locate and to mark, uncover or otherwise protect all such lines in the construction zone and any of the Contractor's work or storage areas. Upon request, the Owner shall provide such information he has about the location and grade of water, sewer, gas and telephone and electric lines and other utilities in the work area, but such information shall not relieve the Contractor's obligation hereunder which shall be primary and non delegable.
2. The Contractor shall indemnify or reimburse such expenses or costs that may result from the unauthorized or accidental damage to all existing utility lines in the work area.
3. Unknown Utility Lines: In case utility lines are found which are not shown on the contract drawings, and if the lines need to be cut or removed, the Contractor shall be responsible for determining whether or not the lines are "active" or "abandoned".
4. Contractor shall notify "One-Call" systems for public utility information within the public R.O.W. and immediately adjacent to project property lines.

C. Safety: The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury, or loss to:

1. All employees on the work, and the general public, who may be affected by work on this project.
2. The Contractor shall comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. He shall erect and maintain, as required by existing conditions and progress of the work, all reasonable safeguards for safety and protection, including

posting danger signs and other warnings against hazards, erecting protective fencing, overhead protection, barricades or similar pedestrian safety measures, promulgating safety regulations and notifying owners and users of utilities. All damage or loss claimed to any property referred to in this article caused in whole or in part by the Contractor, or Subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, shall be the sole responsibility of the Contractor and shall be remedied by the Contractor.

3. All machinery and equipment and other physical hazards shall be guarded in accordance with the "Manual of Accident Prevention in Construction" of the Associated General Contractors of America except where incompatible with Federal, State or Municipal laws or regulations. The Contractor shall provide such machinery guards, safe walkways, ladders, bridges, gangplanks and other safety devices. The safety precautions actually taken and their adequacy shall be the sole responsibility of the Contractor, acting at his discretion as an independent Contractor.
4. Contractor shall comply with Trench Safety requirements contained in the Uniform General Conditions.
5. The Contractor shall remove all temporary barricades and protection devices upon completion of the work.

D. Protection of Work

1. Protect all the work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Sub-Subcontractors.
2. Each Contractor shall properly and effectively protect all materials and equipment furnished by him during and after their installation. Building materials, Contractor's equipment, etc., may be stored on the premises, but the placing of same shall be within a secure area. Each Subcontractor shall protect and be responsible for any damage to his work or material, from the date of the agreement until the final payment is made, and shall make good without cost to the Owner, any damage to his work or material, from the date of the agreement until the final payment is made, and shall make good without cost to the Owner, any damage or loss that may occur during this period. The Contractor shall handle all material as directed, such that materials may be inspected by the Architect or Owner's Representative. All cement, lime and other material affected by weather shall be covered and protected to keep them free from damage while they are being transported to the site and when they are stored on the site.
3. During the execution of the Work, open ends of all piping and conduit and all openings in equipment shall be closed before leaving the Work at any time, so as to prevent the entrance of all debris. No trash is to be allowed to accumulate.
4. All heating, ventilating, plumbing and electrical equipment shall be protected

during the execution of the Work.

5. All plumbing fixtures shall be protected and shall be boarded over so that they cannot be used by workmen or others. All drains shall be covered until placed in service to prevent the entrance of debris.

1.8 FURNISHING AND STORAGE OF MATERIALS:

- A. Except as otherwise specified, the Contractor shall furnish at his own cost and risk, all tools, apparatus, hoists, derricks, and Subcontractors shall arrange with the General Contractor for the use of same. Temporary equipment shall be installed in such a manner that finish work will not be damaged by smoke, falling mortar, concrete or other causes.
- B. All temporary shoring required for the installation of work shall be included in this Contract and the General Contractor must assume all responsibility for this work and make good any damage caused by improper supports or failure of shoring in any respect.
- C. Storage of materials to be used in the contract is the responsibility of the Contractor. The Owner may provide an area to store materials. The security of the storage area is the responsibility of the Contractor. Contractors are encouraged to limit storage of materials to a minimum. Material storage is not allowed for pesticides and other hazardous materials that are the property of the Contractor.

1.9 SECURITY:

- A. The Contractor shall be completely responsible for providing security for his materials, tools and equipment, and for any work in progress. If Contractor's personnel must leave an uncompleted and unsecured work area (overnight, lunch, etc.) unattended, then they must remove all tools, equipment, materials, and thoroughly close up or secure uncompleted work.
- B. Site Security: Contractor shall make arrangements for and pay the cost of providing security of exterior premises if vandalism becomes a problem.

1.10 CUTTING, PATCHING, AND INSTALLATION OF SLEEVES

- A. Each Contractor and Subcontractor requiring cutting and patching in the execution of his work shall leave all chases, holes, or openings straight, true and of proper size as may be necessary for the proper installation of his own or other Contractor's or Subcontractor's work, consulting with the superintendent and Contractors or Subcontractors concerned parties regarding locations and size.
- B. All work shall be done with proper tools and by careful workmen of the particular trade to which such work belongs and shall be done without extra charge to the Owner. Each Contractor or Subcontractor will be required to build into his own work, as directed, any and all items furnished by others. Cutting and repairing of new work in place, made necessary for negligence of another Contractor or

Subcontractor or anyone employed by him, shall be paid for by the party who is at fault but each Contractor or Subcontractor shall cooperate with all other contractors or subcontractors so that all necessary preparations are made in each branch of the work, as required for all other branches, so far as possible.

- C. The work of each Specifications Section includes all cutting, patching and digging for work in that trade section, unless otherwise specified, as required for proper accommodations of work of other trades. Execute such work with competent workmen skilled in trade required for restoration. Each Subcontractor shall arrange and pay for cutting and patching required for installation of his work.
- D. Each Contractor shall provide sleeves for service lines covered in his Contract.

1.11 PRECEDENCE OF CONTRACT DOCUMENTS AND NECESSARY WORK:

- A. The drawings accompanying these specifications show the work required to complete the project in accordance with the intent and purposes of these specifications. Contractor shall verify all conditions at the building and at the site that affect his work related to the project. The Contractor shall notify the Architect of any discrepancies prior to initiating the work.
- B. Figured dimensions are in all cases to be adhered to though they may differ from scale measurements. In the absence of figured dimensions or in the case of doubt as to proper measurements, or in the case of any discrepancies between dimensions and drawings, the Architect is to be consulted. All dimensions and conditions shall be verified at the site by the Contractor, who is solely responsible for resolution of dimensional discrepancies without additional cost to the contract.
- C. Larger scale drawings take precedence over those of smaller scale. Specifications take precedence over drawings. When discrepancies exist, the contractor is to assume the greater quantity or size for bidding purposes.
- D. Work specified and not shown, or drawn and not specified, is to be executed as fully as if described in both ways; any work or material which is not directly or indirectly noted in the specifications and drawings, but is necessary for the proper carrying out of the obvious intention, is to be understood as implied and to be provided for by the Contractor in his Proposal as fully as if specifically described or delineated. Any discrepancy between drawings, or between drawings and specifications, must be reported to the Architect for correction and clarification before the work is executed.
- E. The Contractor shall ensure that all his employees and subcontractors are furnished a copy of, and are fully familiar with both the plans and specifications. A subcontractor's failure to read and coordinate both plans and specifications for his trade shall not relieve the General Contractor of the overall responsibility to ensure compliance with the more stringent of two differing requirements in the contract documents.

1.12 RECORD DRAWINGS

- A. The Contractor shall include the following items listed below (paragraphs B – E) in his Bid. Refer also to Section 01 77 00 and 01 78 39 for additional requirements for “As-Builts” as part of closeout documentation.
- B. The Contractor shall keep up-to-date, a complete "as-built" record set of prints, showing any changes from the original plans; including plan deviations, mechanical, electrical, sprinkler and plumbing As-Builts, and dimensional locations and vertical heights or depths below grade of all buried lines and equipment, including locations and sizes of any uncovered waste and domestic water lines. Several sets of prints for this purpose may be obtained from the Owner at the beginning of the Project and shall be kept at the job trailer.
- C. Upon completion of the Project, the Contractor shall, at his expense, transfer all "as-built" changes and final locations of all covered or uncovered utility lines to a fresh set of prints in red pencil, including each of the utility trades (MEP and Voice/Data). The changes and dimensions shall be recorded in a legible and workmanlike manner to the satisfaction of the Architect and the Owner.
- D. The Contractor shall also, at his expense, have the entire set of record “as-built” prints reproduced on a full set of photocopied tracings for the Owner’s future use. The entire set of plans shall be so reproduced, whether or not changes have been indicated on individual particular sheets.
- E. All of the above shall be transmitted to the Owner as part of the close-out documentation required by Section 01 78 10. Refer to other relevant Sections and Divisions.
- F. The Owner or his representatives reserve the right to inspect the as-builts to verify they are being maintained in an up-to-date manner. Failure to keep project as-builts up-to-date will delay payment processing.

1.13 CONTRACTOR'S REPRESENTATIVES & COMMUNICATIONS EQUIPMENT

- A. Superintendent: The Contractor shall give his personal superintendence to the Work or have at least one or more competent Superintendents, with 5 years documented experience as a full-time Superintendent on projects of a size and complexity equal to or greater than this project, maintaining the ability to communicate in both English and Spanish, and satisfactory to the Owner, on the Work at all times during progress, with authority to act for him. All communications given to the Superintendent will be deemed to have been given to the Contractor. The Superintendent will be subject to the Owner’s approval. If during the course of the Work the Owner deems the Superintendent inadequate for the successful and timely completion of the Project, the Contractor shall replace him within 7 calendar days unless other agreements are reached. An approved Superintendent will not be removed from the Work by the Contractor without the approval of the Owner, unless that Superintendent leaves the employ of the Contractor.
- B. The Superintendent shall be present at the project site at all times that any work of this contract is underway. If the Superintendent is to be absent from the project site, the Contractor shall provide written notification to the Architect of a qualified replacement Superintendent at least 48 hours in advance. The replacement

Superintendent shall be subject to the approval of the Owner. The only exception to this shall be when the Contractor, an officer of the company with a majority share of ownership, shall be permitted to act in place of the Superintendent.

- C. No work shall be performed and no subcontractors shall be permitted to work at any time when the Superintendent is not present. This requirement applies to completion and correction of cited Punch List items at project closeout, until the time of Final Acceptance.
- D. The Superintendent may not perform labor on the project and shall dedicate his full attention to the coordination and supervision of the work. The Superintendent shall be equipped with a cellular telephone at all times.
- E. Communications Equipment: The General Contractor shall provide and maintain two (2) telephone lines; one (1) dedicated to facsimile machine; digital camera; computer and printer equipment connected to an internet service provider, during the duration of the project. The computer shall provide the capability to relay digital images and e-mail messages to TxDOT offices in Austin.
- F. Special Superintendence Requirements:
 - 1. Contractor shall provide an affidavit attesting to Superintendent's minimum 5 years of experience in conformance to paragraph A above.
 - 2. Contractor shall provide full time Superintendence for all after-hours and weekend work performed for this project.
 - 3. Contractor shall provide Superintendent during daytime hours at all times that any work under this contract is underway, and shall also make the Superintendent available during daytime hours for Owner, testing, progress meetings, job conferences and other typical construction activities.
 - 4. Superintendence shall be required to be in attendance for receipt of all on-site deliveries required by this contract.

1.14 ASBESTOS CONTAINING MATERIALS

- A. No materials incorporated into this project shall contain asbestos unless approved in writing by the Owner.

1.15 CONSTRUCTION LAYOUT

- A. The General Contractor shall include in his bid the cost for providing all construction staking by an experienced Registered Public Surveyor licensed by the Texas Board of Professional Land Surveyors who can demonstrate experience and competence to perform the work described. The Contractor shall submit for review and approval by Owner a copy of the Texas Registered Licensed Surveyor (TRLS) certificate. The spot elevations, grades, dimensions, radii, flow line elevations, existing bench marks, excavation and site grading shall be indicated on the project drawings. The Owner shall provide the Contractor an electronic file with benchmark information to facilitate staking and alignment. The Surveyor shall supervise the layout work and shall establish at least three (3) separate permanent bench marks at each site (north and south), to which easy access may be had during the progress of the work, to determine and to verify lines and grades.

- B. Under the supervision of the Surveyor, the layout of the work shall be made from the surveyor-established base lines, utility alignments, key trees, bench marks and all other control lines as indicated on the plans. The Contractor shall be responsible for all measurements in connection therewith as specified and as indicated on the plans.
- C. No extra charge or compensations will be allowed on account of difference between actual dimensions and the measurements indicated on the drawings. Any difference which may be found shall be submitted to the Owner for consideration before proceeding with the Work.
- D. The Contractor shall furnish, at his own expense, all stakes, pin flags, templates, equipment range markers, and labor as may be required in laying out any part of the work from the lines and grades as established on the plans. The Contractor shall employ grade stakes and flagging for all vertical control to established grades as indicated on the plans; and grade control by staking shall not exceed 25' for straight lines and grades, including all PC.'s (points of curvature), grade breaks, points of pavement depression, radius returns, and for all other points to duly represent grading as indicated on the drawings.
- E. Prior to placing concrete, formwork elevations and locations shall be certified by a TRLS.

1.16 ENVIRONMENTAL CONDITIONS:

- A. Construction Site Procedures: Contractor shall abide by the following procedures as is applicable to the specific project conditions:
 - 1. Equipment Cleaning: Equipment shall be cleaned in a manner that does not create any discharge of cleaning agents, paints, oil, solvents or other pollutant to a storm sewer or waterway. Soaps and detergents shall not be discharged to the ground or off-site. When rinsing painting equipment, contain rinse water in a bucket or other container. Water based or latex paint rinse water may be discharged to the sanitary sewer. Oil-based paint wastes, including solvents and thinners, will not be disposed of in the sanitary sewer. Waste shall be collected and disposed of through the Contractor's disposal company. Concrete mixing and handling equipment shall not be washed on site.
 - 2. Waste Disposal: All trash or debris shall be collected and contained on-site and disposed of in a recycling bin or waste receptacle. Petroleum contaminated wastes, such as waste oil and used oil filters, are to be containerized for recycling or disposal by the Contractor. Non-hazardous solid waste, such as general construction debris may be recycled or disposed of in a covered trash dumpster and removed from the site. Do not dispose of liquid wastes of any kind in dumpsters.
 - 3. Sediment: Proper erosion and sedimentation controls shall be in place to prevent sediment or silt run-off. Sediment shall be cleaned up in a manner

that does not allow it to reach a storm drain or waterway. Wash down truck tires before leaving the site to avoid tracking mud and dirt into the roadway.

4. Site De-watering, Tank and Pipe Testing Discharges from de-watering, hydrostatic tank testing or pipe pressure testing shall be free from sediment, chemicals, or pollutants. Some discharges may require governmental permits, to be paid for by the Contractor.
5. Hydrocarbons: Spills of hydraulic fluid, oil, fuel, solvents and other petroleum products shall be immediately cleaned up to prevent discharge of these fluids into the watershed.

B. Spill Disposal

1. The Contractor shall comply with all applicable provisions of local, state, and federal laws regarding the discharge of wastes into sewers and waterways. Special caution shall be exercised to prevent the discharge of wastes which contain hydrocarbons, cement, lime, or other chemicals which would degrade the water quality of the receiving watercourse. The Contractor shall construct and maintain oil interceptors, settling basins, or other effective pollution countermeasures.
2. Contaminated Material Disposal: Proper disposal of waste materials is dictated by the type of contaminant. Hazardous wastes (such as flammable petroleum by-products including solvents, thinners, etc) and materials contaminated with hazardous wastes, are considered regulated wastes, and shall be containerized in appropriate containers for transport and disposal by a permitted company.

C. Contractor Requirements and Responsibilities

1. Contractors are responsible for cleaning up and properly disposing of all spilled pollutants that are brought to the site, including oil, paint, fuels, antifreeze, solvents, etc. Keep accurate records (such as receipts, copies of analytical results, etc.) indicating proper disposal of spilled materials. Furthermore, Contractor is responsible for ensuring that all discharges from the site are in compliance with all applicable regulations.
2. In general no substance should be dumped or leaked onto the ground or allowed to run-off of a construction site that might cause harm to the environment and watershed. The Contractor is responsible for pollutant contaminated run-off and proper disposal of all waste materials generated as a result of construction and supporting activities.

1.17 SCHEDULE OF VALUES

- A. For this project, payment of VOLUME 2 work shall be based on the following: a

Schedule of Values shall be submitted in a format approved by the Owner. The Contractor shall obtain requirements for this format prior to submitting his Schedule of Values. Each major division of work (Specification Section), trade and/or major sub-component of construction will require a breakdown of materials and labor cost in sufficient detail to accurately assess work progress and associated payment. The Owner reserves the right to request additional cost breakdown detail during the course of the project in the event it becomes difficult to assess the amount and value of work being invoiced.

1.18 WARRANTY

- A. All work performed (including equipment and materials furnished) under this specification shall be under 100% warranty for a minimum period of one (1) year from the date of Final Acceptance against defective materials, construction, unauthorized substitution, unauthorized deviation from contract documents and improper installation. Some work items will have a longer manufacturer warranty period. Refer to specifications. Upon receipt of notice of failure of any portion of the guaranteed systems and/or facilities during the warranty period, the affected portion or facilities shall be replaced or reworked promptly by and at the expense of the Contractor. Furthermore, the Contractor shall properly obtain, execute, and forward any and all manufacturer warranties on equipment, materials, assemblies, etc., furnished under the contract.
- B. Comply with all Sections requiring extended warranties.

END OF SPECIAL CONDITIONS

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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Contractor's use of site and premises.
4. Coordination with occupants.
5. Work restrictions.
6. Specification and Drawing conventions.
7. Miscellaneous provisions.

- B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
2. Section 017300 "Execution Requirements" for coordination of Owner-installed products.

1.3 PROJECT INFORMATION

- A. Project Identification: Langtry Travel Information Center; Site #229888; Building #568056.

1. Project Location: 256 Texas Loop 25 Langtry, TX 78871.

- B. Owner: Texas Department of Transportation, 125 East 11th Street, Austin, Texas 78701-2483.

1. Owner's Representative: Jim Tate; PH: (512) 552-7045; Email: jim.tate@txdot.gov.

- C. Architect: Secord & Lebow Architects, LLP dba SLA Architects. 2004 Quail Creek Drive, Suite 200 Wichita Falls, TX 76308, (940) 767-7478.

1. Architect's Representative: Nichole Schroeder; PH: (940) 767-7478; Email: nicholes@slatx.us

- D. **Web-Based Project Software:** Project software will be used for purposes of managing communication and documents during the construction stage.
 - 1. Contractor will provide a cloud base construction project management software for all construction project management activities.
 - 2. Contractor will provide licenses for the owner and architect/engineer to use during the project from the Notice to Proceed through project closeout. Allow for minimum of 15 stations/users for owners use.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:
 - 1. The TxDOT Langtry Travel Information Center Renovation project will renovate multiple site amenities to improve guest mobility around the site and meet current Texas Accessibility Standard (TAS) requirements. This will include, but not limited to removing existing flagstone sidewalks, providing new TAS-compliant paths to link the sites features together with the use of new concrete sidewalks with an architectural finish, and a new accessible walk from the parking lot to the Travel Information Center. Existing handrails at the bridge to the Cactus Garden will be replaced with a TAS-compliant prefinished aluminum guardrail system including an integral handrail. The bridges existing flagstone surface is to be removed and replaced with a new concrete surface with an architectural finish. In addition to sidewalk replacement, improvements to landscaping and irrigation system will be provided. New native plants are to be provided and installed in disturbed areas and several existing plants are to be replaced as indicated. A new irrigation system is to be provided throughout the site. Site improvements also include a new asphalt drive between the Travel Information Center and Butterfly Garden and other Work indicated in the Contract Documents.
 - 2. This project includes bid option items as indicated in the Contract Documents.
- B. Time of Completion: 140 working days based on a Standard Workweek.
- C. Liquidated Damages: Refer to Article 9.13, UGC.
- D. Fees, Permits and Notices: Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for all permits and governmental fees, licenses and inspections necessary and required for the proper execution of the Work. For this project, a Building Permit will not be required. See Section 00 85 00.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

- A. **Restricted Use of Site:** Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

- B. Limits on Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Limits on Use of Site: Confine construction operations to limits as indicated on drawings.
 - 2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.6 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy Project site and existing building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
 - 2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.7 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to between **<Insert time>** a.m. to **<Insert time>** p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
 - 1. Weekend Hours: **<Insert restrictions on times permitted for weekend work>**.
 - 2. Early Morning Hours: **<Insert restrictions or references to regulations by authorities having jurisdiction for restrictions on noisy work>**.

3. Work in Existing Building: **<Insert restrictions on times permitted and other Owner's restrictions>**.
 4. Hours for Utility Shutdowns: **<Insert Owner's restrictions>**.
 5. Hours for [Core Drilling] **<Insert noisy activity>**: **<Insert Owner's restrictions>**.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:
1. Notify Owner not less than two days in advance of proposed utility interruptions.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
 3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
 4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.
- C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

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PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

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SECTION 01 25 00 – MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.
- B. This section specifies administrative and procedural requirements for handling and processing Contract changes and modifications, RFI's, and defines the authority of Field Reports.

1.2 FIELD REPORTS AND DEFICIENCIES NOTED:

A. Field Reports:

1. The Owner will provide field observations through periodic site visits to inform the Contractor of the progress of the work and offer comments as to compliance with the contract documents. Comments are issued as Field Reports.
2. Field Reports reflect field observations made by the Owner or his Agents during construction, containing professional judgments on the methods and materials installed and documenting the progress of the work.
3. Field Reports are routinely addressed to the Contractor for action, but may require the Owner to provide supplementary actions also. The Contractor shall distribute copies of Field Reports to his Sub-Contractors upon whose work efforts comments have been made.
4. Field Reports containing observed deficiencies will require completion or correction by the Contractor before acceptance. The Contractor shall notify the Owner in writing when the deficiencies have been completed or corrected.
5. Field Reports may be used to provide clarification to the Documents and to document changes or supplemental instruction given at the site, not requiring a change in Contract Price. Changes resulting in monetary cost to the Contract will be processed as Change Request items under separate correspondence.

- B. Deficiencies Cited in Field Reports: If the Owner or his representatives are required to re-examine a deficiency previously cited more than two times (total), the Owner has the right to withhold funds to pay the costs of further re-examination. Examples subject to this provision may include:

1. Special monitoring to ensure compliance with the documents due to non-performance or poor workmanship.
2. Providing assessments of potential damage, resulting from failure of the Contractor to protect the Work.
3. Special site visits required to re-examine a cited deficiency which has not been corrected after two visits.

1.3 REQUESTS FOR INFORMATION (RFIs)

- A. Requests for Information: Contractor may request written interpretation or clarification on items from the Owner, by means of an RFI. Contractor shall number RFI's and maintain a log on dates submitted and responses.
- B. Digital Imaging: The Contractor shall provide digital camera images to the Owner via the Contractor's Internet Service Provider, to supplement RFI's when necessary. The Contractor is encouraged to utilize this process for RFI issues where time is critical and when visual imaging would assist the Owner in providing clarification or direction to the Contractor.
- C. Routine RFIs: Contractor shall attempt to reserve non-urgent questions for resolution at the monthly progress meetings, such that all parties are privileged to questions and answers. Owner's initials on the Record Set of As-Builts will be sufficient to document answers to field-directed questions where change in cost is not an issue.
- D. Processing Time: Allow 14 days for Architect/Engineer response to each RFI item. Time shall commence upon Architect/Engineer receipt of RFI. Allow 21 days for Architect/Engineer response for RFIs requiring coordination of multiple disciplines. Allow same time for resubmittal as original submittal.
- E. Abuse of RFIs: Contractor shall not use this process to lay the basis for delay claims on the project or to attempt to place the Contractor's responsibilities on the Owner. The Owner reserves the right to limit the use of RFIs, but has the responsibility to respond in an appropriate period to legitimate requests for information.
- F. Claims for Extra Cost: Should the Contractor believe that an interpretation or clarification will result in delay or extra costs, he is entitled to submit such a claim as specified elsewhere, and submit justification and records to substantiate his position.

1.4 CHANGES IN THE WORK:

- A. Minor Changes in the Work - Supplemental Instructions: Supplemental instructions authorizing minor changes in the Work, not involving adjustment to Contract Sum or Time of Completion, will be issued by the Owner in his Field Reports or on AIA form G710, at the Owner's discretion.
- B. Change Requests: Proposal requests that require adjustment to the Contract Sum or Time of Completion, will be issued to the Contractor by the Owner as a Change

Request, with a description of the proposed change and supplemental or revised Drawings and Specifications. Change Requests are for information only and shall not be considered as instruction to stop work in progress, or to execute the change.

1. Change Request Identification: Change Requests will be numbered consecutively.
 2. Cost Breakdowns: When requested, the Contractor shall provide pricing information requested in sufficient detail to permit review by the Owner. This requirement for cost breakdowns shall apply equally to Sub-Contractors as well as the General Contractor when Sub-Contractors provide part of the pricing. Typically, provide labor and material cost breakdowns for each major item of work, to include the following:
 - a. Include a list of quantities of products to be purchased and unit costs, along with the amount of purchases to be made. If requested, substantiate quantities.
 - b. Indicate amounts and costs of labor involved.
 - c. Indicate applicable, delivery charges, equipment rental, and amounts of trade discounts.
 - d. Indicate the effect the proposed change will have on the Contract time.
 3. Mark-Up: Comply with Mark-up requirements in the Uniform General Conditions, Supplementary General Conditions, and herein.
 4. Time Extensions: When delays will be incurred by a Change, the Contractor shall indicate and request a time extension for the number of working days of delay incurred. No claim for time extension will be considered after a Change Order has been executed or after construction has been completed. The Owner will review the request for delay days and provide his recommendation to the Owner for number of days allowed.
 5. Response Time: Contractor shall obtain pricing on Change Requests within ten (10) calendar days of receipt, submit an estimate of cost to execute the change.
 6. Owner's Right to Determine Quantities: The Owner reserves the right to establish the actual quantity of work-in-place by independent quantity survey, measure or count.
- C. Contractor Initiated Change Order Proposal Requests: When unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request to the Owner in the same format as above.
1. Include a statement outlining reasons for the change. Provide a complete description of the change. Indicate effect of the proposed change on the Contract Sum and Time.

2. Include items described in preceding paragraph.
 3. Comply with Change Order requirements in the Texas Department of Transportation Building Uniform General Conditions, Supplementary General Conditions, and herein.
 4. Submit claims for increased costs because of change in scope or nature of an allowance described in Contract Documents, whether for purchase amount or Contractor's handling, labor, installation, overhead and profit, within thirty (30) days of receipt of Change Order authorizing work to proceed. Claims submitted later than thirty days will be rejected.
- D. Proposal Request Form: Use Contractor-supplied form, acceptable to the Owner, or AIA Document G709.
- E. Change Order Procedures: Upon the Owner's approval of a Change Request, the Owner will issue a Change Order for signatures by all parties on the Owner's Change Order Form, as provided in the Texas Department of Transportation Building Uniform General Conditions and Supplementary Conditions of contract.
- G. Construction Change Directive: When the Owner and the Contractor are not in total agreement on the terms of a Change Order Proposal request, the Owner may issue a Construction Change Directive, instructing the Contractor to proceed with a change in the work. The Contractor may then make a claim for extra work as provided in the Uniform General and Supplementary General Conditions of the Agreement.
- H. Documentation: Maintain detailed records on time and material basis of work required by the Construction Change Directive. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.
- I. Allowance Adjustment: Base each Change Order Proposal Request for an allowance cost adjustment solely on the difference between the actual purchase amount, including labor and material costs, and the allowance.
1. Include installation costs in the purchase amount.
 2. Prepare and submit explanations and documentation.
 3. Submit substantiation of a change in scope of work claimed in the Change Order related to unit-cost allowances.
 4. The Owner reserves the right to establish the actual quantity of work-in-place by independent quantity survey, measure or count.
- I. Emails: Emails may be utilized by the Owner or his consultants, the Contractor to convey information expeditiously. Field reports, clarifications, directives, change

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requests, messages and similar correspondence issued by the Owner, his consultants, by email shall be considered legitimate communications to the Contractor and vice versa.

END OF SECTION 01 25 00

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SECTION 01 30 00 - PROHIBITION OF ASBESTOS CONTAINING MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Texas Department of Transportation Building Uniform and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 DESCRIPTION AND INTENT OF THE WORK

- A. No asbestos containing (ACM) shall be brought onto the project site, and/or incorporated into the project without the written consent of the Owner. Any asbestos containing material found at any time, including after contract completion, to have been brought onto the site or incorporated into the project by the Contractor or any of his subcontractors, sub-subcontractors or suppliers, shall be removed and disposed of in accordance with the then current governmental regulatory standards.
- B. All costs associated with the inspection, sampling, testing and removal and disposal of ACM as described above shall be paid by the Contractor.

1.3 DEFINITIONS

- A. Asbestos: The asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite (amosite), anthophyllite, actinolite and tremolite.
- B. Asbestos Containing Material (ACM): Any material containing more than one percent by weight of asbestos of any type or mixture of types.
- C. Asbestos Containing Building Material (ACBM): Any material used in construction of, or incorporated into the construction of, any building that contains more than one percent by weight of asbestos of any type or mixture of types.

1.4 QUALITY ASSURANCE

- A. Non-Specification of Asbestos Containing Materials
 - 1. It is the Owner's intent of not having any asbestos containing materials specified, requested or approved for use in conjunction with this project.
 - 2. Any unintentional direct or indirect specification of such asbestos containing materials shall be brought to the immediate attention of the Owner by the Contractor.
- B. Product Review by Contractor for Asbestos Containing Materials

1. All materials shall be reviewed by the Contractor for ACM materials. Recommendation of approvals on products by the Contractor shall be construed to mean that he has performed this review, independently, and has not found evidence of asbestos containing materials.
2. Under no circumstances are materials to be incorporated into the Work without review of the products for ACM by the Contractor.
3. Refer also to Submittals below for other requirements.

C. Asbestos Containing Materials Prohibited From Site

1. Unless specifically mentioned as a material that may be assumed to be asbestos free, all materials, or their containers, shall have a label affixed thereto indicating that they are asbestos free before being allowed on the site. Enforcement of this provision is the responsibility of the Contractor.
2. The following types of materials may be assumed asbestos free and do not require a label indicating they are asbestos free:
 - a. Solid metal articles, for example: steel pipe, structural steel, concrete reinforcing steel, copper pipe, railings, nails, fasteners, etc.
 - b. Solid non-laminated wood products, for example: lumber 2x4, 2x6, etc.
 - c. Solid thermoplastic materials manufactured in accordance with nationally recognized standard in which it can be proven that there is no asbestos, for example: polyvinyl chloride (PVC), electrical insulation conductors (THWN, THHN), etc.
 - d. Solid ceramic materials (not the grouts), for example: ceramic floor and wall tiles. This does not apply to specialty type ceramics, for example: fire brick.
 - e. Materials made with combinations of only the above items, for example: electrical conductors with THHN insulation, steel pipe with PVC coating, etc.

1.5 SUBMITTALS

A. Affidavit of Non-Inclusion of Asbestos Containing Materials

1. The Contractor agrees not to allow any asbestos containing materials to be incorporated into the construction of the project or allow any asbestos containing materials on the site, for which the Owner has not given prior written approval.
2. At the time of Substantial Completion, the Contractor will provide, as part of the Owner's Records, an "Affidavit of Non-Inclusion of Asbestos Containing Materials". This affidavit certifies that the Contractor did not allow any

asbestos containing building materials on the site, for which the Owner has not given prior written approval.

3. A copy of this affidavit is attached at the end of this section.

B. Contractor's Review of Submittal Data: The Contractor shall indicate on each Submittal that the products submitted for review are free from asbestos containing materials. The Contractor is referred to Section 01 33 00 for specific requirements regarding Submittal review.

1.6 ASBESTOS CONTAINING MATERIALS: If any asbestos containing materials are proposed for use by the Contractor or his Subcontractors on the project, or should any asbestos containing materials be discovered on the site during construction, the following information shall be immediately supplied to the Owner by the Contractor:

- A. A detailed description of the material(s) containing asbestos.
- B. The type and percent of asbestos contained in the material(s).
- C. The quantity of the materials, including the square footage or, as appropriate (for pipe insulation, for example), the size and lineal footage.
- D. Drawings showing the exact location of any asbestos coating material(s).

1.7 FINAL PAYMENT

A. Final payment may be withheld until the above described affidavits and/or information are received and approved.

1.8 SPECIFIC PROJECT REQUIREMENTS

A. No ACM or ACBM may be used on this project. It is the responsibility of the Contractor to ensure compliance with this Section.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 30 00

AFFIDAVIT OF NON-INCLUSION OF ASBESTOS CONTAINING MATERIALS

Whereas Contractor was awarded a contract for the construction of the following project:

HUDSPETH COUNTY SAFETY REST AREAS

for the Texas Department of Transportation, hereafter known as the Owner, and

Whereas asbestos in a dust form is a recognized health hazard, and

Whereas the Owner does not desire to have any asbestos containing materials used or incorporated into the project;

Therefore the Contractor affirms and understands the following:

1. The undersigned Contractor hereby certifies and affirms that the Building Materials used on the above project, including any person or firm representing or represented by the Contractor, do not contain Asbestos Containing Building Materials, as defined in Section 01 30 00 and by laws, rules and regulations promulgated by the Federal Government, The State of Texas, and any other governmental entity operating under the authority of these governments.
2. The undersigned Contractor hereby certifies and affirms that the Contractor shall be totally responsible for any and all costs incurred in removal of any asbestos materials identified as a result of material sampling and testing in compliance with Federal and State laws.
3. The undersigned Contractor hereby certifies and affirms that the Contractor shall pay for any and all damages resulting from the inability of the Owner to use any portion or all of the Work as a result of such discovery.

Contractor:

Company Name: _____

By: _____

Date: _____

Subscribed and Sworn to, this _____ day of _____

Notary: _____

Notary In and For the State of Texas

My Commission Expires: _____

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Texas Department of Transportation Building Uniform and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project:
- B. Coordinate the requirements of this Section with those of other sections that require coordination with Project Management and Coordination.

1.3 COORDINATION

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, which depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Provide project superintendent and other supervisory personnel required for proper performance of the work.
 - 2. Submit list of subcontractors' names, phone numbers and trade work.

3. Participate in a pre-construction meeting at a time and place determined by the Owner for the purpose of identifying responsibilities of the Owner's and Architect's personnel and explanation of administrative procedures.
4. Schedule and conduct monthly meetings, distribute meeting Minutes.
5. Schedule and conduct other meetings as necessary, distribute meeting Minutes.
6. Owner to schedule and conduct other meetings as necessary, the Owner will distribute meeting Minutes.
7. Preparation of Contractor's Construction Schedule.
8. Preparation of the Schedule of Values.
9. Installation and removal of temporary facilities and controls.
10. Preparation of the Submittal Review Schedule
11. Delivery and processing of submittals.
12. Progress meetings.
13. Pre-installation conferences.
14. Project closeout activities.
15. Startup and adjustment of systems
16. Project closeout activities
17. Submit bar chart progress schedule, updated monthly. Reference Section 01 32 16- Construction Progress Documentation and Section 01 33 00.1.3.E. Construction Progress Schedule for additional information.
18. Prepare submittal schedule coordinated with progress schedule.
19. Submit schedule of values, divided so as to facilitate payments to subcontractors, on forms acceptable to the Owner. Schedule, when approved, will be used as the basis or the Contractor's Application for payment.
20. Submit schedule of required tests.
21. Perform all field engineering, layout, and surveying required for layout of project.
22. Submit and post a list of emergency telephone numbers and addresses for individuals to be contacted in case of emergency.
23. Record drawings and specifications to be maintained and annotated by contractor as work progresses to record actual construction, and be turned over to the Architect at substantial completion. See Section 01 70 00 for detailed requirements.
24. Submit payment request procedures.
25. Perform quality control during installation.
26. Clean and protect the work.
27. Coordination of work performed in Owner occupied facilities to minimize disruption of Owner's activities.

1.4 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
 1. Indicate relationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.

- B. Staff Names: Within 15 days of starting construction operations, submit a list of principal staff assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
 - 1. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.

1.6 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
 - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times.
 - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 - 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Owner's staff, within 3 days of the meeting.
- B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner, but no later than 15 days after notice to proceed. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.
 - 1. Attendees: Authorized representatives of Owner and his consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Phasing.
 - c. Critical work sequencing and long-lead items.
 - d. Designation of key personnel and their duties.
 - e. Procedures for processing field decisions and Change Orders.
 - f. Procedures for requests for interpretations (RFIs).
 - g. Procedures for testing and inspecting.

- h. Procedures for processing Applications for Payment.
 - i. Distribution of the Contract Documents.
 - j. Submittal procedures.
 - k. Preparation of Record Documents.
 - l. Use of the premises.
 - m. Work restrictions.
 - n. Owner's occupancy requirements.
 - o. Responsibility for temporary facilities and controls.
 - p. Construction waste management and recycling.
 - q. Parking availability.
 - r. Office, work, and storage areas.
 - s. Equipment deliveries and priorities.
 - t. Security.
 - u. Progress cleaning.
 - v. Working hours.
3. Minutes: Record and distribute meeting minutes.
- C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction. These include, but are not limited to, concrete foundations, curtain wall system, masonry work, metal roof decks, metal panel roofing, painting, ceramic tile, HVAC, video surveillance and others as indicated in Specification Sections.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Owner of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related Change Orders.
 - d. Purchases.
 - e. Deliveries.
 - f. Submittals.
 - g. Review of mockups.
 - h. Possible conflicts.
 - i. Compatibility problems.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's written recommendations.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - q. Regulations of authorities having jurisdiction.
 - r. Testing and inspecting requirements.

- s. Required performance results.
 - t. Protection of construction and personnel.
3. Record significant conference discussions, agreements, and disagreements.
 4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Progress and Coordination Meetings: Conduct progress meetings at regular intervals as required by Owner.
1. Agenda:
 - a. Contractor's up-dated Construction Schedule.
 - b. Corrective measures to regain projected schedules.
 - c. Review present and future activities and needs.
 - d. Review status of procedures:
 - 1) Status of submittals.
 - 2) Field observations.
 - 3) Requests for Information (RFIs).
 - 4) Status of proposal requests.
 - 5) Pending changes.
 - 6) Status of Change Orders.
 - 7) Pending claims and disputes.
 - 8) Documentation of information for payment requests.
 2. Minutes: Record and distribute the meeting minutes.
 3. Reporting: Distribute minutes of the meeting to each party present and to parties who should have been present.

END OF SECTION 01 31 00

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SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Construction Schedule.
 - 2. Submittals Schedule.
- B. Coordinate the requirements of this Section with those of other sections that require coordination with Construction Progress Documentation.

1.3 SUBMITTALS

- A. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- B. Submittals Schedule: Submit three copies of schedule. Arrange the following information in a tabular format: Submittal Registry
 - 1. Scheduled date for first submittal
 - a. Coordinate submission/ installation date with Construction Schedule
 - 2. Specification Section number and title.
 - 3. Name of subcontractor.
 - 4. Description of the Work covered.
 - 5. Schedule date for Architect's final release or approval
 - a. Date submitted
 - b. Date returned
 - c. action
- C. Construction Schedule: Submit three copies for Owner's review. Upon Owner's review add any additional milestones Owner deems significant or helpful in tracking the project's progress.

1.4 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

PART 2 - PRODUCTS

2.1 SUBMITTALS SCHEDULE

- A. Preparation: Submit a schedule of submittals, arranged in chronological order by approximate dates of submittal to Architect. Include time required for review, re-submittal, ordering, manufacturing, fabrication, and delivery when establishing dates. Plan for sufficient time for Architect's review to prevent any delays to construction.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Procedures: Comply generally with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Submit preliminary outline Schedules within 15 days after date of Owner-Contractor Agreement for coordination with Owner's requirements. After review, submit detailed schedules within 7 days modified to accommodate revisions recommended by Architect/Engineer and Owner.
- C. Time Frame: Extend schedule from date established for commencement of the Work to date of Final Completion.
- D. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
 - 1. Use Microsoft Project, Primavera, or other software approved by the Owner for current Windows operating system.
- E. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
 - 1. In-House Option: Owner may waive requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
 - 2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.
- F. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- G. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than 30 days, unless specifically allowed by Architect.
 2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
 4. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
 5. Commissioning Time: Include no fewer than 15 days for commissioning.
 6. Substantial and Final Completion: Indicate completion in advance of date established for Substantial and Final Completion, and allow time for Architect's and TxDOT Project Manager's administrative procedures necessary for certification of Substantial and Final Completion.
 7. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.
- H. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule and show how the sequence of the Work is affected.
1. Work Restrictions: Show the effect of the following items on the schedule:
 - a. Coordination with existing construction.
 - b. Limitations of continued occupancies.
 - c. Uninterruptible services.
 - d. Partial occupancy before Substantial Completion.
 - e. Use-of-premises restrictions.
 - f. Provisions for future construction.
 - g. Seasonal variations.
 - h. Environmental control.
 2. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
 - a. Subcontract awards.
 - b. Submittals.
 - c. Purchases.
 - d. Mockups.
 - e. Fabrication.
 - f. Sample testing.

- g. Deliveries.
 - h. Installation.
 - i. Tests and inspections.
 - j. Adjusting.
 - k. Curing.
 - l. Building flush-out.
 - m. Startup and placement into final use and operation.
 - n. Commissioning.
3. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
- a. Structural completion.
 - b. Temporary enclosure and space conditioning.
 - c. Permanent space enclosure.
 - d. Completion of mechanical installation.
 - e. Completion of electrical installation.
 - f. Substantial Completion.
- I. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, and final completion.
- 1. Temporary enclosure and space conditioning.
- J. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.
- K. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:
- 1. Unresolved issues.
 - 2. Unanswered Requests for Information.
 - 3. Rejected or unreturned submittals.
 - 4. Notations on returned submittals.
 - 5. Pending modifications affecting the Work and the Contract Time.
- L. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
- 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.

3. As the Work progresses, indicate final completion percentage for each activity.
- M. Recovery Schedule: When periodic update indicates the Work is 14 or more work days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, equipment required to achieve compliance, and date by which recovery will be accomplished.

2.3 REPORTS

- A. Daily Construction Reports: Maintain a daily construction report recording the following information concerning events at Project site:
1. List of subcontractors at Project site
 2. Approximate count of personnel at Project site
 3. Material deliveries
 4. High and low temperatures and general weather conditions
 5. Accidents
 6. Meetings and significant decisions
 7. Unusual events (refer to special reports)
 8. Stoppages, delays, shortages, and losses
 9. Emergency procedures
 10. Orders and requests of authorities having jurisdiction
 11. Change Orders received and implemented
 12. Services connected and disconnected
 13. Equipment or system tests and startups
 14. Substantial Completions authorized
- B. Field Condition Reports: Have field reports available for review by Owner.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities.
- B. Distribution: Distribute copies of approved schedule to: Owner (TxDOT Project Manger), Architect, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.
1. Post copies in Project meeting rooms and temporary field offices.
 2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

Langtry Travel Information Center
Langtry, TX

END OF SECTION 01 32 00

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.
- B. Related Sections include the following:
 - 1. Division 1 Section "Project Management and Coordination" for submitting Coordination Drawings.
 - 2. Division 1 Section "Construction Progress Documentation" for submitting schedules and reports, including Contractor's Construction Schedule and the Submittals Schedule.
 - 3. Division 1 Section "Quality Requirements" for submitting test and inspection reports and Delegated-Design Submittals and for erecting mockups.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Owner's responsive action.
- B. Informational Submittals: Written information that does not require Owner's approval. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings will not be provided by Owner for Contractor's use in preparing submittals.
 - 1. Contractor will provide a cloud base construction project management software for all construction project management activities. Contractor will provide licenses for the owner and architect/engineer to use during the project from the Notice to Proceed through project closeout. Allow for minimum of 15 stations/users for owners use.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Owner reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation" for list of submittals and time requirements for scheduled performance of related construction activities.
- D. Processing Time: Allow enough time for submittal review, including time for re-submittals, as follows. Time for review shall commence on Owner's receipt of submittal.
1. Initial Review: Allow 15 work days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Owner will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Concurrent Review: Where concurrent review of submittals by Owner's consultants, Owner, or other parties is required, allow 21 work days for initial review of each submittal.
 3. If intermediate submittal is necessary, process it in same manner as initial submittal.
 4. Allow 15 work days for processing each re-submittal.
 5. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
- E. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 4 by 5 inches on label or beside title block to record Contractor's review and approval markings and action taken by Owner.
 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Owner.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Unique identifier, including revision number.
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Other necessary identification.

- F. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
- G. Additional Copies: Unless additional copies are required for final submittal, and unless Owner observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.
 - 1. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Owner.
 - 2. Additional copies submitted for maintenance manuals will be marked with action taken and will be returned.
- H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Owner will return submittals, without review, received from sources other than Contractor.
 - 1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Owner on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
 - 2. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
 - 3. Transmittal Form: Use AIA Document G810, CSI Form 12.1A or equivalent acceptable form to Owner.
- I. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- J. Use for Construction: Use only final submittals with mark indicating action taken by Owner in connection with construction.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
 - 1. Number of Copies: Submit 7 copies of each submittal, unless otherwise indicated. Owner will return 4 copies. Mark up and retain one returned copy as a Project Record Document.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.

2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Standard color charts.
 - e. Manufacturer's catalog cuts.
 - f. Wiring diagrams showing factory-installed wiring.
 - g. Printed performance curves.
 - h. Operational range diagrams.
 - i. Mill reports.
 - j. Standard product operating and maintenance manuals.
 - k. Compliance with recognized trade association standards.
 - l. Compliance with recognized testing agency standards.
 - m. Application of testing agency labels and seals.
 - n. Notation of coordination requirements.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Fabrication and installation drawings.
 - d. Roughing-in and setting diagrams.
 - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - f. Shop work manufacturing instructions.
 - g. Templates and patterns.
 - h. Schedules.
 - i. Design calculations.
 - j. Compliance with specified standards.
 - k. Notation of coordination requirements.
 - l. Notation of dimensions established by field measurement.
 2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
 3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 22 by 34 inches.
 4. Number of Copies: Submit each submittal electronically, unless prints are required for operation and maintenance manuals. Mark up and retain one returned print as a Project Record Drawing.
- D. Coordination Drawings: Comply with requirements in Division 1 Section "Project Management and Coordination."

- E. Samples: Prepare physical units of materials or products, including the following:
1. Comply with requirements in Division 1 Section "Quality Requirements" for mockups.
 2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available. For Initial Selection of all finish samples, provide the maximum of all colors available from manufacturer for products indicated.
 3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 4. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Owner's sample where so indicated. Attach label on unexposed side that includes the following:
 - a. Generic description of Sample.
 - b. Product name or name of manufacturer.
 - c. Sample source.
 5. Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, provide the following:
 - a. Size limitations.
 - b. Compliance with recognized standards.
 - c. Availability.
 - d. Delivery time.
 6. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
 - a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
 - b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
 7. Number of Samples for Verification: Submit three sets of Samples. Owner will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a Project Record Sample.

- a. Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
8. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
- F. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Use CSI Form 1.5A or acceptable equivalent form. Include the following information in tabular form:
 1. Name, address, and telephone number of entity performing subcontract or supplying products.
 2. Number and title of related Specification Section(s) covered by subcontract.
 3. Drawing number and detail references, as appropriate, covered by subcontract.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 1. Number of Copies: Submit electronically for each submittal, Owner will retain one copy for his use.
 2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
 3. Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."
- B. Contractor's Construction Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."
- C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- D. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- E. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure

Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms.
Include names of firms and personnel certified.

- F. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- G. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- H. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- I. Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- J. Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- K. Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.
- L. Product Test Reports: Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- M. Maintenance Data: Prepare written and graphic instructions and procedures for operation and normal maintenance of products and equipment. Comply with requirements in Division 1 Section "Closeout Procedures."
- N. Design Data: Prepare written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.
- O. Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
 - 1. Preparation of substrates.
 - 2. Required substrate tolerances.

3. Sequence of installation or erection.
4. Required installation tolerances.
5. Required adjustments.
6. Recommendations for cleaning and protection.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Owner.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 OWNER'S ACTION

- A. General: Owner will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Owner will review each submittal, make marks to indicate corrections or modifications required, and return it. Owner will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
- C. Resubmit submittals until they are marked 'REVIEWED'.
- D. Use for Construction: Use only final submittals with mark indicating 'REVIEWED'.
 1. Begin no work which requires submittals until return of submittals with Architect's stamp and initials or signature indicating review.
- E. Submittals not requested will not be recognized or processed.
- F. Informational Submittals: Owner will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Owner will forward each submittal to appropriate party.
- G. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION 01 33 00

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Specific test and inspection requirements are not specified in this Section.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Architect.
- C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Laboratory Mockups: Full-size physical assemblies constructed at testing facility to verify performance characteristics.
 2. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on Project site, consisting of multiple products, assemblies, and subassemblies.
 3. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.
- D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).
- J. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply

exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 ACTION SUBMITTALS

- A. Shop Drawings: For mockups, provide plans, sections, and elevations, indicating materials and size of mockup construction.
 - 1. Indicate manufacturer and model number of individual components.
 - 2. Provide axonometric drawings for conditions difficult to illustrate in two dimensions.

1.6 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- D. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
 - 1. Specification Section number and title.
 - 2. Entity responsible for performing tests and inspections.
 - 3. Description of test and inspection.
 - 4. Identification of applicable standards.
 - 5. Identification of test and inspection methods.
 - 6. Number of tests and inspections required.
 - 7. Time schedule or time span for tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.

1.7 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.

- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
 - 1. Project quality-control manager may also serve as Project superintendent.
 - 2. .
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
 - 1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
 - 2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
 - 3. Owner-performed tests and inspections indicated in the Contract Documents.
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.8 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.

11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. **Manufacturer's Technical Representative's Field Reports:** Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification Sections.

C. **Factory-Authorized Service Representative's Reports:** Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.
2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

D. **Permits, Licenses, and Certificates:** For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

1.9 QUALITY ASSURANCE

A. **General:** Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

C. **Fabricator Qualifications:** A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- D. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. **Specialists:** Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.
- G. **Testing Agency Qualifications:** An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
 - 1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
 - 2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.
- H. **Manufacturer's Technical Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. **Factory-Authorized Service Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- J. **Preconstruction Testing:** Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.

- c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
 - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - f. When testing is complete, remove test specimens, assemblies, mockups; do not reuse products on Project.
 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Architect, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 - K. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
 2. Notify TxDOT Project Manager and Architect seven days in advance of dates and times when mockups will be constructed.
 3. Employ supervisory personnel who will oversee mockup construction. Employ workers that will be employed during the construction at Project.
 4. Demonstrate the proposed range of aesthetic effects and workmanship.
 5. Obtain Architect's and TxDOT Project Manager's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
 7. Demolish and remove mockups when directed unless otherwise indicated.
 - L. Integrated Exterior Mockups: Construct integrated exterior mockup as indicated on Drawings. Coordinate installation of exterior envelope materials and products for which mockups are required in individual Specification Sections, along with supporting materials.
- 1.10 QUALITY CONTROL
- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.

2. Payment for these services will be made from testing and inspecting allowances, as authorized by Change Orders.
 3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor.
- B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."
- D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- F. Testing Agency Responsibilities: Cooperate with Architect, TxDOT Project Manager and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Architect, TxDOT Project Manager and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.

2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 6. Do not perform any duties of Contractor.
- G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 4. Facilities for storage and field curing of test samples.
 5. Delivery of samples to testing agencies.
 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- H. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.
1. Distribution: Distribute schedule to Owner, Architect, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 ACCEPTABLE TESTING AGENCIES

- A. To be determined by Owner.

3.2 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for Architect's and TxDOT Project Manager reference during normal working hours.

3.3 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 - 1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

SECTION 01 41 00 - TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 SCOPE

- A. A qualified independent testing laboratory and/or geotechnical engineering service, submitted by the Contractor, reviewed by the Owner, approved by the Architect, and paid by the Contractor, will perform the professional testing and laboratory services specified herein.
- B. The inspecting agency shall make all inspections and perform all tests in accordance with the rules and regulations of the building code, local authorities, the Specifications of the ASTM and these Contract Documents.
- C. Materials and workmanship not meeting the required standards or performance obligations are to be removed and replaced. Replacement and subsequent testing shall be at the expense of the Contractor.
- D. Where the terms "Inspector" and "Laboratory" are used, they mean and refer to an officially designated and accredited inspector of the testing laboratory or geotechnical service engaged by the Contractor.
- E. Testing, inspection, and certifications specified in other sections of these Specifications shall be paid by the Contractor, unless otherwise indicated, and shall be by agencies approved by the Architect.
- F. Inspection by the laboratory shall not relieve the Contractor or Fabricator of his responsibility to furnish materials and workmanship in accordance with the Contract Documents.

1.2 QUALIFICATIONS

- A. Testing agencies shall be an "approved agency" per IBC accepted by the Owner's Official. Submit information as required to the Owner's Official for evaluation and acceptance.
- B. Testing agencies shall meet the requirements of ASTM E 329, "Recommended Practice for Inspection and Testing Agencies for Concrete, Steel and Bituminous Materials as Used in Construction" and ASTM E 543, "Determining the Qualification of Nondestructive Testing Agencies."
- C. Testing agencies shall each be insured against errors and omissions by a professional liability insurance policy having a limit of liability not less than \$500,000.00.
- D. The inspection and testing services of the testing agency shall be under the direction of a Registered Engineer licensed in the State of Texas, charged with engineering

managerial responsibility, and having at least five years engineering experience in inspection and testing of construction materials.

- E. Inspecting personnel monitoring concrete work shall be ACI certified inspectors.
- F. Primary inspectors performing structural steel inspection shall be currently certified AWS Certified Welding Inspectors (CWI), in accordance with the provisions of AWS QCI, "Standard and Guide for Qualification and Certification of Welding Inspectors." The inspector may be supported by assistant inspectors who may perform specific inspection functions under the supervision of the inspector. Assistant inspectors shall be currently certified AWS Certified Associate Welding Inspectors (CAWI). The work of assistant inspectors shall be regularly monitored by the inspector, generally on a daily basis.

1.3 RESPONSIBILITIES OF CONTRACTOR

- A. See respective technical sections for specific requirements.
- B. Deliver to the laboratory, without cost to the Owner, adequate quantities of representative samples of materials proposed for use which are required to be tested.
- C. Advise laboratory and Architect sufficiently in advance of construction operations to allow laboratory to complete any required checks or tests and to assign personnel for field inspection and testing as specified.
- D. Provide adequate facilities for safe storage and proper curing of concrete test samples on project site for the first 24 hours and also for subsequent field curing as required by ASTM Specifications C 31.
- E. Furnish such nominal labor and equipment as is required to assist laboratory personnel in obtaining and handling samples at the site and in accessing work for inspection.
- F. Furnish concrete mix designs, in accordance with ACI 301, Section 3.9, made by an independent testing laboratory or qualified concrete supplier. Where mix designs by an independent testing laboratory are required, the laboratory shall be selected and paid by the Contractor.
- G. Obtain required inspections or approvals of the building official. All inspection requests and notifications required by the building code are the responsibility of the Contractor.
- H. Provide current welder certifications for each welder to be employed.
- I. Furnish fabrication/erection inspection and testing of all welds in accordance with AWS D1.1, Chapter 6.
- J. Prequalification of all welding procedures to be used in executing the work.
- K. For materials and/or work identified by the laboratory inspector, architect, or engineers as failing to meet the requirements of the Contract Documents, take appropriate actions to bring all materials and/or work into compliance with the Contract Documents.

Correction of non-complying work shall be undertaken without specific direction by the Architect to do so. After correction of the materials and/or work, notify the laboratory and/or architect of appropriate times for retesting or reinspection. Any request by the Contractor to deviate from the requirements of the Contract Documents shall be submitted in writing to the Architect.

1.4 AUTHORITY AND DUTIES OF LABORATORY PERSONNEL

- A. A representative of the testing laboratory, who has reviewed and is familiar with the project and specifications, shall participate in all preconstruction conferences. He shall coordinate material testing and inspection requirements with the Contractor and his subcontractors consistent with the planned construction schedule. The laboratory representative shall attend, throughout the course of the project, such conferences as may be required or requested to address quality control issues.
- B. Laboratory personnel shall inspect and/or test materials, assemblies, specimens, and work performed, including design mixes, methods and techniques and report to the Architect the progress thereof.
- C. If the material furnished and/or work performed fails to meet requirements of Contract Documents, laboratory inspector shall promptly notify both the Contractor and the Architect of such failure.
- D. Laboratory technicians do not act as foremen, or perform other duties for Contractor. Work will be checked as it progresses, but failure to detect any defective work or materials shall not, in any way, prevent later rejection when such defect is discovered.
- E. laboratory inspector is not authorized to revoke, alter, relax, enlarge, or release any requirement of the Contract Documents or to approve or accept any portion of the work, except where such approval is specifically called for in the Specifications.
- F. Comply with all building code requirements for "Special Inspection" whether or not such inspections are specified herein.

1.5 SUBMITTALS

- A. Submit copies of reports of each and every inspection and test as follows:
 - 1. Owner - 1
 - 2. Contractor - 2
 - 3. Architect - 1
 - 4. Engineer -1
- B. State in report all details of each inspection and test. Indicate compliance or noncompliance with requirements of the Contract Documents. Also state in report any and all unsatisfactory conditions.

- C. In addition to furnishing a written report, notify the Architect and the Contractor verbally of any uncorrected conditions or failures to comply with the requirements of the Contract Documents.
- D. At completion of each trade or branch of work requiring inspecting and testing, submit a final certificate attesting to satisfactory completion of work and full compliance with requirements of Contract Documents.
- E. Submit copies of test results, sealed by a Registered Engineer, to municipal authorities having jurisdiction, as required.

1.6 REFERENCED STANDARDS

- A. The latest adopted edition of all standards referenced in this Section shall apply, unless noted otherwise. In case of conflict between these Contract Documents and a referenced standard, the Contract Documents shall govern. In case of conflict between these Contract Documents and the Building Code, the more stringent shall govern.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 EXCAVATION

- A. A representative of the geotechnical engineering service retained by the Contractor shall perform the service specified in this subsection.
- B. Observe the excavation process, the exposed faces of the excavation and the installation of retention systems. Check for compliance with the Contract Documents and make alternative recommendations as may be required to suit field conditions.
- C. Review all geotechnical parameters and assumptions used in the development of calculations and drawings for retention systems, including lateral design forces rock wedge stability analysis, rock bolt lengths and spacing, and surcharge effects.
- D. Review all required submittals as they pertain to geotechnical requirements.
- E. Check the adequacy and accuracy of the Contractor's monitoring program, equipment, procedures, and measurements related to movements of the excavated face and adjacent structures
- F. Immediately report any observed unsafe conditions. Request additional shoring, bracing, or rock bolting where judged to be necessary as the excavation progresses.

3.2 FILLING AND BACKFILLING

- A. A qualified geotechnical engineering firm shall perform the testing and inspection specified herein.
- B. The Contractor shall make available to the laboratory, free of charge, adequate samples of each fill and backfill material from the proposed sources of supply.
- C. A 50 pound sample of each type of off-site and site-excavated material proposed for use shall be given to the testing agency by the Contractor not less than 10 work days prior to the start of the specified work. Analyze samples as required to provide a soil description and to determine compliance with gradation and quality requirements, and test as follows:
 - 1. Tests for liquid limit of soils in accordance with ASTM D 423.
 - 2. Tests for plastic limit of soils and plasticity index of soils in accordance with ASTM D424.
 - 3. Tests for moisture/density relations of soil in accordance with ASTM D 698 or D 1557, as applicable.
- D. Furnish a report for each individual test, describing variances from specified requirements, and state whether material is acceptable for the intended use.
- E. After initial excavation for the building pad and prior to placement of any fill, inspect exposed subgrade preparation for compliance with requirements of the Documents.
- F. Continuously inspect fill placement to confirm that approved materials are being used and that lift heights comply with requirements of the Documents.
- G. Make in-place compaction test for moisture content, moisture density relations, and density of materials-in-place, to determine that backfill and fill materials have been compacted to the specified density. Tests shall be made at the following frequencies:
 - 1. One test for each 2500 square feet of area of each lift placed under floor slab and on exterior side of perimeter grade beams. Stagger test locations in each lift from those in the previous lift. A minimum of four tests will be required of each lift.
 - 2. One test for each 100 linear feet, or portion thereof, of each lift placed against foundation walls, with locations staggered as above.
- H. Reports may be combined on a daily basis, if so desired, provided that the location of each test and applicable lift are clearly identified and any problems are detailed.

3.3 FOOTING EXCAVATIONS

- A. A representative of a qualified geotechnical engineering firm shall provide services herein specified.
- B. Provide the following inspections services for each footing:

1. Verify materials below footings are adequate to achieve design bearing pressures.
2. Probe and density test bearing surfaces for adequacy.
3. Verify that excavations are properly clean and dry before concrete is placed.

3.4 CONCRETE REINFORCING STEEL AND EMBEDDED METAL ASSEMBLIES

- A. Inspect all concrete reinforcing steel prior to placing of concrete for compliance with Contract Documents and approved shop drawings. All instances of noncompliance with Contract Documents and approved shop drawings shall be immediately brought to the attention of the Contractor for correction and then, if uncorrected, reported to the Architect.
- B. Observe and Report on the Following:
 1. Number and size of bars.
 2. Bending and lengths of bars.
 3. Splicing.
 4. Clearance to forms and finished surfaces including chair heights.
 5. Clearance between bars or spacing.
 6. Rust, form oil, and other contamination.
 7. Grade of steel.
 8. Securing, tying, and chairing of bars.
 9. Excessive congestion of reinforcing steel.
 10. Installation of anchor bolts and placement of concrete around such bolts.
 11. Fabrication and installation of embedded metal assemblies, including visual inspection of all welds.
- C. Visually inspect studs and deformed bar anchors on embedded assemblies for compliance with Contract Documents. Check number, spacing and weld quality. If, after welding, visual inspection reveals that a sound weld or a full 360 degree fillet has not been obtained for a particular stud or bar, such stud or bar shall be struck with a hammer and bent 15 degrees off perpendicular and then bent back into position. Anchors failing this test shall be replaced.
- D. Continuously inspect all bolts to be installed in concrete prior to and during concrete placement.
- E. Provide a qualified, experienced inspector to inspect reinforcing steel. Inspector shall have a minimum of three years experience inspecting reinforcing steel in projects of similar size.

3.5 CONCRETE INSPECTION AND TESTING

- A. Receive and evaluate all proposed concrete mix designs submitted by the Contractor. If the mix designs comply with the Drawings and Specifications, the laboratory shall submit a letter to the Architect certifying compliance. Mix designs not complying with the Drawings and Specifications shall be returned by the laboratory as unacceptable.

- B. Secure composite samples of concrete at the jobsite in accordance with ASTM C 172.
- C. Mold and cure three specimens from each sample in accordance with ASTM C 31. Supervise the curing and protection provided (by others) for test specimens in the field, and the transportation from the field to the laboratory. The test cylinders shall be stored in the field 24 hours and then be carefully transported to the laboratory and cured in accordance with ASTM C 31.
- D. Test specimens in accordance with ASTM C 39. Two specimens shall be tested at 28 days for acceptance and one shall be tested at seven days for information.
- E. Make strength test consisting of three cylinders. Strength tests shall be taken for each class of concrete placed each day and shall be taken not less than once per day, nor less than once for each 100 cubic yards of concrete, nor less than once for each 5,000 square feet of surface area for slabs or walls.
- F. Make one slump test for each set of cylinders following the procedural requirements of ASTM C 143 and ASTM C 172. Make additional slump tests whenever the consistency of concrete appears to vary. Do not permit placement of concrete having a measured slump outside the limits given on the Drawings, except when approved by the Architect. Slump tests corresponding to samples from which strength tests are made shall be reported with the strength test results. Other slump tests need not be reported.
- G. Determine total air content of air entrained normal-weight concrete sample for each strength test in accordance with ASTM C 231.
- H. Determine air content and unit weight of lightweight concrete sample for each strength test in accordance with ASTM C 173 and ASTM C 567.
- I. Determine temperature of concrete sample for each strength test.
- J. The testing laboratory shall monitor the addition of water to the concrete at the jobsite and the length of time the concrete is allowed to remain in the truck before the placement. The inspector shall compare the mixture with the criteria on the approved mix design and report any significant deviation to the Architect, Contractor and concrete supplier. Do not permit the addition of water which will exceed the maximum water/cement ratio for the mix as given on the approved mix design.
- K. Inspect formwork for shape, location and dimension of members being formed.
- L. Continuously observe the placing of all concrete, except non-structural slabs-on-grade and sitework. Observe and report on placing method, consolidation, cold joints, length of drop, and displacement of reinforcement. Report deficiencies to the Contractor immediately for corrective action. Inspections may be reduced to a periodic basis when all procedures have been deemed satisfactory by the laboratory.
- M. The testing laboratory shall verify the use of the proper mix design and certify each delivery ticket indicating class of concrete delivered (or poured), amount of water added and the time at which the cement and aggregate was dispensed into the truck, and the time at which the concrete was discharged from the truck.

N. Evaluation and Acceptance:

1. If the measured slump, or air content of air entrained concrete, falls outside the specified limits, a check test shall be made immediately on another portion of the same sample. In the event of a second failure, the concrete shall be considered to have failed to meet the requirements of the specifications, and shall not be used in the structure.
2. The strength level of the concrete will be considered satisfactory if the averages of all sets of three consecutive strength test results are equal to, or exceed specified strength and no individual test result (average of two cylinders) is below specified strength by more than 500 psi.
3. Completed concrete work will be accepted when the requirements of "Specifications for Structural Concrete for Buildings," ACI 301, Chapter 18, have been met.

O. Concrete Test Reports:

1. Reports shall be made and distributed immediately after the respective tests or inspections are made.
2. Where reports indicate deviations from the Contract Documents, they shall also include a determination of the probable cause of the deviation and, where applicable, a recommendation for corrective action.

P. Whenever the testing laboratory recognizes a trend of decreasing quality in the concrete due to changing seasons, conditions of curing, or other cause; this shall be brought to the attention of the Architect, along with a recommendation for corrective action to be taken before the materials fall below the requirements of these Specifications.

Q. Comply with ACI 311, "Guide For Concrete Inspection" and "ACI Manual of Concrete Inspection" (SP-2).

R. Inspect the application of curing compound and monitor all curing conditions to assure compliance with specification requirements. Report curing deficiencies to the Contractor immediately and submit a written report to the Architect.

S. Concrete Curing:

1. Inspect periodically for compliance with required curing temperatures and techniques.

3.6 TESTING NON-SHRINK GROUT

A. Make one strength test for every 10 base plates grouted and for every 10 bags of grout used in joints between members.

B. Each test shall consist of four cubes, two to be tested at seven days, and two at 28 days, made and tested in accordance with ASTM C 109, with the exception that the grout shall be restrained from expansion by a top plate.

3.7 MASONRY

A. Inspection:

1. Provide a qualified inspector to inspect all structural masonry work on a periodic basis. Inspect the work in progress at least once for each 1000 square feet of wall laid, but not less than once each day, to check compliance with the Contract Documents and applicable building code.
2. Continuously inspect the following:
 - a. Verification of slump flow and VSI as delivered to the site for self-consolidating grout.
 - b. Grout placement.
 - c. Preparation of grout specimens, mortar specimens, and prism specimens.
 - d. Welding of reinforcing bars.
 - e. Application and measurement of prestressing forces.
3. Periodically inspect the following:
 - a. Verify compliance with required inspection provisions of the construction documents and the approved submittals.
 - b. Verification of f'm prior to construction.
 - c. Proportions of site mixed mortar and grout.
 - d. Placement of masonry units and construction of mortar joints.
 - e. Locations of reinforcing bars, connectors and prestressing tendons and anchors.
 - f. Size and location of structural members.
 - g. Size, grade and type of reinforcement, anchor bolts, prestressing tendons and anchorages.
 - h. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction.
 - i. Protection of masonry during cold weather (below 40 degrees F) and during hot weather (above 90 degrees F).
 - j. Cleaning of grout spaces.
 - k. Placement of reinforcement and connectors, and prestressing tendons and anchorages.
 - l. Placement of masonry units and construction of mortar joints

3.8 STRUCTURAL STEEL

- A. Inspect all structural steel during fabrication and during and after erection for conformance with Contract Documents and shop drawings. Any cases of insufficient bracing or guying, or other unsafe conditions shall be immediately called to attention of the Contractor and reported to Architect.
- B. Shop Inspection:
 1. Examination of all steel for straightness and alignment.
 2. Examination of all fabricated pieces and checking of same with erection plans and detail drawings.

3. Visual examination of all shop welding.
 - a. Periodically verify weld filler material markings conform to AWS specifications and stamped shop drawings.
 - b. Continuous inspection of all complete and partial penetration welds, all multi-pass fillet welds, all single pass fillet welds greater than 5/16" and all plug and slot welds.
 - c. Periodic inspection of single pass fillet welds 5/16" and smaller.
4. Ultrasonic testing of all full penetration and partial penetration welds.
5. Inspection of bolted connections.
 - a. Continuous inspection of all connections with pretensioned bolts and slip critical bolts using turn-of-the-nut without matchmarking or calibrated wrench methods of installation.
 - b. Periodic inspection of connections with snug-tight bolts.
 - c. Periodic inspection of all connections with pretensioned bolts and slip critical bolts using turn-of-the-nut with matchmarking, twist-off bolts or direct tension indicator method of installation.
 - d. Periodic inspection of high strength bolt materials including bolts, nuts, and washers for proper ASTM markings and compliance with contract documents.
 - e. Review of manufacturer's certificates of compliance.
6. Examination of galvanizing.
7. Examination of installation of shop welded shear studs.
8. Examination of shop painting.

C. Field Inspection:

1. Proper erection of all pieces.
2. Proper installation of all bolts, including the checking of calibration of impact wrenches used with high-strength bolts.
3. Periodically inspect steel frame to verify conformance with details shown on Contract Documents and stamped shop drawings
 - a. Bracing and stiffening details
 - b. Member location
 - c. Application of correct joint details at each connection.
4. Plumbness of structure and proper bracing.
5. Proper field painting.
6. Visual examination of all field welding.
 - a. Periodically verify weld filler material markings conform to AWS specifications and stamped shop drawings.
 - b. Continuous inspection of all complete and partial penetration welds, all multi-pass fillet welds, and all single pass fillet welds greater than 5/16" and all plug and slot welds.
 - c. Periodic inspection of single pass fillet welds 5/16" and smaller.

7. Ultrasonic testing of all penetration field welds.
 8. Inspection of bolted connections.
 - a. Continuous inspection of all connections with pretensioned bolts and slip critical bolts using turn-of-the-nut without matchmarking or calibrated wrench methods of installation.
 - b. Periodic inspection of connections with snug-tight bolts.
 - c. Periodic inspection of all connections with pretensioned bolts and slip critical bolts using turn-of-the-nut with matchmarking, twist-off bolts or direct tension indicator method of installation.
 - d. Periodic inspection of high strength bolt materials including bolts, nuts, and washers for proper ASTM markings and compliance with contract documents.
 - e. Review of manufacturer's certificates of compliance.
 9. Installation of field welded shear studs.
 10. Inspect all shop fabricated members, upon their arrival at the jobsite, for defects incurred during transit and handling.
 11. Measure and record camber of all beams upon arrival and before erection for compliance with specified camber. Measure lying flat with web horizontal. Members outside specified camber tolerance shall be returned to shop for correction.
- D. Qualifications of Welders: Fabricator and erector shall provide the testing laboratory with names of welders to be employed on work, together with certification that each of these welders has passed qualification tests within the last year using procedures covered in the American Welding Society "Structural Welding Code - Steel," D1.1, latest edition. Verify all welder qualifications.
- E. Inspection of shop and field welding shall be "verification inspection," in accordance with Section 6 of the AWS Structural Welding Code and as follows:
1. Visually inspect the welding of all shop fabricated members and note the location of all cover plates, connectors, bearing stiffeners, splices, and fillet welds for proper return around ends and check for seams, folds, and delaminations.
 2. Warped or out-of-plumb connectors shall be reported prior to any further welding.
 3. Ultrasonically test all penetration welds in accordance with ASTM E 164.
 4. Inspect surfaces to be welded. Surface preparations, fit-up and cleanliness of surface shall be noted. Electrodes shall be checked for size, type and condition.
 5. The welding inspector shall be present during alignment and fit-up of members being welded, and shall check for correct surface preparation of root openings, sound weld metal, and proper penetration in the root pass. Where weld has not penetrated completely, the inspector shall order the joint to be chipped down to sound metal, or gouged out, and rewelded. Root passes shall be thoroughly inspected for cracks. All cracks shall be gouged out and rewelded to 2" beyond each end of crack.
 6. The inspector shall check that all welds have been marked with the welder's symbol. The inspector shall mark the welds requiring repairs and shall make a reinspection. The inspector shall maintain a written record of all welds. Work completed and inspected shall receive an identification mark by the inspector.

Unacceptable material and work shall be identified by word "reject" or "repair" marked directly on the material.

7. The testing agency shall advise the Owner and the Architect of any shop and/or field conditions which, in his opinion, may require further tests and examination by means other than those specified. Such further tests and examinations shall be performed as authorized by the Owner and Architect.
 8. The Owner reserves the right to use ultrasonic or radiographic inspection to verify the adequacy of all welds. Testing procedures and acceptance criteria shall be as specified in AWS D1.1.
- F. Inspection of bolted construction shall be in accordance with AISC Specification for Structural Steel Buildings and as follows.
1. All bolts shall be visually inspected to ensure that the plies have been brought into snug contact.
 2. High strength bolting shall be inspected in accordance with Section 9 of the "Specifications for Structural Joints Using ASTM A 325 or A 490 Bolts."
 3. For all high strength bolts, unless specifically noted on the Drawings to require only "snug-tight" installation, the inspector shall observe the required jobsite testing and calibration, and shall confirm that the procedure to be used does provide the required tension. He then shall monitor the work to assure that the tested procedures are routinely followed.
 4. For slip-critical connections, inspect the contact surfaces for compliance with specifications prior to bolting.
 5. Inspection of stud welding shall be in accordance with Section 7.8, of the AWS Structural Welding Code, D1.1, and as follows:
 - a. A minimum of two shear studs shall be welded at the start of each production period in order to determine proper generator, control unit and stud welder setting. These studs shall be capable of being bent 45 degrees from vertical without weld failure.
- G. Visually inspect studs for compliance with Contract Documents. Check number, spacing, and weld quality. If, after welding, visual inspection reveals that a sound weld or a full 360 degree fillet has not been obtained for a particular stud, such stud shall be struck with a hammer and bent 15 degrees off perpendicular to the nearest end of the beam. Studs failing under this test shall be replaced.

3.9 METAL ROOF DECK

- A. Field inspection shall consist of the following:
1. Checking types, gauges, and finishes for conformance with Contract Documents and Shop Drawings.
 2. Examination for proper erection of all metal deck, including fastenings at supports and side laps, reinforcing of holes, and miscellaneous deck supports.
 3. Certification of welders.
 4. Periodic inspection of deck welds.

END OF SECTION 01 41 00

SECTION 01 50 00 - TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Use Charges
- B. Temporary Utilities:
 - 1. Temporary electricity.
 - 2. Temporary lighting for construction purposes.
 - 3. Temporary heating.
 - 4. Temporary cooling.
 - 5. Temporary ventilation.
 - 6. Telephone service.
 - 7. Temporary water service.
 - 8. Temporary sanitary facilities.
- C. Construction Facilities:
 - 1. Field offices and sheds.
 - 2. Vehicular access.
 - 3. Parking.
 - 4. Progress cleaning and waste removal.
 - 5. Project identification.
 - 6. Traffic regulation.
- D. Temporary Controls:
 - 1. Fire Prevention
 - 2. Barriers.

PART 2

- 1. Enclosures and fencing.
 - 2. Security.
 - 3. Water control.
 - 4. Dust control.
 - 5. Erosion and sediment control.
 - 6. Noise control.
 - 7. Pest control.
 - 8. Pollution control.
 - 9. Rodent control.
- B. Removal of utilities, facilities, and controls.
 - C. Operation, Termination and Removal

2.2 USE CHARGES

- A. General: Cost or use charges for temporary facilities shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.
- B. Sewer Service: Pay sewer service use charges for sewer usage by all entities for construction operations.
- C. Water Service: Pay water service use charges for water used by all entities for construction operations.
- D. Electric power service, whether metered or otherwise, shall be provided by Contractor at no cost to Owner by all entities engaged in construction activities at Project site. Pay electric power service use charges for electricity used by all entities for construction operations.

2.3 TEMPORARY ELECTRICITY

- A. Provide and pay for power service required from utility source as needed for construction operation.
 - 1. Exercise measures to conserve energy.
 - 2. Provide and install temporary overhead power from Utility Company.
 - 3. Set temporary meter and switchgear at start of construction.
 - 4. Specified switchgear shall not be used to construct building until building is in "dry-in" stage.
- B. Provide power outlets, with branch wiring and distribution boxes located as required for construction operations. Provide flexible power cords as required for portable construction tools and equipment.
- C. Permanent convenience receptacles may be utilized during construction.

2.4 UTILITY SERVICE INTERRUPTIONS

- A. Utility Service Interruption Plan: Contractor shall submit a utility service interruption plan for the project. Plan shall include dates and times of each scheduled interruption, with estimated period of outage, list of existing equipment that will be affected by the interruption, proposed sequence of equipment shut-down and start-up, and responsible personnel.
 - 1. Keep interruptions and periods of interruption to a minimum.
 - 2. Schedule interruptions during times when the facility is unoccupied.
- B. Coordination of Interruptions: Sufficiently in advance of each scheduled utility interruption, the Contractor shall issue a notice to all affected parties, confirming each provision of the interruption, or canceling and rescheduling. Coordinate with the Owner it's representative, and confirm that the responsible personnel are prepared to execute the shut-down and start-up of affected existing equipment, prior to each interruption.

2.5 TEMPORARY LIGHTING FOR CONSTRUCTION PURPOSES

- A. Provide and maintain lighting for construction operations. Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
- B. Provide and maintain lighting to exterior staging and storage areas after dark for security purposes. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
- C. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps for specified lighting levels.
- D. Maintain lighting and provide routine repairs.
- E. Permanent building lighting may be utilized during construction.

2.6 TEMPORARY HEATING

- A. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations.
- B. Prior to operation of permanent equipment for temporary heating purposes, verify installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts. Owner must authorize use of permanent system for temporary purposes.
- C. Maintain minimum ambient temperature of 50 degrees F in areas where construction is in progress, unless indicated otherwise in product sections.

2.7 TEMPORARY COOLING

- A. Provide and pay for cooling devices and cooling as needed to maintain specified conditions for construction operations.
- B. Enclose building prior to activating temporary cooling in accordance with Enclosures article in this section.
- C. Prior to operation of permanent equipment for temporary cooling purposes, verify installation is approved for operation, equipment is lubricated and filters are in place. Provide and pay for operation, maintenance, and regular replacement of filters and worn or consumed parts. Owner must authorize use of permanent system for temporary purposes...
- D. Maintain maximum ambient temperature of 80 degrees F in areas where construction is in progress, unless indicated otherwise in specifications.

2.8 TEMPORARY VENTILATION

- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases. Owner must authorize use of permanent system for temporary purposes.

2.9 TELEPHONE SERVICE

- A. Provide, maintain, and pay for telephone service to field office at time of project mobilization.
- B. Contractor shall provide, maintain, and pay for telephone service for field operations at time of project mobilization.
- C. Electronic Communication Service: Provide temporary electronic communication service, including electronic mail, in common-use facilities.

2.10 TEMPORARY WATER SERVICE

- A. Existing water service will not be used by contractor for new construction work nor for temporary service.
- B. Provide and pay for suitable quality water service as needed to maintain specified conditions for construction operations. Exercise measure to conserve energy.
- C. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.

2.11 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.
- B. Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- C. At end of construction, return existing facilities used for construction operations to same or better condition as original condition.

2.12 FIELD OFFICES AND SHEDS

- A. Office: Weather tight, with lighting, electrical outlets, heating, cooling and ventilating equipment, and equipped with sturdy furniture drawing rack and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 10 persons.

- C. Locate offices and sheds minimum distance of 30 feet from existing and new structures. Location shall be within the project site's limit of construction and approved by the Owner. No use of Owner equipment will be permitted.
- D. When permanent facilities are enclosed with operable utilities, relocate offices and storage into building, with written agreement of Owner, and remove temporary buildings.
- E. Construction: Portable or mobile buildings, or buildings constructed with floors raised above ground, securely fixed to foundations with steps and landings at entrance doors.
 - 1. Construction: Structurally sound, secure, weather tight enclosures for office and storage spaces. Maintain during progress of Work; remove when no longer needed at completion of Work.
 - 2. Temperature Transmission Resistance of Floors, Walls, and Ceilings: Compatible with occupancy and storage requirements.
 - 3. Exterior Materials: Weather resistant, finished color acceptable to Owner.
 - 4. Interior Materials in Offices: Sheet type materials for walls and ceilings, pre-finished or painted; resilient floors and bases.
 - 5. Lighting for Offices: 50 ft C at desk top height, exterior lighting at entrance doors.
 - 6. Interior Materials in Storage Sheds: As required to provide specified conditions for storage of products.
- F. Environmental Control:
 - 1. Heating, Cooling, and Ventilating for Offices: Automatic equipment to maintain comfort conditions.
 - 2. Storage Spaces: Heating and ventilation as needed to maintain products in accordance with Contract Documents; lighting for maintenance and inspection of products.
- G. Storage Areas And Sheds: Size to storage requirements for products of individual Sections, allowing for access and orderly provision for maintenance and for inspection of products to requirements of Section 01 60 00 - Product Requirements.
- H. Preparation: Fill and grade sites for temporary structures sloped for drainage away from buildings.
- I. Installation:
 - 1. Install office spaces ready for occupancy 15 days after date fixed in Notice to Proceed.
 - 2. Employee Residential Occupancy: Not allowed on Owner's property.
- J. Maintenance And Cleaning:
- K. Maintain approach walks free of mud, water, and snow.
- L. Removal: At completion of Work remove buildings, foundations, utility services, and debris. Restore areas.

2.13 VEHICULAR ACCESS

- A. Construct temporary all-weather access roads from public thoroughfares to serve construction area, of width and load bearing capacity to accommodate unimpeded traffic for construction purposes.
- B. Construct temporary culverts to span low areas and allow unimpeded drainage.
- C. Extend and relocate vehicular access as Work progress requires, provide detours as necessary for unimpeded traffic flow.
- D. Location approved by Owner.
- E. Provide unimpeded access for emergency vehicles. Maintain 20 feet wide driveways with turning space between and around combustible materials.
- F. Provide and maintain access to fire hydrants free of obstructions.
- G. Provide means of removing mud from vehicle wheels before entering streets.
- H. Do not use existing on-site roads for construction traffic.

2.14 PARKING

- A. Provide temporary surface parking areas to accommodate construction personnel.
- B. Locate as approved by Owner.
- C. When site space is not adequate, provide additional off-site parking.
- D. Use of existing on-site streets and driveways used for construction traffic is not permitted.
- E. Do not allow heavy vehicles or construction equipment in parking areas.
- F. Do not allow vehicle parking on existing pavement.
- G. Permanent Pavements And Parking Facilities:
 - 1. Prior to Substantial Completion, bases for permanent roads and parking areas may be used for construction traffic.
 - 2. Avoid traffic loading beyond paving design capacity. Tracked vehicles not allowed.
- H. Maintenance:
 - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
 - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.

- I. Removal, Repair:
 - 1. Remove temporary materials and construction when permanent paving is usable.
 - 2. Remove underground work and compacted materials to depth of 2 feet; fill and grade site as specified.
 - 3. Repair permanent facilities damaged by use, to original or specified condition.
- J. Mud From Site Vehicles:
 - 1. Provide means of removing mud from vehicle wheels before entering streets.

2.15 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from the construction operations. Comply with requirements of authorities having jurisdiction. Collect and remove waste materials, debris, and rubbish from site periodically and dispose off-site immediately after filled. Remove waste upon Owner's request.

2.16 TRAFFIC REGULATION

- A. Signs, Signals, And Devices:
 - 1. Post Mounted and Wall Mounted Traffic Control and Informational Signs: As approved by authority having jurisdiction.
 - 2. Traffic Cones and Drums, Flares and Lights: As approved by authority having jurisdiction.
 - 3. Flagperson Equipment: As required by authority having jurisdiction.
- B. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.
- C. Flares and Lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.
- D. Haul Routes:
 - 1. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.
 - 2. Confine construction traffic to designated haul routes.
- E. Traffic Signs And Signals:
 - 1. Provide signs at approaches to site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction and affected public traffic.

2. Relocate as Work progresses, to maintain effective traffic control.

F. Removal:

1. Remove equipment and devices when no longer required.
2. Repair damage caused by installation.
3. Remove post settings.

2.17 FIRE PREVENTION

- A. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241.

1. Prohibit smoking with buildings under construction. Designate area on site where smoking is permitted. Provide approved ashtrays in designated smoking areas.
2. Establish fire watch for cutting and welding and other hazardous operations capable of starting fires. Maintain fire watch before, during, and after hazardous operations until threat of fire does not exist.

- B. Portable Fire Extinguishers: NFPA 10; 10 pound capacity, 4A-60B: C UL rating.

1. Provide minimum one fire extinguisher in every construction trailer and storage shed.

2.18 BARRIERS

- A. Provide barriers to prevent unauthorized entry to construction areas, to allow for Owner's use of site, and to protect existing facilities and adjacent properties from damage from construction operations.

- B. Provide barricades and covered walkways required by authorities having jurisdiction for public rights-of-way.

- C. Provide protection for plants designated to remain. Replace damaged plants.

- D. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

2.19 ENCLOSURES AND FENCING

- A. Construction: Commercial grade chain link fence.

- B. Provide 6 feet high fence around construction site; equip with vehicular and pedestrian gates with locks.

- C. Exterior Enclosures:

1. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

2.20 SECURITY

- A. Security Program:
 - 1. Protect Work and Owner's operations from theft, vandalism, and unauthorized entry.
 - 2. Maintain program throughout construction period until Owner occupancy. Architect/Engineer.
- B. Entry Control:
 - 1. Restrict entrance of persons and vehicles into Project site.
 - 2. Allow entrance only to authorized persons with proper identification.
 - 3. Maintain log of workers and visitors, make available to Owner on request.
- C. Personnel Identification:
 - 1. Provide identification badge to each person authorized to enter premises.
 - 2. Badge To Include: Personal photograph, name and assigned number, expiration date and employer.
 - 3. Maintain list of accredited persons, submit copy to Owner on request.
 - 4. Require return of badges at expiration of their employment on the Work.
- D. Security Enclosure and Lockup:
 - 1. Install substantial temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
- E. Restrictions:
 - 1. Do no work on days indicated in Owner-Contractor Agreement.

2.21 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

2.22 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

2.23 EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Minimize surface area of bare soil exposed at one time.

- C. Provide temporary measures including berms, dikes, and drains, and other devices to prevent water flow.
- D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

2.24 NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.

2.25 PEST CONTROL

- A. Provide methods, means, and facilities to prevent pests and insects from damaging the Work.

2.26 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Comply with pollution and environmental control requirements of authorities having jurisdiction.
- C. Construction Site Procedures: Contractor shall abide by the following procedures as is applicable to the specific project conditions:
 - 1. Equipment Cleaning: Equipment shall be cleaned in a manner that does not create any discharge of cleaning agents, paints, oil, solvents or other pollutant to a storm sewer or waterway. Soaps and detergents shall not be discharged to the ground or off-site. When rinsing painting equipment, contain rinse water in a bucket or other container. Water based or latex paint rinse water may be discharged to the sanitary sewer. Oil-based paint wastes, including solvents and thinners, will not be disposed of in the sanitary sewer. Waste shall be collected and disposed of through the Contractor's disposal company. Concrete mixing and handling equipment shall not be washed on site.
 - 2. Waste Disposal: All trash or debris shall be collected and contained on-site and disposed of in a recycling bin or waste receptacle. Petroleum contaminated wastes, such as waste oil and used oil filters, are to be containerized for recycling or disposal by the Contractor. Non-hazardous solid waste, such as general construction debris may be recycled or disposed of in a covered trash dumpster and removed from the site. Do not dispose of liquid wastes of any kind in dumpsters.
 - 3. Sediment: Proper erosion and sedimentation controls shall be in place to prevent sediment or silt run-off. Sediment shall be cleaned up in a manner that does not

allow it to reach a storm drain or waterway. Wash down truck tires before leaving the site to avoid tracking mud and dirt into the roadway.

4. Site De-watering, Tank and Pipe Testing Discharges from de-watering, hydrostatic tank testing or pipe pressure testing shall be free from sediment, chemicals, or pollutants. Some discharges may require governmental permits, to be paid for by the Contractor.
5. Hydrocarbons: Spills of hydraulic fluid, oil, fuel, solvents and other petroleum products shall be immediately cleaned up to prevent discharge of these fluids into the watershed.

D. Spill Disposal

1. The Contractor shall comply with all applicable provisions of local, state, and federal laws regarding the discharge of wastes into sewers and waterways. Special caution shall be exercised to prevent the discharge of wastes which contain hydrocarbons, cement, lime, or other chemicals which would degrade the water quality of the receiving watercourse. The Contractor shall construct and maintain oil interceptors, settling basins, or other effective pollution countermeasures.
2. Contaminated Material Disposal: Proper disposal of waste materials is dictated by the type of contaminant. Hazardous wastes (such as flammable petroleum byproducts including solvents, thinners, etc) and materials contaminated with hazardous wastes, are considered regulated wastes, and shall be containerized in appropriate containers for transport and disposal by a permitted company.

E. Contractor Requirements and Responsibilities

1. Contractors are responsible for cleaning up and properly disposing of all spilled pollutants that are brought to the site, including oil, paint, fuels, antifreeze, solvents, etc. Keep accurate records (such as receipts, copies of analytical results, etc.) indicating proper disposal of spilled materials. Furthermore, Contractor is responsible for ensuring that all discharges from the site are in compliance with all applicable regulations.
2. In general no substance should be dumped or leaked onto the ground or allowed to run-off of a construction site that might cause harm to the environment and watershed. The Contractor is responsible for pollutant contaminated run-off and proper disposal of all waste materials generated as a result of construction and supporting activities.

2.27 RODENT CONTROL

- A. Provide methods, means, and facilities to prevent rodents from accessing or invading premises.

2.28 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, and materials, prior to Final Application for Payment inspection.
- B. Remove underground installations. Grade site as indicated on Drawings.

- C. Clean and repair damage caused by installation or use of temporary work.

PART 3 PRODUCTS - Not Used

PART 4 EXECUTION

4.1 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
 - 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor.
 - 2. Remove temporary paving not intended for or acceptable for integration into permanent paving. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
 - 3. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements specified in Division 1 Section "Closeout Requirements."

END OF SECTION

SECTION 01 60 00 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; product substitutions; and comparable products.
- B. Related Sections include the following:
 - 1. Division 1 Section "Closeout Procedures" for submitting warranties for contract closeout.
 - 2. Divisions 3 through 12; 22-23; 26-28; 31-32. Sections for specific requirements for warranties on products and installations specified to be warranted.

1.3 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature which is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
 - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions or "Approved Equal": Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics.
 - 1. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 013300 "Submittal Procedures."
- D. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- E. Manufacturer's Warranty: Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- F. Special Warranty: Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

1.4 SUBMITTALS

- A. Substitution or "Approved Equal" Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use CSI Form 13.1A form or equivalent form acceptable to the Owner.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, which will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.

- g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating lack of availability or delays in delivery.
 - j. Cost information, including a proposal of change, if any, in the Contract Sum.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Owner's Action: If necessary, Owner will request additional information or documentation for evaluation within one week of receipt of a request for "Approved Equal" substitution. Owner will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
- a. Form of Acceptance: Change Order.
 - b. Use product specified if Owner cannot make a decision on use of a proposed substitution within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Division 1 Section "Submittal Procedures." Show compliance with requirements.

1.5 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, product selected shall be compatible with products previously selected, even if previously selected products were also options.
- B. Labels and Nameplates: Except for required labels and operating data, do not attach or imprint manufacture's or product's nameplates or trademarks on surfaces of products that will be exposed to view in occupied spaces or on the exterior.
- 1. Labels: Locate required product labels and stamps on concealed surfaces or, where required for observation after installation, on accessible surfaces that are not conspicuous.
 - 2. Equipment Nameplates: Provide a permanent nameplate on each item of service connected or power-operated equipment. Locate nameplate on an easily accessible surface that is inconspicuous in occupied spaces. The nameplate shall contain the following information:
 - a. Name of product manufacturer.

- b. Model and serial numbers.
- c. Operating data such as capacity, speed and ratings.
3. Protection: Labels and nameplates shall be protected from defacement and other damage during the remainder of the work.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 4. Inspect products on delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
 5. Store products to allow for inspection and measurement of quantity or counting of units.
 6. Store materials in a manner that will not endanger Project structure.
 7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 9. Protect stored products from damage.
- B. Storage: Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution. Submit a draft for approval before final execution.
 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Refer to Divisions 2 through 33 Sections for specific content requirements and particular requirements for submitting special warranties.

- C. Submittal Time: Comply with requirements in Division 1 Section "Closeout Procedures."
- D. Separate Warranties: Refer to Uniform General Conditions for additional requirements for warranties and guarantees.

PART 2 - PRODUCTS

2.1 PRODUCT OPTIONS

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, that are new at time of installation.
 - 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 - 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 - 3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
 - 4. Where products are accompanied by the term "as selected," Owner will make selection.
 - 5. Where products are accompanied by the term "match sample," sample to be matched is Owner's.
 - 6. Descriptive, performance, and reference standard requirements in the Specifications establish "salient characteristics" of products.
- B. Product Selection Procedures: Procedures for product selection include the following:
 - 1. Available Products: Where Specification paragraphs or subparagraphs titled "Available Products" introduce a list of names of both products and manufacturers, provide one of the products listed or another product that complies with requirements.
 - 2. Available Manufacturers: Where Specification paragraphs or subparagraphs titled "Available Manufacturers" introduce a list of manufacturers' names, provide a product by one of the manufacturers listed or another manufacturer that complies with requirements.
 - 3. Product Options: Where Specification paragraphs titled "Product Options" indicate that size, profiles, and dimensional requirements on Drawings are based on a specific product or system, provide either the specific product or system indicated or a comparable product or system by another manufacturer.
 - 4. Named Products: Where Specification paragraphs or subparagraphs titled Products are included, and also introduce or refer to a list of manufacturers' names, provide either the specified product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named.

- a. "Approved Equal" substitutions may be considered, unless otherwise indicated.
5. Visual Selection Specification: Where Specifications include the phrase "as selected from manufacturer's colors, patterns, and textures" or a similar phrase, select a product (and manufacturer) that complies with other specified requirements.
- a. Standard Range: Where Specifications include the phrase "standard range of colors, patterns, textures" or similar phrase, Owner will select color, pattern, or texture from manufacturer's product line that does not include premium items.
 - b. Full Range: Where Specifications include the phrase "full range of colors, patterns, textures" or similar phrase, Owner will select color, pattern, or texture from manufacturer's product line that includes both standard and premium items.

2.2 PRODUCT SUBSTITUTIONS

- A. Timing: Owner will consider requests for substitution if received within 40 days after the Notice of Award. Requests received after that time may be considered or rejected at discretion of Owner.
- B. Conditions: Owner will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Owner will return requests without action, except to record noncompliance with these requirements:
 1. Requested substitution does not require extensive revisions to the Contract Documents.
 2. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 3. Substitution request is fully documented and properly submitted.
 4. Requested substitution will not adversely affect Contractor's Construction Schedule.
 5. Requested substitution has received necessary approvals of authorities having jurisdiction.
 6. Requested substitution is compatible with other portions of the Work.
 7. Requested substitution has been coordinated with other portions of the Work.
 8. Requested substitution provides specified warranty.

2.3 APPROVED EQUAL PRODUCTS

- A. Where products or manufacturers are specified by name, submit the following, in addition to other required submittals, to obtain approval of an unnamed product:
 1. Evidence that the proposed product does not require extensive revisions to the Contract Documents; that it is consistent with the Contract Documents and will

produce the indicated results; and that it is compatible with other portions of the Work.

2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

2.4 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following requirements:
 1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.
- B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation, as specified in Section 013300 "Submittal Procedures."
 1. Form of Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
 2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by the Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.
- D. Submittal Requirements, Single-Step Process: When acceptable to Architect, incorporate specified submittal requirements of individual Specification Section in combined submittal for comparable products. Approval by the Architect of Contractor's request for use of comparable product and of individual submittal requirements will also satisfy other submittal requirements.

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PART 3 - EXECUTION (Not Used)

END OF SECTION 01 60 00

SECTION 01 73 00

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. General installation of products.
4. Coordination of Owner-installed products.
5. Progress cleaning.
6. Starting and adjusting.
7. Protection of installed construction.
8. Correction of the Work.

- B. Related Sections include the following:

1. Division 1 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
2. Division 1 Section "Submittal Procedures" for submitting surveys.

1.3 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in the jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

1.4 PRODUCTS (Not Used)

PART 2 - EXECUTION

2.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems, underground and other utilities, and other construction affecting the Work.
- B. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance.
 - 1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 4. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

2.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to OWNER. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

2.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify OWNER promptly.
- B. General: The General Contractor shall include in his bid the cost for providing all construction staking by an experienced Registered Public Surveyor licensed by Texas Board of Professional Land Surveyors who can demonstrate experience and competence to perform the work described. The grades, spot elevations, dimensions, radii, flow line elevations, existing bench marks, excavation and new site grading will be indicated on the plans. In the event that discrepancies are noted in the plans by the Contractor and/or the Surveyor, the Owner and/or Engineer of Record shall be notified and the discrepancies shall be resolved prior to proceeding with the Work. The Surveyor shall supervise the layout work and shall establish at least three (3) separate permanent bench marks, to which easy access may be had during the progress of the work, to determine and from time to time verify lines and grades.
- C. Under the supervision of the Surveyor, the layout of the Work shall be made from the surveyor-established base lines, utility alignments, curb faces, key trees, bench marks and all other control lines as indicated on the plans; and the Contractor shall be responsible for all measurements in connection therewith as specified and as indicated on the plans.
- D. Contractor shall be responsible for having the Surveyor verify that elevations of formwork and grading comply with the elevations, lines and grades shown on the plans and provide a report of findings to the Owner and/or Engineer of Record for consideration and response prior to placing concrete, placing asphalt or install landscaping. Contractor shall be responsible for making the required corrections prior to continuing the Work. No extra charge or compensation will be allowed due to differences between actual dimensions and the measurements indicated on the drawings.
 - 1. Inform installers of lines and levels to which they must comply.
 - 2. Check the location, level and plumb, of every major element as the Work progresses.
- E. Employ Land Surveyor registered and acceptable to the Owner.
- F. Locate and protect survey control and reference points. Promptly notify Owner of discrepancies discovered.
- G. Control datum for survey is that established by Owner provided survey.
- H. Verify set-backs and easements; confirm drawing dimensions and elevations.
- I. Provide field engineering services. Establish elevations, lines, and levels, utilizing recognized engineering survey practices.
- J. Submit copy of site drawing signed by Land Surveyor certifying elevations and locations of the Work are in conformance with Contract Documents.

- K. Maintain complete and accurate log of control and survey work as Work progresses.
- L. Protect survey control points prior to starting site work; preserve permanent reference points during construction.
- M. Promptly report to Owner loss or destruction of reference point or relocation required because of changes in grades or other reasons.
- N. Replace dislocated survey control points based on original survey control. Make no changes without prior written notice to Owner.
- O. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.
- P. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- Q. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Owner.

2.4 FIELD ENGINEERING

- A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Owner. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Owner before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- B. Benchmarks: Establish and maintain a minimum of three (3) permanent benchmarks on each Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather

conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Owner.

2.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

2.6 Correction of defective work

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.

- B. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and proper adjustment of operating equipment.
- C. Restore permanent facilities used during construction to their specified condition.
- D. Remove and replace damaged surfaces that are exposed to view if the surfaces cannot be repaired without visual evidence of repair.
- E. Repair components that do not operate properly. Remove and replace operation components that cannot be repaired to operate properly.
- F. Remove and replace chipped, scratched or broken surfaces.

2.7 OWNER-INSTALLED PRODUCTS (Not Used)

- A. Site Access: Provide access to Project site for Owner's construction forces, if any.
- B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction forces or suppliers and vendors.

2.8 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.

- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

2.9 STARTING AND ADJUSTING

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

2.10 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

2.11 CORRECTION OF THE WORK

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Existing Conditions Restoration: Existing facilities, including landscaping and grass areas, affected by the construction Work shall be returned to their prior condition.
 - 1. Photographically document existing conditions at the start of the Work, and provide electronic files of digital photographs to Owner.
 - 2. In the absence of photographic documentation, the judgment of the Owner will prevail regarding the requirements for remedial work.

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- D. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- F. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01 73 00

SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for the following:
 - 1. Disposing of nonhazardous demolition and construction waste.
- B. Coordinate the requirements of this Section with those of other sections that require coordination with Construction Waste Management.

1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction. Construction waste includes packaging.
- B. Disposal: Removal off-site of construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Submit copy of plan to Owner for review.

- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work occurring at Project site.
- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
 - 2. Comply with Division 1 Section "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 DISPOSAL OF WASTE

- A. General: Remove waste materials from Project site and legally dispose of them in a location and manner acceptable to authorities having jurisdiction.
 - 1. Burning: Do not burn waste materials.
 - 2. Disposal: Transport waste materials off Owner's property and legally dispose of them.

END OF SECTION 01 74 19

SECTION 01 77 00 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to the following:
 - 1. Inspection procedures.
 - 2. Warranties.
 - 3. Final cleaning.
- B. Coordinate the requirements of this Section with those of other sections that require coordination with Closeout Procedures.

1.3 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction. Use CSI Form 14.1A or approved equivalent.
 - 1. Organize list of spaces in sequential order, starting with exterior areas first.
 - 2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
 - 3. Include the following information at the top of each page:
 - a. Project name.
 - b. Date.
 - c. Name of Contractor.
 - d. Page number.

1.4 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
1. Prepare a list of items to be completed and corrected (punch list).
 2. Advise Owner of pending insurance changeover requirements.
 3. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include operating certificates, and similar releases.
 4. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 5. Complete startup testing of systems.
 6. Submit test/adjust/balance records.
 7. Advise Owner of changeover in utilities.
 8. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
 9. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
 10. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 11. Prepare and submit Project Record Documents, operation and maintenance manuals, property surveys, and similar final record information.
 12. Deliver tools, spare parts, extra materials, attic stock, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
 13. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 14. Complete final cleaning requirements, including touchup painting.
 15. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for inspection for Substantial Completion (e-mail or fax transmission is acceptable). On receipt of request, Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Owner, that must be completed or corrected before certificate will be issued.
1. Substantial Completion shall be achieved when the Owner confirms that all major punchlist items (identified by Contractor and Owner) are complete and/or are otherwise resolved for acceptance and Final Cleaning has been performed on

the building and grounds. And only punchlist items deemed incidental by the Owner are remaining to be completed.

- a. Incidental items are those items which will not limit the use of the facility to or inconvenience in any way the traveling public.
2. Issuance of Substantial Completion does not stop contract time charges.
3. The Warranty period shall start at the date of Substantial Completion.
4. At time of Owner Inspection for Substantial Completion, Contractor to have building/site professionally cleaned, and thereafter for subsequent inspections.

1.5 FINAL ACCEPTANCE (or Completion)

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Acceptance, complete the following:
 1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
 2. Submit copy of Owner's Substantial Completion inspection list of items to be completed or corrected (punch list). The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- B. Inspection: Submit a written request for final inspection for acceptance (e-mail is acceptable). On receipt of request, Owner will either proceed with inspection or notify Contractor of unfulfilled requirements. Owner will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
 1. Final Acceptance shall be recognized by TxDOT at such time when all outstanding incidental punchlist items are completed; specified demonstrations and training have been provided, and the Contractor has submitted and TxDOT has accepted all specified project closeout documents as being complete. Refer to Sections 01 78 10, 01 78 20 and 01 82 00.
 2. Contract Time charges will stop at Final Acceptance.

1.6 WARRANTIES

- A. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.

- B. Provide additional copies of each warranty to include in operation and maintenance manuals.
- C. All Warranties shall start from date of Substantial Completion and shall be noted as such.

1.7 SUBMITTAL REQUIREMENTS

- A. Assemble warranties and bonds executed by each of the respective manufacturers, suppliers, and subcontractors in sturdy 3-ring binders with piano-type hinges.
- B. Number of original signed copies required: Two each.
- C. Table of Contents: neatly typed, in orderly sequence. Provide complete information for each item.
 - 1. Product of work item.
 - 2. Firm, with name of principal, address, and telephone.
 - 3. Scope.
 - 4. Date of beginning of warranty, bond, guaranty and maintenance contract.
 - 5. Duration of warranty, bond, guaranty and maintenance contract.
 - 6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure.
 - b. Instances which might affect the validity of warranty, bond or guaranty.
 - 7. Contractor, name of responsible principal, address and telephone number.

1.8 OTHER PRODCUT COMPLETION DOCUMENTS:

- A. Four USB flash drive copies of electronic version of all construction documents, technical specifications, closeout documents, operating and maintenance manuals, warranty manuals and submittals/shop drawings in a clean format with the following standards:
 - 1. All scanned documents will be scanned into PDF compatible forma optimized for web-viewing compiled by latest version of Adobe.
 - 2. Clean shall be defined as readable text, non-interrupted lines in that "no loss of distinct lines, including hairlines, profiles, skylines, horizons, ect., that are a result of a lack of dithering or too light a scan," no loss of features for included images, no skewing, no text or lines are cut off, a lack of extraneous lines or hazy inclusions, and the pages are not deckled in any way.
 - 3. Format: Submit record Product Data as annotated PDF electronic file.
 - a. Include record Product Data director organized by specification Section number and title, electronically linked to each item of record Product Data.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Provide final cleaning using cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish waste material, litter, and other foreign substances.
 - 2. Sweep paved areas broom clean, remove petrochemical spills, stains, and other foreign deposits.
 - 3. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
 - 4. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - 5. Remove snow and ice to provide safe access to building.
 - 6. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - 7. Remove debris and surface dust from limited access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - 8. Sweep concrete floors broom clean in unoccupied spaces.
 - 9. Vacuum carpet and similar soft surfaces, removing debris and excess nap; shampoo if visible soil or stains remain.
 - 10. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - 11. Remove labels that are not permanent.
 - 12. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
 - 13. Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

14. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint, and mortar droppings, and other foreign substances.
 15. Replace parts subject to unusual operating conditions.
 16. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 17. Replace disposable air filters and clean permanent air filters, clean exposed surfaces of diffusers, registers, and grills.
 18. Clean ducts, blowers, coils if units were operated without filters during construction.
 - a. Clean light fixtures, lamps, globes and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
 - b. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01 77 00

SECTION 01 78 23 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory.
 - 2. Operation manuals for systems, subsystems, and equipment.
 - 3. Maintenance manuals for the care and maintenance of products, materials, and finishes and systems and equipment.
- B. Coordinate the requirements of this Section with those of other sections that require coordination with Operation and Maintenance Data.

1.3 SUBMITTALS

- A. Final Submittal: Submit FOUR (4) copies of each manual in final form at least 10 days before Substantial Completion. Correct or modify each manual to comply with Owner's comments.

PART 2 - PRODUCTS

2.1 MANUALS, GENERAL

- A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system.
- B. Manual Contents: Organize into sets of manageable size. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
 - 1. Binders: Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, and subject matter of contents. Indicate volume number for multiple-volume sets.

2. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts. However, include these in same binder.
3. Use heavy-duty four-ring binders with continuous piano hinges by Wilson Jones or approved equal.

2.2 OPERATION AND MAINTENANCE MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions.
2. Performance and design criteria if Contractor is delegated design responsibility.
3. Operating standards, procedures and logs.
4. Wiring, control and piped system diagrams.
5. Precautions against improper use.
6. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name, manufacturer and model number.
2. Equipment identification with serial number of each component.
3. Equipment function and operating characteristics.
4. Limiting conditions and performance curves.
5. Engineering data and tests.
6. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping and normal shutdown instructions.
6. Seasonal and weekend operating instructions.
7. Required sequences for electric or electronic systems.
8. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.3 SYSTEMS AND EQUIPMENT MAINTENANCE MANUAL

A. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard printed maintenance instructions and bulletins.
 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 3. Identification and nomenclature of parts and components.
 4. List of items recommended to be stocked as spare parts.
- B. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
1. Test and inspection instructions.
 2. Troubleshooting guide.
 3. Precautions against improper maintenance.
 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 5. Aligning, adjusting, and checking instructions.
- C. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
- D. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- E. Warranties and Bonds: Include copies of warranties and bonds. Include procedures to follow and required notifications for warranty claims.

2.4 MANUALL FOR MATERIALS AND FINISHES

- A. Submit one copy of completed volumes 15 days prior to substantial completion. Draft copy will be reviewed and returned with Architect/Engineer comments. Revise content of documents sets as required prior to substantial completion.
- B. Submit two sets of revised final volumes in final form before or on date of substantial completion.
- C. Arrange be specifications sections:
1. Building Products, Applied Materials, and Finishes: Include product data with catalog number, size, composition, and color and texture designations, include information for re-ordering custom manufactured products.
 2. Moisture Protection and Weather Exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation, include recommendations for inspections, maintenance, and repair.
- D. Additional requirements: As specified in individual product specification sections.
- E. Include listing in Table of Contents for design data, with tabbed fly sheet and space for insertion of data.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.
- B. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
- C. Drawings: Provide drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in Record Drawings to ensure correct illustration of completed installation.
- D. Comply with Division 1 Section "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 01 78 23

SECTION 01 78 39 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including Uniform and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.
- B. Related Sections include the following:
 - 1. Division 1 Section 01 77 00 "Closeout Procedures" for general closeout procedures.
 - 2. Division 1 Section 01 78 23 "Operation and Maintenance Data" for operation and maintenance manual requirements.
 - 3. Divisions 2 through 33 Sections for specific requirements for Project Record Documents of the Work in those Sections.

1.3 SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit two set of marked-up Record Prints.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
 - 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - 2. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
 - 3. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 - 4. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - 1. Record Prints: Organize Record Prints and newly prepared Record Drawings into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 - 2. Record Transparencies: Organize into unbound sets matching Record Prints. Place transparencies in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.
 - 3. Record CAD Drawings: Organize CAD information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each CAD file.
 - 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of ENGINEER.
 - e. Name of CONTRACTOR.

2.2 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and found or filed, ready for use and reference. Miscellaneous records include, but are not limited to, the following:
 - 1. Field records on excavations and foundations.
 - 2. Field records on underground construction and similar work.
 - 3. Surveys showing locations and elevations of underground lines.
 - 4. Invert elevations of drainage pipes.
 - 5. Surveys establishing building lines and levels.
 - 6. Records of equipment testing, start-up, and operation.
 - 7. Certifications received in lieu of labels on bulk products.
 - 8. Batch mixing and bulk delivery tickets.
 - 9. Documented qualifications of installation firms.
 - 10. Inspections and certification of governing agencies.
 - 11. Load and performance testing.
 - 12. Results of pressure testing of lines.
 - 13. Final inspection and correction procedures.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from

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deterioration and loss. Provide access to Project Record Documents for
ENGINEER'S reference during normal working hours.

END OF SECTION – 01 78 39

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SECTION 01 79 00 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for instructing Owner's personnel at time of Substantial Completion, including the following:
 - 1. Demonstration of operation of systems, subsystems, and equipment.
 - 2. Training in operation and maintenance of systems, subsystems, and equipment.
- B. Coordinate the requirements of this Section with those of other sections that require coordination with Demonstration and Training.
- C. Related Sections: 01 73 00 – Execution Requirements; 01 77 00 Closeout Procedures

1.3 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations. Coordinate content of training with content of approved emergency, operation, and maintenance manuals.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
 - 1. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Systems and equipment operation manuals.
 - c. Systems and equipment maintenance manuals.
 - d. Product maintenance manuals.
 - e. Project Record Documents.
 - f. Identification systems.
 - g. Warranties and bonds.
 - h. Maintenance service agreements and similar continuing commitments.
 - 2. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.

- c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.
 - f. Special operating instructions and procedures.
3. Operations: Include the following, as applicable:
 - a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
4. Adjustments: Include the following:
 - a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
5. Troubleshooting: Include the following:
 - a. Diagnostic instructions.
 - b. Test and inspection procedures.
6. Maintenance: Include the following:
 - a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
7. Repairs: Include the following:
 - a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.

- e. Review of spare parts needed for operation and maintenance.

PART 2 - EXECUTION

2.1 PREPARATION

- A. Assemble educational materials necessary for instruction. Use Operations and Maintenance Manuals.

2.2 INSTRUCTION

- A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- B. Scheduling: Provide instruction at mutually agreed on times prior to Final Completion.
- C. Instruction Program: Submit two copies of outline of instructional program for demonstration and training, along with learning objective and outline for each training module.
 - 1. At completion of training, submit two complete training manuals for Owner's use.
- D. Demonstration and Training Video: Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
 - 2. Transfer to Owner in electronic file format.

END OF SECTION 01 79 00

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SECTION 31 20 00

EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Excavating, preparing subgrades, and backfilling for buildings and structures.
 - 2. Preparing subgrades for concrete walks.
 - 3. Excavating and backfilling trenches for utilities and pits for buried utility structures.
- B. Related Sections:
 - 1. Division 01 Section "Temporary Facilities and Controls" for temporary controls, utilities, and support facilities.
 - 2. Division 33 Sections for installing underground storm drain utilities.

1.3 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.
- C. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- D. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
 - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
 - 2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized

excavation, as well as remedial work directed by Architect, shall be without additional compensation.

- E. Fill: Soil materials used to raise existing grades.
- F. Structures: Buildings, footings, foundations, retaining walls, slabs, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- G. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below base, or topsoil materials.
- H. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 INFORMATIONAL SUBMITTALS

- A. Material Test Reports: For each borrow soil material proposed for fill and backfill as follows:
 - 1. Classification according to ASTM D 2487.
 - 2. Laboratory compaction curve according to ASTM D 698.

1.5 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E 329 and ASTM D 3740 for testing indicated.

1.6 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads during earth moving operations.
 - 1. Do not close or obstruct roadways without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing earth moving indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
 - 1. Do not proceed with work on adjoining property until directed by Architect.
- C. Utility Locator Service: Notify "Dig Test System" for area where Project is located before beginning earth moving operations.
- D. Do not commence earth moving operations until temporary erosion- and sedimentation-control measures, specified in Division 01 Section "Temporary Facilities and Controls," are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Existing soils may be used for engineered structural fill material if complaint with requirements. Provide borrow soil materials from off-site when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soil Material (Select Fill): Meet the following requirements:
1. Existing on-site soils may be used as engineered structural fill if meeting classification as follows: GW, GP, GC, GM, GC-GM, GP-GM, GP-GC, SW, SP, SC, SM, SC-SM, SP-SM, SP-SC, and CL.
 2. Material should be free of organic or other deleterious materials.
 3. Plasticity index not exceeding 15.
 4. Homogeneous mixture.
 5. Maximum particle size of three (3) inches.
 6. Maximum Lift Height of 8" (Loose Measure).
 7. Compaction at -2% to +2% of optimum moisture content (OMC) for cohesionless soils and an 0% to +3% of OMC for cohesive soils as determined by the Laboratory Compaction Characteristics of Soil Using Modified Effort (ASTM D1557, Modified Proctor).
- C. Unsatisfactory Soils: Soil materials that do not meet all requirements of satisfactory soil material.
1. Soils will be considered unsatisfactory for engineered structural fill materials when classified as follows: PT, OL, OH, MH, ML, and CH or, any material having a plasticity index that exceeds 15.
 2. In addition, satisfactory soils not maintained within optimum moisture content at time of compaction as specified in this section will be considered unsatisfactory.
- D. Compaction:
1. Engineered structural fill shall produce a stable, uniform, and consistent compacted fill body. Fill material shall be placed in maximum lifts of 8 inches of loose material and should be compacted within the range of 2 percentage points below to 2 percentage points above the optimum moisture content value (-2% to +2% of OMC) for cohesionless soils and at optimum to 3 percentage points above optimum (0 to +3% of OMC) for cohesive soils, as determined by the Laboratory Compaction Characteristics of Soil Using Modified Effort (ASTM D1557, Modified Proctor).
 2. Compaction of the fill material should be performed with appropriate types of power, pneumatic or tamping equipment. Each lift of fill should be compacted to a density which is not less than 95 percent of maximum dry density. Maximum dry density should be determined in accordance with ASTM D1557. Monitoring of the backfilling should include sufficient compaction testing by the Geotechnical Engineering representative to document that each lift of fill has been compacted to the required density. Each lift of compacted engineered fill shall be tested by a representative of the Geotechnical Engineer prior to placement of subsequent lifts. If any lift or portion of a lift does not conform to the density requirements, the

lift shall be thoroughly scarified and re-compacted until the required density is obtained. If water must be added, it should be uniformly applied and thoroughly mixed into the soil by disking or scarifying. Care should be taken to apply compactive effort throughout the fill and fill slope areas. The moisture content and the degree of compaction of the structural fill soils shall be maintained until the construction of the structures within the area.

- E. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.

2.2 ACCESSORIES

- A. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

- A. The project site be cleared and grubbed of the existing vegetation, roots, trash and other deleterious materials from demolition (if any) in the construction areas. Deleterious material should be removed and disposed of off the site.

3.2 GENERAL SOIL PREPARATION

- A. To properly prepare native soils to receive fill or support various project elements, over-excavated soil that can be used as engineered structural fill, as defined below, and shall be stockpiled on the site. In general, it should be anticipated that most of the on-site soils can be reused as engineered fill. Any on-site fat clays shall not be used as engineered fill. The material proposed for reuse as engineered fill shall be verified to be of structural fill quality prior to placement.
- B. After excavation or surface preparation, the site should be proof-rolled with a loaded tandem axle dump truck, water truck or equivalent. Soils which are observed to rut or deflect excessively (greater than 1 inch) under the moving load shall be undercut and replaced with properly compacted fill. The proof-rolling activities shall be witnessed by a representative of the Geotechnical Engineer and shall be performed during a period of dry weather. After excavating and proof-rolling, the exposed subgrade shall be scarified to a depth of approximately eight (8) inches, be uniformly moisture conditioned to near optimum moisture content throughout the scarified section, and then be compacted to at least 95 percent of the soil's maximum dry density per ASTM

D1557 (modified Proctor method). Engineered structural fill placement may then begin. The first layer of engineered structural fill shall be placed in a uniform horizontal lift and be adequately keyed into the stripped and scarified subgrade soils. The compacted engineered fill may then be brought to finished grade in lifts not to exceed six (6) inches in compacted thickness as required.

3.3 PREPARATIONS BELOW FOUNDATIONS AND SLABS

To prepare the site for support of the structures, the native soil surface, after proof rolling as recommended above, shall be scarified eight (8) inches, brought uniformly to optimum moisture content then compacted, as described in the General Soil Preparation section. The excavation may then be brought to finished subgrade elevation with engineered fill meeting the requirements of and placed in accordance with the recommendations outlined in the Structural Fill section below. The foundations shall bear on a minimum of eight (8) inches of compacted subgrade material. The treatment shall extend a minimum of five (5) feet beyond all sides of the foundation elements.

3.4 NON-STRUCTURAL SITE INFRASTRUCTURE

Subgrade material below exterior flatwork, and other non-structural elements beyond the exterior walls of the buildings shall be treated beginning with proof-rolling, scarification, moisture treatment and compaction. Where fill material is required to bring the site to grade, the material shall be compacted and meet the requirements of structural fill. Non-structural flatwork shall bear on a minimum of eight (8) inches of compacted subgrade material.

3.5 DRAINAGE

- A. Water shall not be allowed to collect in the foundation excavation, on floor slab areas, or on prepared subgrade of the construction area either during or after construction. Undercut or excavated areas shall be sloped toward one corner to facilitate removal of any collected rainwater, groundwater, or surface runoff. Positive site surface drainage shall be provided to reduce infiltration of surface water around the perimeter of the building and beneath the floor slabs. The grades shall be sloped away from the building and surface drainage shall be collected and discharged such that water is not permitted to infiltrate the backfill and floor slab areas of the building. Perched water may be encountered in discontinuous zones within the overburden and/or near the contact with clay lenses. Any water accumulation should be removed from excavations by pumping. Should excessive and uncontrolled amounts of seepage occur, consult the Architect immediately.

3.6 EXCAVATIONS

- A. In Federal Register, Volume 54, No. 209 (October 1989), the United States Department of Labor, Occupational Safety and Health Administration (OSHA) amended its "Construction Standards for Excavations, 29 CFR, part 1926, Subpart P". This document was issued to better insure the safety of workmen entering trenches or excavations. It is mandated by this federal regulation that excavations, whether they be

utility trenches, basement excavation or footing excavations, be constructed in accordance with the new OSHA guidelines. These regulations are strictly enforced and if they are not closely followed, the contractor could be liable for substantial penalties.

- B. The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor's "responsible person", as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations.
- C. Classified Excavation (No Rock Anticipated in Excavation): Excavate to subgrade elevations. Material to be excavated will be classified as earth and rock. Do not excavate rock until it has been classified and cross sectioned by Architect. The Contract Sum will be adjusted for rock excavation according to Change Order in the Contract Documents. Changes in the Contract Time may be authorized for rock excavation.
 - 1. Earth excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; together with soil, boulders, and other materials not classified as rock or unauthorized excavation.
 - a. Intermittent drilling; blasting, if permitted; ram hammering; or ripping of material not classified as rock excavation is earth excavation.
 - 2. Rock excavation includes removal and disposal of rock. Remove rock to lines and subgrade elevations indicated to permit installation of permanent construction without exceeding the following dimensions:
 - a. 24 inches outside of concrete forms other than at footings.
 - b. 12 inches outside of concrete forms at footings.
 - c. 6 inches outside of minimum required dimensions of concrete cast against grade.
 - d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
 - e. 6 inches beneath bottom of concrete slabs-on-grade.
 - f. 6 inches beneath pipe in trenches, and the greater of 24 inches wider than pipe or 42 inches wide.

3.7 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
 - 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line. Refer to drawings.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.

1. Clearance: 8 inches each side of pipe or conduit.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
1. For pipes and conduit less than 6 inches in nominal diameter, hand-excavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 2. For pipes and conduit 6 inches or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe or conduit circumference. Fill depressions with tamped sand backfill.
 3. For flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support conduit on an undisturbed subgrade.
 4. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.

3.8 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.
1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.9 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated, minimum 8" (bottom and top). Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Backfill voids with satisfactory soil while removing shoring and bracing.
- D. Place and compact initial backfill of subbase material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.
1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- E. Place and compact final backfill of satisfactory soil to final subgrade elevation.

3.10

3.11 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 - 1. Provide a smooth transition between adjacent existing grades and new grades.
 - 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 - 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 - 2. Walks: Plus or minus 1 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.12 PROTECTION

- 1. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- 2. Protect and maintain erosion and sedimentation controls during earth moving operations.
- 3. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.13 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- B. The testing agency shall inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- C. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies:
 - 1. At least one (1) moisture-density (Proctor) test, Atterberg limits test and percent finer than #200 sieve test should be performed per soils type for subgrade, backfill, fill and base materials.
 - 2. In building areas, at least one (1) density and moisture content test per 2,500 square feet of surface area should be performed on the subgrade soils for each compacted 6-inch thickness of fill. In pavement areas, at least one (1) density and moisture content test per 10,000 square feet of surface area should be performed on the subgrade soils for each compacted 6-inch thickness of fill.

Testing of backfilled trenches should be at least one (1) density and moisture content test per 100 linear feet of trench per 8-inch compacted fill thickness.

3. At least three (3) densities and moisture content tests should be performed in the building area on the subgrade soils, and at least 3 densities and moisture content tests should be performed per 6-inch compacted thickness of fill in the building area. Testing of backfilled trenches should be at least one (1) density and moisture content test per 100 linear feet of trench per 8-inch compacted fill thickness.

3.14 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 20 00

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SECTION 31 23 17

TRENCHING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including Uniform and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Excavating trenches for utilities from 5 feet outside buildings to the utility service point of connection.
 - 2. Compacted fill from top of utility bedding to finished grade elevations.
 - 3. Backfilling and compaction.
- B. Related Sections:
 - 1. Section 33 40 00 – Stormwater Utilities: Storm drain piping and bedding.
- C. Notice to Contractor:
 - 1. It is the Owner's intent to minimize damage to plant life of the site. To this end, the Contractor shall take precautions not to unnecessarily impact the areas adjacent to trenching activities with construction vehicles, trenching spoils, stock piles, material storage area, etc.
 - a. Review in the field with the Owner proposed trench alignments.
 - b. Obtain Owner's approval prior to commencing trenching activities.

1.3 DEFINITIONS

- A. Utility: Any buried pipe, duct, conduit, or cable.

1.4 SUBMITTALS

- A. Excavation Protection Plan (Trench Safety): Describe sheeting, shoring, and bracing materials and installation required to protect excavations and adjacent structures and property; include structural calculations to support plan.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with Texas Commission on Environmental Quality (TCEQ), Chapter 290, Public Drinking Water Rules and/or Chapter 217, Wastewater System Rules.

1.6 QUALIFICATIONS

- A. Prepare Excavation Protection Plan (Trench Safety) under the direct supervision of a Professional Engineer experienced in design of this Work and licensed in the State of Texas.

1.7 FIELD MEASUREMENTS

- A. Verify field measurements prior to any required fabrications.

1.8 COORDINATION

- A. Confirm with Owner exact alignment of trenches prior to the start of excavation.
- B. Minimize impact to vegetation and site of trenching operations.
- C. Verify Work associated with lower elevation utilities is complete before placing higher elevation utilities.

PART 2 PRODUCTS – Not required

PART 3 EXECUTION

3.1 LINES AND GRADES

- A. Lay pipes to lines and grades indicated on Drawings.
 - 1. Owner reserves the right to make changes in lines, grades, and depths of utilities when changes are required for Project conditions.
- B. Use laser-beam instrument with qualified operator to establish lines and grades.

3.2 PREPARATION

- A. Call Texas 811 (One Call) service not less than three working days before performing Work.
 - 1. Request underground utilities to be located and marked within and surrounding construction areas.
- B. Identify required lines, levels, contours, and datum locations.

- C. Protect plant life and other features remaining as portion of final landscaping.
- D. Protect benchmarks and paving from excavating equipment and vehicular traffic.
- E. Maintain and protect above and below grade utilities indicated to remain.
- F. Establish temporary traffic control when trenching is performed in public right-of-way. Relocate controls as required during progress of Work.

3.3 TRENCHING

- A. Remove forest litter (leaves) and stockpile for re-use during trench restoration.
- B. Remove topsoil and stockpile for re-use during trenching restoration.
- C. Excavate subsoil required for utilities to utility service.
- D. Remove lumped subsoil, boulders, rock, roots and other deleterious material.
- E. Do not advance open trench more than 100 feet ahead of installed pipe.
- F. Cut trenches to width indicated on Drawings. Remove water or materials that interfere with Work.
- G. Excavate bottom of trenches indicated on Drawings.
- H. Excavate trenches to depth indicated on Drawings.
- I. Remove excess subsoil not intended for reuse, from site.
- J. Minimize unnecessary impact to adjacent vegetation and soil.

3.4 SHEETING AND SHORING

- A. The sheet and shoring shall be maintained and installed as shown on the Excavation Protection Plan. The Excavation Protection Plan shall be designed by the Contractor's Registered Professional Engineer.
- B. Sheet, shore, and brace excavations to prevent danger to persons, structures and adjacent properties and to prevent caving, erosion, and loss of surrounding subsoil.
- C. Support trenches more than 4 feet deep excavated through unstable, loose, or soft material. Provide sheeting, shoring, bracing, or other protection to maintain stability of excavation in accordance with the Excavation Protection Plan (Trench Safety).
- D. Design sheeting and shoring to be removed at completion of excavation work.

- E. Repair damage caused by failure of the sheeting, shoring, or bracing and for settlement of filled excavations or adjacent soil.
- F. Repair damage to new and existing Work from settlement, water or earth pressure or other causes resulting from inadequate sheeting, shoring, or bracing.

3.5 BACKFILLING

- A. Provide pipe bedding of the utility pipe as indicated on Drawings.
- B. Backfill trenches to contours and elevations with clean select fill materials.
- C. Place fill material in continuous layers and compact in 6-inch maximum lifts by mechanically tamping. Achieve a minimum of 95% density by means of Ordinary Compaction.
- D. Employ placement method that does not disturb or damage utilities in trench.
- E. Maintain optimum moisture content of fill materials to attain required compaction density.
- F. Do not leave more than 25 feet of trench open at the end of the working day.
- G. Protect open trenches to prevent danger to the public and workers on the site.

3.6 TRENCH RESTORATION

- A. Use stockpiled topsoil and forest litter to restore top of compacted trench backfill.
- B. Fill equipment tire tracks with topsoil.

3.7 PROTECTION OF FINISHED WORK

- A. Reshape and re-compact backfilled trenches subjected to settlement during construction.

END OF SECTION 31 23 17

SECTION 32 13 13 - ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes replacement of asphalt concrete pavement as shown on the Drawings.
- B. Related Sections
 - A. Section 32 17 23 – Pavement Markings: Painting of stripes and other markings on pavement.

1.3 REFERENCES

- A. Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges (TxDOT).
 - 1. Item 216 – Proof Rolling
 - 2. Item 247 – Flexible Base
 - 3. Item 300 – Asphalts, Oils, and Emulsions
 - 4. Item 340 – Dense-Graded Hot-Mix Asphalt (Small Quantity)

1.4 SUBMITTALS

- A. Section 01 33 00 – Submittal Procedures: Requirements for submittals.
- B. Mix Design: Submit proposed mix design for each asphalt concrete mixture to be used in the work. Include test data in support of each proposed mix design.
- C. Test Reports: Submit test reports of sampling and testing, and inspection records within 24 hours of asphalt concrete placement.

PART 2 - PRODUCTS

2.1 AGGREGATES

- A. Base Course Material - Flexible base material shall conform to the products and installation requirements listed in TXDOT Item 247. The flexible base course shall be TXDOT Item 247, Type A, Grade 1-2.
- B. Asphalt paving aggregates - Provide a combined aggregate gradation for asphalt concrete paving that conforms to gradations shown below or TXDOT Item 340, Type D. All aggregates used in asphalt concrete mix and the mix design shall conform to the requirements included in TXDOT Item 340.

<u>Sieve Sizes</u>	<u>Percentage Passing</u>
3/4"	100
1/2"	98-100
3/8"	85-100
No. 4	50-70
No. 8	35-46
No. 30	15-29
No. 50	7-20
No. 200	2-7

2.2 ASPHALT BINDER

- A. Performance Grade (PG) 64-22

2.3 PRIME COAT

- A. Cut-back type, grade MC-250

2.4 TACK COAT

- A. SS-1H emulsion in accordance with TXDOT Item 300, Asphalts, Oils, and Emulsions.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Asphalt Concrete Paving equipment, weather limitations, job-mix formula, mixing, construction methods, compaction, finishing, tolerance, and protection shall conform to the requirements of the appropriate sections of the State Highway Specifications for the type of material specified.

3.2 SUBGRADE

- A. Shape to line and grade and compact with self-propelled rollers.
- B. All depressions that develop under rolling shall be filled with acceptable material and the area re-rolled.
- C. Soft areas shall be removed and filled with acceptable materials and the area re-rolled.
- D. Should the subgrade become rutted or displaced prior to the placing of the subbase, it shall be reworked to bring to line and grade.
- E. Proof-roll the subgrade per TXDOT Item 216, Proof Rolling.

3.3 BASE

- A. Spread and compact to the thickness shown on the drawings.
- B. Install base course per TXDOT Item 247, Flexible Base.

3.4 PLACING ASPHALT CONCRETE

- A. Remove all loose materials from the compacted base.
- B. Apply the specified prime coat and tack coat where required and allow to dry in accordance with the manufacturer's recommendations.
- C. Receipt of asphaltic concrete materials
 - A. Do not accept material unless it is covered with a tarpaulin until unloaded, and unless the material has a temperature of not less than 280 degrees F.
 - B. Do not commence placement of asphaltic concrete materials when the atmospheric temperature is below 50 degrees F, not during fog, rain, or other unsuitable conditions.
- D. Spreading:

- A. Spread material in a manner that requires the least handling.
- B. Where the thickness of finished paving will be 3 inches or less, spread in one layer.
- E. Rolling:
 - A. After the material has been spread to the proper depth, roll until the surface is hard, smooth, unyielding, and true to the thickness and elevations shown on the drawings.
 - B. Roll in at least two directions until no roller marks are visible.
 - C. Finished paving smoothness tolerance:
 - a. No depressions which will retain standing water.
 - b. No deviation greater than 1/8" in six feet.

3.5 FIELD QUALITY CONTROL

- A. The Contractor shall control the quality of the Work and shall provide adequate testing to assure compliance with these Specifications herein.
- B. After completion of paving work, all paving shall be flooded with water, and any resulting "ponds" shall be ringed with chalk. Such hollows shall be corrected with addition of asphalt paving materials and re-rolling until all paving is completely level and free from hollows and high spots.
- C. The Contractor shall perform testing per the requirements of TXDOT Item 340.

3.6 MAINTENANCE OF PAVEMENT

- A. Upon completion of final rolling, traffic shall not be permitted on the finished pavement for at least six hours, and until the asphalt concrete has cooled sufficiently to withstand traffic without being deformed.
- B. Finished pavement shall be maintained in finished clean condition until the Work is accepted.

END OF SECTION 32 12 16

SECTION 32 13 13 - CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes exterior cement concrete pavements (walkways) for the following:
 - 1. Concrete walkways and curbs and gutters shown in Drawings.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Design Mixtures: For each concrete pavement mixture.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products who complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by requirements in the Contract Documents.
- C. Reinforced Portland Cement Concrete: TxDot Item 360 with a minimum compressive strength of 4,000 psi at 28 days.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.
- B. Plain Steel Wire: ASTM A 82, as drawn.
- C. Deformed-Steel Wire: ASTM A 496.

- D. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice."

2.2 CONCRETE MATERIALS

- 1. Portland Cement: ASTM C 150, Type I or II, white.
 - a. Fly Ash: ASTM C 618, Class F or C.
 - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- B. Normal-Weight Aggregates: ASTM C 33, uniformly graded. Provide aggregates from a single source.
- C. Water: ASTM C 94/C 94M.
- D. Air: None required.

2.3 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable.
- D. Evaporation Retarder: Waterborne, monomolecular film forming; manufactured for application to fresh concrete.
- E. White Waterborne Membrane-Forming Curing Compound: ASTM C 309, Type 2, Class B.

2.4 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber.
- B. Color Pigment: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, nonfading, and resistant to lime and other alkalis.

2.5 CONCRETE MIXTURES

- A. Prepare design mixtures, proportioned according to ACI 301, with the following properties:
 - 1. Compressive Strength (28 Days): 4,000 psi.
 - 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.

3. Slump Limit: 4 inches, plus or minus 1 inch.
4. Air Content: None

2.6 CONCRETE MIXING

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M. Furnish batch certificates for each batch discharged and used in the Work.

2.7 RELATED MATERIALS

- A. Rock Salt: Sodium chloride crystals, kiln dried, coarse gradation with 100 percent passing 3/8-inch sieve and 85 percent retained on a No. 8 sieve.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Proof-roll prepared subbase surface below concrete pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

3.4 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline, unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of pavement and at locations where pavement operations are stopped for more than one-half hour unless pavement terminates at isolation joints.

- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness. Refer to Drawings for pattern indicated.
- E. Edging: Tool edges of pavement and joints in concrete after initial floating with an edging tool to a 3/8-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate tool marks on concrete surfaces.

3.5 CONCRETE PLACEMENT

- A. Moisten subbase to provide a uniform dampened condition at time concrete is placed.
- B. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- D. Screed pavement surfaces with a straightedge and strike off.
- E. Commence initial floating using bull floats or darbies to impart an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

3.6 FLOAT FINISHING – EQUIPMENT PADS ONLY

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats, or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
 - 1. Medium-to-Fine-Textured Broom Finish: Draw a soft bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture, 180 degree exactly.

3.7 SPECIAL FINISHES – SIDEWALKS

- A. Rock-salt Finish: After initial troweling, uniformly spread rock salt over paving surface at the rate of 5 lb/100 sq. ft.
 - 1. Embed rock salt into plastic concrete with roller or magnesium float.

2. Cover paving surface with 1-mil-thick polyethylene sheet and remove sheet when concrete has hardened and seven-day curing period has elapsed.
3. After seven-day curing period, saturate concrete with water and broom-sweep surface to dissolve remaining rock salt, thereby leaving pits and holes.

3.8 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.
- C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- D. Curing Methods: Cure concrete by moisture curing moisture-retaining-cover, curing compound or a combination of these methods.

3.9 PAVEMENT TOLERANCES

- A. Comply with tolerances of ACI 117 and as follows:
 1. Elevation: 1/4 inch.
 2. Thickness: Plus 3/8 inch, minus 1/4 inch.
 3. Surface: Gap below 10-foot- long, unlevelled straightedge not to exceed 1/4 inch.
 4. Contraction Joint Depth: Plus 1/4 inch, no minus.
 5. Joint Width: Plus 1/8 inch, no minus.

3.10 REPAIRS AND PROTECTION

- A. Remove and replace concrete pavement that is broken, damaged, or defective or that does not comply with requirements in this Section.
- B. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement.
- C. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 32 13 13

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SECTION 32 13 73 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Expansion and contraction joints within concrete walks herein defined as concrete pavements.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each type and color of joint sealant required.
- C. Product certificates.
- D. Compatibility and Adhesion Test Reports: From sealant manufacturer.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products listed in other Part 2 articles.

2.2 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.
 - 1. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Colors of Exposed Joint Sealants: As indicated by manufacturer's designations.

2.3 COLD-APPLIED JOINT SEALANTS (Contractor's Option)

- A. Single-Component Jet-Fuel-Resistant Urethane Sealant for Concrete: Single-component, pourable, coal-tar-modified, urethane formulation complying with ASTM C 920 for Type S; Grade P; Class 25; Uses T, M, and, as applicable to joint substrates indicated, O.
 - 1. Available Products:
 - a. Sonneborn, Div. of ChemRex, Inc.; Sonomeric 1, or approved equivalent.
- B. Multicomponent Low-Modulus Sealant for Concrete and Asphalt: Proprietary formulation consisting of reactive petropolymer and activator components producing a pourable, self-leveling sealant.
 - 1. Available Products:
 - a. Meadows, W. R., Inc.; Sof-Seal or approved equivalent.

2.4 JOINT-SEALANT BACKER MATERIALS

- A. General: Provide joint-sealant backer materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint-sealant manufacturer based on field experience and laboratory testing.
- B. Round Backer Rods for Sealants: ASTM D 5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.
- C. Asphalt impregnated fiber expansion joint material (1/2" thickness x depth required) for expansion joint locations.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install backer materials to support sealants during application and at position required to produce optimum sealant movement capability. Do not leave gaps between ends of backer materials. Do not stretch, twist, puncture, or tear backer materials. Remove absorbent backer materials that have become wet before sealant application and replace them with dry materials.
- D. Install sealants at the same time backings are installed to completely fill recesses provided for each joint configuration and to produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

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Langtry, TX

- E. Clean off excess sealants or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved by manufacturers of joint sealants and of products in which joints occur.
- F. Provide sealant at all contraction joints and at all expansion isolation joints in concrete walks.

END OF SECTION 32 13 73

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SECTION 32 17 23 – PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes pavement markings as shown on the Drawings.
- B. Related Sections
 - A. Section 32 12 16 – Asphalt Paving.

1.3 REFERENCES

- A. Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges (TxDOT).
 - 1. Item 666 – Reflectorized Pavement Markings

1.4 SUBMITTALS

- A. Section 01 33 00 – Submittal Procedures: Requirements for submittals.
- B. Submittal Drawings:
 - 1. Show pavement marking configuration and dimensions.
 - 2. Show international symbol of accessibility at designated parking spaces.
- C. Manufacturer's Literature and Data:
 - 1. Description of each product.
 - 2. Application instructions.
- D. Certificates: Certify products comply with Specifications.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Type I Marking Materials. Furnish in accordance with DMS-8220, Hot Applied Thermoplastic.
- B. Type II Marking Materials. Furnish in accordance with DMS-8200, Traffic Paint.
- C. Glass Traffic Beads. Furnish drop-on glass beads in accordance with DMS-8290, Glass Traffic Beads.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Apply no paint or thermoplastic material until pavement has cured for at least 3 days or for the number of days as recommended by the manufacturer, whichever is longer. Ensure that the pavement has cured sufficiently to carry application equipment without damage.
- B. Provide traffic striping and markings on pavement, parking stalls, and curbs in accordance with the layout, configurations, and dimensions indicated in the drawings.
- C. Apply markings per TXDOT Item 666, Reflectorized Pavement Markings.

3.2 TOLERANCES AND APPEARANCE

- A. In addition to the tolerances and appearance requirements specified in TXDOT Item 666, edges shall be uniform with local variations not exceeding 1/8 inch per foot and surfaces shall be smooth and uniform.

END OF SECTION 32 17 23

SECTION 33 40 00 – STORMWATER UTILITIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies the requirements for furnishing and placing drainage pipe, laterals, stubs, and appurtenances. The pipe shall be of the size, type and location, and to the lines, grades and elevations shown on the Drawings and shall be constructed in accordance with these Specifications.
- B. Related Sections:
 - 1. Section 31 23 17 - Trenching: Execution requirements for trenching required by this section.

1.3 REFERENCES

- A. ASTM International:
 - 1. ASTM A48 – Specification for Gray Iron Castings.
 - 2. ASTM A615 – Specification for Deformed and Plain Carbon -Steel Bars for Concrete Reinforcement.
 - 3. ASTM D3034 – Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.
 - 4. ASTM D3212 – Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals.
 - 5. ASTM F477 – Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe.
- B. Texas Department of Transportation Standard Specifications for Construction of Highways, Streets and Bridges (TxDOT).
 - 1. Item 465 – Junction Boxes, Manholes, and Inlets.
 - 2. Item 471 – Frames, Grates, Rings, and Covers.

1.4 PROJECT CONDITIONS

- A. When working with storm manholes new or existing, Contractor must keep requirements for confined space entries. In all activities, Contractor shall work in a safe manner as required by OSHA and other governing criteria.

1.5 DEFINITIONS

- A. PVC: Polyvinyl chloride plastic.

1.6 SUBMITTALS

- A. Section 01 33 00 – Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit data on pipe materials, pipe fittings, pipe accessories, and inlets.

1.7 CLOSEOUT SUBMITTALS

- A. Section 01 70 00 – Execution Requirements: Requirements for submittals.
- B. Project Record Documents: Record location of pipe runs, connections, inlets, and invert elevations.

1.8 PRE-INSTALLATION MEETINGS

- A. Section 01 30 00 – Administrative Requirements: Pre-installation meeting.

1.9 FIELD MEASUREMENTS

- A. Verify field measurements and elevations as indicated on Drawings.

1.10 COORDINATION

- A. Section 01 03 00 – Administrative Requirements: Coordination and project conditions.

PART 2 - PRODUCTS

2.1 PIPE

- A. Polyvinyl Chloride (PVC) 6 to 15 inches in diameter shall be SDR35 and conform to ASTM D3034.

2.2 JOINTS

- A. PVC pipe joints shall conform to ASTM D-3212 and ASTM F477 specifications.

2.3 INLETS

- A. 2' x 2' Grate Inlets

1. Grate inlets shall conform to the products and installation requirements listed in TxDOT Item 465.
2. Grates shall conform to the products and installation requirements listed in TxDOT Item 471.

2.4 BEDDING AND COVER MATERIALS

- A. Bedding: Washed sand or crushed stone 3/8" to 1/2" rock.
- B. Soil Backfill from Above Bedding to Finish Grade: Select compacted material (Subsoil with no rocks over 2 inches in diameter, frozen earth or foreign matter.)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01 30 00 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Verify trench cut is ready to receive work and excavations, dimensions, and elevations are as indicated on drawings.

3.2 PREPARATION

- A. Correct over excavation with fine aggregate or sand.
- B. Remove large stones or other hard matter which could damage pipe or impede consistent backfilling or compaction.

3.3 BEDDING

- A. Excavate pipe trench in accordance with Section 31 23 17.
- B. Place bedding material at trench bottom, level materials in continuous layer not exceeding 6 inches.
- C. Maintain optimum moisture content of bedding material to attain required compaction density.

3.4 INSTALLATION - PIPE

- A. Lay pipe to slope gradients noted on drawings; with maximum variation from indicated slope of 0.1%.
- B. Install bedding at sides and over top of pipe to minimum compacted thickness of 12 inches.

- C. Refer to Section 31 20 00 and as indicated in the Drawings for backfilling and compacting requirements. Do not displace or damage pipes when compacting.
- D. Install storm drain piping as shown in the Drawings.

3.5 INSTALLATION - INLETS

- A. Inlets shall be constructed at locations shown on the Drawings and to the depth indicated thereon.
- B. The construction of inlets shall be done as soon as practical after the sewer line into or through the inlet locations are completed.
- C. All sewers shall be cut neatly at the inside face of the walls of the inlet and pointed up with mortar.

3.6 INSTALLATION – GRATES AND FRAMES

- A. Castings shall conform to the type shown on the Drawings and shall be clean substantial castings, free from sand or blow holes or other defects.
- B. Surfaces of the castings shall be free from burnt-on sand and shall be reasonably smooth.
- C. Bearing surfaces between grates and frames shall be cast or machined with such precision that uniform bearing shall be provided throughout the perimeter area of contact.

3.7 PROTECTION OF FINISHED WORK

- A. Section 01 70 00 - Execution Requirements: Requirements for protecting finished Work.
- B. Protect pipe and aggregate cover from damage or displacement until backfilling operation is in progress.

END OF SECTION 33 40 00

NOTICE TO BUILDING CONTRACTORS

LANGTRY SITE TRAVEL INFORMATION CENTER RENOVATION

VAL VERDE COUNTY, LAREDO DISTRICT

US 90 W at SL 25 at TORRES AVENUE

LANGTRY, TEXAS 78871

PROJECT NO. RMC 647305001

CSJ 6473-05-001

ESTIMATED CONSTRUCTION COST: \$894,784.85

BID GUARANTY or BID BOND: \$18,000.00

PRE-BID CONFERENCE: Wednesday, November 20, 2024, at 10:00 AM (CST)

At The Langtry Travel Information Center

BID DATE: December 4, 2024 - 1:00 P.M. IN AUSTIN, TEXAS

Sealed proposals for the above reference project, will be received at the Texas Department of Transportation, 6230 E Stassney Lane, 1st Floor, Room M1C3.02, Austin, Texas 78744 - until 1:00 P.M.CDT – December 4, 2024, and then publicly opened and read. It is the bidder's responsibility to ensure that the sealed proposal arrives at the above location and in the hands of the letting official, by the specified deadline regardless of the method chosen by the bidder for delivery. **CONTRACTORS MUST BE PRE-QUALIFIED (Bidder's Questionnaire) WITH TxDOT TO BID THIS PROJECT. SEE ITEM 2 INSTRUCTIONS TO BIDDERS – 2024 STANDARD SPECIFICATIONS.**

Plans and specifications for this project can be found on TxDot.gov website [Plans online](#) . The entire bound proposal-specifications issued by TxDOT must be returned as the bidding proposal if no electronic proposal is submitted. The bid proposal- specifications documents will be issued free of charge by TxDOT to any general contractor desiring to submit a bid. To receive by email, send an email request and attach a company letterhead with company information, phone, and fax numbers to jim.tate@txdot.gov.

The contract for this work will not be awarded to any contractor or firm currently debarred from bidding on Texas Department of Transportation projects. No currently debarred contractors will be permitted to perform subcontract work on this project. Usual rights reserved.

Award or rejection of this project will be made by the Texas Transportation Commission on December 17, 2024.

A bidder must submit a bid proposal guaranty check or bid bond with the proposal, in the amount specified on the proposal form. The proposal guaranty shall be payable to the Texas Transportation Commission and shall be ***a Cashier's Check, Money Order or Teller's Check drawn by or on a State or National Bank; or a Savings and Loan Association; or a State or Federally Chartered Credit Union, (collectively referred to as "bank") in the exact amount specified. The type of check or money order must be indicated on the face of the instrument and the instrument must be no more than 90 days old. A check must be payable at or through the institution issuing the instrument or must be drawn by a bank on a bank or by a bank and payable at or through a bank.*** The Department will NOT accept as a proposal guaranty, personal checks or certified checks, or other types of money orders.

A bidder may submit a bid bond as the required proposal guaranty in lieu of a cashier's check, teller's check, or money order. The bid bond must be on the form furnished by the Department, with powers of attorney attached, and in the amount specified as the bid guarantee or bid bond in the proposal. The bond must bear the impressed seal of the surety company and have original signatures of the bidder and an authorized representative of the surety company. Bid bonds will only be accepted from surety companies authorized to execute a bond under and in accordance with State law.

The bid bond must be on the form bound in this proposal (may be removed for use) which is the only bond form approved and specified by the Department if not bidding electronically.

A Proposal Guaranty, or Bid Bond, to the Texas Transportation Commission, must accompany each proposal as a guaranty that the bidder, if successful, will enter into contract and make bond in accordance with requirements of the specifications.

The proposal guaranty of the lowest bidder will be retained until after the contract has been awarded, bonds and insurance approved, and the contract is executed. The proposal guaranty of all except the lowest bidder will be placed in the mail within seventy-two (72) hours after opening bids, addressed as designated by the bidder on the Return Bidders' Check Form. Bid bonds from all unsuccessful proposals will be retained by the Department

The right is reserved by the Texas Transportation Commission to reject any and all proposals.

Contractor must bid all Bid Items as called for on the plans and in the specifications. All bids received will be retained by the Texas Department of Transportation and will not be returned to bidders. **Conditional bids will not be considered.**

Proposals shall be submitted in sealed envelopes as furnished with the proposal. It is the bidder's responsibility to ensure that the sealed proposal arrives at the location described in the official advertisement of the project, on or before the hour and date set for the opening thereof and must be in the hands of the Letting Official by that time, regardless of the method chosen by the bidder for delivery.

The Texas Department of Transportation hereby notifies all bidders that the applicable State Laws prohibiting discriminatory practices in bidding and awarding this work will be strictly adhered to.

End of Notice

Texas Department of Transportation Building Uniform General Conditions

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Texas Department of Transportation **Building Uniform General Conditions**

Article 1 General Definitions

Unless the context clearly requires another meaning, the following terms have the meaning assigned herein.

- 1.1 **Architect/Engineer (A/E)** means a person registered as an architect pursuant to Tex. Occ. Code Ann., Chapter 1051, as a landscape architect pursuant to Tex. Occ. Code Ann., Chapter 1052, a person licensed as a professional engineer pursuant Tex. Occ. Code Ann., Chapter 1001 and/or a firm employed by TxDOT or Contractor to provide professional architectural or engineering services and to exercise overall responsibility for the design of a Project or a portion thereof, and to perform contract administration responsibilities as set forth in the Contract Documents.
- 1.2 **Authorization to Begin Work Letter** means the letter issued by TxDOT authorizing the Contractor to begin construction in accordance with the provisions of the Contract and establishing the date stated in the Contract for completion of the Work, or establishing the beginning date time charges will commence for computing Contract Time for completion of the Work.
- 1.3 **Building Uniform General Conditions** means Uniform General Conditions (UGC).
- 1.4 **Business Day** means Monday through Friday, 8 a.m. to 5 p.m. excluding state and federal holidays.
- 1.5 **Calendar Day** means any day including Saturdays, Sundays, and legal holidays.
- 1.6 **Change Order** means TxDOT's written order to the Contractor detailing changes to the specified Work, item quantities, or any other necessary modification of the Contract, at TxDOT's sole discretion.
- 1.7 **Change Order Proposal** means a Contractor generated document in response to a TxDOT generated Change Order Request (COR).
- 1.8 **Change Order Request (COR)** means a document generated by TxDOT which informs the Contractor of a proposed change in the Work, and appropriately describes or otherwise documents such change.
- 1.9 **Claim** means a claim for compensation, for a time extension, or for any other remedy arising from a dispute, disagreement, or controversy concerning respective rights and obligations under the Contract.
- 1.10 **Close-out Documents** means the product brochures, product/equipment maintenance and operations instructions, manuals, and other documents/warranties, as-built record documents, affidavit of payment, release of lien and claim, and as may be further defined, identified, and required by the Contract Documents.

- 1.11 **Commission** means the Texas Transportation Commission.
- 1.12 **Contract** means the entire agreement between the Owner and the Contractor, including all of the Contract Documents, establishing the obligation of the parties for furnishing of materials and performance of the Work prescribed in the Contract Documents.
- 1.13 **Contract Date** means the date when the agreement (Contract) between the Owner and the Contractor becomes effective.
- 1.14 **Contract Documents** means those documents identified as a component of the agreement (Contract) between the Owner and the Contractor. These may include, but are not limited to, Plans, Shop Drawings, Specifications, Uniform General Conditions, Special Conditions, *Special Provisions*, *Special Specifications*, *Standard Specifications*, Change Orders, Bidding Documents, Advertisement and Invitation, Instructions to Bidders, Contractor's Proposal, and all pre-bid and/or pre-proposal addenda.
- 1.15 **Contractor** means the individual, company, partnership, limited liability company, corporation, or joint venture and all principals and representatives, jointly and severally, that are responsible for performance of a Contract awarded by the Department. In the event of termination of the Contract for cause the Surety is responsible for all obligations of the Contractor.
- 1.16 **Contract Sum** means the total compensation payable to the Contractor for completion of the Work in accordance with the terms of the Contract.
- 1.17 **Contract Time** means the period of time from the date computation of time charges begin as set forth in the Authorization to Begin Work letter to the date stated in the Contract for completion of the Work, or the number of calendar days allowed in the Contract for completion of the Work, plus any TxDOT approved extensions.
- 1.18 **Day** means a Working day, unless otherwise specifically stipulated.
- 1.19 **Department** means the Texas Department of Transportation (TxDOT).
- 1.20 **Dispute** means a disagreement between TxDOT and the Contractor or its authorized successor over the interpretation of the Contract Documents.
- 1.21 **District Representative (DR)** means the individual identified by TxDOT who will assist the Owner's Representative in the administration of the Contract; perform periodic observations of the Work for general compliance with the plans and specifications; be the point of contact for coordination with the end-user for Work being conducted on an operational site; and perform other duties as specifically defined elsewhere in the Contract Documents and/or reflected in the Pre-construction Conference meeting minutes.
- 1.22 **Drawings** means the sealed product of the Architect/Engineer which graphically depicts the Work.
- 1.23 **Environmental Laws** means Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA") 42 U.S.C. §9601 et seq.; the Toxic Substance Control Act ("TSCAS"), 15 U.S.C. §2601 et seq.; the Hazardous Materials Transportation Act, 49 U.S.C. §1802 ; the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §9601, et seq.; the Clean Water Act ("CWA"), 33 U.S.C. §1251 et seq.; the Safe Drinking Water Act, 42 U.S.C. §300f et seq.; the Clean Air Act ("CAA"), 42 U.S.C. §7401 et seq.; M.G.L. c.

21C and c. 21E; Texas Health and Safety Code Chapter 361; Texas Water Code Chapter 26; and any permits, licenses, approvals, plans, rules, regulations or ordinances adopted, or other criteria and guidelines promulgated pursuant to the preceding laws or other similar federal, state or local laws, regulations, rules or ordinances now in effect, or that may hereafter apply, relating to environmental matters.

- 1.24 **Final Completion** means the date determined and certified by the Architect/Engineer and TxDOT on which the Work is fully and satisfactorily complete in accordance with the Contract subject to the expiration of all warranty periods or any other overriding provision of the Contract Documents.
- 1.25 **Hazardous Materials** means (i) hazardous wastes, hazardous substances, hazardous constituents, toxic substances or related materials, whether solids, liquids or gases, including but not limited to substances defined as "hazardous wastes," "hazardous substances," "oils," "toxic substances," "pollutants," "contaminants," "radioactive materials," or other similar designations in, or otherwise subject to regulation under, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §9601 et seq.; the Toxic Substance Control Act ("TSCA"), 15 U.S.C. §2601 et seq.; the Hazardous Materials Transportation Act, 49 U.S.C. §1802; the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §9601, et seq.; the Clean Water Act ("CWA"), 33 U.S.C. §1251 et seq.; the Safe Drinking Water Act, 42 U.S.C. §300f et seq.; the Clean Air Act ("CAA"), 42 U.S.C. §7401 et seq.; M.G.L. c. 21C and c. 21E; Texas Health and Safety Code Chapter 361; Texas Water Code Chapter 26; and in any permits, licenses, approvals, plans, rules, regulations or ordinances adopted, or other criteria and guidelines promulgated pursuant to the preceding laws or other similar federal, state or local laws, regulations, rules or ordinance now in effect, or that may hereafter apply, relating to environmental matters (collectively the "Environmental Laws"); and (ii) any other substances, constituents or wastes subject to any applicable federal, state or local law, regulation or ordinance, including any environmental law, now or hereafter in effect, including but not limited to (A) petroleum, (B) refined petroleum products, (C) waste oil, (D) waste aviation or motor vehicle fuel and (E) asbestos.; and (iii) any materials that, prior to execution of the Contract, were not designated as hazardous materials that, after execution of the Contract, become new hazardous materials subject to regulation under the aforementioned "Environmental Laws" and any applicable federal, state, or local law, regulation or ordinance.
- 1.26 **Manufacturing** for the purposes of the Buy America provision of this Contract means any process that modifies the chemical content, physical shape or size, or finish of a product. Manufacturing begins with initial melting and mixing and continues through fabrication (rolling, extruding, machining, bending, grinding, drilling, welding, cutting, etc.) and coating (paint, galvanizing, epoxy or any other coating that protects or enhances the value of the material.)
- 1.27 **Owner** means the State of Texas acting through the Texas Department of Transportation (TxDOT).
- 1.28 **Owner's Representative (OR)** means the individual assigned in writing by TxDOT to act on its behalf, and to undertake certain activities as specifically outlined in the Contract.
- 1.29 **Plans** means Drawings.

- 1.30 **Prime Contractor** means Contractor.
- 1.31 **Project** means all activities necessary for realization of the Work. This includes design, contract award(s), execution of the Work itself, and fulfillment of all Contract and warranty obligations.
- 1.32 **Project Site** means the real property on which the demolition, improvements, alternations, etc. as described in the Contract Documents will be implemented.
- 1.33 **Samples** mean representative physical examples of materials, equipment or workmanship, used to confirm compliance with requirements and/or to establish standards for use in execution of the Work.
- 1.34 **Schedule of Values** means the detailed breakdown of the cost of the materials, labor and equipment necessary to accomplish the Work as described in the Contract Documents, submitted by Contractor for approval by TxDOT.
- 1.35 **Shop Drawings** means the drawings, diagrams, illustrations, schedules, performance charts, brochures and other data prepared by the Contractor or its agents, which detail a portion of the Work.
- 1.36 **Special Conditions** means supplemental additions or revisions to the Uniform General Conditions applicable to the Contract not covered by the Uniform General Conditions. Special Conditions are a part of the Contract Documents and have precedence over the Uniform General Conditions.
- 1.37 **Special Provisions** means additions or revisions to standard specifications or special specifications.
- 1.38 **Special Specifications** means supplemental specifications applicable to the Contract not covered by standard specifications.
- 1.39 **Specifications** means the written product of the Architect/Engineer that establishes the quality and/or performance of products utilized in the Work and processes/standards to be used, including testing and verification, for compliance.
- 1.40 **Standard Specifications** means the Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges adopted September 1, 2024 and updates as posted on TxDOT official website at <http://www.txdot.gov> and relevant to the Project.
- 1.41 **State** means the State of Texas.
- 1.42 **Subcontractor** means an individual, partnership, limited liability company, corporation, or any combination thereof that the Contractor sublets any portion of the Work or provide services, materials or equipment for use in the Work.
- 1.43 **Substantial Completion** means the stage of progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents, so that TxDOT employees and the public can safely occupy, utilize, and operate the improvements and all elements of the Work for purposes intended without hindrance or material interference from the Contractor's minor "punchlist items" completion activities or on-going work performance of those portions of the Work not being considered for Substantial Completion. The date of Substantial Completion is the date established by the Contractor, Architect/Engineer and TxDOT as set forth in the Certificate of Substantial Completion issued by TxDOT.

- 1.44 **Supplemental Instruction** means a written order issued by the OR or A/E with the OR concurrence making minor changes in the Work not involving an adjustment in the Contract Sum or an extension of the Contract Time.
- 1.45 **TxDOT** means the Texas Department of Transportation acting on behalf of the State of Texas.
- 1.46 **Unit Price Work** means Work or a portion of the Work paid for based on incremental units of measurement.
- 1.47 **Uniform General Conditions (UGC)** means Building Uniform General Conditions.
- 1.48 **Unilateral Change Order (ULCO)** means a Change Order issued by the Department without the agreement of the Contractor.
- 1.49 **Work** means the administration, procurement, materials, equipment, construction and all services necessary for the Contractor, and/or its agents, to fulfill the Contractor's obligations under the Contract.

Article 2 Laws Governing Construction

- 2.1 Compliance with Laws. In the execution of the Contract the Contractor shall make himself familiar with and at all times comply with all applicable State, Federal and Local laws, statutes, ordinances and regulations including but not limited to, laws governing labor, equal employment opportunity, safety, environmental protection, antiquities and primitive records preservation, and prevailing wage rates which in any manner affect the conduct of the Work.
 - 2.1.1 Fees and Permits. The Contractor shall cooperate with governmental officials at all times where their jurisdiction applies. The Contractor shall make application and pay all fees and provide supporting documentation necessary to secure permits, licenses, certificates, etc. which are required for performance of the Work. The Contractor has a continuing obligation throughout the term of the Contract to conduct operations under duly issued permits and, in the event the Contractor loses or has revoked a necessary permit, the Contractor must take immediate steps to apply for and receive another permit. TxDOT hereby confirms the Contractor is not required to obtain building permits for Work performed on TxDOT property. The Texas Accessibility Standards (TAS) compliance review and inspection fees will be the responsibility of the Architect/Engineer.
 - 2.1.2 Change in Laws. If there is any change between the date the Contract is executed and Final Completion in any applicable legal requirements which require a change in the Work in order to avoid a violation of any such applicable legal requirement, Contractor shall be responsible for changing the Work in order to avoid a violation of such legal requirements. A Change Order shall be executed to adjust the Contract Sum and/or Contract Time, if applicable, as a result of a change in legal requirements. If there is a change in any applicable legal requirement but the Work or portion thereof affected by such change is deemed to be "grandfathered" (i.e., the applicable legal requirement does not require that the Work be changed), such portion of the Work shall nevertheless be deemed to be in compliance with such applicable legal requirements and

Contractor shall not be required to change the Work to otherwise comply with such changed legal requirements.

- 2.2 Environmental Laws. The Contractor shall conduct activities in compliance with applicable Environmental Laws and regulations and other requirements of the Contract relating to the environment, and its protection at all times.
- 2.2.1 Unless otherwise specifically determined, TxDOT is responsible for obtaining and maintaining permits related to stormwater run-off. The Contractor covenants to conduct its operations consistent with stormwater run-off permit conditions.
 - 2.2.2 Contractor is responsible for all items it brings to site, including Hazardous Materials, and all such items brought to the site by its subcontractors and suppliers, or by other entities subject to direction of the Contractor.
 - 2.2.3 The Contractor shall not incorporate hazardous materials into the Work without prior written approval of TxDOT, and shall provide an affidavit attesting to such in association with request for Substantial Completion inspection.
- 2.3 Wage Rates. The Contractor shall not pay less than the wage scale of the various classes of labor as shown on the “Prevailing Wage Schedule” provided by TxDOT and attached to the Contract pursuant to Chapter 2258, Texas Government Code. The specified wage rates are minimum rates only. The “Prevailing Wage Schedule” is not a representation that qualified labor adequate to perform the Work is available locally at the prevailing wage rates. The Contractor or Subcontractor shall pay overtime wages as required by the Fair Labor Standards Act, 29 United States Code 201, et. seq.
- 2.3.1 Additional Classification. Should the Contractor at any time become aware that a particular skill or trade not reflected on TxDOT’s Prevailing Wage Schedule will be or is being employed in the Work, whether by the Contractor or by a Subcontractor, the Contractor shall promptly submit to TxDOT a written request for additional classification with a recommended wage rate and supporting documentation pursuant to Texas Administrative Code, Title 43, Part 1, Chapter 9, Subchapter A, Rule §9.5. TxDOT may modify or disapprove the Contractor’s recommendation within thirty (30) days of receipt.
 - 2.3.1.1 Apprentices and trainees may work at less than the predetermined minimum wage rate for work they perform when they are employed pursuant to and individually registered in a bona fide apprenticeship or trainee program registered with the United States Department of Labor, Employment and Training Administration. Submit proof of program and individual registration to TxDOT.
 - 2.3.2 Records. The Contractor and all Subcontractors shall keep, or cause to be kept, copies of weekly payrolls for review by TxDOT for a period of three years after completion of the project in accordance with Texas Administrative Code, Title 43, Part 1, Chapter 9, Subchapter A, Rule §9.5. As a condition of payment and pursuant to Texas Government Code §2113.102, TxDOT internal audit staff may audit the Contractor and Subcontractor during normal business hours.
 - 2.3.3 Penalty for Violation. The Contractor and any Subcontractor is liable to TxDOT for a penalty of sixty dollars (\$60) for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in TxDOT’s Prevailing Wage Schedule and any supplements thereto.

The money collected under this provision shall be used by TxDOT to offset the costs incurred in the administration of this provision.

2.3.4 Complaints of Violations

- 2.3.4.1 A proceeding concerning a violation of Tex. Gov't Code, Chapter 2258, Prevailing Wage Rates, may be initiated by a worker who is not paid the prevailing wage rate specified in the Contract filing a complaint with the Department's area engineer responsible for monitoring the Project or by the Department on its own motion subsequent to a review of the records required to be kept in accordance with Texas Administrative Code, Title 43, Part 1, Chapter 9, Subchapter A, Rule §9.5.
- 2.3.4.2 Within five (5) calendar days of receipt of a complaint, including supporting information, or at any time upon its own motion, the Department will provide written notice to the Contractor or Subcontractor of an alleged violation. The Contractor shall have ten (10) calendar days in which to respond in writing to the information present against it.
- 2.3.4.3 The director of the appropriate TxDOT Division shall determine, within thirty (30) calendar days of the date a complaint is filed whether good cause exists to believe that the Contractor or Subcontractor has committed a violation of the Contract's prevailing wage rate requirements. TxDOT will send documentation of the initial determination to the Contractor against whom the violation was alleged, and to the worker involved.
- 2.3.4.4 Upon making a good-cause finding, TxDOT will retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the Prevailing Wage Schedule and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.
- 2.3.4.5 If the Department provides written notice to the parties that good cause exists, the parties shall have fourteen (14) calendar days from the date of the written determination to voluntarily resolve the wage dispute by written agreement. If the dispute is voluntarily resolved a copy of the signed written agreement shall be provided to the appropriate TxDOT Division director including a signed statement from the worker(s) which acknowledges receipt of back pay if part of the agreement. The Department shall release any amounts retained less penalties within seven days of receiving this information.
- 2.3.4.6 If the violation is not resolved within fourteen (14) days following initial determination by TxDOT, the Contractor and the claimant worker must participate in binding arbitration in accordance with the Texas General Arbitration Act, Tex. Civ. Prac. & Rev. Code, Chapter 171. The Department is not a party to the arbitration proceeding.
- 2.3.4.7 If an arbitrator assesses an award against the Contractor, the Contractor shall promptly furnish a copy of said award to the Department. TxDOT may use any amounts retained under Article 2.3.4.4 to pay the worker the amount as designated in the arbitration award. If the retained funds are insufficient to pay the worker in accordance with the arbitration award, the worker has a right of action against the Contractor, and/or the

subcontractor to receive the remaining amount owed. TxDOT has no duty to release any funds to either the claimant or the Contractor until it has received the notices of agreement or the arbitration award and the Department shall release funds within seven (7) and thirty (30) days, respectively.

- 2.3.4.8 If the Department's determination proves valid that good cause existed to believe a violation had occurred, the Contractor is not entitled to an extension of contract time for any delay arising directly or indirectly from of the arbitration procedures set forth herein.
- 2.4 Venue for Suits. The venue for any suit arising from this Contract will be in a court of competent jurisdiction in Travis County, Texas.
- 2.5 Licensing of Trades. The Contractor shall comply with all applicable provisions of state law related to license requirements for professionals, skilled tradesmen, contractors, materialmen, suppliers and or laborers, as necessary to accomplish the Work.
- 2.5.1 Loss of License. In the event the Contractor, or one of its Subcontractors or sub-tier contractors, loses its license during the term of performance of the Contract, the Contractor shall promptly hire or contract or cause to hire or contract with a licensed provider of the service at no additional cost to TxDOT.
- 2.6 Royalties, Patents & Copyrights. The Contractor shall be responsible at all time for compliance with applicable patents, trademarks or copyrights encompassing, in whole or in part, any design, device, material, or process utilized, directly or indirectly, in the performance of the Work.
- 2.6.1 Royalties, Fees and Legal Agreement. Whether or not TxDOT has specified the use of a particular design, device, material or process, the Contractor shall pay all royalties and license fees and shall provide, prior to commencement of the Work hereunder, and at all times during the performance of same, for lawful use of any design, device, material or process covered by letters patent or copyright by suitable legal agreement with patentee, copyright or trademark holder or their duly authorized representative.
- 2.6.2 Indemnification. **THE CONTRACTOR SHALL FULLY INDEMNIFY, SAVE AND HOLD HARMLESS TXDOT OF AND FROM ANY COSTS, LOSSES, DAMAGES OR LIABILITIES RESULTING FROM ITS FAILURE, OR THE FAILURE OF THE CONTRACTORS, ITS / SUBCONTRACTORS AND/OR ANY ENTITIES OR PERSONS FOR WHOM THE CONTRACTOR IS RESPONSIBLE TO COMPLY STRICTLY WITH THE ROYALTIES, PATENTS & COPYRIGHTS PROVISION. THIS PROVISION SHALL SURVIVE THE TERMINATION OF THE CONTRACT.**
- 2.7 State Sales and Use Taxes TxDOT qualifies for exemption from State and Local Sales and Use Taxes pursuant to the provisions of Tex. Tax Code, Chapter 151. The Contractor shall claim exemption from payment of applicable State taxes by complying with such procedures as prescribed by the State Comptroller of Public Accounts in Title 34 Texas Administrative Code §3.287.
- 2.8 Federal Transportation Tax. The State is not liable for the Federal tax imposed by Section 3475 of the Internal Revenue Code on transportation charges on materials purchased by the State. The Contractor is specifically authorized to consign the construction materials to be incorporated in this Contract to the Texas Department

of Transportation since the materials are deemed to have been purchased by the State of Texas.

By virtue of the State granting this authority, the Internal Revenue Department has ruled that the tax will not be collected provided the materials purchased by the Contractor are consigned to the State. [See Internal Revenue Code 3443(3).]

This provision is not intended and shall not be construed as relieving the Contractor of any and all costs in connection with the furnishing of such materials to the project, including all transportation costs and incurred demurrage.

- 2.9 Antiquities. Contractor shall take precaution to avoid disturbing primitive records and antiquities of archaeological, paleoanthropological or historical significance. No objects of this nature shall be disturbed without the written permission of TxDOT and the Texas Historical Commission. When such objects are uncovered unexpectedly, the Contractor shall stop all Work in close proximity and notify the Owner's Representative of their presence and shall not disturb them until written permission and permit to do so is granted. All primitive rights and antiquities, as defined in Chapter 191, Texas Natural Resource Code, discovered on TxDOT's property shall remain property of the State of Texas. If it is determined by TxDOT, in consultation with the Texas Historical Commission that exploration or excavation of primitive records or antiquities on the Project Site is necessary to avoid loss, Contractor shall cooperate in salvage work attendant to preservation. If the Work stoppage or salvage work causes an increase in the Contractor's cost of, or time required for, performance of the Work, Contractor shall be entitled to request an adjustment to the Contract Sum and/or Contract Time as provided herein.

Article 3 General Responsibilities of Owner & Contractor

- 3.1 Owner's General Responsibilities. The Owner is the entity identified as such in the Contract and referred to throughout the Contract Documents as if singular in number.
- 3.1.1 Preconstruction Conference. After the issuance of the Authorization to Begin Work Letter but prior to the commencement of time charges a conference will be convened for attendance by the Owner's Representative (OR), District Representative (DR), Contractor, and Architect/Engineer (A/E), if any. The purpose of the conference is to establish a working understanding among the parties as to the Work, the operational conditions at the project site, and general administration of the Project. Topics include communications, schedules, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, maintaining required records and all other matters of importance to the administration of the Project and effective communications between the project team members.
- 3.1.2 Owner's Representative. Prior to the start of construction, TxDOT will identify the Owner's Representative (OR), also known as TxDOT Project Manager, who will be responsible for general administration of the Contract. The Owner's Representative will decide all questions which may arise as to the quality or acceptability of materials furnished and work performed; the manner of performance and rate of progress of the Work; interpretations of the plans and specifications; and acceptable fulfillment of the Contract on the part of the Contractor.

- 3.1.2.1 The Owner's Representative will not take any actions in contravention of a design decision made by the A/E of Record in preparation of the plans and specifications, when such actions are in conflict with statutes under which the A/E is licensed for the protection of the public health or safety.
- 3.1.2.2 Unless otherwise specifically defined elsewhere in the Contract Documents, the OR is the single point of contact between TxDOT and Contractor. Notice to the OR, unless otherwise noted, constitutes notice to TxDOT under the Contract.
- 3.1.2.3 All directives on behalf of TxDOT will be conveyed to the Contractor by the OR in writing unless otherwise specifically defined elsewhere in the Contract Documents.
- 3.1.3 District Representative. Prior to the start of construction, TxDOT will identify the District Representative (DR) who will assist the Owner's Representative in the administration of the Contract, perform observations of the Work progress for general compliance with the plans and specifications, be the point of contact for coordination with the end-user for Work being conducted on an operational site and perform other duties as specifically defined elsewhere in the Contract Documents and/or reflected in the Pre-construction Conference meeting minutes.
- 3.1.4 TxDOT Supplied Materials and Information.
 - 3.1.4.1 TxDOT will furnish to the Contractor, to the extent they are available at the time of Contract execution, surveys describing the physical characteristics, legal description, limitations of the site, known site utility locations, and other information used in the preparation of the Contract Documents.
 - 3.1.4.2 TxDOT will provide information, equipment, or services under TxDOT's control required by the Contract Documents to be provided to the Contractor with reasonable promptness.
- 3.1.5 Availability of Lands. TxDOT will furnish, unless indicated otherwise on the Plans and Specifications, all required rights to use TxDOT property upon which the Work occurs. This includes rights-of-way and property access license(s) for access for use by the Contractor unless stated otherwise in the Contract Documents. The Contractor shall comply with all TxDOT identified encumbrances or restrictions specifically related to use of lands so furnished. TxDOT will provide property access license(s) for permanent infrastructure on State property when so required for execution of the Work, unless otherwise required in the Contract Documents.
- 3.1.6 Limitation on Owner's Duties.
 - 3.1.6.1 TxDOT will not supervise, direct, control or have authority over or be responsible for Contractor's means, methods, technologies, sequences or procedures of construction or the safety precautions and programs incident thereto. TxDOT is not responsible for any failure of Contractor to comply with laws and regulations applicable to the Work. TxDOT is not responsible for the failure of Contractor to perform or furnish the Work in accordance with the Contract Documents. TxDOT is not responsible for the acts or omissions of Contractor, or any of its subcontractors, suppliers or of any other person or organization performing or furnishing any of the Work directly or indirectly on behalf of the Contractor.

- 3.1.6.2 TxDOT will not take any action in contravention of a design decision made by the A/E in preparation of the Contract Documents, when such actions are in conflict with statutes under which the A/E is licensed for the protection of the public health and safety.
- 3.2 Role of Architect/Engineer. To the extent specified in the Contract between TxDOT and the Architect/Engineer, the A/E shall provide general administration services for TxDOT during the construction phase of the project. Written correspondence, requests for information, and shop drawings/submittals shall be directed to the Owner's Representative with a copy to the A/E. The A/E has the authority to act on behalf of TxDOT to the extent provided in the Contract Documents, unless otherwise modified by written instrument, which will be furnished to the Contractor by the OR, upon request.
 - 3.2.1 Site Visits.
 - 3.2.1.1 The A/E will make visits to the site at intervals as provided in the A/E's contract agreement with TxDOT, to observe the progress and the quality of the various aspects of Contractor's executed Work and report findings to TxDOT.
 - 3.2.1.2 The A/E has the authority to interpret plans and specifications provided by the A/E and inspect the Work covered by same for compliance and conformance with the plans and specifications. Except as referenced in Article 3.1.6.2, TxDOT retains the sole authority to accept or reject Work and issue direction for correction, removal, or replacement of Work.
 - 3.2.2 Clarifications and Interpretations. It may be determined that clarifications or interpretations of the plans and specifications provided by the A/E are necessary. Upon direction by the OR such clarifications or interpretations will be provided by the A/E consistent with the intent of the aforementioned plans and specifications. The A/E will issue these clarifications with reasonable promptness to the OR as Architect's Supplemental Instruction (ASI) or similar instrument. The OR will be responsible for transmittal of an ASI to the Contractor. If the Contractor believes that such clarification or interpretation justifies an adjustment in the Contract Sum or the Contract Time, the Contractor shall so notify TxDOT in accordance with the provisions of Article 11.
 - 3.2.3 Limitations on Architect/Engineer Authority. The A/E is not responsible for:
 - 3.2.3.1 The Contractor's means, methods, techniques, sequences, procedures, safety, or programs incident to the Project nor will the A/E supervise, direct, control or have authority over the same.
 - 3.2.3.2 The failure of Contractor to comply with laws and regulations applicable to the furnishing or performing the Work.
 - 3.2.3.3 The Contractor's failure to perform or furnish the Work in accordance with the Contract Documents.
 - 3.2.3.4 Acts or omissions of the Contractor, or of any other person or organization performing or furnishing any of the Work.
- 3.3 Contractor's General Responsibilities. The Contractor is solely responsible for implementing the Work in full compliance with all applicable laws and the Contract Documents and shall supervise and direct the Work using the best skill and attention to assure that each element of the Work conforms to the Contract

requirements. The Contractor is solely responsible for all construction means, methods, techniques, safety, sequences, coordination and procedures.

- 3.3.1 Cooperation of Contractor. The Contractor shall cooperate with TxDOT, other contractors, utility companies, governmental/regulatory agency representatives, etc. whose work/operations are directly or indirectly impacted by the execution of the Work. At the written request of TxDOT, the Contractor shall immediately remove from the work locations any employee or representative of the Contractor or a subcontractor who, in the option of TxDOT, displays uncooperative behavior or who is disrespectful, disorderly, or otherwise objectionable. These individuals may not be reinstated without the written consent of TxDOT.
- 3.3.2 Beginning of Work. The Contractor shall not begin work until authorized by TxDOT in the Authorization to Begin Work letter.
- 3.3.3 Project Administration. The Contractor shall provide project administration for all subcontractors, sub-tier contractors, vendors, suppliers, and others involved in implementing the Work and shall coordinate administration efforts with those of the A/E and OR in accordance with these Uniform General Conditions, any Special Conditions, any applicable provisions of Division 1 Specifications, and as outlined in the Pre-construction Conference.
- 3.3.4 Contractor's Superintendent. Contractor shall employ a competent resident superintendent who will be present at the Project Site during the progress of the Work. The superintendent proposed for the project is subject to the approval of the OR. Approved superintendents may not be changed during the course of the project without the written approval of the OR, unless the superintendent leaves the employ of the Contractor.
- 3.3.5 Labor. Contractor shall provide competent, suitably qualified personnel to survey, lay-out, and provide any other services required to construct the Work as required by the Contract Documents and maintain good discipline and order at the Site at all times. At the written request of TxDOT, Contractor shall immediately remove from the work locations any employee or representative of the Contractor or a subcontractor who, in the option of TxDOT, does not perform work in a proper and skillful manner and may not reinstate these individuals without the written consent of TxDOT.
- 3.3.6 Services, Materials, and Equipment. Unless otherwise specified, provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities, incidentals, and services necessary for the construction, performance, testing, start-up, inspection and completion of the Work.
- 3.3.7 Non-Compliant Work. Should the A/E, to the extent provided for in Article 3.2, or at any time the OR or DR identify Work as non-compliant with the Contract Documents, the OR will communicate the finding to the Contractor and the Contractor will correct such Work at its expense. The approval of Work by either the A/E or OR does not relieve the Contractor from the obligation to comply with all requirements of the Contract Documents.
- 3.3.8 Subcontractors. Contractor shall not employ, directly or indirectly, any Subcontractor, supplier or other person or organization, whether initially or as a substitute, against whom TxDOT may have reasonable objection. TxDOT will

communicate such objections in writing. The Contractor is not required to employ any Subcontractor, supplier or other person or organization to furnish any of the work to whom the Contractor has reasonable objection. The Contractor will not substitute Subcontractors without the acceptance of TxDOT.

- 3.3.8.1 All Subcontracts and supply contracts shall be consistent with and bound to the terms and conditions of the Contract Documents including provisions of the Agreement between the Contractor and the Owner.
- 3.3.8.2 The Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with the Contractor. The Contractor shall require all Subcontractors, suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with TxDOT only through the Contractor. Upon written request of the OR, the Contractor shall promptly furnish to TxDOT a copy of any specified subcontract promptly. The Contractor agrees that TxDOT has no obligation to review or approve the content of such contracts and that providing TxDOT such copies in no way relieves the Contractor of any of the terms and conditions of the Contract, including, without limitation, any provisions of the Contract which require the Subcontractor to be bound to the Contractor in the same manner in which the Contractor is bound to the Owner.
- 3.3.9 Availability of Other Lands. The Contractor shall be solely responsible for obtaining authorization and pay any related fees to work within lands not under the sole control of TxDOT.
- 3.3.10 Continuing the Work. The Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes, disagreements or dispute resolution processes with TxDOT. No Work shall be delayed or postponed pending resolution of any disputes, disagreements or processes, except as TxDOT and the Contractor may agree in writing.
- 3.3.11 Cleaning. The Contractor shall at all times, keep the Site and the Work clean and free from accumulation of waste materials or rubbish caused by the construction activities under the Contract. The Contractor shall ensure that the entire Project is thoroughly cleaned prior to requesting Substantial Completion Inspection and, again, upon completion of the Project prior to the final inspection.
- 3.3.12 Errors, Omissions and Negligent Acts of the Contractor, its Subcontractors and Employees. The Contractor shall be responsible for errors, omissions and negligent acts of its employees, subcontractors, suppliers and their agents and employees. This shall not be limited by any tier of subcontracting/supplier or “independent” contactor status. TxDOT may, in writing, require the Contractor to remove from the Project any of its employees or Subcontractor employees that the OR finds to be careless, incompetent, or otherwise objectionable.
- 3.3.13 Laws to be Observed. The Contractor shall make itself familiar with and at all times shall observe and comply with all Federal, State, and local laws, and regulations which in any manner affect the conduct of the Work.
- 3.3.14 Indemnification of Owner. **THE CONTRACTOR COVENANTS AND AGREES TO FULLY INDEMNIFY AND HOLD HARMLESS, TXDOT, ET ALIA AS**

SET FORTH IN VARIOUS SECTIONS OF THE CONTRACT DOCUMENTS. IN THE EVENT THE CONTRACTOR AND TXDOT ARE FOUND JOINTLY LIABLE BY A COURT OF COMPETENT JURISDICTION, LIABILITY SHALL BE APPORTIONED COMPARATIVELY IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND WITHOUT WAIVING ANY DEFENSES OF THE PARTIES UNDER TEXAS LAW. THIS PROVISION SHALL SURVIVE THE TERMINATION OF THE CONTRACT.

- 3.3.14.1 The provisions of this Indemnification are solely for the benefit of the parties hereto and TxDOT's successor or assignee, if any, and not intended to create or grant any rights, contractual or otherwise, to any other person or entity.
- 3.3.14.2 The Contractor shall promptly advise TxDOT in writing of any claim or demand against TxDOT or the Contractor known to the Contractor related to or arising out of the Contractor's activities under this Contract.
- 3.3.15 Ancillary Areas. The Contractor shall operate and maintain operations and associated storage areas at the site of the Work in accordance with the following:
 - 3.3.15.1 Contractor shall confine all its operations, including storage of materials and employee parking upon the Site of Work, to areas designated by the OR or DR.
 - 3.3.15.2 The Contractor may erect, at its own expense, temporary buildings that will remain its property and shall remove such buildings and associated utility service lines upon completion of the Work, unless the Contractor requests and TxDOT provides written consent that it may abandon such buildings and utilities in place.
 - 3.3.15.3 The Contractor shall use only established roadways or construct and use such temporary roadways as may be authorized by the OR or DR; shall not allow load limits of vehicles to exceed the limits prescribed by appropriate regulations or law; and shall provide protection to road surfaces, curbs, edges of pavement, sidewalks, trees, shrubbery, sprinkler systems, drainage structures and other like existing improvements to prevent damage and repair any damage thereto at the expense of the Contractor.
 - 3.3.15.4 TxDOT may restrict the Contractor's entry to the site to specifically assigned entrances and routes.
- 3.3.16 Environment. The Contractor shall not directly or indirectly through any employees, agents, representatives, Subcontractors, invitees or any other persons occupying the Site or any portion thereof by, through or under the Contractor cause pollution of air, soil, and water in, on, or around the Site or improvements through the release or discharge of any Hazardous Materials. Contractor, at its sole cost and expense, shall take any and all corrective action required by any applicable federal, state, county, municipal, and other laws, codes, ordinances, rules, and regulations clean up, remove, and abate any and all soil contamination, groundwater contamination, or any other contamination of the Site caused directly or indirectly by any release or discharge of any Hazardous Materials in, on, under, and around the Site by Contractor and/or Contractor's employees, agents representatives, Subcontractors, invitees, or any other person occupying the Site or any portion thereof by, through, or under

Contractor (but excluding TxDOT and its employees, agents, representatives or invitees occupying the Site or any portion thereof by, through, or under TxDOT). Contractor shall not have any responsibility or liability for, and TxDOT shall be, as between TxDOT and Contractor, responsible and liable for, (unless specifically stated otherwise in the Contract Documents) the monitoring, handling, remediation, disposal, clean-up or removal and/or abatement of any pre-existing soil contamination, ground water contamination or any other contamination of the Site, known or unknown, that are pre-existing as of the date of the Contract execution, except to the extent such liability or damage is caused by the Contractor's or its Subcontractor's negligence in dealing with any known Hazardous Materials. Any pre-existing materials at the Site or materials specified for use in the Project that were not defined as Hazardous Materials prior to execution of the Contract but are designated new Hazardous Materials after execution of the Contract and must be remediated, removed or replaced in accordance with the Contract Documents or any applicable rules, regulations or ordinances adopted, or other criteria and guidelines promulgated pursuant to existing laws or new laws relating to environmental matters may support a Change Order if so determined by TxDOT.

- 3.3.17 Utilities. The Contractor shall be responsible for, unless stated otherwise in the plans and specifications, and bear all costs to extend utility services to the site. Utility services shall be as called for in the plans and specifications and services may include, but not be limited to, water, gas, electricity, sanitary service, and communications. The Contractor shall obtain and bear all costs of inspections, plan approvals, permits, taps, pavement cuts and any other fees, assessments or costs established by the appropriate utility provider and the authority having jurisdiction over the non-TxDOT controlled property the utility Work may impact. Contractor shall provide and bear all costs for protection of infrastructure under control of utility service provider. Protection of infrastructure shall be as determined by utility service provider.
- 3.3.18 Separate Contracts. Additional Contractor responsibilities when TxDOT awards separate Contracts.
- 3.3.18.1 TxDOT reserves the right to award other contracts in connection with other portions of the Project under these or similar contract conditions.
- 3.3.18.2 TxDOT reserves the right to perform operations related to the Project with TxDOT forces and shall be responsible for any activities performed under separate contract.
- 3.3.18.3 Under a system of separate contracts, the conditions described herein continue to apply except as may be amended by Change Order.
- 3.3.19 Ancillary / Integral Professional Services. In selecting an architect, engineer or land surveyor, etc. to provide professional services, if any, that are required by the Plans and Specifications, Contractor shall not do so on the basis of competitive bids but shall make such selection on the basis of demonstrated competence and qualifications to perform the services in the manner provided by Tex. Gov't Code §2254.004.
- 3.3.20 Continuing the Work. Contractor shall carry on the Work and adhere to the Project Schedule during all disputes, disagreements or dispute resolution processes with TxDOT. No Work shall be delayed or postponed pending resolution of any disputes, disagreements or processes except as TxDOT and the Contractor may agree in writing.

Article 4 Historically Underutilized Business (HUB) Subcontracting Plan

- 4.1 General Description. The purpose of the Historically Underutilized Business (HUB) Program is to promote equal business opportunities for economically disadvantaged persons (as defined by Tex. Gov't Code, Chapter 2161) to contract with the State of Texas. The HUB Program is applicable to TxDOT contracts relating to buildings, professional services, aviation, public transportation, private consultant services, and purchases funded entirely with State and local funds.
- 4.1.1 State agencies are required by statute to make a good faith effort to assist HUBs in participating in contract awards issued by the State. TxDOT's rules, Texas Administrative Code, Title 43, Part 1, Chapter 9, Subchapter D, outline TxDOT's policy to encourage outreach to and potential utilization of HUBs in subcontracting opportunities through race, ethnic and gender neutral means. The goal of this program is to promote full and equal business opportunity for all businesses in State contracting.
- 4.1.2 A contractor who contracts with the State in an amount in excess of \$100,000 shall be required to make a good faith effort to award subcontracts to HUBs in accordance with the cited rules by submitting a HUB Subcontracting Plan and complying with the Subcontracting Plan after it is accepted by TxDOT and during the term of the Contract.
- 4.2 Compliance with Approved HUB Subcontracting Plan. The Contractor, having been awarded this Contract in part by complying with the HUB Program statute and rules, hereby covenants to continue to comply with the HUB Program as follows:
- 4.2.1 Prior to substituting a Subcontractor, promptly notify TxDOT in the event a change is required for any reason to the accepted HUB Subcontracting Plan.
- 4.2.2 Conduct the good faith effort activities required and provide TxDOT with necessary documentation to justify approval of a change to the approved HUB Subcontracting Plan.
- 4.2.3 Cooperate in the execution of a Change Order or such other approval of the change in the HUB Subcontracting Plans as the Contractor and TxDOT may agree to.
- 4.2.4 Maintain and make available to TxDOT upon request business records documenting compliance with the accepted HUB Subcontracting Plan.
- 4.2.5 Upon receipt of payment for performance of Work, the Contractor shall submit to TxDOT a compliance report, in the format as provided by TxDOT that demonstrates Contractor's performance of the HUB Subcontracting Plan.
- 4.2.6 Promptly and accurately explain and provide supplemental information to TxDOT to assist in TxDOT's investigation of the Contractor's good faith effort to fulfill the HUB Subcontracting Plan.
- 4.3 Failure to Demonstrate Good Faith Effort. Upon a determination by TxDOT the Contractor has failed to demonstrate a good faith effort to fulfill the HUB Subcontracting Plan or any Contract covenant detailed above, TxDOT may, in addition to all other remedies available to it, report the failure to perform to the Texas Procurement and Support Services (TPASS) with the Texas Comptroller of

Public Accounts, and may bar the Contractor from future contracting opportunities with TxDOT.

4.4 Monthly Reporting. Submit monthly a current HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report on forms provided by TxDOT or downloaded from the Texas Comptroller of Public Accounts web site www.window.state.tx.us. (form titled "Progress Assessment Report") documenting compliance with the HSP. This report shall include current information for all HUB and Non-HUB subcontractors and HUB suppliers.

4.5 Final Report. The requirement for monthly reporting as set forth in Article 4.4 shall survive Final Acceptance of the Project. The Contractor shall submit monthly HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report documenting compliance with the HSP until all HUB and Non-HUB subcontractors and HUB suppliers have been tendered final payment and shall so designate by labeling the report form "FINAL REPORT".

Article 5 Bonds & Insurance

5.1. Construction Bonds. The Contractor is required to tender to TxDOT, prior to commencing work, performance and payment bonds, as required by Tex. Gov't Code, Chapter 2253.

5.1.1. Payment Bond. A payment bond is required if the Contract Sum is in excess of \$25,000. The payment bond is payable to the State, in the full amount of the Contract Sum and solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the Contractor or supplied required materials or labor.

5.1.2. Performance Bond. A performance bond is required if the Contract Sum is in excess of \$100,000. The Performance Bond is solely for the protection of the State, in the full amount of the Contract Sum and conditioned on the faithful performance of the Work in accordance with the Contract Documents.

5.1.3. Surety Requirements. Each bond shall be executed on TxDOT's form by a corporate surety or sureties authorized to do business in the State of Texas, acceptable to the Owner and in compliance with the relevant provisions of the Texas Insurance Code. If a Surety upon a bond loses its authority to do business in the State, the Surety's underwriting limitation drops below the required bond amount or the Surety is declared bankrupt or insolvent, the Contractor shall, within fifteen (15) days after occurrence of any of the aforementioned events, furnish a replacement bond at no added cost to TxDOT. In such event the Work will be suspended until a substitute Surety acceptable to TxDOT is provided and a non-compensable time extension to the Contract will be granted for the fifteen (15) days or thirty (30) days if an acceptable Surety is not readily provided, whichever is sooner. The Contractor's inability to find an acceptable Surety within thirty (30) days will be deemed a breach of contract and TxDOT may, in its sole discretion assess liquidated damages or declare the Contract in default and terminate the Contract.

5.1.4. Power of Attorney. Each bond shall be accompanied by a valid Power-of-Attorney (issued by the Surety company and attached, signed and sealed with

the corporate embossed seal, to the bond) authorizing the attorney in fact who signs the bond to obligate the company to the terms of the bond, and state any limits in the amount for which the attorney can issue a single bond.

- 5.1.5. Bond Indemnification. The process of requiring and accepting bonds and making claims thereunder shall be conducted in compliance with Tex. Gov't Code, Chapter 2253. **IF FOR ANY REASON A STATUTORY PAYMENT OR PERFORMANCE BOND IS NOT HONORED BY THE SURETY, THE CONTRACTOR SHALL FULLY INDEMNIFY AND HOLD THE OWNER HARMLESS OF AND FROM ANY COSTS, LOSSES, OBLIGATIONS OR LIABILITIES IT INCURS AS A RESULT.**
- 5.1.6. Furnishing Bond Information. TxDOT shall furnish a certified copy of the payment bond and the related Contract to any qualified person who complies with Tex. Gov't Code, §2253.026.
- 5.1.7. Claims on Payment Bonds. Claims on payment bonds must be sent directly to the Contractor and his Surety in accordance with Texas Government Code § 2253.041. All Payment Bond claimants are cautioned that no lien exists on the funds unpaid to the Contractor on such Contract, and that reliance on notices sent to TxDOT may result in loss of their rights against the Contractor and/or his Surety. TxDOT is not responsible in any manner to a claimant for collection of unpaid bills, and accepts no such responsibility because of any representation by any agent or employee.
- 5.1.8. Performance Bond Surety's Obligation. The Surety for the Performance Bond shall undertake the obligations of the Contractor in the event of the Contractor's failure to perform pursuant to the Contract or in the event of Contractor's insolvency or bankruptcy.
- 5.2. Insurance Requirements. The Contractor shall carry insurance in the types and amounts indicated in this Article and as otherwise required by the Contract Documents for the duration of the Contract unless specifically stated otherwise. Regardless of approval and issuance of Final Acceptance, the Contract is not deemed fully performed by the Contractor and closed until the expiration of all warranty periods. TxDOT shall not be deemed or construed to have assessed the risk that may be applicable to the Contractor under this Contract. The Contractor shall assess its own risks and if it deems appropriate and/or prudent, maintain higher limits and/or broader coverages at no additional cost to TxDOT.
 - 5.2.1. The required insurance shall include coverage for TxDOT's property in the care, custody and control of Contractor, its subcontractors and its agents prior to construction, during construction and during the warranty period.
 - 5.2.2. The required insurance shall be evidenced by delivery of a TxDOT certificate of insurance executed by the insurer or its authorized agent during contract execution. Provide an updated TxDOT certificate of insurance prior to expiration. In the event the Contractor fails to maintain the required insurance all work shall stop until TxDOT receives an acceptable certificate of insurance. Contract Time charges will not be suspended in the event work is stopped due to the failure of the Contractor to maintain the required insurance. The acceptance of the insurance certificate by TxDOT shall not relieve or decrease the liability of the Contractor.
 - 5.2.3. Without limiting any of the other obligations or liabilities of the Contractor, the Contractor shall require each Subcontractor performing work under the Contract

to maintain during the term of the Contract, the same required minimum insurance including the required provisions and additional policy conditions unless specifically stated otherwise. The Contractor shall obtain and monitor the certificates of insurance from each Subcontractor in order to assure compliance with the insurance requirements. As an alternative, the Contractor may include its Subcontractors as additional insured on the Contractor's coverage. In such event the Contractor's certificate of insurance shall note that Subcontractors are included as additional insured.

- 5.2.4. Coverage shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and acceptable to TxDOT unless specifically stated otherwise.
- 5.2.5. Builder's Risk Insurance shall be dedicated project insurance and specific to this Contract.
- 5.2.6. All deductibles shall be the sole responsibility of the Contractor.
- 5.2.7. The insurance requirements specified do not reduce the liability the Contractor has assumed in the indemnification/hold harmless provisions of the Contract.
- 5.2.8. Upon written request, TxDOT, and/or its agents, shall be entitled to receive without expense, copies of the required policies and endorsements.
- 5.3. Required Policy Clauses. Unless stated otherwise policies must include the following clauses:
 - 5.3.1. Notice shall be delivered to TxDOT in accordance with the policy provisions should this insurance policy be cancelled before the expiration date thereof.
 - 5.3.2. This insurance policy shall not be materially changed or non-renewed without notice being delivered to TxDOT in accordance with the policy provisions.
 - 5.3.3. It is agreed that the Contractor's insurance shall be deemed primary with respect to any insurance or self-insurance carried by the State agency for liability arising out of operations and activities under the Contract with TxDOT.
 - 5.3.4. TxDOT, its officials, directors, employees, representatives, and volunteers are added as additional insured as respects operations and activities of, or on behalf of, the named insured performed under Contract with TxDOT. **This requirement is not applicable to the workers' compensation policy.**
- 5.4. Workers' Compensation Insurance.

5.4.1.

Limits of liability not less than:	Statutory as required by the Texas Workers' Compensation Act
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- 5.4.2. Worker's Compensation Insurance coverage must meet the statutory requirements of the Texas Labor Code, §401.011(44) and specific to construction projects for public entities as required by Texas Labor Code, §406.096.
- 5.4.3. The Contractor shall provide TxDOT with a current Workers' Compensation Insurance coverage certificate for each Subcontractor and all sub-tier subcontractors employed on the project in accordance with Texas Labor Code §406 .096(b).

5.4.4. The policy shall be endorsed with a Waiver of Subrogation in favor of TxDOT.

5.5. Commercial General Liability Insurance.

5.5.1.

Limits of liability not less than:	\$600,000 each occurrence
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5.5.2. Coverage shall include liability arising from products/completed operations, liability arising from explosion, collapse, underground property damage, damage to the work, and liability assumed under contract.

5.6. Business Automobile Policy.

5.6.1.

Limits of liability not less than:	\$600,000 combined single limit
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5.6.2. If coverage is specified separately:

Limits of liability not less than:	
Bodily Injury	\$250,000 each person \$500,000 each occurrence
Property Damage	\$100,000 each occurrence

5.6.3. Coverage extends to owned, hired and non-owned vehicles assigned to or used in performance of the Contract.

5.7. *Builder's Risk Insurance.

* For renovation projects or projects that involve portions of work contained within an existing structure refer to Special Condition, if any, for additional Builder's Risk Insurance requirements.

5.7.1.

Limits of liability not less than:	100% of Contract Sum.
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5.7.2. Policy shall be an all risk policy. Coverage shall be all risk including, but not limited to, Fire, Wind, Lightning, Water, Hail, Smoke, Theft, Vandalism, Malicious Mischief, Collapse, Flood, Earthquake, Hurricane, Tornado, and damage resulting from faulty workmanship, materials, or design provided directly or indirectly by the Contractor. Coverage shall include transit and storage of materials and equipment in an amount sufficient to protect property being transported or stored.

5.7.3. The policy shall have endorsements as follows.

5.7.3.1. TxDOT shall be named as Loss Payee under the Loss Payable clause.

- 5.7.3.2. This insurance shall be specific as to coverage and not considered as contributing insurance with any permanent insurance maintained on the property.
 - 5.7.3.3. This insurance shall not contain an occupancy clause suspending or reducing coverage should TxDOT occupy, or begin beneficial occupancy before TxDOT has issued the certificate of Final Completion for the project.
- 5.8. Special Insurance Coverage.
- 5.8.1. *Asbestos Abatement Liability Insurance. If the Contract Documents include work requiring the encapsulation, removal, handling, storage, transportation, and disposal of asbestos containing materials by the Contractor, its subcontractors or agents, the Contractor shall carry insurance providing coverage for any liability arising from such activities. In lieu of the Contractor carrying the aforementioned insurance the Contractor may retain the services of an asbestos abatement contractor with a current asbestos abatement contractor license issued by the Texas Department of State Health Services (TDSHS) and the services of an asbestos transporter with a current asbestos transporter license issued by TDSHS to provide the required services.
 - 5.8.2. The liability insurance for asbestos related work required by the Texas Department of State Health Services must be in force in order to perform any asbestos related work.

Article 6 Contract Documents

6.1 Drawings and Specifications

- 6.1.1 Copies Furnished. The Contractor will be furnished, free of charge four (4) complete sets of Drawings and Specifications and any Addenda issued prior to execution of the Contract. The Contractor shall obtain and pay for any additional complete sets of Drawings, Specifications and Addenda.
- 6.1.2 Ownership of Plans and Specifications. All Plans, Specifications and copies thereof furnished by TxDOT are, and shall remain, TxDOT's intellectual property. These documents are not to be used on any other project, and shall be returned to TxDOT, upon request, following completion of the Work.
- 6.1.3 Interrelation of Documents. The Contract Documents as referenced in the Contract between the Owner and the Contractor are complimentary, and what is required by one shall be as binding as if required by all.
- 6.1.4 Resolution of Conflicts in Documents. In the event of a conflict between and/or within the Contract Documents, the higher quality, greater quantity, more restrictive, and/or more expensive requirement shall be the basis of Contractor pricing, and the Contractor shall notify the A/E and the OR for resolution of the issue prior to executing the Work in question.
- 6.1.5 Contractor's Duty to Review Contract Documents. In order to facilitate its responsibilities for completion of the Work in accordance with and as reasonably inferable from the Contract Documents, prior to pricing or commencing the Work, the Contractor shall examine and compare the Contract Documents, information furnished by TxDOT, relevant field measurements

made by the Contractor and any visible or reasonably anticipated conditions at the site affecting the Work. This duty extends throughout the construction phase prior to commencing each particular work activity and/or system installation.

6.1.6 Errors and Omissions in Drawings and Specifications.

6.1.6.1 Promptly report to the OR and to the A/E the discovery of any apparent error, omission or inconsistency in the Contract Documents prior to execution of the Work.

6.1.6.2 The Contractor has no liability for design errors and omissions unless the Contractor knowingly failed to report a recognized problem to TxDOT or the element of Work is performed as outlined in 6.1.6.4. Should the Contractor fail to perform the examination and reporting obligations of these provisions, the Contractor is responsible for avoidable costs, direct, and/or consequential damages.

6.1.6.3 It is recognized that the Contractor is not acting in the capacity of a licensed design professional, unless the Contractor, its subcontractors or agent provide the design for any element of the Work requiring the services of a licensed design professional.

6.1.6.4 When the Contractor, its subcontractors or agents provide the design for any element of the Work requiring the services of a licensed design professional the Contractor has responsibility for discrepancies, errors, and omissions in the drawings and specifications provided for that element of the Work.

6.2 Requirements for Record Documents. The Contractor shall maintain at the Site one copy of all Drawings, Specifications, addenda, approved Submittals, Contract modifications, and all Project correspondence; keep current and maintain Drawings and Specifications in good order with postings and markings to record actual conditions of Work and show and reference all changes made during construction; and provide OR, DR and A/E access to these documents.

6.2.1 The Contractor shall maintain this record set of Drawings and Specifications which reflect the "As Constructed" conditions and representations of the Work performed, whether it be directed by addendum, Change Order or otherwise and make available all records prescribed herein for reference and examination by TxDOT and its representatives and agents.

6.2.2 The Contractor shall update the "As-Constructed" Drawings and Specifications monthly prior to submission of periodic partial pay estimates. Failure to maintain such records constitutes cause for denial of a progress payment otherwise due.

6.2.3 Prior to requesting Substantial Completion Inspection the Contractor shall furnish the OR and A/E a complete legible set (a legible photocopy is acceptable) of the marked up "As-Constructed" set of plans and specifications maintained at the site. Concurrently with furnishing these record drawings, the Contractor shall furnish a preliminary copy of each operating and maintenance manual (O&M) required by the Contract Documents, for review by the A/E and the OR.

6.2.4 Once determined acceptable, the Contractor shall provide four (4) sets of operating and maintenance manuals, approved submittals, and other record documents as required elsewhere in the Contract Documents. Submission and

acceptance of these documents is a condition for the issuance of the Certificate of Substantial Completion by the OR. Any "As-Built" modifications to approved shop drawings which were prepared and issued under the seal of a licensed/registered professional must be reviewed and reissued under the seal of the licensed/registered professional of record.

Article 7 Safety

- 7.1 General. It is the duty and responsibility of the Contractor and all of its Subcontractors to be familiar with, enforce and comply with all requirements of Public Law 91-596, 29 U.S.C. §§651 et. seq., the Occupational Safety and Health Act of 1970, (OSHA) and all amendments thereto. The Contractor and all of its Subcontractors shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property to protect them from damage, injury or loss and erect and maintain all necessary safeguards for such safety and protection.
- 7.2 Notices. The Contractor shall provide notices as follows:
- 7.2.1 Notify owners of adjacent property including those that own or operate utility services and/or underground facilities, and utility owners, when prosecution of the Work may in any way affect them or their facilities, and cooperate with them in the protection, removal, relocation and replacement, and access to their facilities and/or utilities.
- 7.2.2 Coordinate the exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the site in connection with laws and regulations. Maintain a complete file of MSDS for all materials in use on site throughout the construction phase and make such file available to TxDOT and its agents as requested.
- 7.3 Emergencies. In any emergency affecting the safety of persons or property, the Contractor shall act to minimize, mitigate, and prevent threatened damage, injury or loss.
- 7.3.1 The Contractor shall have its authorized agents respond immediately upon call at anytime of day or night when circumstances warrant the presence of Contractor to protect the Work or adjacent property from damage or to take such action pertaining to the Work as may be necessary to provide for the safety of the public.
- 7.3.2 The Contractor shall give the OR, DR and A/E prompt notice of all such events.
- 7.3.3 If the Contractor believes that any changes in the Work or variations from Contract Documents have been caused by its emergency response, the Contractor shall promptly notify the OR, DR and A/E in writing within 72 hours of the emergency response event detailing the event, actions taken and changes in the Work.
- 7.3.4 Should the Contractor fail to respond, TxDOT is authorized to direct other forces to take action as necessary and TxDOT may deduct any cost of remedial action from funds otherwise due the Contractor.

- 7.4 Injuries. In the event of an incident or accident involving outside medical care for an individual on or near the Work, Contractor shall notify the OR, DR and other parties as may be directed within twenty-four (24) hours of the event.
- 7.4.1 The Contractor shall record the location of the event and the circumstances surrounding it, by using photography or other means, and gather witness statements and other documentation which describes the event.
- 7.4.2 The Contractor shall supply the OR, DR and AE with an incident report no later than 36 hours after the occurrence of the event. In the event of a catastrophic incident (one fatality or a worker hospitalized), barricade and leave intact the scene of the incident until all investigations are complete. A full set of incident investigation documents, including facts, finding of cause, and remedial plans shall be provided within one week after occurrence, unless otherwise directed by legal counsel. Contractor shall provide the OR with written notification within one week of such catastrophic event and submit a full report.
- 7.5 Environmental Safety. Upon encountering any previously unknown potentially hazardous material, or other materials potentially contaminated by hazardous material, Contractor shall immediately stop work activities impacted by the discovery, secure the affected area, and notify the OR, DR and A/E immediately.
- 7.5.1 The Contractor shall bind all Subcontractors to the same duty.
- 7.5.2 Upon receiving notice of environmental safety or hazardous materials, the OR will promptly engage qualified experts to make such investigations and conduct such tests as may be reasonably necessary to determine the existence or extent of any environmental hazard. As soon as possible upon completion of this investigation, the OR will issue a written report to the Contractor identifying the material(s) found and indicate any necessary steps to be taken to treat, handle, transport or dispose of the material.
- 7.5.3 TxDOT may hire third-party contractors to perform any or all such steps.
- 7.5.4 Should compliance with the OR's instructions result in an increase in the Contractor's cost of performance, or delay the Work, TxDOT will make an equitable adjustment to the Contract price and/or the time of completion, and modify the Contract in writing accordingly in accordance with the provisions of the Contract.
- 7.5.5 If the hazardous material event is the result of a release or discharge of Hazardous Materials by the Contractor directly or indirectly through any employees, agents, representatives, Subcontractors, invitees or any other persons occupying the Site or any portion thereof by, through or under the Contractor, the Contractor at its sole cost and expense, shall take any and all corrective action required by any applicable federal, state, county, municipal, and other laws, codes, ordinances, rules, and regulations to report, clean up, remove, and abate any and all soil contamination, groundwater contamination, or any other contamination of the Site caused directly or indirectly by any release or discharge of any Hazardous Materials.
- 7.6 Environmental Quality. The Contract shall prevent pollution of air, soil, and water in, on, under or around the Project Site. The Contractor, at its sole cost and expense shall take any and all corrective actions deemed necessary or desirable by TxDOT, and as required by any applicable federal, state, county, municipal, and other laws, codes, ordinances, rules and regulations to clean, remove and abate any and all such contamination of the air, soil, and water in, on under or around the

Project Site or adjacent lands caused directly or indirectly by any release or discharge of any hazardous, toxic, or otherwise harmful substances at the Project Site by the Contractor and/or any entities or persons for whom the Contractor is responsible.

- 7.7 **INDEMNITY FOR ENVIRONMENTAL DAMAGES.** IF THE CONTRACTOR AND/OR ANY ENTITIES OR PERSONS FOR WHOM THE CONTRACTOR IS RESPONSIBLE BRING OR DISPOSE OF ANY HAZARDOUS, TOXIC, OR OTHERWISE HARMFUL SUBSTANCES ONTO THE SITE, THE CONTRACTOR WILL INDEMNIFY, SAVE AND HOLD HARMLESS TXDOT FROM AND AGAINST ANY AND ALL CLAIMS, SUITS, CAUSES OF ACTION, LOSSES AND ALL OTHER DAMAGE AND EXPENSE (INCLUDING COST OF DEFENDING AGAINST THE AFORESAID).

THE CONTRACTOR'S INDEMNITY HEREUNDER INCLUDES, BUT IS NOT LIMITED TO, ANY NEGLIGENT ACT OR OMISSION OF THE CONTRACTOR AND/OR ANY ENTITIES OR PERSONS FOR WHOM THE CONTRACTOR IS RESPONSIBLE. CONTRACTOR SHALL BEAR THE COSTS FOR REMEDIATION OF ANY RESULTING ENVIRONMENTAL DAMAGES DUE TO THE ACTIVITIES OF THE CONTRACTOR, ITS SUBCONTRACTORS AND/OR ANY ENTITIES OR PERSONS FOR WHOM THE CONTRACTOR IS RESPONSIBLE. THE CONTRACTOR'S INDEMNITY AND OBLIGATIONS HEREUNDER WILL SURVIVE THE TERMINATION OF THIS CONTRACT.

- 7.8 Trenching Plan. When the project requires excavation which either exceeds a depth of five feet, or results in any worker's upper body being positioned below grade level, the Contractor is required to submit a trenching plan to the OR prior to commencing trenching operations providing the necessary protection to comply with the most current version of OSHA Standards and Interpretations, 29 CRF 1926, Subpart P, "Excavations." The plan is required to be prepared and sealed by a professional engineer registered in the State of Texas, and employed by the Contractor. Said engineer cannot be anyone who is otherwise either directly or indirectly engaged on this project.

- 7.9 **INDEMNIFICATION OF TXDOT.** THE CONTRACTOR SHALL FULLY INDEMNIFY, SAVE AND HOLD HARMLESS TXDOT OF AND FROM ANY COSTS, LOSSES, DAMAGES OR LIABILITIES RESULTING FROM ITS FAILURE, OR THE FAILURE OF THE CONTRACTORS AND/OR SUBCONTRACTORS, TO COMPLY STRICTLY WITH THESE PROVISIONS. CONTRACTOR SHALL BEAR THE COSTS FOR ANY DAMAGES DUE TO THE ACTIVITIES OF THE CONTRACTORS, ITS SUBCONTRACTORS AND/OR ANY ENTITIES OR PERSONS FOR WHOM THE CONTRACTOR IS RESPONSIBLE. THIS PROVISION SHALL SURVIVE THE TERMINATION OF THE CONTRACT.

Article 8 Quality Control

- 8.1 Materials & Workmanship. The Contractor shall execute Work in a good and workmanlike manner in accordance with the Contract Documents. If required by a Special Condition the Contractor shall develop and provide a Quality Control Plan specific to this project and acceptable to TxDOT. Where Contract Documents do not specify quality standards, the Contractor shall complete and construct all Work in compliance with generally accepted construction industry standards. Unless

otherwise specified, the Contractor shall incorporate all new materials and equipment into the Work under the Contract.

8.2 Testing.

8.2.1 Contractor Testing. The Contractor is responsible for coordinating and paying for all routine and special tests required to confirm compliance with quality and performance requirement of the Contract Documents. This “quality control” testing shall include any particular testing required by the Plans and Specifications and the following general tests:

8.2.1.1 Any test of basic material or fabricated equipment included as part of a submittal for a required item in order to establish compliance with the Contract Documents.

8.2.1.2 Any test of basic material or fabricated equipment offered as a substitute for a specified item on which a test may be required in order to establish compliance with the Contract Documents.

8.2.1.3 Routine, preliminary, start-up, pre-functional and operational testing of building equipment and systems as necessary to confirm operational compliance with requirements of the Contract Documents.

8.2.1.4 All subsequent tests on original or replaced materials conducted as a result of prior testing failure.

8.2.2 TxDOT Testing. TxDOT reserves the right to subject materials and systems incorporated into the Project to routine tests as may be specified or as deemed necessary by the OR or the A/E to ensure compliance with the quality and/or performance requirements of the Contract Documents and/or with laws, ordinances, rules, regulations and/or orders of any public authority having jurisdiction. The results of such “quality assurance” testing will be provided to the Contractor and, to the extent provided, the Contractor may rely on findings.

8.2.2.1 All testing shall be performed in accordance with standard test procedures by an accredited laboratory, or special consultant as appropriate, acceptable to TxDOT. Results of all tests shall be provided promptly to the OR, A/E and the Contractor.

8.2.3 Non-Compliance (Test Results). Should any of the tests indicate that a material and/or system does not comply with the contract requirements, the burden of proof remains with the Contractor, subject to:

8.2.3.1 Contractor selection and submission of the laboratory for TxDOT acceptance.

8.2.3.2 Acceptance by TxDOT of the quality and nature of tests.

8.2.3.3 All tests taken in the presence of the A/E and/or OR, or their representatives.

8.2.3.4 If tests confirm that the material/systems, indicated by TxDOT testing to not be in compliance with Contract Documents, are in compliance with Contract Documents, TxDOT will pay the cost of the test.

8.2.3.5 If tests reveal noncompliance, the Contractor will pay those laboratory fees and costs of that particular test and all future tests, of that failing Work, necessary to eventually confirm compliance with Contract Documents.

- 8.2.3.6 Proof of noncompliance with the Contract Documents will make the Contractor liable for any corrective action which the OR determines appropriate, including complete removal and replacement of non-compliant work or material at not additional cost to TxDOT.
- 8.2.4 Notice of Testing. The Contractor shall give the OR, DR and AE timely notice of its readiness and the date arranged so the OR and/or AE or their designated representative may observe such inspection, testing or approval.
- 8.2.5 Test Samples. The Contractor is responsible for providing samples of sufficient size for test purposes and for coordinating such tests with their Work Progress Schedule to avoid delay.
- 8.2.6 Covering Up Work. If the Contractor covers up any Work without providing TxDOT an opportunity to inspect, the Contractor shall, if requested by OR, uncover and recover the work at Contractor's expense.
- 8.3 Deficiencies in the Work. TxDOT reserves the right to withhold from funds remaining unpaid under the Contract amounts required to pay the costs of, but not limited to, the following:
 - 8.3.1 Special site visits required to re-examine a cited deficiency which has not been corrected after a total of two visits. The provisions for comprehensive inspections set forth in Article 12 shall govern those inspections.
 - 8.3.2 Special monitoring to ensure compliance with the Contract Documents due to non-performance or poor workmanship.
 - 8.3.3 Assessments of potential damage, resulting from failure of the Contractor to protect the Work.
- 8.4 Submittals.
 - 8.4.1 Contractor's Submittals. Contractor shall submit in accordance with the Project Schedule and in orderly sequence all Shop Drawings, Samples, or other information required by the Contract Documents, or subsequently required by Change Order. Prior to submitting, the Contractor shall review each submittal for compliance with Contract Documents and certify compliance by approval stamp affixed to each copy. Submittal data presented without the Contractor's certification will be returned without review or comment, and any delay resulting from such certification is the Contractor's responsibility.
 - 8.4.1.1 Within twenty-one (21) calendar days of issuance of the Authorization to Begin Work letter, unless otherwise modified by the OR in writing, the Contractor shall submit to the OR and A/E, a submittal schedule/register, organized by specification section, listing all items to be furnished for review and approval by the A/E and TxDOT. The list shall include shop drawings, manufacturer's literature, certificates of compliance, materials samples, materials colors, guarantees, and all other items identified throughout the specifications.
 - 8.4.1.2 The Contractor shall indicate the type of item, contract requirements reference, and Contractor's scheduled dates for submitting the item along with the requested dates for approval answers from the A/E and TxDOT. Reference Special Conditions for any additional item tracking/reporting information required to be included in the submittal schedule/register. The submittal register shall be updated at least monthly with actual approval

dates. The Contractor shall allow a minimum of fifteen (15) calendar days duration after receipt by the A/E and OR for review and approval of each submittal. If re-submittal is required, the Contractor shall allow a minimum of an additional fifteen (15) calendar days for review. The Contractor shall submit the updated submittal register with each request for progress payment. TxDOT may establish routine review procedures and schedules for submittals at the preconstruction conference and/or elsewhere in the Contract Documents or as otherwise necessary.

- 8.4.1.3 The Contractor shall coordinate the submittal register with the Work Progress Schedule. The Contractor shall not schedule Work requiring a submittal to begin prior to scheduling review of the related submittal. The Contractor shall revise and/or update both schedules monthly to ensure consistency and current project data; provide to the OR the updated submittal register and schedule with each application for progress payment: refer to requirements for the Work Progress Schedule for inclusion of procurement activities therein, if any; and schedule for inclusion of procurement activities therein, if any. The submittal register shall identify dates submitted and returned and shall be used to confirm status and disposition of particular items submitted, including approval or other action taken and other information not conveniently tracked through the Work Progress Schedule.
- 8.4.1.4 By submitting Shop Drawings, Samples or other required information, the Contractor represents and certifies that they have determined and verified all applicable field measurements, field construction criteria, materials, catalog numbers and similar data, have been determined and verified and that each Shop Drawing and Sample has been checked and coordinated with the requirements of the Work and the Contract Documents.
- 8.4.2 Review of Submittals. A/E and OR review are only for conformance with the design concept and the information provided in the Contract Documents. Responses to submittals will be in writing. The approval of a separate item does not indicate approval of an assembly in which the item functions. The approval of a submittal does not relieve the Contractor of responsibility for any deviation from the requirements of the Contract unless the Contractor informs the A/E and OR of such deviation in a clear, conspicuous, and written manner on the submittal transmittal and at the time of submission, and obtains TxDOT's written specific approval of the particular deviation.
- 8.4.3 Correction and Resubmission. The Contractor shall make any corrections required to a submittal and resubmit the required number of corrected copies promptly so as to avoid delay of submittal approval. The Contractor shall direct attention in writing to the A/E and the OR, when applicable, to any new revisions other than the corrections requested on previous submissions.
- 8.4.4 Limits on Shop Drawing Review. The Contractor shall not commence any Work requiring a submittal before review of the submittal. The Contractor shall construct all such work in accordance with reviewed submittals and the Contract Documents. Review of Shop Drawings and Samples is not authorization to Contractor to perform extra work or changed work unless authorized through a Change Order. The A/E's and OR's review, if any, does not relieve Contractor from responsibility for defects in the Work resulting from

errors or omissions of any kind on the submittal, regardless of any review action.

8.4.5 No Substitutions Without Approval. The OR and the A/E may receive and consider the Contractor's request for substitution when the Contractor agrees to reimburse TxDOT for direct and indirect review costs and satisfies 8.4.5.1, 8.4.5.2, and 8.4.5.3 in combination with one or more of the items in 8.4.5.4 through 8.4.5.11 of the following conditions, as determined by TxDOT. If the Contractor does not satisfy these conditions, the OR and A/E will return the request without action except to record noncompliance with these requirements. TxDOT will not consider the request if the Contractor cannot provide the product or method because of failure to pursue the Work promptly or coordinate activities properly.

8.4.5.1 The Contract Documents do not require extensive revisions.

8.4.5.2 Proposed changes are in keeping with the general intent of the Contract Documents and the design intent of the A/E and do not result in an increase in cost to TxDOT.

8.4.5.3 The request is timely, fully documented, and properly submitted.

8.4.5.4 The Contractor cannot provide the specified product, assembly or method of construction within the Contract Time.

8.4.5.5 The request directly relates to an "or-equal" clause or similar language in the Contract Documents.

8.4.5.6 The request directly relates to a "product design standard" or "performance standard" clause in the Contract Documents.

8.4.5.7 The requested substitution offers TxDOT a substantial advantage in cost, time, energy conservation or other considerations, after deducting additional responsibilities TxDOT must assume.

8.4.5.8 The specified product or method of construction cannot receive necessary approval by an authority having jurisdiction, and the OR can approve the requested substitution.

8.4.5.9 The Contractor cannot provide the specified product, assembly or method of construction in a manner that is compatible with other materials and where the Contractor certifies that the substitution will overcome the incompatibility.

8.4.5.10 The Contractor cannot coordinate the specified product, assembly or method of construction with other materials and the Contractor certifies they can coordinate the proposed substitution.

8.4.5.11 The specified product, assembly or method of construction cannot provide a warranty required by the Contract Documents and the Contractor certifies that the proposed substitution provides the required warranty.

8.4.6 Unauthorized Substitutions at Contractor's Risk. The Contractor is financially responsible for any additional costs or delays resulting from using materials, equipment or fixtures other than those specified. The Contractor shall reimburse TxDOT for any increased design or contract administration costs resulting from any unauthorized substitutions.

8.5 Field Mock-Up.

8.5.1 Mockups shall be constructed prior to commencement of a specified scope of work to confirm acceptable workmanship.

8.5.1.1 As a minimum, field mock-ups shall be as identified throughout the Contract Documents. Mockups for systems not part of the project scope shall not be required.

8.5.1.2 Mock-ups may be incorporated into the Work if allowed by the Contract Documents and if acceptable to the OR. If mock-ups are freestanding, they shall remain in place until otherwise directed by the OR.

8.5.1.3 The Contractor shall include field mock-ups in their Work Progress Schedule and shall notify the OR and A/E of readiness for review sufficiently in advance to coordinate review without delay.

8.6 Inspection During Construction.

8.6.1 The Contractor shall provide sufficient, safe, and proper facilities, including equipment as necessary for safe access, at all reasonable times for observation and/or inspection of the Work by TxDOT and its agents.

8.6.2 The Contractor shall not cover up any work with finishing materials or other building components prior to providing TxDOT and its agents an opportunity to perform an inspection of the Work.

8.6.2.1 Should corrections of the Work be required for approval, the Contractor shall not cover up corrected Work until TxDOT indicates approval.

8.6.2.2 Provide notification of at least five (5) calendar days or as otherwise mutually agreed, to the OR of the anticipated need for a cover up inspection. Should the OR fail to make the necessary inspection within the agreed period, the Contractor may proceed with cover up Work, but is not relieved of responsibility for Work to comply with requirements of the Contract Documents.

Article 9 Construction Schedules

9.1 Contract Time. **TIME IS AN ESSENTIAL ELEMENT OF THE CONTRACT.** The Contract Time can be modified only by Change Order. Failure to achieve Substantial Completion within the Contract Time will cause damage to TxDOT and subject the Contractor to Liquidated Damages as provided in the Contract Documents.

9.2 Authorization to Begin Work. TxDOT will issue an Authorization to Begin Work Letter authorizing the Contractor to begin construction in accordance with the provisions of the Contract and establishing the date stated in the Contract for completion of the Work, or establishing the beginning date time charges will commence for computing Contract Time for completion of the Work.

9.3 Work Progress Schedule. The Contractor shall refer to any Special Condition and/or any Division 1 Specifications for alternate or additional schedule requirements. Unless indicated otherwise in those documents, Contractor shall submit the initial Work Progress Schedule for the Work in relation to the entire

Project not later than twenty-one (21) days after the date of the Authorization to Begin Work Letter to the OR and A/E. Unless otherwise indicated in any Special Condition and/or Specification, the Work Progress Schedule shall be a computerized Critical Path Method (CPM) with full reporting capability and in a format and in sufficient detail acceptable to TxDOT. The initial schedule shall indicate the dates for starting and completing the various aspects required to complete the Work, including mobilization, procurement, installation, testing, inspection, and acceptance of all the Work of the Contract. When acceptable to TxDOT, the initially accepted schedule shall be the Baseline Schedule for comparison to actual conditions throughout the contract duration. Failure of the Contractor to provide a Work Progress Schedule as set forth above will be considered sufficient cause for TxDOT to order the work under the Contract to be stopped without suspension of Contract time charges.

- 9.3.1 Schedule Requirements. The Contractor shall submit electronic and paper copy of the initial Work Progress Schedule reflecting accurate and reliable representations of the planned progress of the Work, the Work performed to date, if any, and the Contractor's actual plans for its completion. The Contractor shall organize and provide adequate detail so the Schedule is capable of measuring and forecasting the effect of delaying events on completed and uncompleted activities.
 - 9.3.1.1 The Contractor shall re-submit initial Schedule as required to address review comments from A/E and OR until such Schedule is accepted as the Baseline Schedule.
 - 9.3.1.2 Submittal of a schedule, schedule revision or schedule update constitutes the Contractor's representation to TxDOT of the accurate depiction of all progress to date and that the Contractor will follow the schedule as submitted in performing the Work.
- 9.3.2 Schedule Updates. The Contractor shall update the Work Progress Schedule and the Submittal Schedule monthly, as a minimum, to reflect progress to date and current plans for completing the Work, and submit paper and electronic copy of the update to the A/E and OR as directed. TxDOT has no duty to make progress payments unless accompanied by the updated Work Progress Schedule. Show the anticipated date of completion reflecting all extensions of time granted through Change Order as of the date of the update. The Contractor may revise the Progress Schedule logic only with TxDOT's concurrence when in the Contractor's judgment it becomes necessary for the management of the Work. The Contractor shall identify all proposed changes to schedule logic to TxDOT and to the A/E via an Executive Summary accompanying the updated schedule for review prior to implementation of revisions.
- 9.3.3 Effect of Work Progress Schedule. The Work Progress Schedule is for the Contractor's use in managing the Work. Submittal of the Schedule, and successive updates or revisions, is for the information of TxDOT and to demonstrate that the Contractor has complied with requirements for planning the Work. TxDOT's acceptance of a schedule, schedule update or revision constitutes TxDOT's agreement to coordinate its own activities with the Contractor's activities as shown on the schedule.

- 9.3.3.1 Acceptance of the Work Progress Schedule, or update and/or revision thereto does not indicate any approval of the Contractor's proposed sequences and duration.
 - 9.3.3.2 Acceptance of a Work Progress Schedule update or revision indicating early or late completion does not constitute TxDOT's consent, alter the terms of the Contract, or waive either the Contractor's responsibility for timely completion or TxDOT's right to damages for the Contractor's failure to do so.
 - 9.3.3.3 The Contractor's scheduled dates for completion of any activity or the entire Work do not constitute a change in terms of the contract. Change Orders are the only method of modifying the completion Date(s) and Contract Time.
- 9.4 Ownership of Float. Float time contained in the Work Progress Schedule is not for the exclusive benefit of the Contractor or TxDOT, but belongs to the Project and may be consumed by either party as needed on a first-used basis.
- 9.5 Completion of Work. The Contractor is accountable for completing the Work in the time stated in the Contract, or as otherwise amended by Change Order.
- 9.5.1 If, in the judgment of TxDOT, the work is behind schedule and the rate of placement of work is inadequate to regain scheduled progress to insure timely completion of the entire work or a separable portion thereof, TxDOT shall so notify the Contractor and Surety.
 - 9.5.2 Within ten (10) calendar days after such notice from the OR, the Contractor shall notify the OR in writing of the specific measures taken and/or planned to facilitate timely completion of the entire work or a separable portion thereof and include an estimate as to the date of scheduled progress recovery and an updated Work Progress Schedule illustrating the Contractor's plan for achieving timely completion of the project.
- 9.6 Computation of Contract Time for Completion. TxDOT will furnish the Contractor a monthly statement on prescribed forms, showing the number of calendar days charged during the month, total number of days allowed in the Contract and the number of days remaining under the Contract. The Contractor will be allowed ten (10) calendar days in which to protest the correctness of the statement with supporting documentation, otherwise the statement will stand.
- 9.7 Modification of the Contract Time.
- 9.7.1 Delays and extension of time as hereinafter described are valid only if executed in accordance with provisions set forth in Article 11.
 - 9.7.2 When a delay defined herein as excusable prevents the Contractor from completing the Work within the Contract Time, the Contractor is entitled to an extension of time. TxDOT will make an equitable adjustment and extend the number of calendar days lost because of excusable delay, as measured by the Contractor's progress schedule. All extensions of time will be granted in calendar days. In no event, however, will an extension of time be granted for delays that merely extend the duration of non-critical activities, or which only consume float without delaying the project completion date.

- 9.7.2.1 Excusable Delay. The Contractor may be entitled to an equitable adjustment of time, issued via change order, for delays caused by the following:
- 9.7.2.1.1 Errors, omissions and imperfections in design which the A/E corrects by means of changes in the drawings and specifications.
 - 9.7.2.1.2 Unanticipated physical conditions at the Site which with reasonable diligence could not have been discovered by the Contractor prior to the execution of this Contract and the A/E corrects by means of changes to the drawings and specifications or for which the OR directs changes in the Work identified in the Contract Documents.
 - 9.7.2.1.3 Changes in the Work that effect activities identified in the Contractor's schedule as "critical" to completion of the entire Work, if such changes are ordered by the OR.
 - 9.7.2.1.4 Suspension of Work for convenience of TxDOT, which prevents Contractor from completing the Work within the Contract Time.
- 9.7.3 The Contractor's relief in the event of such delays is the time impact to the critical path as determined by analysis of the Contractor's schedule. In the event that the Contractor incurs additional direct costs because of the delay, they are to be determined pursuant to the provisions of Article 11.
- 9.7.4 A "Weather Day" is a day on which the Contractor's current schedule indicates Work is to be done, and on which inclement weather and related site conditions prevent the Contractor from performing seven (7) continuous hours of Work between the hours of 7:00 a.m. and 6:00 p.m. Weather days are non-compensable delays. When weather conditions at the site prevent work from proceeding, immediately notify the OR and DR for confirmation of the conditions. At the end of each calendar month, submit to the OR, DR and A/E a list of Weather Days occurring in that month along with documentation of the impact on critical activities. Such documentation shall include the impact of any concurrent delay occurring during the "Weather Days" in question. Based on confirmation and concurrence by the OR, any time extension granted will be issued by Change Order as a non-compensable time extension to the Contract
- 9.7.5 Time. If the Contractor and TxDOT cannot agree on the time extension, TxDOT may issue a ULCO for fair and reasonable time extension.
- 9.8 Force Majeure. Force Majeure shall mean any delays, hindrances, or suspensions of the Work for (1) unexpected natural events (sometimes called "acts of God"); (2) strikes, labor disputes, labor shortages, or material shortages outside of the Contractor's reasonable control; (3) acts of public enemy; (4) riots; (5) epidemics disabling the labor force; (6) landslides; (7) earthquakes affecting the Project; (8) fires; (9) hurricanes (10) tornadoes; (11) partial or entire failure of public utilities affecting the Project; (12) delays associated with concealed, unknown, or unforeseen conditions associated with the Property which with reasonable diligence could not have been discovered by the Contractor prior to execution of this Contract; (13) delay in issuing any governmental or regulatory permit, license or approval necessary or required for implementation of the Project which with reasonable diligence could not have been avoided by the Contractor; (14) any other similar cause or event not reasonably within the Contractor's / subcontractor's control and not resulting from their errors, omissions or negligent acts.

- 9.8.1 The Contractor's relief in the event of such Force Majeure delays, hindrances, or suspensions of the Work is the time impact to the critical path as determined by analysis of the Contractor's schedule. Upon review and concurrence of the time impact documentation by the OR a non-compensable time extension to the Contract Time will be issued by Change Order. When such delays, hindrances, or suspensions are the result of the conditions defined under Article 14, Termination By Contractor, the Contractor's relief will be governed by the conditions of Article 14 should the Contract be terminated under said Article.
- 9.9 No Damages for Delay. The Contractor has no claim for monetary damages for delay or hindrances to the work from any cause, including without limitation any act or omission of TxDOT.
- 9.10 Concurrent Delay. When the completion of the Work is simultaneously delayed by an excusable delay and a delay arising from a cause not designated as excusable, the Contractor may not be entitled to a time extension for the period of concurrent delay.
- 9.11 Other Time Extension Requests. Time extensions requested in association with changes to the Work directed or requested by TxDOT shall be included with the Contractor's proposed costs for such change. Time extensions requested for inclement weather are covered by paragraph 9.7.4 above. If the Contractor believes that the completion of the Work is delayed by a circumstance other than for changes directed to the Work or weather, they shall give the OR written notice, stating the nature of the delay and the activities potentially affected, within five (5) calendar days after the onset of the event or circumstance giving rise to the excusable delay. The Contractor shall provide sufficient written evidence to document the delay. In the case of a continuing cause of delay, only one claim is necessary. Claims for extensions of time shall be stated in numbers of whole or half calendar days.
- 9.11.1 Substantiation Time Frame. Within ten (10) calendar days after the cessation of the delay, the Contractor shall formalize its request for extension of time in writing to include a full analysis of the schedule impact of the delay and substantiation of the excusable nature of the delay. All Changes to the Contract Time made as a result of such claim(s) shall be by Change Order, as set forth in Article 11.
- 9.11.2 Duty to Perform. No extension of time releases the Contractor or the Surety furnishing a performance or payment bond or from any obligations under the contract or such a bond. Those obligations remain in full force until the discharge of the Contract.
- 9.11.3 Contents of Time Extension Requests. The Contractor shall provide with each Time Extension Request a quantitative demonstration of the impact of the delay on project completion time, based on the Work Progress Schedule and include with Time Extension Requests a reasonably detailed narrative setting forth:
- 9.11.3.1 The nature of the delay and its cause; the basis of the Contractor's claim of entitlement to a time extension.
- 9.11.3.2 Documentation of the actual impacts of the claimed delay on the critical path indicated in the Contractor's Work Progress Schedule, and any concurrent delays.

- 9.11.3.3 Description and documentation of steps taken by the Contractor to mitigate the effect of the claimed delay, including, when appropriate, the modification of the Work Progress Schedule.
- 9.11.4 TxDOT Response. TxDOT will respond to the Time Extension Request by providing to the Contractor written notice of the number of days granted, if any, and giving its reason if this number differs from the number of days requested by the Contractor.
- 9.11.4.1 TxDOT will not grant time extensions for delays that do not affect the Contract Completion Date.
- 9.11.4.2 TxDOT will respond to each properly submitted Time Extension Request within fifteen (15) calendar days following receipt of all required information. If TxDOT cannot reasonably make a determination about the Contractor's entitlement to a time extension within that time, TxDOT will notify the Contractor in writing. Unless otherwise agreed by the Contractor, TxDOT has no more than fifteen (15) additional calendar days to prepare a final response. If TxDOT fails to respond within forty-five (45) calendar days from the date the Time Extension Request is received, the Contractor is entitled to a time extension in the amount requested.
- 9.12 Failure to Complete Work Within the Contract Time. **TIME IS OF THE ESSENCE OF THIS CONTRACT**. The Contractor's failure to substantially complete the Work within the Contract Time will cause damage to TxDOT. These damages are liquidated by agreement of the Contractor and TxDOT, as set forth in the Contract Documents.
- 9.13 Liquidated Damages. TxDOT may collect Liquidated Damages due from the Contractor directly or indirectly by reducing the contract sum in the amount of Liquidated Damages stated in the Contract Documents.
- 9.13.1 The amount per day given in the following schedule will be deducted from the money due or to become due to the Contractor, not as a penalty, but as liquidated damages and added expense for engineering and administrative supervision.

For Dollar Amount of Original Contract		Dollar Amount of Daily Contract Administration Liquidated Damages per Working Day
From More Than	To and including	
0	1,000,000	760
1,000,000	3,000,000	968
3,000,000	5,000,000	1107
5,000,000	15,000,000	1527
15,000,000	25,000,000	2095
25,000,000	50,000,000	3072
50,000,000	Over 50,000,000	5093

Article 10 Payments

- 10.1 Schedule of Values. The Contractor shall submit to the OR and the A/E for acceptance a Schedule of Values accurately itemizing material and labor for the various classifications of the Work based on the organization of the specification sections and using the same activity names and terms as the Work Progress Schedule. The format for the Schedule of Values will be as provided by TxDOT at or before the pre-construction meeting. The accepted Schedule of Values will be the basis for the progress payments under the Contract.
- 10.1.1 No progress payments will be made prior to receipt and acceptance of the Schedule of Values, provided in such detail as required by the OR, and submitted not less than twenty-one calendar (21) days prior to the first request for payment. The Schedule of Values shall follow the order of trade divisions of the specifications and include costs for general conditions, fees, contingencies, and TxDOT allowance items, if applicable, so that the sum of the items will equal the contract price. Each line item will contain labor and material value categories with values assigned as appropriate, the subtotal thereof equaling the value of the work in place when complete.
- 10.2 Texas Identification Number. The Contractor will be required to secure from the Texas Comptroller of Public Accounts, a Texas Payee Identification Number. The Texas Payee Identification Number must correspond to the person(s) or entity shown on the Contract. A valid Texas Payee Identification Number is required prior to payment being processed for this Contract.
- 10.3 Progress Payments. The Contractor will receive periodic progress payments for Work performed, materials in place, suitably stored on site, or as otherwise agreed to by TxDOT and the Contractor. Payment is not due until receipt by the OR or his designee of a correct and complete Pay Application in electronic and/or hard copy format. Progress payments are made provisionally and do not constitute acceptance of work not in accordance with the Contract Documents. TxDOT will not process progress payment applications for Change Order work until all required parties execute the Change Order.
- 10.3.1 Preliminary Pay Worksheet. Once each month that a progress payment is to be requested, the Contractor shall submit to the OR, DR and A/E (submittal can be by fax, e-mail, or other means as agreed between TxDOT and Contractor) a complete, clean copy of a preliminary pay application such that it is received by the OR, DR, and A/E a minimum of seven (7) calendar days prior to the scheduled monthly work progress meeting, and shall include the following:
- 10.3.1.1 The Contractor's estimate of the amount of Work performed, labor furnished and materials incorporated into the Work during the time covered by the application for payment, using the established Schedule of Values and approved form.
- 10.3.1.2 Copies of original invoices for any materials or equipment stored on site but not incorporated into the Work for which the Contractor is requesting payment.
- 10.3.1.3 Insurance certificates, invoices and any other documents required by the Contract Documents for materials or equipment stored off-site for which the Contractor is requesting payment.

- 10.3.1.4 Contractor's Application For Payment reflecting any adjustments to the Contract Sum or Contract Time approved during the period of time covered by the application for payment.
 - 10.3.1.5 An updated Work Progress Schedule including the Executive Summary and all required schedule reports.
 - 10.3.1.6 An updated submittal schedule/register, if required.
 - 10.3.1.7 An updated HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report and associated documentation for any modification to the plan authorized during the time covered by the application for payment.
 - 10.3.1.8 Copy of any apprenticeship or trainee program registered with the United States Department of Labor, Employment and Training Administration if such program is being utilized by Contractor or any Subcontractor in performance of the Work. The Contractor shall provide a copy of any program modifications, updates or additional programs with subsequent applications for payment.
 - 10.3.1.9 Such additional documentation as TxDOT may require as set forth in a Special Condition or elsewhere in the Contract Documents.
- 10.3.2 Contractor's Application for Progress Payment. Subject to the Contractor providing the preliminary pay application within the time frame as set forth in Article 10.3.1 the Contractor, OR, DR and A/E will conduct a conference call review of the preliminary pay application prior to the scheduled monthly work progress meeting. Based on this review, the OR, DR and A/E may require modifications to the preliminary pay application prior to submittal of the formal application for progress payment. The Contractor will submit for approval during the scheduled monthly progress meeting the formal application for progress payment on the appropriate and completed forms reflecting the required modifications. Approval is subject to the condition TxDOT may require modification to the application based on observations of the Work made during the site visit. The Contractor shall promptly make such revisions as necessary for approval. Attach all additional documentation required by the OR and A/E, as well as an affidavit affirming that all payrolls, bills for labor, materials, equipment, subcontracted work and other indebtedness connected with the Contractor's invoice are paid or will be paid within the time specified in Tex. Gov't Code, Chapter 2251. No invoice is complete unless it fully reflects all required modifications and attaches all required documentation including, but not limited to, the following:
- 10.3.2.1 TxDOT's Contractor's Application For Payment;
 - 10.3.2.2 Updated Schedule of Values form;
 - 10.3.2.3 Updated Work Progress Schedule;
 - 10.3.2.4 TxDOT's Contractor's Affidavit Of Payments Of Debts and Claims (monthly);
 - 10.3.2.5 HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report;

- 10.3.2.6 Copies of manufacturer/supplier original invoice price for materials and equipment stored on the site but not incorporated in the Work payment is being requested for; and
 - 10.3.2.7 Copies of warehouse records, receipts and invoices for any materials and equipment stored off site in accordance with Article 10.5 verifying current status of quantities and their disposition.
- 10.4 Owner's Duty to Pay. The Owner has no duty to pay the Contractor except on receipt by the OR of; 1) a complete Contractor's Application For Payment certified by the Contractor, OR, DR and A/E and all attachments, and 2) the Contractor's updated Work Progress Schedule, and 3) confirmation that the Contractor's as-built documentation at the site is kept current.
- 10.4.1 Stored Material. Payment for stored materials and equipment confirmed by the OR, DR, and AE to be on-site or otherwise properly stored but not incorporated into the Work is limited to the manufacturer/supplier original invoice price or the scheduled value for the materials or equipment, whichever is less. Payment for off-site stored materials or equipment is subject to compliance with the provisions of Article 10.6.
 - 10.4.2 Retainage. TxDOT will withhold from each progress payment, as retainage, five (5) percent of the total earned amount, the amount authorized by law, or as otherwise set forth in a Special Condition. Retainage may be managed in conformance with Transportation Code §223.010.
 - 10.4.2.1 The Contractor shall provide written consent of its Surety for any request for release of retainage.
 - 10.4.3 Price Reduction to Cover Loss. TxDOT may reduce any Periodic Invoice, or application for Progress Payment, prior to payment to the extent necessary to protect TxDOT from loss on account of actions of the Contractor including, but not limited to:
 - 10.4.3.1 Defective or incomplete Work not remedied.
 - 10.4.3.2 Damage to Work of a separate Contractor.
 - 10.4.3.3 Failure to maintain scheduled progress or reasonable evidence that the Work will not be completed within the Contract Time.
 - 10.4.3.4 Persistent failure to carry out the Work in accordance with the Contract Documents.
 - 10.4.3.5 Reasonable evidence that the Work cannot be completed for the unpaid portion of the contract sum.
 - 10.4.3.6 Assessment of fines for violations of Prevailing Wage Rate law.
 - 10.4.3.7 Failure to include the appropriate amount of retainage for that periodic progress payment.
 - 10.4.3.8 Failure to maintain acceptable storage/protection for stored materials and equipment on-site and off-site.
 - 10.4.4 Title to Material and Work. Title to all material and Work covered by progress payments transfers to TxDOT upon payment.
 - 10.4.4.1 Transfer of title to TxDOT does not relieve the Contractor of the sole responsibility for the care and protection of materials and Work upon

which payments have been made until final acceptance of the entire Work, or the restoration of any damaged Work, or waive the right of TxDOT to require the fulfillment of all the terms of the Contract.

- 10.5 Continued Obligations. Progress payments to the Contractor do not release the Contractor or its Surety from any obligations under this Contract.
- 10.5.1 Upon TxDOT's request, the Contractor shall furnish manifest proof of the status of Subcontractor's accounts in a form acceptable to TxDOT.
 - 10.5.2 Pay estimate certificates must be signed by a corporate officer or a representative duly authorized by the Contractor.
 - 10.5.3 Contractor shall provide copies of bills of lading, invoices, delivery receipts or other evidence of the location and value of such materials in requesting payment for materials not incorporated in the work.
 - 10.5.4 For purposes of Tex. Gov't Code § 2251.021 (a) (2), the date the performance of service is complete is the date when the Owner's representative approves the final application for payment. The effects of Final Payment are as set forth in Article 12.3.6.
- 10.6 Off-Site Storage. With prior approval by TxDOT and in the event Contractor elects to store materials or equipment at an off-site location, the Contractor shall abide by the following conditions, unless otherwise agreed to in writing by TxDOT and the Contractor.
- 10.6.1 Store materials and equipment in a Bonded Commercial Warehouse.
 - 10.6.2 Provide separate Insurance Coverage adequate not only to cover materials and equipment while in storage, but also in transit from the off-site storage areas to the project site. Copies of duly authenticated Certificates of Insurance, made out to insure TxDOT, must be filed with the Owner's representative.
 - 10.6.3 Inspection by Owner's representative is allowed at any time. TxDOT must be satisfied with the security, control, maintenance, and preservation measures.
 - 10.6.4 Materials and equipment for this project must be physically separated and marked for the project in a sectioned-off area. Only materials and equipment which have been approved through the submittal process are to be considered for payment.
 - 10.6.5 TxDOT reserves the right to reject materials and equipment at any time prior to final acceptance of the complete Contract if they do not meet Contract requirements, regardless of any previous progress payment made.
 - 10.6.6 With each monthly payment estimate, submit a report to the OR, DR and A/E listing the quantities of materials and equipment already paid for and still stored in the off-site location.
 - 10.6.7 Make warehouse records, receipts and invoices available to Owner's representatives, upon request, to verify the quantities and their disposition.
 - 10.6.8 In the event of Contract termination or default by Contractor, the items in storage off-site, upon which payment has been made, will be promptly turned over TxDOT or TxDOT's agents at a location near the jobsite as directed by the OR. The full provisions of PERFORMANCE AND PAYMENT BONDS on this project cover the materials off-site in every respect as though they were stored on the Project Site.

Article 11 Changes

- 11.1 Change Orders. A Change Order issued after execution of the Contract is a written order to the Contractor, signed by TxDOT in accordance with TxDOT signature authorization policy, the Contractor, and when applicable the Architect/Engineer, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time can only be changed by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum and/or the Contract Time. Subject to compliance with TxDOT signature authorization policy the OR may issue written authorization for the Contractor to proceed with work of a change order in advance of final execution by all parties. Authorization to execute a change order is reserved exclusively to TxDOT and may not be delegated to a private firm under contract with the State.
- 11.1.1 TxDOT, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, and the Contract Sum and the Contract Time will be adjusted accordingly, if required. All such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents. If such changes cause an increase or decrease in the Contractor's cost of, or time required for, performance of the Contract, a mutually agreeable, equitable, adjustment shall be made and confirmed in writing in a Change Order.
- 11.1.2 It is recognized by the parties hereto and agreed by them that the specifications and drawings may not be complete or free from errors, omissions and imperfections or that they may require changes or additions in order for the work to be completed to the satisfaction of TxDOT. Accordingly, it is the express intention of the parties, notwithstanding any other provisions in this Contract, that any errors, omissions or imperfections in such specifications and drawings, or any changes in or additions to the specifications and drawings or to the work ordered by TxDOT, and any resulting delays in the work or increases in Contractor's costs and expenses, shall not constitute or give rise to any claim, demand or cause of action of any nature whatsoever in favor of Contractor, whether for breach of contract, *quantum meruit*, or otherwise. TxDOT shall be liable to Contractor for the sum stated to be due Contractor in any Change Order, approved and signed by both parties. It is agreed hereby that such sum, together with any extension of time contained in said Change Order, shall constitute full compensation to Contractor for all costs, expenses and damages to Contractor, whether direct, consequential or otherwise that are incident to, arising out of, or resulting directly or indirectly from the work performed by Contractor under such Change Order.
- 11.1.3 Procedures for administration of Change Orders shall be established by TxDOT and stated in the Contract Documents.
- 11.1.4 Except as provided above, no order, oral statement, or direction from TxDOT or any of its duly appointed representatives shall be treated as a change under this Article or entitle the Contractor to an adjustment.

- 11.1.5 The Contractor agrees that TxDOT and any of its duly authorized representatives shall have access and the right to examine, during normal business hours, any books, documents, papers, and records of the Contractor related to the Project. Further, the Contractor agrees to include this provision in all its subcontracts. The period of access and examination described herein also relates to appeals under the Dispute Resolution Article of the Contract, litigation, or the settlement of claims arising out of the performance of this Contract. The period of access and examination shall continue until final disposition of such claims, appeals or litigation.
- 11.2 Claims for Additional Costs.
- 11.2.1 In order for the Contractor to make a valid claim for an increase in the Contract Sum for unforeseen circumstances, the Contractor shall give TxDOT and the A/E written notice thereof within twenty-one (21) days after the occurrence of the event giving rise to such claim. The Contractor shall not execute any work involving additional cost or time, except in an emergency endangering life or property in which case the Contractor shall act in accordance with Article 7.3. Any TxDOT approved change in the Contract Sum shall be authorized by Change Order. If TxDOT and the Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined as set forth under Article 15.
- 11.2.2 If the Contractor claims that additional cost is involved because of, but not limited to, 1) any written interpretation of the Contract Documents, 2) any order by TxDOT to stop the Work pursuant to Article 14 where the Contractor was not at fault, 3) any written order for a minor change in the Work issued pursuant to Article 11.3, the Contractor shall make such claim as provided in Article 11.2.1.
- 11.2.3 Failure of the Contractor or his Subcontractors failure to notify the A/E of obvious discrepancies or omissions in the Bid/Proposal Documents during the pre-bid/pre-proposal period, but claim additional costs for corrective work after contract award, shall be deemed an intent to circumvent competitive bidding for necessary corrective work. In such case, TxDOT, in its sole discretion, let a separate contract for the corrective work, or issue a Unilateral Change Order to require performance by the Contractor. Claims for time extensions or for extra cost resulting from delayed notice of contract document discrepancies or omissions will not be considered by TxDOT.
- 11.3 Minor Changes. The OR and the A/E, with concurrence of the OR, will have authority to order minor changes in the Work that do not involve an adjustment in the Contract Sum or an extension of the Contract Time. Such changes shall be effected by written order, i.e. Supplemental Instruction, which the Contractor shall carry out promptly and record on as-built record documents.
- 11.4 Concealed Site Conditions. If, in the performance of the Contract, subsurface, latent or concealed conditions at the site are found to be materially different from the information included in the bid/proposal documents, or if unknown conditions of an unusual nature are disclosed differing materially from the conditions usually inherent in work of the character shown and specified, the OR, DR and A/E shall be notified in writing of such conditions before they are disturbed. Upon such notice, or upon its own observation of such conditions, the A/E, upon the approval of the OR, will promptly make such changes in the Drawings and Specifications as they deem necessary to conform to the different conditions. Any increase or decrease in the cost of the Work, or in the time within which the Work is to be completed,

resulting from such changes will be adjusted by Change Order, subject to TxDOT's approval.

11.5 Extension of Time. All Changes to the Contract Time shall be made by Change Order as provided under Article 11.1.

11.6 Administration of Change Order Requests. All changes in the Contract shall be administered in accordance with TxDOT's procedures.

11.6.1 Routine Change. Routine changes in the Contract shall be formally initiated by TxDOT with a Change Request form detailing requirements of the proposed change for pricing by the Contractor. This action may be preceded by communications between the Contractor, A/E and OR concerning the need and nature of the change, but such communications shall not constitute a basis for beginning the proposed Work by the Contractor without a Change Order. Except for emergency conditions described below, approval of the Contractor's cost proposal by TxDOT, in compliance with TxDOT's signature authorization policy, will be required for authorization to proceed with the work being changed. TxDOT will not be responsible for the cost of work changed without prior approval and the Contractor may be required to remove such work at no cost to TxDOT.

11.6.1.1 Contractor shall furnish TxDOT an itemized breakdown, in such detail and form as acceptable to TxDOT, of all costs and supporting information including but not limited to quantities, material / equipment prices, tier subcontracted work performed, labor rates and employer payments, compensable insurance and rental rates for all proposed Change Order work. The itemized breakdown detail shall be the same for any Subcontractor work. The Contractor shall follow the outline and organization of the established Schedule of Values to permit analysis using current estimating guides and/or practices by the A/E and OR. Photocopies of Subcontractor and vendor/supplier proposals shall be furnished unless specifically waived in writing by the OR. The Contractor shall provide a written response to TxDOT's Change Order request within fifteen (15) calendar days of receipt unless the Contractor and TxDOT mutually agree otherwise.

11.6.2 Unexpected Circumstance. Any unexpected circumstance which necessitates an immediate change in order to avoid a delay in progress of the Work may be expedited by verbal communication and authorization by TxDOT in compliance with TxDOT's signature authorization policy, with written confirmation following within twenty-four (24) hours. A limited scope not-to-exceed estimate of cost and time will be requested prior to authorizing work to proceed. TxDOT reserves the right to issue a ULCO or Supplemental Instruction when in its sole opinion the circumstance which necessitated the change request could have been reasonably detected by the Contractor in fulfilling its duty to review the Contract Documents as set forth in these Uniform General Conditions.

11.6.3 Emergency Change. Emergency changes to save life or property may be initiated by the Contractor alone (see Article 7.3 - Emergencies) with the claimed cost and/or time of such work to be fully documented as to necessity and detail of the reported costs and/or time to TxDOT's satisfaction.

11.7 Valuation of Change Order Work. The value of changes in the Work, either additive or deductive, executed under a Change Order, shall be determined in one of the following ways:

11.7.1 Lump Sum. By acceptance of a lump sum proposal as described by the following paragraphs.

11.7.1.1 Contractor shall furnish TxDOT an itemized breakdown, in such detail and form as acceptable to TxDOT, of all costs and supporting information including but not limited to quantities, material prices including supplier invoices/quotes, tier subcontracted work performed, labor rates and employer payments, and rental rates. The itemized breakdown detail shall be the same for any Subcontractor work. The Contractor shall furnish TxDOT the following additional information in the itemized breakdown, including insurance charges and bond charges used in computing the lump sum proposal. The information shall also be provided by any Subcontractor work.

11.7.1.2 Cost shall include: Labor cost, including the classifications through foremen when engaged in the actual and direct performance of the work, and actual employer payments to or on behalf of workers for health and welfare, pension, vacation, insurance, and any similar charges imposed by law (Social Security Tax, Workers' Compensation) or required by applicable collective bargaining agreements; materials, installed permanently in the work or expended in performance thereof; rental cost of construction plant and equipment at the work site; energy, fuel, and supplies consumed in operation of power-driven equipment; additional insurance cost, if any, directly resulting from the additional Work, necessary professional design and consulting fees; revisions of previously finalized shop drawings and/or fabrication drawings; and any other costs involved with Change Order work, except those costs listed in 11.7.1.3.

In lieu of providing information for all employer payments to or on behalf of workers, excluding actual gross wages, the Contractor proposal may use a percentage factor based on methodology acceptable to TxDOT, which shall constitute full compensation for all employer payments other than actual gross wages. The Contractor shall provide complete supporting information for calculation of the percentage factor(s) when so requested by TxDOT.

11.7.1.3 Costs shall not include: (These costs shall be considered a part of overhead and profit or markups and no separate allowance will be made therefore) Labor for superintendents, assistant superintendents, office personnel (home and field), timekeepers, and maintenance mechanics at any level of contracting; per diem and travel allowances for any of the aforementioned labor classifications; pieces of equipment, hand and small tools, or instruments having a new value of \$500.00 or less, whether or not consumed by use; safety programs; scheduling; on site and main offices and operating costs; incidental job burdens; modifications to record drawings; guarantee period cost allowances; punch list allowances; and insurance other than mentioned in 11.7.1.2.

11.7.1.4 For work performed by the Contractor's forces, the maximum allowable percentages for overhead and profit on changes will not exceed fifteen percent (15%) if the total of self-performed work is less than or equal to

\$10,000; ten percent (10%) if the total of self-performed work is between \$10,000 and \$20,000; and 7.5 percent (7.5%) if the total of self-performed work is over \$20,000 for any specific change priced.

- 11.7.1.5 For subcontracted Work each affected Subcontractor shall figure its cost, overhead and profit as described above. All subcontractor costs shall be combined, and to that total subcontractor cost the Contractor will be allowed to add a maximum mark-up of ten percent (10%) if the total of all subcontracted work is less than or equal to \$10,000; 7.5 percent (7.5%) if the total of all subcontracted work is between \$10,000 and \$20,000; and five percent (5%) if the total of all subcontracted work is over \$20,000.
- 11.7.1.6 To the total of the above costs, the Contractor will be allowed to add Bond cost, if the change results in an increase in the Bond premium paid by the Contractor. The Contractor shall provide written evidence from the Bonding Company of any increase in the Bond premium to TxDOT. Subcontractors shall be allowed to add Bond cost to their total costs if the changed work results in an increase in the Bond premium paid by the Subcontractor and the Contractor's contract with the Subcontractor requires the Subcontractor to maintain a bond for their Work. The Contractor shall provide a copy of written evidence from the Bonding Company for any additional Subcontractor bond cost that is requested for inclusion in the change order.
- 11.7.2 Unit Price. By acceptance of unit prices named in the Contract or subsequently agreed upon.
 - 11.7.2.1 Unit price is full compensation for all materials, equipment, labor, tools, and supplies necessary to complete the item of work. Unit price includes all markups, overhead, profit, insurance, bond, etc. costs.
- 11.7.3 On lump sum changes involving both additions and deletions, percentages for overhead and profit will be allowed only on the net addition.
- 11.7.4 TxDOT does not accept and will not pay for additional contract cost identified as indirect, consequential, or as damages caused by delay due to Force Majeure or the Contractor.
- 11.7.5 If a Surety has assumed the responsibilities of the Contract, TxDOT may pay the Surety for the completion contractor's profit and overhead, but it will not pay the Surety any profit or overhead.
- 11.8 Contractor Cost Reduction Proposal. The Contractor may submit a cost reduction proposal for changing the requirements of the Contract Documents. The proposal shall demonstrate that changing the Contract requirements would:
 1. Represent an advantage to TxDOT over the specified requirement;
 2. Result in a net reduction in the total Contract Sum;
 3. Not impact any essential function or characteristic of the Work such as safety, service life, reliability, economy of operation, esthetic, ease of maintenance, and necessary standardize features; and
 4. Not detrimentally affect the Contract completion date.

All costs for compliance with these requirements, whether accepted or not, shall be borne by the Contractor.

The determination of TxDOT as to acceptability of the proposal will be final and TxDOT may accept in whole or in part any proposal submitted pursuant to this provision by issuing a Change Order that will identify the proposal on which it is based. The Change order will provide for an equitable adjustment in the Contract Sum in accordance with the provisions herein and will revise any other affected provisions of the Contract Documents.

- 11.9 Contractor's Risk of Performance. Except as expressly provided in this Article, other contract provisions or as may be determined by Article 15, the Contractor shall not be entitled to an increase in the Contract Sum or Contract Time and shall bear full responsibility for all risks affecting the Contractor's cost of performance.

Article 12 Project Completion and Acceptance

12.1 Closing Inspections

- 12.1.1 Request for Substantial Completion Inspection. When the Contractor considers the entire Work or part thereof Substantially Complete, it shall notify the OR in writing that the Work will be ready for Substantial Completion Inspection on a specific date. The Contractor shall include with this notice the Contractor's Punchlist to indicate that it has previously inspected all the Work associated with the request for inspection; has completed or scheduled items required for Substantial Completion; has corrected other items where possible; and has included all items scheduled for completion or correction prior to final inspection. The failure to include any items on this list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. If any items on this list required for Substantial Completion are not complete or scheduled for completion the Contractor shall not request a Substantial Completion Inspection. If any items on this list prevent use of the building for the purposes it is intended to be utilized and not corrected, the Contractor shall not request a Substantial Completion Inspection. TxDOT and its representatives will review the list of items and schedule the requested inspection, or inform the Contractor in writing that such an inspection is premature because the Work is not sufficiently advanced, items required to be complete or scheduled for completion are not completed, or conditions are not as represented on the Contractor's list.
- 12.1.2 Substantial Completion Inspection. On the date requested by Contractor, or as mutually agreed upon, with consideration of the status of the open items list, the A/E, OR, DR, Contractor and other TxDOT representatives as determined by TxDOT, will jointly attend the Substantial Completion Inspection, which shall be conducted by the OR and A/E or their delegate. If the OR determines that the Work is Substantially Complete, the OR will issue a Certificate of Substantial Completion to be signed by the A/E, TxDOT and Contractor, establishing the date of Substantial Completion. If TxDOT determines the Work is not Substantially Complete the Contractor will be so notified in accordance with other provisions of this Article. The OR and A/E will provide with or independent of this certificate a list of Punchlist items (the Substantial Completion Punchlist) for completion prior to Final Completion Inspection. This list may include items in addition to those on the Contractor's Punchlist, which the inspection team deems necessary to correct or complete prior to Final

Completion Inspection. The term “Substantial Completion Punchlist” items shall mean details of construction and mechanical and electrical adjustments which are minor in character and do not materially interfere with TxDOT’s safe use, enjoyment and operation of the Project or designated portions thereof. If TxDOT elects to occupy the facility upon determination of Substantial Completion, the Contractor shall complete all corrective Work at the convenience of TxDOT, without disruption to TxDOT’s use of the facility for its intended purposes.

- 12.1.3 Requirements for Substantial Completion. The Certificate of Substantial Completion for all or a designated portion of the Work will not be issued if the following items are incomplete, unless otherwise agreed to by TxDOT in writing, as they are considered essential elements of the Project and completion of these is a prerequisite for TxDOT’s safe use, enjoyment and operation of the project or designated portions thereof:
- 12.1.3.1 Complete and accepted operation and maintenance (O&M) manuals for all installed equipment, systems and like items to include, but not be limited to, submittals, shop drawings, operation and maintenance instructions, wiring diagrams, spare parts lists, test/inspection results/reports and written warranties;
 - 12.1.3.2 Verification that training of designated TxDOT personnel for various items of the Work requiring training as set forth in the Contract Documents is complete, as evidenced by submittal of a copy of the “sign in” sheet for each required training session;
 - 12.1.3.3 A notarized affidavit attesting to TxDOT no hazardous materials were incorporated into the Work unless prior written approval of TxDOT was granted, as verified attaching a copy of the TxDOT authorization;
 - 12.1.3.4 A notarized certification to TxDOT that all equipment and materials used in fulfillment of their contract responsibilities are non Asbestos Containing Building Materials (ACBM) in compliance with the Asbestos Hazard Emergency Response Act (AHERA – 40 CRF 763-99 (7));
 - 12.1.3.5 Verification, to the satisfaction of TxDOT, that inspections required by any authority having jurisdiction over any element of the Work have been conducted which shall include any registrations as may be required and the issuance of any permits, licenses, certificates, etc. as may be required for any system or equipment, i.e. boilers, elevators, etc., unless specifically stated otherwise in the Plans and Specifications (The Texas Accessibility Standards (TAS) compliance review and inspection will be the responsibility of the Architect/Engineer and is not a condition for Substantial Completion);
 - 12.1.3.6 Demonstration, to the satisfaction of TxDOT’s authorized representative(s), that all equipment and systems function as required by the Contract Documents, i.e commissioning; and
 - 12.1.3.7 Completion of landscaping as set forth in the Contract Documents.
- 12.1.4 Final Completion Inspection. The Contractor shall complete the list of items identified on the Substantial Completion Punchlist within the time frame specified and prior to requesting a Final Completion Inspection. Unless otherwise specified, directed by TxDOT in writing or otherwise agreed in writing

by the parties, the Contractor shall complete and/or correct all Substantial Completion Punchlist work within thirty (30) calendar days of the Substantial Completion date. Upon completion of the Substantial Completion Punchlist work, the Contractor shall give written notice to the OR and A/E that the Work will be ready for Final Inspection on a specific date. The Contractor shall accompany this notice with a copy of the updated Substantial Completion Punchlist indicating resolution of all items and the original marked-up As-Built drawings reflecting all modifications and changes made to the Work. If the Project is being delivered in phases the original marked-up As-Built drawings shall be delivered at completion of the last phase. On the date specified or as soon thereafter as is practicable, the OR, A/E, DR and the Contractor will inspect the Work. The A/E will submit to TxDOT a Final Punchlist of open items that the inspection team requires corrected or completed before final acceptance of the Work. In the event the time frame set forth in the Certificate of Substantial Completion to complete the Substantial Completion Punchlist Work expires and TxDOT has not been provided written notice from the Contractor that the Work is ready for Final Completion Inspection, and as **TIME IS OF THE ESSENCE IN COMPLETION OF THE WORK**, TxDOT will provide the Contractor written notice of a date specific an inspection will be held. The Contractor, A/E, OR, DR and other TxDOT representatives as determined by TxDOT shall conduct the inspection. If TxDOT determines the Substantial Completion Punchlist Work is not complete and/or corrected, TxDOT shall, without invalidating the Contract, have the right, upon written notice to the Contractor, to complete the Work using duly qualified contractors or TxDOT forces. The Contractor shall reimburse TxDOT for any reasonable costs incurred by TxDOT in completing the Work with offsets and deductions in the Final Payment as provided for in this Article. This provision does not invalidate any other provision in the Contract Documents available to TxDOT for completion and/or correction of the Work.

- 12.1.5 Completed Final Punchlist Inspection. The Contractor shall correct or complete all items on the Final Punchlist before requesting Final Payment. Unless otherwise agreed to in writing by the parties, the Contractor shall complete this work within seven (7) days of receipt of the Final Punchlist and notify the A/E, OR and DR in writing stating the disposition of each Final Punchlist item. The A/E, TxDOT and Contractor shall promptly inspect the completed items. When the Final Punchlist is complete, and the Contract is fully satisfied according to the Contract Documents, subject to the limitations of Article 12.3.9, the OR will issue a certificate establishing the date of Final Completion. Final Completion of all Work is a condition precedent to the Contractor's right to receive Final Payment. In the event the Contractor fails to complete the Final Punchlist items within seven (7) days of receipt of the Final Punchlist or as otherwise agreed to in writing by the parties and as **TIME IS OF THE ESSENCE IN COMPLETION OF THE WORK**, TxDOT shall, without invalidating the Contract, have the right, upon written notice to the Contractor, to complete the Final Punchlist Work using duly qualified contractors or TxDOT forces and the Contractor shall reimburse TxDOT for any reasonable costs incurred by TxDOT in completing the Work with offsets and deductions in the Final Payment as provided for in this Article. This provision does not invalidate any other provision in the Contract Documents available to TxDOT for completion and/or correction of the Work.

- 12.1.6 Annotation. Any Certificate issued under this Article may be annotated to indicate that it is not applicable to specified portions of the Work, or that it is subject to limitation(s) as determined by TxDOT.
- 12.1.7 Purpose of Inspection. Inspection is for determining the completion of the Work, and does not relieve the Contractor of its overall responsibility for completing the Work in a good and workmanlike manner, in compliance with the Contract. Work accepted with incomplete Punchlist items or failure of TxDOT or other parties to identify Work that does not comply with the Contract Documents or is defective in operation or workmanship does not constitute a waiver of TxDOT's rights under the Contract or relieve the Contractor of its responsibility for performance or warranties.
- 12.1.8 Additional Inspections.
- 12.1.8.1 If TxDOT's inspection team determines that the Work is not Substantially Complete at the Substantial Completion Inspection, the OR will provide the Contractor written notice listing cause or causes of the rejection. The OR may set a time for completion of incomplete or defective work. If a new time is set the Contractor shall complete or correct all work so designated prior to requesting a second Substantial Completion Inspection. Nothing in this subsection shall prohibit TxDOT from completing the Work as set forth in other provisions of this Article nor invalidate any provision in the Contract Documents available to TxDOT for completion and/or correction of the Work.
- 12.1.8.2 If TxDOT's inspection team determines that the Work is not complete at the Final Inspection, the OR will provide the Contractor written notice listing the cause or causes of the rejection. The OR may set a time for completion of incomplete or defective work. If a new time is set the Contractor shall complete or correct all work so designated prior to again requesting a Final Inspection. Nothing in this subsection shall prohibit TxDOT from completing the Work as set forth in other provisions of this Article nor invalidate any provision in the Contract Documents available to TxDOT for completion and/or correction of the Work.
- 12.1.8.3 The Contract Agreement contemplates three (3) comprehensive inspections: the Substantial Completion Inspection, the Final Completion Inspection, and the Completed Final Punchlist Inspection. The cost to TxDOT of additional inspections resulting from the Work not being ready for one or more of these inspections shall be charged to the Contractor. TxDOT may issue a Unilateral Change Order deducting these costs from Final Payment. Upon the Contractor's written request, TxDOT will furnish documentation of any costs so deducted. Work added to the Contract by Change Order after the Substantial Completion Inspection is not corrective work for purposes of determining timely completion, or assessing the cost of additional inspections. However, such work shall be subject to all provisions of this Contract.
- 12.1.9 Phased and Whole Completion. The contract may provide, or project conditions may warrant, as determined by the OR, that designated elements or parts of the Work be completed in phases. Where phased completion is

required or specifically agreed to by the parties, the provisions of the Contract related to Closing Inspections and Occupancy apply independently to each designated element or part of the Work. For all other purposes, unless otherwise agreed by the parties in writing, Substantial Completion of the Work as a whole is the date on which the last element or part of the Work completed receives a Substantial Completion certificate. Final Completion of the Work as a whole is the date on which the last element or part of the Work completed receives a Final Completion certificate.

12.1.10 Time Charges. The date Time Charges for the project as a whole terminates will be the date set forth in the Certificate of Substantial Completion for the project issued by TxDOT. When the Work is to be completed in designated elements or portions (phases), time charges for the project will not stop until the date set forth in the Certificate of Substantial Completion for the last phase of the Work issued by TxDOT.

12.2 TxDOT's Right of Occupancy. TxDOT may occupy or use all or any portion of the Work following Substantial Completion, or at any earlier stage of completion. Should TxDOT wish to use or occupy the Work, or part thereof, at or prior to Substantial Completion, the OR will notify the Contractor in writing. Work performed on the premises by third parties on TxDOT's behalf does not constitute occupation or use of the Work by TxDOT for purposes of this Article. All Work performed by the Contractor after occupancy, whether in part or in whole, shall be at the convenience of TxDOT so as to not disrupt TxDOT's use of, or access to occupied areas of the project.

12.3 Acceptance & Payment.

12.3.1 Request for Final Payment. Following the certified completion of all work, including all punch list items, cleanup, and the delivery and approval of record documents, the Contractor shall submit an Application for Final Payment. The Contractor shall include all sums held as retainage and forward the Application for Final Payment to the A/E and the OR for review and approval. If TxDOT determines that any item remains incomplete, including but not be limited to, maintenance and operation manuals, training, guarantees and warranties, record documents and all other items required by the Contract that have not been submitted to and approved by TxDOT, TxDOT may take no action on the Application for Final Payment and return the Application for Final Payment to the Contractor with a list of missing or incomplete items.

12.3.2 Allowances. If the Contract Documents contains allowance items, all savings under any of the designated Allowance Items shall accrue to the benefit of TxDOT and the Contract Sum shall be reduced by one hundred percent (100%) of such savings.

12.3.3 Final Payment Documentation. No Application for Final Payment is complete unless it fully reflects all required modifications and includes all required executed documentation including, but not limited to, the following:

12.3.3.1 TxDOT's Contractor's Application For Payment form;

12.3.3.2 Updated Schedule of Values form;

12.3.3.3 TxDOT's Contractor's Affidavit Of Payments Of Debts and Claims (final) form;

- 12.3.3.4 If requested, documentation establishing payment or satisfaction of all such obligations connected with the work of the Contract, such as receipts, releases and waivers of claims, to the extent and in such form as designated by TxDOT;
 - 12.3.3.5 TxDOT's Consent of Surety Company To Final Payment form;
 - 12.3.3.6 If required, a signed TxDOT Change Order making final adjustment to the Contract Sum or Contract Time as may be required for offsets and deductions, allowance items reconciliation, time adjustments, or any other item requiring a change to the Contract;
 - 12.3.3.7 HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report (See Article 4.5 for Final Report requirement);
 - 12.3.3.8 Buy America form D-9-USA-1 or approved equivalent.
- 12.3.4 TxDOT Approval. The A/E and OR will review a submitted complete Application for Final Payment promptly but in no event later than ten (10) days after its receipt. The OR will either 1) return the Application for Final Payment to Contractor with corrections for action and resubmission or 2) accept it subject to any offsets and deductions, noting approval and forward for payment processing.
- 12.3.5 Offsets and Deductions. TxDOT may deduct from the Final Payment all sums due from the Contractor. If the Certificate of Final Completion notes any Work remaining, incomplete, or defects not remedied, TxDOT may deduct the cost of remedying such deficiencies from the Final Payment. On such deductions, TxDOT will identify each deduction, the amount, and the explanation of the deduction. Such offsets and deductions shall be incorporated via a final Change Order, including Unilateral Change Order as may be applicable.
- 12.3.6 Final Payment Due. Final Payment is due and payable by the Owner, subject to all allowable offsets and deductions, on the 31st day following TxDOT receipt of a complete Application for Final Payment. If the Contractor disputes any amount deducted by the TxDOT, the Contractor shall give notice of the dispute on or before the thirtieth (30th) day following receipt of Final Payment and Article 15 shall apply to unresolved disputes.
- 12.3.7 Effect of Final Payment (TxDOT). Final Payment, when accepted by the Contractor, constitutes a waiver of all claims by TxDOT, relating to the condition of the Work except those arising from any one, combination or all of the following:
- 12.3.7.1 Faulty or defective Work appearing after Substantial Completion (latent defects);
 - 12.3.7.2 Failure of the Work to comply with the requirements of the Contract Documents;
 - 12.3.7.3 Terms of any warranties required by the Contract, or implied by law;
 - 12.3.7.4 Claims arising from personal injury or property damage to third parties; and
 - 12.3.7.5 Disputes pending under Article 15 that have not been resolved.
- 12.3.8 Effect of Final Payment (Contractor). Acceptance of Final Payment constitutes a waiver of all claims by the Contractor, except those specifically identified in

writing and submitted prior to or at the time of Final Payment and disputes pending under Article 15 that have not been resolved. Provided, however, that the Contract shall not be deemed fully performed and closed until the expiration of all periods of time provided under the Contract Documents or applicable law for the Contractor to submit a claim or protest a Unilateral Change Order (ULCO).

- 12.3.9 Effect on Warranty. Regardless of approval and issuance of Final Payment, the Contract is not deemed fully performed by the Contractor and closed until the expiration of all warranty periods.

Article 13 Warranty & Guarantee

- 13.1 Contractor's General Warranty and Guarantee. Contractor warrants to TxDOT that all Work is executed in accordance with the Contract, complete in all parts and in accordance with approved practices and customs, and of the best finish and workmanship. The Contractor further warrants that unless otherwise specified, all materials and equipment incorporated in the Work under the Contract are new. TxDOT may, at its option, agree in writing to waive any failure of the Work to conform to the Contract, and to accept a reduction in the Contract Sum for the cost of repair or diminution in value of the Work by reason of such defect. Absent such a written agreement, the Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute and is not waived by any inspection or observation by TxDOT, Architect/Engineer or others, by making any progress payment or final payment, by the use or occupancy of the Work or any portion thereof by TxDOT, at any time, or by any repair or correction of such defect made by TxDOT. All warranties must include statements that the warranty is assignable to the end user, subject to Texas laws and that venue for any legal proceedings under the warranty shall be in a court of competent jurisdiction in the county where the warranted item is incorporated into the Project.
- 13.2 Warranty Period. Except as may be otherwise specified or agreed, the Contractor shall repair all defects in materials, equipment, or workmanship appearing within one year from the date of Substantial Completion of the Work at no cost to TxDOT. If Substantial Completion occurs by phase, then the warranty period for that particular Work begins on the date of completion of the relevant phase, or as otherwise stipulated on the Certificate of Substantial Completion for the particular Work. Regardless of approval and issuance of Final Payment, the Contract is not deemed fully performed by the Contractor and closed until the expiration of all warranty periods.
- 13.3 Limits on Warranty. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
- 13.3.1 Modification or improper maintenance or operation by persons other than Contractor, Subcontractors, or any other individual or entity for whom Contractor is not responsible.
- 13.3.2 Normal wear and tear under normal usage after acceptance of the Work by TxDOT.

- 13.4 Events Not Affecting Warranty. Contractor's obligation to perform and complete the Work in a good and workmanlike manner in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:
- 13.4.1 Observations by TxDOT and/or AE.
 - 13.4.2 Recommendation to pay any progress or final payment by OR or A/E.
 - 13.4.3 The issuance of a certificate of Substantial Completion by TxDOT or any payment by Owner to Contractor under the Contract Documents.
 - 13.4.4 Use or occupancy of the Work or any part thereof by TxDOT.
 - 13.4.5 Any acceptance by TxDOT or any failure to do so.
 - 13.4.6 Any review of a Shop Drawing or sample submittal; or
 - 13.4.7 Any inspection, test or approval by others.
 - 13.4.8 Final payment by the Owner.
- 13.5 Separate Warranties. If a particular piece of equipment or component of the Work for which the contract requires a separate warranty is placed in continuous service before Substantial Completion, the Warranty Period for that equipment or component will not begin until Substantial Completion, regardless of any warranty agreements in place between suppliers and/or Subcontractors and the Contractor. The OR will certify the date of service commencement in the Substantial Completion Certificate.
- 13.5.1 In addition to the Contractor's warranty and duty to repair, the Contractor expressly assumes all warranty obligations required under the Contract for specific building components, systems and equipment.
 - 13.5.2 The Contractor may satisfy any such obligation by obtaining and assigning to TxDOT a complying warranty from a manufacturer, supplier, or Subcontractor, provided the warranty provides for assignment to the end user. Where an assigned warranty is tendered to TxDOT but does not fully comply with the requirements of the Contract, the Contractor remains liable to TxDOT on all elements of the required warranty not provided by the tendered warranty.
 - 13.5.3 A complying warranty from a manufacturer, supplier, or Subcontractor assigned to TxDOT by the Contractor shall be subject to and governed by the laws of the State of Texas.
- 13.6 Correction of Defects. Upon receipt of written notice from TxDOT, or any agent of TxDOT designated as responsible for management of the Warranty Period, of the discovery of a defect, the Contractor shall promptly remedy the defect(s), and provide written notice to TxDOT and its designated agent indicating action taken. In case of emergency where delay would cause serious risk of loss or damage to TxDOT, or if the Contractor fails to remedy within thirty (30) days, or within another period agreed to in writing, TxDOT may correct the defect and be reimbursed the cost of remedying the defect from the Contractor or its Surety.
- 13.7 Certification of No Asbestos Containing Materials or Work. The Contractor shall ensure compliance with the Asbestos Hazard Emergency Response Act (AHERA-40 CFR 763-99 (7)) from all subcontractors and materials suppliers, and shall provide a notarized certification to TxDOT that all equipment and materials used in

fulfillment of their contract responsibilities are non Asbestos Containing Building Materials (ACBM). This certification is a condition for Substantial Completion of the Project in whole or in part.

- 13.8 Telecommunications System Warranty Period. . Except as may be otherwise specified or agreed, the Contractor shall repair all defects in materials, equipment, or workmanship appearing within two years from the date of Substantial Completion of the telecommunications system Work at not cost to TxDOT. If Substantial Completion occurs by phase, then the warranty period for the particular telecommunications system Work begins on the date completion of the relevant phase, or as otherwise stipulated on the Certificate of Substantial Completion for the particular Work. Regardless of approval and issuance of Final Payment, the Contract is not deemed fully performed by the Contractor and closed until the expiration of all warranty periods.

Article 14 Suspension and Termination

- 14.1 Suspension of Work for Cause. TxDOT may, at any time without prior notice, suspend all or any part of the Work, if TxDOT determines it is considered necessary to prevent or correct any condition of the Work, which constitutes an immediate safety hazard, or which is expected to impair the integrity, usefulness or longevity of the Work when completed, or for any reason set forth in any other Article of the Uniform General Conditions.
- 14.1.1 TxDOT will give the Contractor a written notice of suspension for cause, setting forth the reason for the suspension and identifying the work suspended. Upon receipt of such notice, the Contractor shall immediately stop the work so identified. As soon as practicable following the issuance of such a notice, TxDOT will initiate and complete a further investigation of the circumstances giving rise to the suspension, and issue a written determination of the findings.
- 14.1.2 If it is confirmed that the cause was within the control of the Contractor, the Contractor will not be entitled to an extension of time or any compensation for delay resulting from the suspension. If the cause is determined not to have been within the control of the Contractor, and the suspension has prevented the Contractor from completing the Work within the Contract Time, the Contractor may be entitled to a Change Order increasing the Contract Sum and/or extending the Contract Time caused by any such suspension of Work.
- 14.1.3 Suspension of work under this provision will be no longer than is reasonably necessary to identify and remedy the conditions giving rise to the suspension. If TxDOT and the Contractor can not reach agreement on the validity of any work suspension issued by TxDOT or on Contractor's entitlement to an adjustment to the Contract Sum and/or Contract Time such dispute shall be resolved pursuant to the Article 15.
- 14.2 Suspension of Work for TxDOT's Convenience. Upon seven (7) calendar days written notice to the Contractor, TxDOT may at any time without breach of the Contract suspend all or any portion of the Work for a period of up to thirty (30) days for its own convenience. TxDOT will give the Contractor a written notice of suspension for convenience, which sets forth the dates and number of suspension days for the Work, or any portion of it. When such a suspension prevents the

Contractor from completing the Work within the Contract Time, it is an Excusable Delay. A notice of suspension for convenience may be modified by TxDOT at any time on seven (7) calendar days written notice to the Contractor. If TxDOT suspends the Work for its convenience for more than sixty (60) consecutive calendar days, the Contractor may elect to terminate the contract pursuant to the provisions of the contract.

14.3 Termination by TxDOT for Cause.

- 14.3.1 TxDOT may, without prejudice to any right or remedy, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor, under any of, but not limited to, the following circumstances:
 - 14.3.1.1 Persistent or repeated failure or refusal, except during complete or partial suspensions of Work authorized under the Contract, to supply enough properly skilled workmen or proper materials to continue prosecution of the Work;
 - 14.3.1.2 Persistent disregard of laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, including the OR;
 - 14.3.1.3 Persistent failure to prosecute the Work in accordance with the Contract, and to insure its completion within the time, or any approved extension thereof, specified in this Contract;
 - 14.3.1.4 Failure to remedy defective work condemned by the OR;
 - 14.3.1.5 Failure to pay subcontractors, laborers, materialmen and suppliers pursuant to Tex. Gov't Code Chapter 2251;
 - 14.3.1.6 Persistent endangerment to the safety of labor or of the Work, including display of uncooperative, disruptive or threatening behavior;
 - 14.3.1.7 Failure to resume the Work that has been discontinued within a reasonable number of days after written notice to do so;
 - 14.3.1.8 Failure to supply or maintain statutory bonds or to maintain required insurance, pursuant to the Contract;
 - 14.3.1.9 Any material breach or substantial violation of a provision of the Contract;
 - 14.3.1.10 The Contractor's insolvency, bankruptcy, or demonstrated financial inability to perform the Work.
- 14.3.2 Should TxDOT decide to terminate the employment of the Contractor under any of the provisions of Article 14.3.1, it will provide to the Contractor and its Surety written notice of the intent to declare the Contractor in default if the Contractor does not proceed as directed within ten (10) days after receipt of the notice.
- 14.3.3 Should the Contractor or its Surety, after having received notice of intent to declare the Contractor in default, demonstrate to the satisfaction of TxDOT within the time frame set forth in the notice, remedy to the condition(s) upon which the notice was based, the notice shall be rescinded in writing by TxDOT. If so rescinded, the Work may continue without an extension of time or any increase in the Contract Sum related directly or indirectly to the remedy.

- 14.3.4 Failure by TxDOT to exercise the right to terminate in any instance or for any proper reason is not a waiver of the right to do so in any other instance or for any other proper reason.
- 14.3.5 If the Contractor or its Surety fails to demonstrate activities to remedy the condition(s) upon which the notice of intent was based, to the satisfaction of TxDOT and within the time frame set forth in the notice following receipt of notice, TxDOT will give written notice to the Contractor and Surety, declare the Contractor to be in default of the Contract, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment and machinery thereon owned by the Contractor. TxDOT shall also without violating the Contract, demand the Contractor's Surety complete the remaining Work in accordance with the terms of the original Contract subject to, but not limited to, the following:
 - 14.3.5.1 The Surety becomes the Contractor in a takeover;
 - 14.3.5.2 A completing Contractor will be considered a subcontractor of the Surety;
 - 14.3.5.3 TxDOT reserves the right to approve or reject proposed subcontractors. HUB's must continue to be used in accordance with the commitments previously approved in the HSP by TxDOT;
 - 14.3.5.4 Work may resume after TxDOT receives and approves certificates of insurance as required by the Contract Documents. Certificates of insurance may be issued in the name of the completing Contractor;
 - 14.3.5.5 The Surety is responsible for making every effort to expedite the resumption of the Work and completion of the Contract;
 - 14.3.5.6 The completing Contractor may complete the Work utilizing the materials at the work location it deems suitable and acceptable subject to compliance with the provisions of the Contract Documents;
 - 14.3.5.7 Time charges will continue until completion of the Contract;
 - 14.3.5.8 Any costs incurred by TxDOT including, but not limited to, the cost of additional A/E services, other consultants, contract administration, liquidated damages, and any work or service of any type made necessary by such default or neglect will be the responsibility of the Surety. All costs associated with this work will be deducted from money due to the Surety. If the amount due TxDOT exceeds the sum that would have been payable under the Contract, the Surety will be liable and pay TxDOT the balance of these costs in excess of the Contract Sum. This obligation for payment survives the termination of the Contract.
- 14.3.6 In termination for cause the Contractor may be subject to sanctions under Title 43 Texas Administrative Code Chapter 9, Subchapter G.
- 14.3.7 The Surety's obligation for performance shall survive the termination of the Contract. Should the Surety fail to so demonstrate within thirty (30) days following receipt of termination notice to TxDOT's reasonable satisfaction that the condition or conditions upon which the notice of termination is based have been removed, corrected, or will not recur, TxDOT may, upon written notice to the Surety, arrange for completion of the Work and pursue its legal remedies. TxDOT shall file suite for the cost incurred by TxDOT to complete the Work including, but not limited to, the cost of additional A/E services, other

consultants, contract administration, and any work or service of any type made necessary by such default, corrections to the Work, or neglect.

- 14.3.7.1 In addition to any rights TxDOT may have against the Surety, TxDOT reserves the right in termination for cause to take assignment of any and all contracts between the Surety and its Subcontractors, vendors and suppliers. The OR will promptly notify the Surety of the contracts TxDOT elects to assume. Upon receipt of such notice, the Surety shall promptly take all steps necessary to effect such assignment.
- 14.3.8 If it is determined, after the Contractor is declared in default, that the Contractor was not in default, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of TxDOT as provided for in the Termination for Convenience of TxDOT provision under this Article.
- 14.4 Termination for Convenience of TxDOT. TxDOT reserves the right, without breach, to terminate the Contract prior to, or during the performance of the Work, for any reason. Upon such an occurrence, the following shall apply:
 - 14.4.1 TxDOT will immediately notify the Contractor and the A/E in writing, specifying the reason for and the effective date of contract termination. Such notice may also contain instructions necessary for the protection, storage or decommissioning of incomplete work or systems, and for safety.
 - 14.4.2 Upon receipt of the notice of termination, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due at that point in the Contract:
 - 14.4.2.1 Stop all work.
 - 14.4.2.2 Place no further subcontracts or orders for materials or services.
 - 14.4.2.3 Terminate all subcontracts.
 - 14.4.2.4 Cancel all materials and equipment orders as applicable.
 - 14.4.2.5 Take action that is necessary to protect and preserve all property related to this Contract and materials, equipment and other property which is in the possession of the Contractor and for which TxDOT has paid the Contractor.
 - 14.4.3 When the Contract is terminated for TxDOT's convenience, the Contractor may recover from the Owner payment for all Work executed, including any additional work required pursuant to the notice of termination, and for any provable loss and reasonable expenses attributable to the Work resulting from such termination, but not for anticipated profits after the date of termination.
- 14.5 Termination By Contractor. If the Work is stopped for a period of ninety (90) days under an order of any court or other public authority having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with the Contractor, then the Contractor may, upon thirty (30) additional days' written notice to the OR, terminate the Contract and recover from the Owner payment for all Work previously executed and for any provable loss and reasonable expenses attributable to the Work resulting prior to such termination, but not for anticipated profits after the date of notice by the Contractor.

If the cause of the work stoppage is removed prior to the end of the thirty (30) day notice period, the Contractor may not terminate the Contract.

- 14.6 Settlement on Termination. When the Contract is terminated for any reason, the Contractor shall, at any time prior to sixty (60) days after the effective date of termination, submit a final termination settlement proposal to TxDOT based upon recoverable costs as provided herein. If the Contractor fails to submit the proposal within the time allowed, TxDOT may determine the amount due to the Contractor because of the termination and the Owner will pay the determined amount to the Contractor. All settlements on termination shall be administered as a Change Order.

Article 15 Dispute Resolution

- 15.1 Contractor Disputes. It is the goal of the Department to have a dispute settled at the District / Office / Division, depending on the type of contract, level prior to elevating it to the Contract Claim Committee.
- 15.2 Unresolved Contractor Disputes. The Alternate Dispute Resolution Process is authorized under Texas Government Code Chapter 2009. The Alternative Dispute Resolution Process shall be used by TxDOT and the Contractor to attempt to resolve any claim made by the Contractor or TxDOT.
- 15.2.1 Contractor Claim. A claim filed by the Contractor shall follow the Contract Claim Procedure as set forth in Texas Administrative Code (TAC) Title 43, Part 1, Chapter 9, Subchapter A, Rule §9.2.
- 15.2.1.1 Only the prime contractor shall submit a claim to begin a claim proceeding.
- 15.2.1.2 The prime contractor shall file a claim only after completion of the contract or when required for orderly performance of the contract.
- 15.2.1.3 The prime contractor shall file a claim no later than one year after the earlier of: the date the Department issues notice to the contractor that it is in default, or the date the Department terminates the contract; or the date the Department issues final acceptance of the Project.
- 15.2.1.4 After a claim proceeding has begun the Department may make a counter claim.
- 15.2.1.5 A claim filed by the prime contractor must be considered by the Contract Claim Committee. After a committee decision is issued, the Contractor can file with the Department's executive director a written petition requesting an administrative hearing.
- 15.2.2 Owner Claim. TAC 43, §9.2 does not abrogate the Owner's authority to file a claim in a court of competent jurisdiction. The procedure for the Owner to file a claim in a court of competent jurisdiction, including the deadline to file a claim, is set by other law.
- 15.3 Condition Precedent to Formal Administrative Hearing. Compliance by the Contractor with TAC 43, §9.3 Contract Claim Procedure is a condition precedent to the filing of a contested case proceeding under Government Code Chapter 2001.

- 15.4 Condition Precedent to Seeking Consent to Sue. Compliance with the contested case process provided in Government Chapter 2001 is a condition precedent to seeking consent to sue from the Legislature under Chapter 107 of the Texas Civil Practices and Remedies Code.
- 15.5 Continued Performance. The pendency of a claim or claims does not authorize any suspension of performance by the Contractor nor relieve the Contractor from any of its obligations, in whole or in part.

Article 16 Miscellaneous

- 16.1 Special Conditions. When the Work contemplated by TxDOT is of such a character that the foregoing Uniform General Conditions of the Contract cannot adequately cover necessary and additional contractual relationships, the Contract may include Special Conditions as described below:
- 16.1.1 Special Conditions shall relate to a particular project, be peculiar to that project, and may alter or expand any of the Uniform General Conditions.
- 16.2 Federally Funded Projects. On Federally funded projects, TxDOT may waive, suspend or modify any Article in these Uniform General Conditions which conflicts with any Federal statute, rule, regulation or procedure, where such waiver, suspension or modification is essential to receipt by the Owner of such Federal funds for the project. In the case of any project wholly financed by Federal funds, any standards required by the enabling Federal statute, or any Federal rules, regulations or procedures adopted pursuant thereto, shall be controlling.
- 16.3 Standard Specifications. When the Work contemplated by TxDOT requires the use of *Standard Specifications*, as defined in Article 1 of these Uniform General Conditions, for construction of elements of the Work, the Measurement and Payment sections of each *Standard Specifications* Item Number referenced are modified as described below. The term "TxDOT Item Number", if used, shall have the same meaning as *Standard Specifications* Item Number.
- 16.3.1 Measurement. The Measurement section of the *Standard Specifications* Item Number is voided and the Item will be measured on a percentage of Work completed and materials stored corresponding to the Schedule of Values Work classification under which the Item is included.
- 16.3.2 Payment. The Payment section of the *Standard Specifications* Item Number is voided and the payment for the Item will be made on a percentage of Work completed and materials stored corresponding to the Schedule of Values Work classification under which the Item is included.
- 16.4 Personal Liability of Public Officials. TxDOT employees are agents and representatives of the State and will incur no liability, personal or otherwise, in carrying out the provisions of the Contract or in exercising any power or authority granted under the Contract.
- 16.5 Assignment of Contract. The Contractor shall not assign, sell, transfer, or otherwise dispose of the Contract or any portion, rights, title, or interest (including claims) without the approval of the Commission or designated representative. TxDOT must deem any proposed assignment justified and legally acceptable before the assignment may be approved. Any assignment without TxDOT's approval is void.

- 16.6 Buy America. The Contractor shall comply with the latest provisions of Buy America as listed at 23 CFR 635.410. Use steel or iron materials manufactured in the United States except when:
- 16.6.1 The cost of materials, including delivery, does not exceed 0.1% of the total Contract cost or \$2,500, whichever is greater;
 - 16.6.2 The Contract contains an alternate item for a foreign source steel or iron product and the Contract is awarded based on the alternate item; or
 - 16.6.3 The materials are temporarily installed.
 - 16.6.4 The Contractor shall provide a notarized original of FORM D-9-USA-1 with the proper attachments for verification of compliance.

End of Building Uniform General Conditions

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SPECIAL CONDITION - INSURANCE

Only Item 4 – Builder's Risk Insurance has been modified for this contract.*

All other requirements for insurance under this contract remain the same.

Requirement of Form 1560 "Certificate of Insurance" provided by The State shall be used for this project. Form is available at the following link: [Insurance Forms](#). A "Waiver of Subrogation Endorsement" in favor of the State shall be a part of each policy for the coverage in 1 below. The State shall also be named under the Loss Payable clause in 4* below.

The Contractor shall be responsible for any deductions stated in the policy.

- | | | |
|------|--|--|
| 1. | Workers' Compensation Insurance | No Less Than:
Statutory |
| 2. | Commercial General Liability Insurance Amount | No Less Than:
\$600,000 each occurrence |
| 3. | Business Auto Policy Amounts | No Less Than:
\$600,000 combined single limit |
| 4. * | All Risk Builder's Risk Insurance
(For building-facilities contracts only) | 100% of Contract Price |

* *Builder's Risk against loss by storm or fire or extended coverage perils on work and materials intended for use on the project including structures adjacent thereto. **TxDOT to be named under the Loss Payable Clause***

*** 100% of Contract Price for Construction associated with Safety Rest Areas, Travel Information Centers, Restroom Buildings, Picnic Arbor Buildings, Playground Buildings, Sitework, Signage, Lighting, Site Utilities and associated architectural, structural, mechanical, electrical, plumbing, communications, and security/camera systems.**

The Contractor shall provide the Department with the Department's Certificate of Insurance, in accordance with contract requirements and with the requirements of Item 3 Section 4.3. Upon signing the contract for this project, your insurance agent should complete ALL required certificates and email them to: CST_INSURANCE@TXDOT.GOV.

This office must receive proof of renewal for this insurance on the appropriate certificate of insurance before the expiration date to avoid work being suspended.

Please direct any questions to CST_INSURANCE@TXDOT.GOV or you may also call the CST Construction and Maintenance Contract Letting Section at (512) 416-2465.

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SPECIAL CONDITION - PRECEDENCE

TO BE INCLUDED IN THIS CONTRACT

The Contractor's attention is also directed to the fact that in the Specifications for **(Building Site Plans)** reference is made to the TxDOT Building "Uniform General Conditions" .

Whenever there is a conflict between the TxDOT Building "Uniform General Conditions" (UGC) and TxDOT's Item's 1 to 9 including special provisions to Item 1 to 9, the TxDOT Building "Uniform General Conditions" shall take precedence.

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"General Decision Number: TX20240186 08/23/2024

Superseded General Decision Number: TX20230186

State: Texas

Construction Type: Building

County: Val Verde County in Texas.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least \$17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least \$12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

Modification Number	Publication Date
0	01/05/2024
1	07/05/2024

2 07/12/2024
3 08/23/2024

* ASBE0087-002 06/03/2024

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 29.50	8.79

BOIL0074-003 07/01/2023

	Rates	Fringes
BOILERMAKER.....	\$ 37.00	24.64

IRON0066-005 06/01/2023

	Rates	Fringes
IRONWORKER, REINFORCING AND STRUCTURAL.....	\$ 26.00	7.53

LABO0154-001 05/01/2024

	Rates	Fringes
Laborers: (Mason Tender - Cement/Concrete).....	\$ 25.27	9.57

PLUM0142-003 07/01/2024

	Rates	Fringes
Plumber.....	\$ 36.87	11.48

* SUTX2009-073 04/20/2009

	Rates	Fringes
ACOUSTICAL CEILING MECHANIC.....	\$ 14.50 **	0.00
BRICKLAYER.....	\$ 17.76	0.00
CARPENTER, Includes Drywall Hanging (Excludes Acoustical Ceiling Installation).....	\$ 15.50 **	0.30
CEMENT MASON/CONCRETE FINISHER...	\$ 13.27 **	0.00
ELECTRICIAN.....	\$ 15.85 **	0.00
LABORER: Common or General.....	\$ 7.66 **	0.00
LABORER: Landscape & Irrigation.....	\$ 8.50 **	0.22
LABORER: Mason Tender - Brick...	\$ 12.02 **	0.00
LABORER: Mortar Mixer.....	\$ 9.50 **	0.00
LATHER.....	\$ 12.00 **	0.00
OPERATOR: Backhoe/Excavator/Trackhoe.....	\$ 13.75 **	0.00

OPERATOR: Bulldozer.....	\$ 12.80 **	0.43
OPERATOR: Crane.....	\$ 21.33	0.00
OPERATOR: Forklift.....	\$ 14.58 **	0.00
OPERATOR: Loader (Front End)....	\$ 10.54 **	0.00
Painter: Brush, Roller and Spray.....	\$ 15.80 **	0.00
PLASTERER.....	\$ 12.00 **	0.00
ROOFER.....	\$ 15.20 **	0.00
SHEET METAL WORKER, Includes HVAC Duct Installation.....	\$ 12.00 **	0.00
TILE SETTER.....	\$ 15.00 **	0.00
TRUCK DRIVER.....	\$ 11.24 **	0.35

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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 ** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 (\$17.20) or 13658 (\$12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at <https://www.dol.gov/agencies/whd/government-contracts>.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is

based.

State Adopted Rate Identifiers

Classifications listed under the ""SA"" identifier indicate that the prevailing wage rate set by a state (or local) government was adopted under 29 C.F.R. 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 01/03/2024 reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

CONTROL : 6473-05-001
PROJECT : RMC - 647305001
HIGHWAY : SL0025
COUNTY : VAL VERDE

TEXAS DEPARTMENT OF TRANSPORTATION

GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF
----- TRANSPORTATION SEPTEMBER 1, 2024.
STANDARD SPECIFICATIONS ARE INCORPORATED
INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE
----- PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED
HEREON WHEREVER IN CONFLICT THEREWITH.

SPECIAL PROVISION "NONDISCRIMINATION" (000---001)
SPECIAL PROVISION "NOTICE OF CONTRACTOR PERFORMANCE EVALUATIONS"
(000---016)
SPECIAL PROVISION "CERTIFICATE OF INTERESTED PARTIES (FORM 1295)"
(000---017)
SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000---031)

SPECIAL SPECIFICATIONS:

ITEM 7028 TRAVEL INFORMATION CENTER

GENERAL: THE ABOVE-LISTED SPECIFICATION ITEMS ARE THOSE UNDER WHICH
----- PAYMENT IS TO BE MADE. THESE, TOGETHER WITH SUCH OTHER
PERTINENT ITEMS, IF ANY, AS MAY BE REFERRED TO IN THE ABOVE-
LISTED SPECIFICATION ITEMS, AND INCLUDING THE SPECIAL
PROVISIONS LISTED ABOVE, CONSTITUTE THE COMPLETE SPECIFI-
CATIONS FOR THIS PROJECT.

CHILD SUPPORT STATEMENT

Under Section 231.006, Family Code, the vendor or applicant certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate.

CONFLICT OF INTEREST CERTIFICATION

Pursuant to Texas Government Code Section 2261.252(b), the Department is prohibited from entering into contracts in which Department officers and employees have a financial interest.

By signing the Contract, the Contractor certifies that it is not prohibited from entering into a Contract with the Department as a result of a financial interest as defined under Texas Government Code Section 2261.252(b), and that it will exercise reasonable care and diligence to prevent any actions or conditions that could result in a conflict of interest with the Department.

The Contractor also certifies that none of the following individuals, nor any of their family members within the second degree of affinity or consanguinity, owns 1% or more interest or has a financial interest as defined under Texas Government Code Section 2261.252(b) in the Contractor:

- Any member of the Texas Transportation Commission; and
- The Department's Executive Director, General Counsel, Chief of Procurement and Field Support Operations, Director of Procurement, and Director of Contract Services.

Violation of this certification may result in action by the Department.

E-VERIFY CERTIFICATION

Pursuant to Texas Transportation Code §223.051, all TxDOT contracts for construction, maintenance, or improvement of a highway must include a provision requiring Contractors and subcontractors to use the U.S. Department of Homeland Security's E-Verify system to determine employment eligibility. By signing the contract, the Contractor certifies that prior to the award of the Contract:

- the Contractor has registered with and will, to the extent permitted by law, utilize the United States Department of Homeland Security's E-Verify system during the term of the Contract to determine the eligibility of all persons hired to perform duties within Texas during the term of the agreement; and
- the Contractor will require that all subcontractors also register with and, to the extent permitted by law, utilize the United States Department of Homeland Security's E-Verify system during the term of the subcontract to determine the eligibility of all persons hired to perform duties within Texas during the term of the agreement.

Violation of this requirement constitutes a material breach of the Contract, subjects a subcontractor to removal from the Contract, and subjects the Contractor or subcontractors to possible sanctions in accordance with Title 43, Texas Administrative Code, Chapter 10, Subchapter F, "Sanctions and Suspension for Ethical Violations by Entities Doing Business with the Department."

Certification Regarding Disclosure of Public Information

Pursuant to Subchapter J, Chapter 552, Texas Government Code, contractors executing a contract with a governmental body that results in the expenditure of at least \$1 million in public funds must:

- 1) preserve all contracting information* as provided by the records retention requirements applicable to Texas Department of Transportation (TxDOT) for the duration of the contract,
- 2) on request of TxDOT, promptly provide any contracting information related to the contract that is in the custody or possession of the entity, and
- 3) on completion of the contract, either:
 - A. provide, at no cost to TxDOT, all contracting information related to the contract that is in the custody or possession of the entity, or
 - B. preserve the contracting information related to the contract as provided by the records retention requirements applicable to TxDOT

The requirements of Subchapter J, Chapter 552, Government Code, may apply to this contract, and the contractor or vendor agrees that the contract can be terminated if the contractor or vendor knowingly or intentionally fails to comply with a requirement of that subchapter.

By entering into Contract, the Contractor agrees to:

- provide, or make available, to TxDOT and any authorized governmental investigating or auditing agency all records, including electronic and payment records related to the contract, for the same period provided by the records retention schedule applicable to TxDOT, and
- ensure that all subcontracts include a clause requiring the same.

* As defined in Government Code §552.003, “Contracting information” means the following information maintained by a governmental body or sent between a governmental body and a vendor, contractor, potential vendor, or potential contractor:

- 1) information in a voucher or contract relating to the receipt or expenditure of public funds by a governmental body;
- 2) solicitation or bid documents relating to a contract with a governmental body;
- 3) communications sent between a governmental body and a vendor, contractor, potential vendor, or potential contractor during the solicitation, evaluation, or negotiation of a contract;
- 4) documents, including bid tabulations, showing the criteria by which a governmental body evaluates each vendor, contractor, potential vendor, or potential contractor responding to a solicitation and, if applicable, an explanation of why the vendor or contractor was selected; and
- 5) communications and other information sent between a governmental body and a vendor or contractor related to the performance of a final contract with the governmental body or work performed on behalf of the governmental body.

CERTIFICATION TO NOT BOYCOTT ISRAEL

Pursuant to Texas Government Code §2271.002, the Department must include a provision requiring a written verification affirming that the Contractor does not boycott Israel, as defined in Government Code §808.001, and will not boycott Israel during the term of the contract. This provision applies to a contract that:

- 1) is with a Contractor that is not a sole proprietorship,
- 2) is with a Contractor with 10 or more full-time employees, and
- 3) has a value of \$100,000 or more.

By signing the contract, the Contractor certifies that it does not boycott Israel and will not boycott Israel during the term of this contract. "Boycott" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli-controlled territory, but does not include an action made for ordinary business purposes.

Violation of this certification may result in action by the Department.

CERTIFICATION TO NOT BOYCOTT ENERGY COMPANIES

Pursuant to Texas Government Code §2274.002, the Department must include a provision requiring a written verification affirming that the Contractor does not boycott energy companies, as defined in Government Code §809.001, and will not boycott energy companies during the term of the contract. This provision applies to a contract that:

- 1) is with a Contractor that is not a sole proprietorship,
- 2) is with a Contractor with 10 or more full-time employees, and
- 3) has a value of \$100,000 or more.

By signing the contract, the Contractor certifies that it does not boycott energy companies and will not boycott energy companies during the term of this contract. "Boycott" means taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company: (1) engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or (2) does business with a company described by (1).

Violation of this certification may result in action by the Department.

CERTIFICATION TO NOT DISCRIMINATE AGAINST FIREARM ENTITIES OR FIREARM TRADE ASSOCIATIONS

Pursuant to Texas Government Code §2274.002, the Department must include a provision requiring a written verification affirming that the Contractor:

- 1) does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association, as defined in Government Code §2274.001, and
- 2) will not discriminate against a firearm entity or firearm trade association during the term of the contract.

This provision applies to a contract that:

- 1) is with a Contractor that is not a sole proprietorship,
- 2) is with a Contractor with 10 or more full-time employees, and
- 3) has a value of \$100,000 or more.

By signing the contract, the Contractor certifies that it does not discriminate against a firearm entity or firearm trade association as described and will not do so during the term of this contract. "Discriminate against a firearm entity or firearm trade association" means, with respect to the entity or association, to: (1) refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association; (2) refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or (3) terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association. "Discriminate against a firearm entity or firearm trade association" does not include: (1) the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories; (2) a company's refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency, or for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity's or association's status as a firearm entity or firearm trade association.

Violation of this certification may result in action by the Department.

Special Provision to Item 000

Nondiscrimination



1. DESCRIPTION

All recipients of federal financial assistance are required to comply with various nondiscrimination laws, including Title VI of the Civil Rights Act of 1964, as amended (Title VI). Title VI forbids discrimination against anyone in the United States on the grounds of race, color, or national origin by any agency receiving federal funds.

The Texas Department of Transportation, as a recipient of federal financial assistance, and under Title VI and related statutes, ensures that no person will on the grounds of race, religion (where the primary objective of the financial assistance is to provide employment in accordance with 42 USC 2000d-3), color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or otherwise be subjected to discrimination under any Department programs or activities.

2. DEFINITION OF TERMS

Where the term "Contractor" appears in the following six nondiscrimination clauses, the term "Contractor" is understood to include all parties to Contracts or agreements with the Department.

3. NONDISCRIMINATION PROVISIONS

During the performance of this Contract, the Contractor agrees as follows.

- 3.1. **Compliance with Regulations.** The Contractor must comply with the Regulations pertinent to nondiscrimination in federally assisted programs of the United States Department of Transportation 49 CFR 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.
- 3.2. **Nondiscrimination.** The Contractor, regarding the work performed during the Contract, must not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor must not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the Contract covers a program set forth in Appendix B of the Regulations.
- 3.3. **Solicitations for Subcontracts, Including Procurements of Materials and Equipment.** In all solicitations either by competitive bidding or negotiation made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, the Contractor must notify each potential subcontractor or supplier of the Contractor's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.
- 3.4. **Information and Reports.** The Contractor must provide all information and reports required by the Regulations or directives issued pursuant thereto, and must permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the Recipient or the Department to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor must so certify to the Recipient, or the Department as appropriate, and must set forth what efforts it has made to obtain the information.
- 3.5. **Sanctions for Noncompliance.** In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Contract, the Recipient must impose such Contract sanctions as it or the Department may

determine to be appropriate, including, but not limited to actions defined in Article 7.1., "Ethics," or Article 5.1., "Authority of Engineer."

- 3.6. **Incorporation of Provisions.** The Contractor must include the provisions of Sections 3.1–3.6 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The Contractor must take such action with respect to any subcontract or procurement as the Recipient or the Department may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that, in the event a Contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Contractor may request the Recipient to enter into such litigation to protect the interests of the Recipient, and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

Special Provision 000

Important Notice to Contractors



1. GENERAL

In accordance with Texas Transportation Code §223.012, the Engineer will evaluate Contractor performance based on quality, safety, and timeliness of the project.

2. DEFINITIONS

- 2.1. **Project Recovery Plan (PRP).** A formal, enforceable plan developed by the Contractor, in consultation with the District, that documents the cause of noted quality, safety, and timeliness issues and specifies how the Contractor proposes to correct project-specific performance deficiencies.

In accordance with 43 TAC §9.23, the District will request a PRP if the Contractor's performance on a project is below the Department's acceptable standards and will monitor the Contractor's compliance with the established plan.

- 2.2. **Corrective Action Plan (CAP).** A formal, enforceable plan developed by the Contractor, and proposed for adoption by the Construction Division or Maintenance Division, that documents the cause of noted quality, safety, and timeliness issues and specifies how the Contractor proposes to correct statewide performance deficiencies.

3. CONTRACTOR EVALUATIONS

In accordance with 43 TAC §9.23, the Engineer will schedule evaluations at the following intervals, at minimum:

- interim evaluations at or within 30 days after the anniversary of the Notice to Proceed, for Contracts extending beyond 1 yr. and
- final evaluation, upon project closeout.

In case of a takeover agreement, neither the Surety nor its performing Contractor will be evaluated.

In addition to regularly scheduled evaluations, the Engineer may schedule an interim evaluation at any time to formally communicate issues with quality, safety, or timeliness. Upon request, work with the Engineer to develop a PRP to document expectations for correcting deficiencies.

Comply with the PRP as directed. Failure to comply with the PRP may result in additional remedial actions available to the Engineer under Item 5, "Control of the Work." Failure to meet a PRP to the Engineer's satisfaction may result in immediate referral to the Performance Review Committee for consideration of further action against the Contractor.

The Engineer will consider and document any events outside the Contractor's control that contributed to the failure to meet performance standards or comply with a PRP, including consideration of sufficient time.

Follow the escalation ladder if there is a disagreement regarding an evaluation or disposition of a PRP. The Contractor may submit additional documentation pertaining to the dispute. The District Engineer's decision on a Contractor's evaluation score and recommendation of action required in a PRP or follow-up for noncompliance is final.

4. DIVISION OVERSIGHT

Upon request of the Construction Division or Maintenance Division, develop and submit for Division approval a proposed CAP to document expectations for correcting deficiencies in the performance of projects statewide.

Comply with the CAP as directed. The CAP may be modified at any time up to completion or resolution after written approval of the premise of change from the Division. Failure to meet an adopted or revised adopted CAP to the Division's satisfaction within 120 days will result in immediate referral to the Performance Review Committee for consideration of further action against the Contractor.

The Division will consider and document any events outside the Contractor's control that contributed to the failure to meet performance standards or comply with a CAP, including consideration of sufficient time and associated costs as appropriate.

5. PERFORMANCE REVIEW COMMITTEE

The Performance Review Committee, in accordance with 43 TAC §9.24, will review at minimum all final evaluations, history of compliance with PRPs, any adopted CAPs including agreed modifications, any information about events outside a Contractor's control contributing to the Contractor's performance, and any documentation submitted by the Contractor and may recommend one or more of the following actions:

- take no action,
- reduce the Contractor's bidding capacity,
- prohibit the Contractor from bidding on one or more projects,
- immediately suspend the Contractor from bidding for a specified period of time, by reducing the Contractor's bidding capacity to zero, or
- prohibit the Contractor from being awarded a Contract on which they are the apparent low bidder.

The Deputy Executive Director will determine any further action against the Contractor.

6. APPEALS PROCESS

In accordance with 43 TAC §9.25, the Contractor may appeal remedial actions determined by the Deputy Executive Director.

Special Provision 000

Certificate of Interested Parties (Form 1295)



Submit Form 1295, "Certificate of Interested Parties," in the following instances:

- at Contract execution for Contracts awarded by the Commission,
- at Contract execution for Contracts awarded by the District Engineer or Chief Engineer with an award amount of \$1 million or more,
- at any time an existing Contract awarded by the District Engineer or Chief Engineer increases in value to \$1 million or more because of changes in the Contract,
- at any time there is an increase of \$1 million or more to an existing Contract (e.g., change orders, extensions, and renewals), and
- at any time there is a change to the information in Form 1295, when the form was filed for an existing Contract.

Form 1295 and instructions for completing and filing the form are available on the Texas Ethics Commission website.

Special Provision 000

Schedule of Liquidated Damages



For Dollar Amount of Original Contract		Dollar Amount of Daily Contract Administration Liquidated Damages per Working Day
From More Than	To and including	
0	1,000,000	760
1,000,000	3,000,000	968
3,000,000	5,000,000	1107
5,000,000	15,000,000	1527
15,000,000	25,000,000	2095
25,000,000	50,000,000	3072
50,000,000	Over 50,000,000	5093

In addition to the amount shown in Table 1, the Liquidated Damages will be increased by the amount shown in Item 8 "Prosecution and Progress," of the General Notes for Road User Cost (RUC), when applicable.

Special Specification 7028

Travel Information Center



1. DESCRIPTION

Furnish all materials, equipment, and labor allowances necessary for the repair and upgrade of the Travel Information Center main buildings, picnic arbors, benches, walkways, trash containers, Bar-B-Q grills, and water, sewer, and power utility connections as shown on the plan set and attached Specifications.

2. MATERIALS AND CONSTRUCTION METHODS

All materials furnished and all construction methods utilized must be in conformance with the plans, details, and the attached Specifications. Contractor is required to perform a schedule of values for work.

3. MEASUREMENT

This Item will be measured for completed work corresponding to the "Schedule of Values." To facilitate accurate partial payments, the lump sum dollar amount will be rounded to the nearest integer, and this number will serve as the total number of unit times the unit price of one dollar.

4. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided for under "Measurement" will be paid for at the unit price bid for "Travel Information Center." This price will be full compensation for equipment, labor, materials, tools, and incidentals.

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