

# NOTIFICATION OF ADDENDUM

## ADDENDUM NO. 1

**DATED 1/27/2022**

<b>Control</b>	<b>0051-03-117</b>
<b>Project</b>	<b>C 51-3-117</b>
<b>Highway</b>	<b>SH 3</b>
<b>County</b>	<b>GALVESTON</b>

Ladies/Gentlemen:

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

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

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

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

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

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

SUBJECT: PLANS AND PROPOSAL ADDENDUMS

PROJECT: C 51-3-117

CONTROL: 0051-03-117

COUNTY: GALVESTON

LETTING: 02/04/2022

REFERENCE NO: 0126

**PROPOSAL ADDENDUMS**

- 
- PROPOSAL COVER
  - BID INSERTS (SH. NO.: ALL SHEETS )
  - GENERAL NOTES (SH. NO.: G-R) )
  
  - SPEC LIST (SH. NO.: ALL )
  - SPECIAL PROVISIONS:
  - ADDED:
  
  - DELETED:
  
  - SPECIAL SPECIFICATIONS:
  - ADDED: 3085
  
  - DELETED: 3002
  
  - OTHER: PLAN SHEETS AND OTHER CHANGES

DESCRIPTION OF ABOVE CHANGES  
(INCLUDING PLANS SHEET CHANGES)

\*\*\*\*\*BID INSERTS\*\*\*\*\*

ADDED THE FOLLOWING BID ITEM:3085-6001.

DELETED THE FOLLOWING BID ITEM:3002-6001.

\*\*\*\*\*GENERAL NOTES\*\*\*\*\*

SHEET G: ADDED ITEM 316.

SHEET R: ADDED ITEM 3085,134 & 316.

SHEET 8R: ADDED ITEM 316.

SHEETS G THRU R REVISED DUE TO SHIFTING LINES.

\*\*\*\*\*PLAN SHEETS\*\*\*\*\*

SHEETS 003 THRU 006:REPLACED TEXT FROM MEMBRANE UNDERSEAL TO UNDERSEAL COURSE.

SHEETS 008C THRU 008H REVISED DUE TO SHIFTING LINES.

DESCRIPTION OF ABOVE CHANGES  
(INCLUDING PLANS SHEET CHANGES)

(CONTINUED)

SHEET 009B & 10 REPLACED DUE TO THE ABOVE CHANGES..

SHEET 018, 043 THRU 073, & 073A: REPLACED MEMBRANE UNDERSEAL WITH UNDERSEAL COURSE.

Printed Name of Authorized Signer: \_\_\_\_\_

Signature of Authorized Signer: \_\_\_\_\_ Date: \_\_\_\_\_

PROJECT C 51-3-117  
 COUNTY GALVESTON

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.				
	104	6009		REMOVING CONC (RIPRAP)  DOLLARS and CENTS	SY	10.000	1
	104	6021		REMOVING CONC (CURB)  DOLLARS and CENTS	LF	330.000	2
	104	6036		REMOVING CONC (SIDEWALK OR RAMP)  DOLLARS and CENTS	SY	2,660.000	3
	110	6003		EXCAVATION (SPECIAL)  DOLLARS and CENTS	CY	996.000	4
	134	6004		BACKFILL (TY A OR B)  DOLLARS and CENTS	STA	17.000	5
	162	6002		BLOCK SODDING  DOLLARS and CENTS	SY	2,634.000	6
	166	6001		FERTILIZER  DOLLARS and CENTS	AC	.500	7
	168	6001		VEGETATIVE WATERING  DOLLARS and CENTS	MG	65.000	8
	351	6004		FLEXIBLE PAVEMENT STRUCTURE REPAIR(8")  DOLLARS and CENTS	SY	12,401.000	9
	354	6045		PLANE ASPH CONC PAV (2")  DOLLARS and CENTS	SY	124,004.000	10

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	416	6032		DRILL SHAFT (TRF SIG POLE) (36 IN) DOLLARS and CENTS	LF	191.000	11
	500	6001		MOBILIZATION DOLLARS and CENTS	LS	1.000	12
	502	6001	008	BARRICADES, SIGNS AND TRAFFIC HAN- DLING DOLLARS and CENTS	MO	10.000	13
	529	6002		CONC CURB (TY II) DOLLARS and CENTS	LF	300.000	14
	529	6011		CONC CURB (DOWEL) DOLLARS and CENTS	LF	85.000	15
	529	6024		CONC CURB (MOUNTABLE) DOLLARS and CENTS	LF	50.000	16
	531	6001		CONC SIDEWALKS (4") DOLLARS and CENTS	SY	3,956.000	17
	531	6004		CURB RAMPS (TY 1) DOLLARS and CENTS	EA	12.000	18
	531	6008		CURB RAMPS (TY 5) DOLLARS and CENTS	EA	4.000	19
	531	6010		CURB RAMPS (TY 7) DOLLARS and CENTS	EA	23.000	20
	531	6016		CURB RAMPS (TY 21) DOLLARS and CENTS	EA	2.000	21
	618	6046		CONDT (PVC) (SCH 80) (2") DOLLARS and CENTS	LF	285.000	22

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	618	6053		CONDT (PVC) (SCH 80) (3") and DOLLARS CENTS	LF	300.000	23
	618	6054		CONDT (PVC) (SCH 80) (3") (BORE) and DOLLARS CENTS	LF	825.000	24
	620	6009		ELEC CONDR (NO.6) BARE and DOLLARS CENTS	LF	1,270.000	25
	620	6011		ELEC CONDR (NO.4) BARE and DOLLARS CENTS	LF	145.000	26
	620	6012		ELEC CONDR (NO.4) INSULATED and DOLLARS CENTS	LF	270.000	27
	621	6005		TRAY CABLE (4 CONDR) (12 AWG) and DOLLARS CENTS	LF	1,875.000	28
	624	6009		GROUND BOX TY D (162922) and DOLLARS CENTS	EA	10.000	29
	624	6010		GROUND BOX TY D (162922)W/APRON and DOLLARS CENTS	EA	8.000	30
	624	6028		REMOVE GROUND BOX and DOLLARS CENTS	EA	11.000	31
	628	6145		ELC SRV TY D 120/240 060(NS)SS(E)SP(O) and DOLLARS CENTS	EA	3.000	32
	636	6001	001	ALUMINUM SIGNS (TY A) and DOLLARS CENTS	SF	801.000	33
	644	6001		IN SM RD SN SUP&AM TY10BWG(1)SA(P) and DOLLARS CENTS	EA	14.000	34

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	644	6009		IN SM RD SN SUP&AM TY10BWG(1)SB(P) DOLLARS and CENTS	EA	1.000	35
	644	6068		RELOCATE SM RD SN SUP&AM TY 10BWG DOLLARS and CENTS	EA	11.000	36
	662	6005		WK ZN PAV MRK NON-REMOV (W)6"(BRK) DOLLARS and CENTS	LF	17,070.000	37
	662	6008		WK ZN PAV MRK NON-REMOV (W)6"(SLD) DOLLARS and CENTS	LF	5,504.000	38
	662	6012		WK ZN PAV MRK NON-REMOV (W)8"(SLD) DOLLARS and CENTS	LF	4,810.000	39
	662	6014		WK ZN PAV MRK NON-REMOV (W)12"(SLD) DOLLARS and CENTS	LF	5,436.000	40
	662	6016		WK ZN PAV MRK NON-REMOV (W)24"(SLD) DOLLARS and CENTS	LF	4,190.000	41
	662	6017		WK ZN PAV MRK NON-REMOV (W)(ARROW) DOLLARS and CENTS	EA	166.000	42
	662	6023		WK ZN PAV MRK NON-REMOV (W)(RR XING) DOLLARS and CENTS	EA	20.000	43
	662	6029		WK ZN PAV MRK NON-REMOV(W)(WORD) DOLLARS and CENTS	EA	42.000	44
	662	6035		WK ZN PAV MRK NON-REMOV (Y)6"(BRK) DOLLARS and CENTS	LF	7,196.000	45
	662	6037		WK ZN PAV MRK NON-REMOV (Y)6"(SLD) DOLLARS and CENTS	LF	56,886.000	46

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	662	6041		WK ZN PAV MRK NON-REMOV (Y)24"(SLD) DOLLARS and CENTS	LF	3,132.000	47
	666	6036	007	REFL PAV MRK TY I (W)8"(SLD)(100MIL) DOLLARS and CENTS	LF	2,405.000	48
	666	6042	007	REFL PAV MRK TY I (W)12"(SLD)(100MIL) DOLLARS and CENTS	LF	2,718.000	49
	666	6048	007	REFL PAV MRK TY I (W)24"(SLD)(100MIL) DOLLARS and CENTS	LF	2,095.000	50
	666	6054	007	REFL PAV MRK TY I (W)(ARROW)(100MIL) DOLLARS and CENTS	EA	83.000	51
	666	6078	007	REFL PAV MRK TY I (W)(WORD)(100MIL) DOLLARS and CENTS	EA	21.000	52
	666	6093	007	REFL PAV MRK TY I (W)(RR XING)(100MIL) DOLLARS and CENTS	EA	10.000	53
	666	6147	007	REFL PAV MRK TY I (Y)24"(SLD)(100MIL) DOLLARS and CENTS	LF	1,566.000	54
	666	6162	007	RE PV MRK TY I(BLACK)6"(SHADOW)(100MIL) DOLLARS and CENTS	LF	8,535.000	55
	666	6228	007	PAVEMENT SEALER 12" DOLLARS and CENTS	LF	1,400.000	56
	666	6230	007	PAVEMENT SEALER 24" DOLLARS and CENTS	LF	1,350.000	57
	666	6242	007	PAVEMENT SEALER (RR XING) DOLLARS and CENTS	EA	6.000	58



ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	666	6306	007	RE PM W/RET REQ TY I (W)6"(BRK)(100MIL) DOLLARS and CENTS	LF	8,535.000	59
	666	6309	007	RE PM W/RET REQ TY I (W)6"(SLD)(100MIL) DOLLARS and CENTS	LF	2,752.000	60
	666	6318	007	RE PM W/RET REQ TY I (Y)6"(BRK)(100MIL) DOLLARS and CENTS	LF	3,598.000	61
	666	6321	007	RE PM W/RET REQ TY I (Y)6"(SLD)(100MIL) DOLLARS and CENTS	LF	28,443.000	62
	672	6007		REFL PAV MRKR TY I-C DOLLARS and CENTS	EA	177.000	63
	672	6009		REFL PAV MRKR TY II-A-A DOLLARS and CENTS	EA	1,186.000	64
	672	6010		REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	423.000	65
	677	6005		ELIM EXT PAV MRK & MRKS (12") DOLLARS and CENTS	LF	1,000.000	66
	677	6007		ELIM EXT PAV MRK & MRKS (24") DOLLARS and CENTS	LF	400.000	67
	678	6006		PAV SURF PREP FOR MRK (12") DOLLARS and CENTS	LF	1,400.000	68
	678	6008		PAV SURF PREP FOR MRK (24") DOLLARS and CENTS	LF	1,350.000	69
	678	6020		PAV SURF PREP FOR MRK (RR XING) DOLLARS and CENTS	EA	6.000	70

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	680	6003	006	INSTALL HWY TRF SIG (SYSTEM) DOLLARS and CENTS	EA	3.000	71
	680	6004	006	REMOVING TRAFFIC SIGNALS DOLLARS and CENTS	EA	3.000	72
	682	6001		VEH SIG SEC (12")LED(GRN) DOLLARS and CENTS	EA	31.000	73
	682	6002		VEH SIG SEC (12")LED(GRN ARW) DOLLARS and CENTS	EA	6.000	74
	682	6003		VEH SIG SEC (12")LED(YEL) DOLLARS and CENTS	EA	31.000	75
	682	6004		VEH SIG SEC (12")LED(YEL ARW) DOLLARS and CENTS	EA	6.000	76
	682	6005		VEH SIG SEC (12")LED(RED) DOLLARS and CENTS	EA	31.000	77
	682	6018		PED SIG SEC (LED)(COUNTDOWN) DOLLARS and CENTS	EA	22.000	78
	682	6054		BACKPLATE W/REF BRDR(3 SEC)(VENT)ALUM DOLLARS and CENTS	EA	25.000	79
	682	6056		BACKPLATE W/REF BRDR(5 SEC)(VENT)ALUM DOLLARS and CENTS	EA	6.000	80
	684	6007		TRF SIG CBL (TY A)(12 AWG)(2 CONDR) DOLLARS and CENTS	LF	2,885.000	81
	684	6009		TRF SIG CBL (TY A)(12 AWG)(4 CONDR) DOLLARS and CENTS	LF	3,000.000	82

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	684	6012		TRF SIG CBL (TY A)(12 AWG)(7 CONDR) DOLLARS and CENTS	LF	5,855.000	83
	684	6017		TRF SIG CBL (TY A)(12 AWG)(12 CONDR) DOLLARS and CENTS	LF	95.000	84
	686	6039		INS TRF SIG PL AM(S)1 ARM(36')LUM DOLLARS and CENTS	EA	2.000	85
	686	6047		INS TRF SIG PL AM(S)1 ARM(44')LUM DOLLARS and CENTS	EA	10.000	86
	687	6001		PED POLE ASSEMBLY DOLLARS and CENTS	EA	12.000	87
	688	6001		PED DETECT PUSH BUTTON (APS) DOLLARS and CENTS	EA	22.000	88
	688	6003		PED DETECTOR CONTROLLER UNIT DOLLARS and CENTS	EA	5.000	89
	3077	6052		SP MIXES SP-D SAC-A PG70-22 DOLLARS and CENTS	TON	13,653.000	90
	3085	6001		UNDERSEAL COURSE DOLLARS and CENTS	GAL	24,811.000	91
	6001	6001		PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	DAY	600.000	92
	6058	6001		BBU SYSTEM (EXTERNAL BATT CABINET) DOLLARS and CENTS	EA	3.000	93
	6185	6005	002	TMA (MOBILE OPERATION) DOLLARS and CENTS	DAY	150.000	94

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6292	6004		RVDS(PRESENCE DET ONLY)(INSTALL ONLY)  DOLLARS and CENTS	EA	12.000	95
	6292	6005		RVDS(ADVANCE DET ONLY)(INSTALL ONLY)  DOLLARS and CENTS	EA	6.000	96

**County:** GALVESTON

**Control:** 0051-03-117

**Highway:** SH 3

**Sheet**

**General Notes:**

**General:**

Contractor questions on this project are to be addressed to the following individual(s):

(Jamal Elahi, P.E. Jamal.Elahi@Txdot.gov)  
(Joel H. Clarke, P.E. Joel.Clarke@Txdot.gov)

Contractor questions will be accepted through email, phone, and in person by the above individuals. Contractor questions will be reviewed by the Area Engineer or Assistant Area Engineer. Once a response is developed, it will be posted to TxDOT's Public FTP at the following address:

<https://ftp.dot.state.tx.us/pub/txdot-info/Pre-Letting%20Responses/>

Questions submitted that generate a response will be posted through this site. The site is organized by Houston, Construction, February 2022, and 0051-03-117/ (C 51-3-117).

If fixed features require, the governing slopes shown may vary between the limits shown and to the extent determined by the Engineer.

Superelevate the curves to match the existing surface.

Notify the Engineer immediately if discrepancies are discovered in the horizontal control or the benchmark data.

References to manufacturer's trade name or catalog numbers are for the purpose of identification only. Similar materials from other manufacturers are permitted if they are of equal quality, comply with the specifications for this project, and are approved, except for roadway illumination, electrical, and traffic signal items.

The cost for materials, labor, and incidentals to provide for traffic across the roadway and for ingress and egress to private property in accordance with Section 7.2.4 of the standard specifications is subsidiary to the various bid items. Restore access roadways to their original condition upon completing construction.

Grade street intersections and median openings for surface drainage.

Furnish aluminum Type A signs instead of plywood signs for signs shown on the Summary of Small Signs sheet.

Clearly mark or highlight on the shop drawings, the items being furnished for this project. Submit required shop drawings in accordance with the shop drawing distribution list shown in the note for Item 5 for review and distribution.

**General: Roadway Illumination and Electrical**

For roadway illumination and electrical items, use materials from pre-qualified producers as shown on the Construction Division (CST) of the Department’s material producers list. Check the latest link on the Department’s website for this list. The category/item is “Roadway Illumination and Electrical Supplies.” No substitutions will be allowed for materials found on this list.

Perform electrical work in conformance with the National Electrical Code (NEC) and the Department’s standard sheets.

**General: Traffic Signals**

For traffic signal items, use materials from the Pre-Qualified Producers List (located at <http://www.dot.state.tx.us/GSD/purchasing/supps.htm>) and the materials pre-qualified for illumination and electrical items (located at <http://ftp.dot.state.tx.us/pub/txdot-info/cmd/mpl/riaes.pdf>) as shown on the Department’s Material Producers List and the Roadway Illumination and Electrical Supplies List. Check the latest links on the Department’s website for these lists. No substitutions will be allowed for materials found on these lists.

**General: Site Management**

Mark stations every 100 ft. and maintain the markings for the project duration. Remove the station markings at the completion of the project. This work is subsidiary to the various bid items.

Personal vehicles of employees are not permitted to park within the right of way, including sections closed to public traffic. Employees may park on the right of way at the Contractor’s office, equipment, and materials storage yard sites.

Assume ownership of debris and dispose of at an approved location. Do not dispose of debris on private property unless approved in writing by the District Engineer.

Control the dust caused by construction operations. For sweeping the base material in preparation for laying asphalt and for sweeping the finished concrete pavement, use one of the following types of sweepers or approved equal:

**Tricycle Type**

- Wayne Series 900
- Elgin White Wing
- Elgin Pelican

**Truck Type - 4 Wheel**

- M-B Cruiser II
- Wayne Model 945
- Mobile TE-3
- Mobile TE-4
- Murphy 4042

**County:** GALVESTON

**Control:** 0051-03-117

**Highway:** SH 3

**Sheet**

**General: Traffic Control and Construction**

Schedule work so that the base placement operations follow the subgrade work as closely as practical to reduce the hazard to the traveling public and to prevent undue delay caused by wet weather.

If relocating mailboxes, place them with the post firmly in the ground at nearby locations. Upon completing the project, the Engineer will locate the final mailbox placement. Perform this work in accordance with the requirements of the Item, "Mailbox Assemblies," except for measurement and payment. This work is subsidiary to the various bid items.

When design details are not shown on the plans, provide signs and arrows conforming to the latest "Standard Highway Sign Designs for Texas" manual.

**General: Utilities**

Consider the locations of underground utilities depicted in the plans as approximate and employ responsible care to avoid damaging utility facilities. Depending upon scope and magnitude of planned construction activities, advanced field confirmation by the utility owner or operator may be prudent. Where possible, protect and preserve permanent signs, markers, and designations of underground facilities.

If the Contractor damages or causes damage (breaks, leaks, nicks, dents, gouges, etc.) to the utility, contact the utility facility owner or operator immediately.

At least 72 hours before starting work, make arrangements for locating existing Department-owned above ground and underground fiber optic, communications, power, illumination, and traffic signal cabling and conduit. Do this by calling the Department's Houston District Traffic Signal Operations Office at 713-802-5662, or by e-mailing the Department's Houston District Traffic Signal Operations Office at [HOU-LocateRequest@txdot.gov](mailto:HOU-LocateRequest@txdot.gov), to schedule marking of underground lines on the ground. Use caution if working in these areas to avoid damaging or interfering with existing facilities.

If overhead or underground power lines need to be de-energized, contact the electrical service provider to perform this work. Costs associated with de-energizing the power lines or other protective measures required are at no expense to the Department.

If working near power lines, comply with the appropriate sections of Texas State Law and Federal Regulations relating to the type of work involved.

Perform electrical work in conformance with the National Electrical Code (NEC) and Department's standard sheets.

**Item 5: Control of Work**

Submit shop drawings electronically for the fabrication of items as documented in Table 1. Information and requirements for electronic submittals can be viewed in the “Guide to Electronic Shop Drawing Submittal” which can be accessed through the following web link, [ftp://ftp.dot.state.tx.us/pub/txdot-info/library/pubs/bus/bridge/e\\_submit\\_guide.pdf](ftp://ftp.dot.state.tx.us/pub/txdot-info/library/pubs/bus/bridge/e_submit_guide.pdf). References to 11 in. x 17 in. sheets in individual specifications for structural items imply electronic CAD sheets.

**Table 1**  
**2014 Construction Specification Required Shop/Working Drawing Submittals - TxDOT Generated Plans**

Spec Item No.'s	Product	Submittal Required	Approval Required (Y/N)	Contractor/Fabricator P.E. Seal Required	Reviewing Party	Shop or Working Drawing (Note 1)
644	Special Non-Standard Supports (Bridge Mounts, Barrier Mounts, Etc.)	Y	Y	Y	T	SD
680	Installation of Highway Traffic Signals	Y	Y	N	T	SD
682	Vehicle and Pedestrian Signal Heads	Y	Y	N	T	SD
684	Traffic Signal Cables	Y	Y	N	T	SD
686	Traffic Signal Pole Assemblies (Steel) (Non-Standard only)	Y	Y	Y	T	SD
687	Pedestal Pole Assemblies	Y	Y	N	T	SD
688	Detectors	Y	Y	N	A	SD

**Key to Reviewing Party**

A - Area Office	
<b>Area Office</b>	<b>Email Address</b>
Galveston Area Office	<a href="mailto:HOU-GALVAShpDrwgs@txdot.gov">HOU-GALVAShpDrwgs@txdot.gov</a>
T - Traffic Engineer	
Traffic Operations	<a href="mailto:HOU-TrfShpDrwgs@txdot.gov">HOU-TrfShpDrwgs@txdot.gov</a>

**Item 7: Legal Relations and Responsibilities**

Do not initiate activities in a Project Specific Location (PSL), associated with a U.S. Army Corps of Engineers (USACE) permit area, that have not been previously evaluated by the USACE as part of the permit review of this project. Such activities include those pertaining to, but are not limited to, haul roads, equipment staging areas, borrow and disposal sites. Associated defined here means materials are delivered to or from the PSL. The permit area includes the waters of the U.S. or associated wetlands affected by activities associated with this project. Special restrictions may be required for such work. Assume responsibility for consultations with the USACE regarding activities, including PSLs that have not been previously evaluated by the USACE. Provide the Department with a copy of consultations or approvals from the USACE before initiating activities.



The Contractor may proceed with activities in PSLs that do not affect a USACE permit area if a self-determination has been made that the PSL is non-jurisdictional or if proper USACE clearances have been obtained in jurisdictional areas or have been previously evaluated by the USACE as part of the permit review of this project. The Contractor is solely responsible for documenting any determinations that their activities do not affect a USACE permit area. Maintain copies of their determinations for review by the Department or any regulatory agency.

Document and coordinate with the USACE, if required, before hauling any excavation from or hauling any embankment to a USACE permit area by either 1 or 2 below:

1. **Restricted Use of Materials for the Previously Evaluated Permit Areas.** Document both the Project Specific Locations (PSL) and their authorization. Maintain copies for review by the Department or any regulatory agency. When an area within the project limits has been evaluated by the USACE as part of the permit process for this project:
  - a. Suitable excavation of required material in the areas shown on the plans and cross sections as specified in the Item, "Excavation" is used for permanent or temporary fill (under the Item, "Embankment") within a USACE permit area.
  - b. Suitable embankment (under the Item, "Embankment") from within the USACE permit area is used as fill within a USACE evaluated area.
  - c. Unsuitable excavation or excess excavation, "Waste" (under the Item, "Excavation"), that is disposed of at a location approved within a USACE evaluated area.
  
2. **Contractor Materials from Areas Other than Previously Evaluated Areas.** Provide the Department with a copy of USACE coordination or approvals before initiating any activities for an area within the project limits that has not been evaluated by the USACE or for any off right of way locations used for the following, but not limited to, haul roads, equipment staging areas, borrow and disposal sites:
  - a. The Item, "Embankment" used for temporary or permanent fill within a USACE permit area.
  - b. Unsuitable excavation or excess excavation, "Waste" (under the Item, "Excavation"), that is disposed of outside a USACE evaluated area.

This project does not require a U.S. Army Corps of Engineers (USACE) Section 404 Permit before letting, but if a permit is needed during construction, assume responsibility for preparing the permit application. Submit the permit application to the Department's District Environmental Section for approval. Once the permit application is approved, the Department will submit it to the USACE. Assume responsibility for the requested revisions, in coordination with the Department's District Environmental Section.

Maintain the roadway slope stability. Maintaining slope stability is subsidiary to the various bid items.

If the work is on or in the vicinity of an at-grade railroad crossing, involves incidental work on railroad right of way, or involves construction of a railroad grade separation structure, notify the railroad

company's Division Engineer and the Department's Project Engineer at least 30 days before performing any work on the railroad right of way and make arrangements for railroad flaggers unless otherwise shown in the contract. Obtain the required Railroad Right of Entry Permit from the railroad company. Payment of applicable permit fees is the responsibility of the Contractor. Acquiring the Railroad Right of Entry Permit is a lengthy process, allow sufficient time for this.

No significant traffic generator events have been identified.

**Item 8: Prosecution and Progress**

Working days will be computed and charged based on a *standard* workweek in accordance with Section 8.3.1.4. There's a 90 day delay due to traffic signal components.

The Lane Closure Assessment Fee is \$ 100.00. This fee applies to the Contractor for closures or obstructions that overlap into restricted hour traffic for each hour or portion thereof, per lane, regardless of the length of lane closure or obstruction. For Restricted Hours subject to Lane Assessment Fee refer to the Item, "Barricades, Signs, and Traffic Handling."

**Item 104: Removing Concrete**

Removing concrete curb is paid as a separate bid item if the existing pavement on which it rests is not removed at the same time.

**Item 110: Excavation**

If manipulating the excavated material requires moving the same material more than once to accomplish the desired results, the excavation is measured and paid for only once regardless of the manipulation required.

**Item 134: Backfilling Pavement Edges**

Quantity by station includes both sides of the roadway.

The Contractor has the option of selecting the type of backfill material consisting of Reclaimable Asphalt Pavement (RAP), Flex Base, or Crushed Concrete provided that it meets the requirements listed below.

If using salvaged asphalt concrete pavement, size it so that all the material, passes the 2-in. sieve. Use RAP that does not contain deleterious material such as clay or organic material.

Flex Base must meet the requirements of Item 247, Type A, Grade 1-2. Department Test Method Tex-117-E will not be required.

Crushed concrete must meet the requirements of Item 247, Grade 1-2. Department Test Methods Tex-116-E and Tex-117-E will not be required.

Place emulsified asphalt (SS-1, CSS-1, or CSS-1H) at an application rate of 0.25 gal/sq. yard.

**Item 162: Sodding for Erosion Control**

**Item 166: Fertilizer**

**Item 168: Vegetative Watering**

Refer to the “Fertilizer, Seed, Sod, Straw, Compost, and Water” plan sheet for material specifications, application rates, and for watering requirements.

**Item 204: Sprinkling**

Perform subsidiary sprinkling as required under various other items in accordance with the Item, “Sprinkling.”

Sprinkling for dust control is subsidiary to the various bid items.

**Item 210: Rolling**

Use a medium pneumatic roller meeting the requirements of Item 210 as directed. This work is subsidiary to the various bid items. On every asphalt shot, use a minimum of 3 pneumatic rollers or as directed. Use approved rolling patterns. Successive asphalt shots will not be allowed until acceptable rolling has been accomplished on the preceding asphalt shot.

**Item 316: Seal Coat**



The asphalt application rate shown on the “Basis of Estimate” is an average rate for calculating asphalt quantities. Vary the rate based on the pavement conditions and other factors such as the type and grade of aggregate used, weather, and traffic.

Allowable Asphalt Cements based on Average Daily Traffic (ADT) are shown below:

<u>For ADT greater than 5000</u>	<u>ADT 1000 to 5000</u>	<u>ADT less than 1000</u>
AC-20 XP	AC-15P	AC-10-2TR
AC-20-5TR	AC-20-5TR	AC-10 w/2% SBR
	AC-20-XP	AC-15P
	AC-10-2TR	

**Item 351: Flexible Pavement Structure Repair**

Use asphalt stabilized base for the base material.

For base repair, place the asphalt stabilized base in compacted lifts of 4 in. maximum, unless otherwise directed.

**Item 354: Planing and Texturing Pavement**

Stockpile the material at The Department’s Maintenance yard located at 5407 Gulf Freeway La Marque TX, 77598, as directed by Jeffery Thomson at (409) 978-2553.

**Items 360, 420, and 421: All Concrete Items**

For the Department's concrete cylinder split samples, transport the test cylinders to the Houston District Laboratory located at 7600 Washington Avenue in Houston, or to the appropriate Area Laboratory, when applicable. Transporting the test cylinders is subsidiary to the various bid items.

**Item 416: Drilled Shaft Foundations**

Include the cost for furnishing and installing anchor bolts mounted in the drilled shafts in the unit bid price for the various diameter drilled shafts.

The Department may test using ultrasonic methods the anchor bolts for overhead sign supports, light standards, and traffic signal poles after they are installed. Replace faulty anchor bolts as directed. Do not weld the anchor bolts.

**Item 502: Barricades, Signs, and Traffic Handling**

Use a traffic control plan for handling traffic through the various phases of construction. Follow the phasing sequence unless otherwise agreed upon by the Area Engineer and the Project Manager. Ensure this plan conforms to the latest "Texas Manual on Uniform Traffic Control Devices" and the latest Barricade and Construction (BC) Standard Sheets. The latest versions of Work Zone Standard Sheets WZ (BTS-1) and WZ (BTS-2) are the traffic control plan for the signal installations.

Submit changes to the traffic control plan to the Area Engineer. Provide a layout showing the construction phasing, signs, striping, and signalizations for changes to the original traffic control plan.

Furnish and maintain the barricades and warning signs, including the necessary temporary and portable traffic control devices, during the various phases of construction. Place and construct these barricades and warning signs in accordance with the latest "Texas Manual on Uniform Traffic Control Devices" for typical construction layouts.

Cover work zone signs when work related to the signs is not in progress, or when any hazard related to the signs no longer exists.

Keep the delineation devices, signs, and pavement markings clean. This work is subsidiary to the Item, "Barricades, Signs, and Traffic Handling."

If a section is not complete before the end of the workday, pull back the base material to the existing pavement edge on a 6H: 1V slope. Edge drop-offs during the hours of darkness are not permitted.

Before detouring traffic onto the mainlane shoulders, remove dirt, debris, vegetation, and other deleterious material from the surface of the shoulders. Appropriately sign the detour in an approved manner. This work is subsidiary to the various bid items.

Cover or remove the permanent signs and construction signs that are incorrect or that do not apply to the current situation for a particular phase.

Replace the overhead signs, informational signs, and exit signs to be removed, with temporary signs providing the correct information to the traveling public. Size the replacement signs and include them in the traffic control plan.

Do not mount signs on drums or barricades, except those listed in the latest Barricades and Construction standard sheets.

Use traffic cones for daytime work only. Replace the cones with plastic drums during nighttime hours.

Place positive barriers to protect drop-off conditions greater than 2 ft. within the clear zone that remain overnight.

Do not reduce the existing number of lanes open to traffic except as shown on the following time schedule:

**One Lane Closure**

<b>Day</b>	<b>Daytime Closure Hours</b>	<b>Nighttime Closure Hours</b>	<b>Restricted Hours Subject to Lane Assessment Fee</b>
Monday – Friday	08:00 AM – 05:00 PM	N/A	05:00 PM - 12:00 AM 12:00 AM - 08:00 AM
Saturday	Emergency Only	Engineer’s Permission Only	N/A
Sunday	Emergency Only	Engineer’s Permission Only	N/A

The above times are approved for the traffic control conditions listed. The Area Engineer may approve other closure times if traffic counts warrant. The Area Engineer may reduce the above times for special events.

Law enforcement assistance will be required for this project and is expected to be required for major traffic control changes and lane closures. Coordinate with local law enforcement and arrange for law enforcement as directed or agreed by the Engineer. Before payment will be made, complete the “Daily Report on Law Enforcement Force Account Work” (Form 318), provided by the Department and submit daily invoices that agree with this form for any day during the month in which approved services were provided.

Provide full-time, off-duty, uniformed, certified peace officers, as part of traffic control operations. The peace officers must be able to show proof of certification by the Texas Commission on Law Enforcement Officers Standards. The cost of the officers is paid for on a force account basis.

A minimum of 7 days in advance of any total closure, notify the Houston District Public Information Office of which roadways, ramps, intersections, or lanes will be closed, the dates they will remain closed, and when they will be opened again to traffic.

A minimum of 7 days in advance of any total closure, place a portable changeable message (PCM) sign at the location of each total closure which informs the traveling public of the details of the closure.

Alternately, if the Traffic Control Plan provides a positive barrier at the location, a non-trailer mounted static message board sign behind the positive barrier may be used in place of a PCM.

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

**Item 506: Temporary Erosion, Sedimentation and Environmental Controls**

The use of hay bales is not permitted as Storm Water Pollution Prevention Plan (SWP3) measures.

The Storm Water Pollution Prevention Plan (SWP3) consists of temporary erosion control measures needed and provided for under this Item. The disturbed area is less than one acre and use of erosion control measures is not anticipated. If physical conditions encountered at the job site require necessary controls, BMP installation, maintenance, and removal will be paid as extra work on a force account basis per Articles 4.4 and 9.7. Since the disturbed area is less than 5 acres, a “Notice of Intent” (NOI) is not required.

**Item 529: Concrete Curb, Gutter, and Combined Curb and Gutter**

**Item 531: Sidewalks**

An air-entraining admixture is not required.

For concrete curbs, use Grade 7 aggregate conforming to Section 421.2.6 of the Item, “Hydraulic Cement Concrete.”

For driveways and turnouts, coarse aggregate Grade No. 3 through No. 8 conforming to the gradation requirements specified in the Item, “Hydraulic Cement Concrete” will be permitted.

For reinforcing steel in sidewalks and pedestrian ramps, use No. 4 bars at a maximum 18 in. spacing center-to-center in both directions.

**Item 585: Ride Quality for Pavement Surfaces**

To eliminate the need for corrective action due to excessive deviations in the final surface layers, exercise caution to ensure satisfactory profile results in the intermediate paving layers (mixture).

Milling will not be allowed as a corrective action for excessive deviations in the final surface layer of hot-mix asphalt.

For asphalt travel lanes and center turn lane, use Surface Test Type B and Pay Adjustment Schedule 2, except for the outside lane. Use Surface Test Type B and Pay Adjustment Schedule 3 for the outside lane.



**Item 618: Conduit**

When backfilling bore pits, ensure that the conduit is not damaged during installation or due to settling backfill material. Compact select backfill in 3 equal lifts to the bottom of the conduit; or if using sand, place it 2 in. above the conduit. Ensure backfill density is equal to that of the existing soil. Prevent material from entering the conduit.

Construct bore pits a minimum of 5 ft. from the edge of the base or pavement. Close the bore pit holes overnight.

Unless otherwise shown on the plans, install underground conduit a minimum of 24 in. deep. Install the conduit in accordance with the latest National Electrical Code (NEC) and applicable Department standard sheets. Place conduit under driveways or roadways a minimum of 24 in. below the pavement surface.

If using casing to place bored conduit, the casing is subsidiary to the conduit.

Use schedule 80 PVC conduit to house conductor runs under paved riprap, roadway, or driveways, unless otherwise shown on the plans.

Use Rigid Metal Conduit (RMC) for exposed conduit.

**Item 620: Electrical Conductors**

Test each wire of each cable or conductor after installation. Incomplete circuits or damage to the wire or the cable are cause for immediate rejection of the entire cable being tested. Remove and replace the entire cable at no expense to the Department. Also test the replacement cable after installation.

When pulling cables or conductors through the conduit, do not exceed the manufacturer's recommended pulling tensions. Lubricate the cables or conductors with a lubricant recommended by the cable manufacturer.

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holders as shown on the Department's Construction Division (CST) material producers list. Check the latest link on the Department's website for this list. The category is "Roadway Illumination and Electrical Supplies." The fuse holder is shown on the list under Items 610 and 620. Provide 10 Amp time delay fuses.

Ensure that circuits test clear of faults, grounds, and open circuits.

Split bolt connectors are allowed only for splices on the grounding conductors.

For electrical licensing and electrical certification requirements for this project, see Item 7 of the Standard Specifications and any applicable special provisions to Item 7.

**Item 624: Ground Boxes**

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The ground box locations are approximate. Alternate ground box locations may be used as directed, to avoid placing in sidewalks or driveways.

Ground metal ground box covers. Bond the ground box cover and ground conductors to a ground rod located in the ground box and to the system ground.

Ground the existing metal ground box covers as shown on the latest standard sheet ED (4)-14.

During construction and until project completion, provide personnel and equipment necessary to remove ground box lids for inspection. Provide this assistance within 24 hours of notification.

Construct concrete aprons in accordance with the latest standard sheet ED (4)-14. Make the depth of the concrete apron the same as the depth of the ground box, except for Type 1 and Type 2 ground boxes. For Type 1 or Type 2 ground boxes, construct the concrete apron in accordance with details shown on the "Ground Box Details Installations" standard.

**Item 628: Electrical Services**

If the specifications for electrical items require UL-listed products, this means UL-listed or CSA-listed.

Verify and coordinate the electrical service location with the engineering section of the appropriate utility district or company.

Identify the electrical service pole with an address number assigned by the Utility Service Provider. Provide 2-in. numerals visible from the highway. Provide numbers cut out aluminum figures nailed to wood poles or painted figures on steel poles or service cabinets.

**Item 636: Signs**

Furnish and install signs shown on the traffic signal "Summary of Traffic Signal Materials" sheet. Ensure that the legend on these sign panels is in accordance with the latest "Standard Highway Sign Designs for Texas" manual.

**Item 644: Small Roadside Sign Assemblies**

Sign locations shown on the plans are approximate. Before placing them, obtain approval of and then stake the exact locations for these signs.

Use the Texas Universal Triangular Slip Base with the concrete foundation for small ground mounted signs, unless otherwise shown in the plans.

When design details are not shown on the plans, provide signs and arrows conforming to the latest "Standard Highway Sign Designs for Texas" manual.

Assume ownership of the removed existing signs.





Locations of the relocated signs are approximate. Before placing them, obtain approval of and then stake the exact locations for these signs.

Replace existing signs that become damaged during relocation at no expense to the Department.

**Item 662: Work Zone Pavement Markings**

At the end of each workday, mark roadways that remain open to traffic during construction operations with standard pavement markings, in accordance with the latest "Texas Manual on Uniform Traffic Control Devices."

Do not use raised pavement markers as optional work zone pavement markings on final asphalt surfaces.

For transition lane lines and detour lane lines, use raised pavement markers as shown for solid lines on the latest Barricade and Construction standard sheet for "Work Zone Pavement Marking Details."

**Item 662: Work Zone Pavement Markings**

**Item 666: Reflectorized Pavement Markings**

Use Type III glass beads for thermoplastic and multipolymer pavement markings.

Use a 0.100 in. (100 mil) thickness for thermoplastic pavement markings, measured to the top of the thermoplastic, not including the exposed glass beads.

Use a 0.022 in. (22 mil) thickness for multipolymer pavement markings, measured to the top of the multipolymer, not including the exposed glass beads.

For roadways with asphalt surfaces to be striped with work zone or permanent thermoplastic markings, the Contractor has the option to apply paint and beads markings for a maximum 30-day period until placing the thermoplastic markings, or until starting the succeeding phase of work on the striped area. Maintain the paint and beads markings, at no expense to the Department, until placing the thermoplastic markings or starting the succeeding phase of work on the striped area. The work zone markings, whether paint and beads or thermoplastic, are paid under the Item, "Work Zone Pavement Markings" and the markings are paid for only once for the given phase of construction.

If using paint and bead markings as described above, purchase the traffic paint from the open market.

If the Type II markings become dirty and require cleaning by washing, brushing, compressed air, or other approved methods before applying the Type I thermoplastic markings, this additional cleaning is subsidiary to the Item, "Reflectorized Pavement Markings."

Establish the alignment and layout for work zone striping and permanent striping.

Stripe all roadways before opening them to traffic.

Place pavement markings under these items in accordance with details shown on the plans, the latest “Texas Manual on Uniform Traffic Control Devices,” or as directed.

When design details are not shown on the plans, provide pavement markings for arrows, words, and symbols conforming to the latest “Standard Highway Sign Designs for Texas” manual.

**Item 672: Raised Pavement Markers**

If other operations are complete on the project and if the curing time period is not yet elapsed, the contract time will be suspended until the curing is done.

Before placing the raised pavement markers on concrete pavement, blast clean the surface using an abrasive-blasting medium. This work is subsidiary to the Item, “Raised Pavement Markers.”

Provide epoxy adhesive that is machine-mixed or nozzle-mixed and dispensed. Equip the machine or nozzle with a mechanism to ensure positive mix measurement control.

**Item 677: Eliminating Existing Pavement Markings and Markers**

Remove existing pavement markings on concrete or asphalt surfaces by flail milling or as directed.

**Item 678: Pavement Surface Preparation for Markings**

Do not blast clean asphalt concrete pavement. Clean asphalt concrete pavement as required under the applicable specifications or as directed.

On new concrete pavement or on existing concrete pavement when placing a new stripe on a new location, remove the curing compounds and contamination from the pavement surface by flail milling or as directed. In addition, air-blast the surface with compressed air just before placing the new stripe.

On existing concrete pavement when placing a new stripe on an existing location, after removing the existing stripe under the Item, “Eliminating Existing Pavement Markings and Markers,” air-blast the surface with compressed air just before placing the new stripe.

Do not clean concrete pavement by grinding.

**Item 680: Highway Traffic Signals**

Clearly mark or highlight on the shop drawings the items being furnished for this project.

Furnish labor, tools, equipment, and materials as shown on the plans and specifications for a complete and operating signal installation.

Furnish the type of controller cabinet specified on the plans. Refer to the table shown in the Departmental Material Specifications (DMS-11170, Fully Actuated, Solid-State Traffic Signal Controller Assembly), Section 11170.6.A, Type 2 cabinet, page 4 of 39, regarding the size of the

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cabinet, back panel configuration, and the size of the load bay. Use the following website to view this specification: <http://www.txdot.gov/business/resources/dms.html>

Complete traffic signal construction work, including correcting discrepancies shown on the Department inspector's "Traffic Signal Installation Inspection Report" before the beginning of the test period.

Provide a full-time qualified traffic signal technician responsible for installing, maintaining, or replacing traffic signal devices.

Staking in the field is subject to approval.

Make adjustments in project construction, if needed, due to conflicts with underground utilities.

Do not aim the luminaire arms mounted on traffic signal poles into the intersection. Aim each arm perpendicular to the centerline of the roadway it is intended to cover, to develop the proper illumination pattern for the intersection.

Allow the electrical work to be inspected by the City. Complying with the provisions and requirements of the City electrical ordinance is not required. Such inspection does not make the City a party to this contract.

Provide continuous conductors without splices from signal controller to signal heads. Route the conductors for luminaires to the service enclosure. Splices or attachments to the terminal block in the access compartment of the mast arm pole are not permitted except for the luminaire cable.

Abrasions to the conductor insulation caused while pulling cable for the traffic signal system are cause for immediate rejection. Remove and replace the entire damaged cable at no expense to the Department.

When pulling cables or conductors through conduit, do not exceed the manufacturer's recommended pulling tensions. Lubricate the cables or conductors with a lubricant as recommended by the cable manufacturer.

Bond the controller housing, signal poles, conduit, and spans to a minimum No. 6 AWG stranded copper conductor. An equipment grounding conductor is required in every conduit to form a continuous grounding system. Effectively connect the grounding system to ground rods or concrete encased grounding electrodes as indicated in the plans.

Wrap signal heads with dark plastic or suitable material to conceal the signal faces from the time of installation until placing into operation. Do not use burlap.

Furnish signal heads from the same manufacturer.

Use Type B (high intensity prismatic) or Type D (diamond grade) retroreflective sheeting for signs mounted under or adjacent to the signal heads.

The Contractor may use ready mix concrete.

Apply membrane curing on concrete work in accordance with Section 420.4.10.3, “Membrane Curing.”

The standard 4.5-in. galvanized pipe type poles, except the breakaway type, are subject only to the Engineer’s inspection for their acceptance. Mill test reports or documentation will not be required.

**Item 682: Vehicle and Pedestrian Signal Heads**

Install two set screws on vehicle signal head mounting hardware fittings.

Furnish black housings for vehicle and pedestrian signals. Furnish black vehicle signal head back plates with 2 in. retroreflective yellow borders.

Furnish black housings for vehicle and pedestrian signals. Ensure the door and visor match the mast arm and pedestrian pole color. Furnish black vehicle signal head back plates with 2 in. retroreflective yellow borders.

**Item 686: Traffic Signal Pole Assemblies (Steel)**

For a steel mast arm or steel strain pole assembly, hold the anchor bolts and conduits rigidly in place with a welded steel template.

Leave a minimum of one full diameter thread exposed on each anchor bolt securing a signal pole.

Set the anchor bolts for the steel strain poles so that two are in compression and two are in tension.

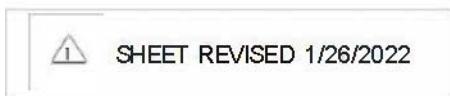
Use a Texas Cone Penetrometer reading of 10. The drilled shaft length is from the surface elevation to the bottom of the drilled shaft. Provide an additional length of the pole foundation from the surface level to the roadway level, if required for unusual locations. Provide the drilled shaft depth regardless of the length of the pole foundation. The pole foundation depth from the surface level to the roadway level is a maximum of 4 ft., or as approved.

Locate traffic signal pole assembly foundations a minimum of 4 ft. from the roadway curb or pavement edge, or as shown on the plans.

Place steel strain poles at a 10 ft. desirable minimum distance from the roadway curb or pavement edge.

After the traffic signal pole assembly is plumb and the nuts are tight, tack-weld each anchor bolt nut in two places to its washer. Tack-weld each washer to the base plate in two places. Do not weld components to the bolt. Perform tack-welding in accordance with the Item, “Steel Structures.” After tack-welding, repair galvanizing damage on bolts, nuts, and washers in accordance with Section 445.3.5, “Repairs.”

The Department may test the anchor bolts using ultrasonic methods for traffic signal poles after they are installed. Replace faulty anchor bolts as directed. Do not weld the anchor bolts.



Furnish black powder coated traffic signal poles. Apply powder coated finish over the galvanized surface. Prepare galvanized surfaces for powder coating in accordance with the powder coating manufacturer's recommendations. Do not water-quench or chromate-quench galvanized surfaces to be powder coated. After preparing galvanized surfaces, powder coat with a minimum of 2.0 mils dry film thickness (DFT) of urethane powder or triglycidyl isocyanurate (TGIC) polyester powder. Provide powder coat adhesion meeting the 5A or 5B classifications of ASTM D3359. Ensure powder coating is uniform in appearance and free of scratches.

**Item 687: Pedestal Pole Assemblies**

Furnish black powder coated traffic signal poles. Apply powder coated finish over the galvanized surface. Prepare galvanized surfaces for powder coating in accordance with the powder coating manufacturer's recommendations. Do not water-quench or chromate-quench galvanized surfaces to be powder coated. After preparing galvanized surfaces, powder coat with a minimum of 2.0 mils dry film thickness (DFT) of urethane powder or triglycidyl isocyanurate (TGIC) polyester powder. Provide powder coat adhesion meeting the 5A or 5B classifications of ASTM D3359. Ensure powder coating is uniform in appearance and free of scratches.

**Item 688: Pedestrian Detectors and Vehicle Loop Detectors**

Provide pedestrian push buttons a minimum of 2 in. diameter in the smallest dimension.

Install a rubber grommet or bushing between the push button assembly and the signal pole to protect the conductors.

Provide a black tube loop detector wire as specified in the "International Municipal Signal Association, Inc." (IMSA) Specifications.

At intersections where a minimum of 10 ft. spacing between adjacent accessible pedestrian signal units is not possible, provide each accessible pedestrian pushbutton with the following features: a pushbutton locator tone, a tactile arrow, a speech walk message for the walking person indication and a speech pushbutton information message.

Provide pedestrian push buttons a minimum of 2 in. diameter in the smallest dimension.

Install a rubber grommet or bushing between the push button assembly and the signal pole to protect the conductors.

**Item 3077: Superpave Mixtures**

The blending of aggregate and RAP is not allowed.

**Item 3085: Underseal Course**

Use only a Spray Applied Underseal Membrane or a single layer of Seal Coat



**Item 6185: Truck Mounted Attenuator (TMA) and Trailer Attenuator (TA)**

A shadow vehicle with Truck Mounted Attenuators (TMAs) or Trailer Attenuators (TAs) is required as shown on the appropriate Traffic Control Plan (TCP) sheets. TMAs/TAs must meet the requirements of the Compliant Work Zone Traffic Control Device List.

Level 3 Compliant TMAs/TAs are required for this project.

A total of one (1) shadow vehicle with a TMA/TA is required for the work with the exception of Pavement Marking Operations. The Contractor is responsible for determining if one or more of these operations will be ongoing at the same time to determine the total number of TMAs/TAs needed on the project.

A total of three (3) shadow vehicles with a TMA/TA are required for Pavement Marking Operations. The Contractor is responsible for determining if one or more of these operations will be ongoing at the same time to determine the total number of TMAs/TAs needed on the project.

**Basis of Estimate**

Item	Description	Limit and Rate	Unit
134	Backfilling Pavement Edges • Asphalt Emulsion	0.25 Gal. / Sq. Yd.	STA
292	Asphalt Treatment (Plant-Mixed) • Asphalt • Aggregate	110 Lb. / Sq. Yd.-In. 5 % by weight 95 % by weight	TON
316	Seal Coat • Asphalt • Aggregate (Gr 4)	0.32 Gal. / Sq. Yd. 1/130 Cu. Yd. / Sq. Yd.	GAL CY
3077	Superpave Mixtures • Asphalt • Aggregate	100 Lb. / Sq. Yd.-In. 8 % by weight 92 % by weight	TON
3085	Underseal Course • Aggregate	0.20 Gal. / Sq. Yd.	GAL

\* If used in existing roadway base, rate will be determined on a case by case basis.

 SHEET REVISED 1/26/2022

CONTROL : 0051-03-117  
PROJECT : C 51-3-117  
HIGHWAY : SH 3  
COUNTY : GALVESTON

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 NOVEMBER 1, 2014.  
STANDARD SPECIFICATIONS ARE INCORPORATED  
INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS  
ITEM 104 REMOVING CONCRETE  
ITEM 110 EXCAVATION (132)  
ITEM 134 BACKFILLING PAVEMENT EDGES (162)(166)(168)(300)(314)  
ITEM 162 SODDING FOR EROSION CONTROL (166)(168)  
ITEM 166 FERTILIZER (520)  
ITEM 168 VEGETATIVE WATERING  
ITEM 351 FLEXIBLE PAVEMENT STRUCTURE REPAIR (132)(204)(247)(260)  
(263)(275)(276)(292)(310)(316)(330)(334)(3076)  
ITEM 354 PLANING AND TEXTURING PAVEMENT  
ITEM 416 DRILLED SHAFT FOUNDATIONS (405)(420)(421)(423)(440)(448)  
ITEM 500 MOBILIZATION  
ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING  
ITEM 506 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL  
CONTROLS (506)  
ITEM 529 CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER (360)  
(420)(421)(440)  
ITEM 531 SIDEWALKS (104)(360)(420)(421)(440)(530)  
ITEM 618 CONDUIT (400)(476)  
ITEM 620 ELECTRICAL CONDUCTORS (610)(628)  
ITEM 621 TRAY CABLE (620)  
ITEM 624 GROUND BOXES (420)(421)(432)(440)(618)(620)  
ITEM 628 ELECTRICAL SERVICES (441)(445)(449)(618)(620)(627)(656)  
ITEM 636 SIGNS (643)  
ITEM 644 SMALL ROADSIDE SIGN ASSEMBLIES (421)(440)(441)(442)(445)  
(636)(643)(656)  
ITEM 662 WORK ZONE PAVEMENT MARKINGS (666)(668)(672)(677)  
ITEM 666 RETROREFLECTORIZED PAVEMENT MARKINGS (316)(502)(662)(677)  
(678)(6438)  
ITEM 672 RAISED PAVEMENT MARKERS (677)(678)

ITEM 677 ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS (300)  
(302) (316)  
ITEM 678 PAVEMENT SURFACE PREPARATION FOR MARKINGS (677)  
ITEM 680 HIGHWAY TRAFFIC SIGNALS (416) (610) (618) (620) (624) (625)  
(627) (628) (636) (656) (682) (684) (686) (688)  
ITEM 682 VEHICLE AND PEDESTRIAN SIGNAL HEADS  
ITEM 684 TRAFFIC SIGNAL CABLES  
ITEM 686 TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL) (416) (421) (441)  
(442) (445) (449)  
ITEM 687 PEDESTAL POLE ASSEMBLIES (445) (449) (656) (682)  
ITEM 688 PEDESTRIAN DETECTORS AND VEHICLE LOOP DETECTORS (618)  
(624) (682) (684)

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE  
----- PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED  
HEREON WHEREVER IN CONFLICT THEREWITH.

SPECIAL LABOR PROVISIONS FOR STATE PROJECTS (000---008)

WAGE RATES

SPECIAL PROVISION "NONDISCRIMINATION" (000---002)

SPECIAL PROVISION "SMALL BUSINESS ENTERPRISE IN STATE FUNDED PROJECTS  
" (000---009)

SPECIAL PROVISION "CERTIFICATE OF INTERESTED PARTIES (FORM 1295)"  
(000--1019)

SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000--1177)

SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000---658)

SPECIAL PROVISION "NOTICE OF CONTRACTOR PERFORMANCE EVALUATIONS"  
(000---659)

SPECIAL PROVISIONS TO ITEM 2 (002---011) (002---013)  
SPECIAL PROVISIONS TO ITEM 3 (003---011) (003---013)  
SPECIAL PROVISIONS TO ITEM 5 (005---002) (005---003)  
SPECIAL PROVISIONS TO ITEM 6 (006---001) (006---012)  
SPECIAL PROVISIONS TO ITEM 7 (007---004) (007---008) (007---010)  
(007---011)  
SPECIAL PROVISIONS TO ITEM 8 (008---003) (008---030) (008---033)  
(008---045)  
SPECIAL PROVISIONS TO ITEM 9 (009---010) (009---011)  
SPECIAL PROVISION TO ITEM 247 (247---003)  
SPECIAL PROVISION TO ITEM 300 (300---017)  
SPECIAL PROVISION TO ITEM 302 (302---003)  
SPECIAL PROVISION TO ITEM 314 (314---001)  
SPECIAL PROVISION TO ITEM 316 (316---002)  
SPECIAL PROVISION TO ITEM 334 (334---003)  
SPECIAL PROVISION TO ITEM 421 (421---009)  
SPECIAL PROVISION TO ITEM 440 (440---004)  
SPECIAL PROVISION TO ITEM 441 (441---003)  
SPECIAL PROVISION TO ITEM 442 (442---001)  
SPECIAL PROVISION TO ITEM 449 (449---002)  
SPECIAL PROVISION TO ITEM 502 (502---008)  
SPECIAL PROVISION TO ITEM 506 (506---002)  
SPECIAL PROVISION TO ITEM 520 (520---002)  
SPECIAL PROVISION TO ITEM 636 (636---001)



SPECIAL PROVISION TO ITEM 643 (643---001)  
SPECIAL PROVISION TO ITEM 656 (656---001)  
SPECIAL PROVISION TO ITEM 666 (666---007)  
SPECIAL PROVISION TO ITEM 680 (680---006)  
SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 6185 (6185--002)

SPECIAL SPECIFICATIONS:

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ITEM 3076 DENSE-GRADED HOT-MIX ASPHALT  
ITEM 3077 SUPERPAVE MIXTURES  
ITEM 3085 UNDERSEAL COURSE (320)  
ITEM 6001 PORTABLE CHANGEABLE MESSAGE SIGN  
ITEM 6058 BATTERY BACK-UP SYSTEM FOR SIGNAL CABINETS (420)(620)  
ITEM 6185 TRUCK MOUNTED ATTENUATOR (TMA) AND TRAILER ATTENUATOR (TA)  
ITEM 6292 RADAR VEHICLE DETECTION SYSTEMFOR SIGNALIZED INTERSECTION  
CONTROL  
ITEM 6438 MOBILE RETROREFLECTIVITY DATA COLLECTION FOR PAVEMENT  
MARKINGS

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.

# Special Specification 3085

## Underseal Course

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### 1. DESCRIPTION

Construct an underseal course where sealing of the underlying surface is needed using a Tracking-Resistant Asphalt Interlayer (TRAIL), a Spray Applied Underseal Membrane, or a single layer of Seal Coat, applied before the placement of a new hot-mix asphalt concrete pavement.

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### 2. MATERIALS

2.1. Furnish the materials for one of the following three options:

2.1.1. **TRAIL.** Furnish asphalt material described as “seal” for typical use in the TRAIL Material Producer List.

2.1.2. **Spray Applied Underseal Membrane.** Furnish asphalt material meeting the requirements of Special Specification 3002, “Spray Applied Underseal Membrane.” Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use.

2.1.3. **Seal Coat.** Furnish asphalt and aggregate materials meeting the requirements of Item 316, “Seal Coat.” Use a polymer modified asphalt or emulsion and aggregate as shown on the plans. Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use.

2.2. Furnish the material for applying tack coat to all miscellaneous contact surfaces when approved by the Engineer:

2.2.1. **Miscellaneous Tack.** Furnish TRAIL asphalt, CSS-1H, SS-1H, or a PG binder with a minimum high-temperature of PG 58 for tack coat binder in accordance with Item 300, “Asphalts, Oils, and Emulsions.” Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use.

2.3. **Sampling.** The Engineer will witness the collection of at least one sample of each asphalt binder per project in accordance with Tex-500-C, Part III, and test it to verify compliance with Item 300, “Asphalts, Oils, and Emulsions” or Special Specification 3002, “Spray Applied Underseal Membrane.”

The Engineer will sample and test the type and grade of the aggregate as shown on the plans at the frequency listed in the Department’s *Guide Schedule of Sampling and Testing* in accordance with Item 302, “Aggregates for Surface Treatments.”

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### 3. EQUIPMENT

3.1. **TRAIL.** Provide the equipment recommend by the producer.

3.2. **Spray Applied Underseal Membrane.** Provide in accordance with Special Specification 3002, “Spray Applied Underseal Membrane.”

3.3. **Seal Coat.** Provide in accordance with Item 316, “Seal Coat.”

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### 4. CONSTRUCTION

4.1. **Preparation.** Remove existing raised pavement markers. Repair any damage incurred by removal as directed. Remove dirt, dust, or other harmful material before sealing. When shown on the plans, remove

vegetation and blade pavement edges. When approved by the Engineer, apply a thin, uniform coating of Miscellaneous Tack to all miscellaneous contact surfaces such as curbs, structures, and manholes. Prevent splattering of the tack coat when placed adjacent to curb, gutter, and structures.

- 4.2. **TRAIL.** Perform the following construction methods when applying a TRAIL for an underseal course:
- 4.2.1. **Placement.** Uniformly apply the TRAIL material to all areas where mix will be placed, including joints, at the rate shown on the plans or as directed, within 15°F of the approved temperature, and not above the maximum allowable temperature. Unless otherwise directed, uniformly apply the TRAIL material at the minimum rate specified on the plans. The Engineer may adjust the application rate taking into consideration the existing pavement surface conditions.
- 4.3. **Spray Applied Underseal Membrane.** Place in accordance with Special Specification 3002, "Spray Applied Underseal Membrane."
- 4.3.1. **Placement.** Do not allow any loose mixture onto the prepared surface before application of the membrane. Unless otherwise directed, uniformly apply the membrane to all areas where mix will be placed, including joints, at the rate shown on the plans. Unless otherwise directed, uniformly apply the membrane at the minimum rate specified on the plans. The Engineer may adjust the application rate, taking into consideration the existing pavement surface conditions.
- 4.4. **Seal Coat.** Place in accordance with Item 316, "Seal Coat."
- 4.4.1. **Placement.** Unless otherwise directed, apply the asphalt material and aggregate at the minimum rate shown on the plans. The Engineer may adjust the application rate, taking into consideration the existing pavement surface conditions.
- 4.5. **Informational Shear Test.** Obtain one set of full depth core specimens per project in accordance with Tex-249-F within one working day of the time the lot placement is completed. The Engineer will select the core locations. Provide the cores to the Engineer in a container labeled with the Control-Section-Job (CSJ) and lot number. The district will determine the shear bond strength between the two bonded pavement layers in accordance with Tex-249-F. Results from these tests will not be used for specification compliance.
- 4.6. **Nonuniform Application.** Stop application if it is not uniform due to streaking, ridging, pooling, or flowing off the roadway surface. Verify equipment condition, operating procedures, application temperature, and material properties. Determine and correct the cause of non-uniform application.
- 4.7. **Test Strips.** The Engineer may perform independent tests to confirm contractor compliance and may require testing differences or failing results to be resolved before resuming production.

The Engineer may stop the application and require construction of test strips at the Contractor's expense if any of the following occurs:

- Non-uniformity of application continues after corrective action;
- Evidence of tracking or picking up of the TRAIL;
- In 3 consecutive shots, application rate differs by more than 0.03 gal. per square yard from the rate directed; or
- Any shot differs by more than 0.05 gal. per square yard from the rate directed.

The Engineer will approve the test strip location. The Engineer may require additional test strips until surface treatment application meets specification requirements.

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## 5. MEASUREMENT

### 5.1. Asphalt Material.

- 5.1.1. **Volume.** The asphalt material, including all components, will be measured at the applied temperature by strapping the tank before and after road application and determining the net volume from the calibrated distributor. The Engineer will witness all strapping operations for volume determination. All asphalt material, including emulsions, will be measured by the gallon applied.

The Engineer may allow the use of a metering device to determine the asphalt volume used and application rate if the device is accurate to within 1.5% of the strapped volume.

- 5.2. **Aggregate.** The work performed, materials furnished, equipment, labor, tools, and incidentals will not be paid for directly but will be subsidiary.
- 5.3. **Quantity Adjustments.** Quantity based price adjustment factors are not applicable to compensate for over and under runs resulting from the method chosen.

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**6. PAYMENT**

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Underseal Course." These prices are full compensation for surface preparation; furnishing, preparing, hauling, Miscellaneous Tack used for all miscellaneous contact surfaces, and placing materials; removing existing pavement markers and excess aggregate; rolling; cleaning up stockpiles; and equipment, labor, tools, and incidentals.