

# NOTIFICATION OF ADDENDUM

## ADDENDUM NO. 1

**DATED 1/30/2015**

<b>Control</b>	<b>0902-90-017</b>
<b>Project</b>	<b>BR 2015(500)</b>
<b>Highway</b>	<b>CS</b>
<b>County</b>	<b>TARRANT</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: BR 2015(500)

CONTROL: 0902-90-017

COUNTY: TARRANT

LETTING: 02/03/2015

REFERENCE NO: 0229

**PROPOSAL ADDENDUMS**

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\_ PROPOSAL COVER

X BID INSERTS (SH. NO.: 1-6 thru 6-6 )

X GENERAL NOTES (SH. NO.: A thru T )

X SPEC LIST (SH. NO.: 1-4 thru 4-4 )

\_ SPECIAL PROVISIONS:

ADDED:

DELETED:

X SPECIAL SPECIFICATIONS:

ADDED: 6834

DELETED: 5633

X OTHER: See changes below

DESCRIPTION OF ABOVE CHANGES  
(INCLUDING PLANS SHEET CHANGES)

BID INSERTS: Sheet 1-6 Revised quantity for items 110-2001, 132-2004, 160-2003, 164-2027 and 168-2001.  
Sheet 2-6 Revised quantity for items 247-2044 and 310-2002.  
Sheet 3-6 Added item 432-2002.  
Revised quantity for items 425-2118, 432-2001, 432-2024, 464-2003, 467-2286 and 467-2358.  
Sheet 4-6 Deleted item 552-2003. Added item 540-2001.  
Revised quantity for items 496-2007, 530-2010 and 544-2001.  
Sheet 5-6 Revised quantity for item 658-2241.  
Sheet 6-6 Deleted item 5633-2001. Added item 6834-2001.  
Revised quantity for items 1122-2037, 1122-2057 and 3267-2120.

Sheets 1-6 thru 6-6. Information may have shifted due to the changes.

GENERAL NOTES: A thru T. Revised entire general notes.

Sheets A thru T. Information may have shifted due to the changes.

SPEC LIST: Sheet 2-4: Standard specification 552 is deleted.

Sheet 3-4: Deleted special specification 5633.

Added special specification 6834.

Sheets 1-4 thru 4-4. Information may have shifted due to the changes.

PLAN SHEETS: Replaced sheets 5, 5A thru 5I, 6 and 6A.

Revised sheets 2, 3, 4, 7, 9, 23, 25, 40, 48, 81, 97 and 98.

DESCRIPTION OF ABOVE CHANGES (CONTINUED)  
(INCLUDING PLANS SHEET CHANGES)

Added sheet 32A.

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	100	2002	002	PREPARING ROW  DOLLARS and CENTS	STA	7.250	1
	104	2017		REMOVING CONC (DRIVEWAYS)  DOLLARS and CENTS	SY	422.000	2
	110	2001		EXCAVATION (ROADWAY)  DOLLARS and CENTS	CY	650.000	3
	110	2002		EXCAVATION (CHANNEL)  DOLLARS and CENTS	CY	2,209.000	4
	132	2004		EMBANKMENT (FINAL)(DENS CONT)(TY B)  DOLLARS and CENTS	CY	1,938.000	5
	160	2003		FURNISHING AND PLACING TOPSOIL (4")  DOLLARS and CENTS	SY	4,668.000	6
	164	2027	002	CELL FBR MLCH SEED(PERM)(URBAN)(CLAY)  DOLLARS and CENTS	SY	4,668.000	7
	168	2001		VEGETATIVE WATERING  DOLLARS and CENTS	MG	163.000	8
	169	2004	002	SOIL RETENTION BLANKETS (CL 1) (TY D)  DOLLARS and CENTS	SY	1,051.000	9
	169	2007	002	SOIL RETENTION BLANKETS (CL 2) (TY G)  DOLLARS and CENTS	SY	1,069.000	10

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	247	2044	033	FL BS (CMP IN PLC)(TY A GR 4)(FNAL POS) DOLLARS and CENTS	CY	656.000	11
	247	2060	033	FL BS (CMP IN PLC)(TY E GR 4)(FNAL POS) DOLLARS and CENTS	CY	399.000	12
	275	2001	003	CEMENT DOLLARS and CENTS	TON	25.000	13
	275	2018	003	CEMENT TREAT (NEW BASE)(36") DOLLARS and CENTS	SY	476.000	14
	310	2002		PRIME COAT (AE-P) DOLLARS and CENTS	GAL	504.000	15
	400	2005		CEM STABIL BKFL DOLLARS and CENTS	CY	98.000	16
	416	2004		DRILL SHAFT (36 IN) DOLLARS and CENTS	LF	412.000	17
	420	2033	002	CL S CONC (APPR SLAB) DOLLARS and CENTS	CY	88.400	18
	420	2041	002	CL C CONC (ABUT)(HPC) DOLLARS and CENTS	CY	47.300	19
	420	2042	002	CL C CONC (BENT)(HPC) DOLLARS and CENTS	CY	58.200	20
	422	2003		REINF CONC SLAB (HPC)(CL S) DOLLARS and CENTS	SF	5,040.000	21

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	425	2118	002	PRESTR CONC GIRDER (HAUL & INSTALL) DOLLARS and CENTS	EA	15.000	22
	428	2002	001	CONC SURF TREAT (CLASS II) DOLLARS and CENTS	SY	880.000	23
	432	2001		RIPRAP (CONC)(4 IN) DOLLARS and CENTS	CY	30.000	24
	432	2002		RIPRAP (CONC)(5 IN) DOLLARS and CENTS	CY	29.000	25
	432	2024		RIPRAP (STONE PROTECTION)(30 IN) DOLLARS and CENTS	CY	1,564.000	26
	450	2161	001	RAIL (TY T223) DOLLARS and CENTS	LF	280.000	27
	454	2005	003	ARMOR JOINT (WITH SEAL) DOLLARS and CENTS	LF	79.300	28
	464	2003	006	RC PIPE (CL III)(18 IN) DOLLARS and CENTS	LF	220.000	29
	467	2286		SET (TY II)(18 IN)(RCP)(6:1)(P) DOLLARS and CENTS	EA	4.000	30
	467	2358		SET (TY II)(18 IN)(RCP)(3:1)(P) DOLLARS and CENTS	EA	2.000	31
	479	2004		ADJ MANHS (SANITARY) DOLLARS and CENTS	EA	2.000	32

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	479	2005		ADJ MANHS (WATER VALVE BOX) DOLLARS and CENTS	EA	1.000	33
	496	2006		REMOV STR (HEADWALL) DOLLARS and CENTS	EA	1.000	34
	496	2007		REMOV STR (PIPE) DOLLARS and CENTS	LF	100.000	35
	496	2009		REMOV STR (BRIDGE 0-99 FT LENGTH) DOLLARS and CENTS	EA	1.000	36
	500	2001	011	MOBILIZATION DOLLARS and CENTS	LS	1.000	37
	502	2001	033	BARRICADES, SIGNS AND TRAFFIC HAN- DLING DOLLARS and CENTS	MO	6.000	38
	530	2010	006	DRIVEWAYS (CONC) DOLLARS and CENTS	SY	503.000	39
	540	2001	031	MTL W-BEAM GD FEN (TIM POST) DOLLARS and CENTS	LF	239.000	40
	540	2012	031	MTL BEAM GD FEN TRANS (TL2) DOLLARS and CENTS	EA	3.000	41
	544	2001		GUARDRAIL END TREATMENT (INSTALL) DOLLARS and CENTS	EA	4.000	42

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	545	2088	001	CRASH CUSH ATTEN (INSTL)(R)(N)(TL2) DOLLARS and CENTS	EA	1.000	43
	560	2006	001	MAILBOX INSTALL-S (RR-POST) TY 4 FND- TB DOLLARS and CENTS	EA	1.000	44
	644	2001		IN SM RD SN SUP&AM TY10BWG(1)SA(P) DOLLARS and CENTS	EA	3.000	45
	644	2056		RELOCATE SM RD SN SUP & AM TY 10BWG DOLLARS and CENTS	EA	1.000	46
	644	2060		REMOVE SM RD SN SUP & AM DOLLARS and CENTS	EA	4.000	47
	658	2241		INSTL DEL ASSM (D-SW)SZ 1(FLX)GF2(BI) DOLLARS and CENTS	EA	15.000	48
	666	2011		REFL PAV MRK TY I (W) 4" (SLD)(090MIL) DOLLARS and CENTS	LF	1,430.000	49
	666	2110		REFL PAV MRK TY I (Y) 4" (SLD)(090MIL) DOLLARS and CENTS	LF	1,430.000	50
	1122	2002	001	ROCK FILTER DAMS (INSTALL) (TY 2) DOLLARS and CENTS	LF	65.000	51
	1122	2009	001	ROCK FILTER DAMS (REMOVE) DOLLARS and CENTS	LF	65.000	52

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	1122	2016	001	CONSTRUCTION EXITS (INSTALL) (TY 1) DOLLARS and CENTS	SY	160.000	53
	1122	2019	001	CONSTRUCTION EXITS (REMOVE) DOLLARS and CENTS	SY	160.000	54
	1122	2037	001	TEMPORARY SEDIMENT CONTROL FENCE INSTLL DOLLARS and CENTS	LF	1,363.000	55
	1122	2057	001	TEMPORARY SEDIMENT CONTROL FENCE REMOVE DOLLARS and CENTS	LF	1,363.000	56
	3267	2120		D-GR HMA(SQ) TY-D SAC-B PG70-22 DOLLARS and CENTS	TON	481.000	57
	6834	2001		PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	DAY	20.000	58

\*\*\*\* Specification Data \*\*\*\*

Basis of Estimate

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Item	Description	Rate	Unit
166	Fert (16-8-8)	600 lb/acre**	Ton
168	Vegetative Watering	169,400 gal/acre	MG
275	Cement (New Base)(Road-Mixed) (For Type E, Gr. 4)	75 lb/CY	Ton
310	Asph Mat'l (AE-P) (Subgrade)(Priming)	0.2 gal/SY*	Gal
3267	Hot Mix (Ty. D)	115 lb/SY/in	Ton

\* Based On 50% Asphalt Residue.

\*\* Non-Pay, for Contractor's Information Only.

Compaction Requirements for Base Courses:

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(Percent Of Density As Determined By Compaction Ratio Test TEX-113-E)

ITEM	MATERIAL	COURSE	MIN DENSITY
247	Flex Base	All	100 %

**Special Notes:**

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Electronic files containing answered pre-letting questions and other project related design information will be placed in the following FTP site periodically.

It is the responsibility of the contractor to check this site for new information. Notices of new postings will not be sent out.

The data located in these files is for non-construction purposes only.

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**Project Number:** BR 2015 (500)

**Sheet**

**County:** TARRANT

**Control:** 0902-90-017

**Highway:** CS

Instructions for using the FTP site:  
From Internet Explorer, do the following:

Go to [FTP://ftp.dot.state.tx.us](ftp://ftp.dot.state.tx.us)

Click Page>Open FTP site in Windows Explorer

Click File>Login As

Enter the Username and password and click "Log on".

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FTP USERNAME: ftwntaor

FTP PASSWORD: inne3uts

Access is read-only

All files in the FTP site are subject to the License Agreement shown on the FTP site.

If you wish to obtain a copy of the project plans you may do so, free of charge from the following site.

[http://www.txdot.gov/business/contractors\\_consultants/plans\\_online.htm](http://www.txdot.gov/business/contractors_consultants/plans_online.htm)

**Special Notes:**

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Calculating, Recording and Reporting Test Data - Use appropriate TxDOT Excel templates to calculate and record all test data. These forms are available on the TxDOT website at

www.dot.state.tx.us/forms/construction.htm under the "SiteManager" heading. Submit test results within 24 hours of test completion by email or CD.

Single lane closures, except as otherwise shown in the plans, will be restricted to off-peak hours as defined in the following table:

Peak Hours		Off-Peak Hours	
6 to 8:30 AM Monday through Friday	3:30 to 7 PM Monday through Friday	8:30AM to 3:30PM and 7 PM to 6 AM Monday through Friday	All day Saturday and Sunday

Existing storm sewers and utilities are shown from the best available information. Verify the location of all underground facilities prior to starting work.

For dimensions of R.O.W. not shown on the plans, see R.O.W. map on file at Azle City Hall.

The Contractor's attention is directed to the following list of temporary easements and their expiration dates:

<u>Parcel Number</u>	<u>Expiration Date</u>
Curtis, Benjamin F Survey, Lot A 344 Tr 12	Upon completion of construction
Curtis, Benjamin F Survey, Lot A 344 Tr 10F	Upon completion of construction
Ash Creek Baptist Church Addition, Block Lot 1R	Upon completion of construction
Burrows, J G Addition, Block 1 Lot 1	Upon completion of construction

Complete all work in these easement areas prior to the expiration dates shown. In any event that work is done after these expiration dates, all costs for extending these dates shall be borne by the Contractor.

All fence work will be considered subsidiary to prep ROW.

Provide all-weather surface for temporary ingress and egress to adjacent property, as directed. Materials, labor, equipment and incidentals necessary to provide temporary ingress and egress will not be paid for directly, but will be subsidiary to the various bid items.

In those instances where necessary, the governing slopes indicated herein may be varied from the limits shown, to the extent approved.

All driveway openings will be determined by the Engineer and shall conform with Texas Department of Transportation "Regulations for Access Driveways to State Highways" adopted September 1953, and revised June 2004.

Locations and lengths of all private entrances are approximate only. The actual locations, lengths, lines, and grades are to be established in the field.

Take care that existing curb and curb and gutter is not discolored or damaged during construction operations. In the event of discoloration or damage, clean or repair as directed.

Remove the grass from the crown of shoulders or pavement edges by blading or other approved methods. Payment for this work will not be made directly but shall be considered subsidiary to the various items of the contract.

Locations shown for drainage structures refer to the control points of structures as follows:

- 1) Manholes, Inlets, and Junction Boxes -- Locations are at the centroid of the structure; when two structure types are specified, location is at the centroid of the top structure. Bottom structure may be positioned as required to align with top structure, storm drain pipes and other adjacent structures.
- 2) Street Inlets -- Locations are at the face of curb at a distance of  $L/2$  from the end of the inlet.
- 3) Headwalls -- Locations are to the outside face of the headwall at the centerline of the pipe or box structure. For pipe headwalls with Type "P" or "C" safety end treatment, locations are on the centerline of the pipe structure at the limit of payment for pipe.

Plugging of pipes or culverts will not be paid for directly, but shall be considered subsidiary to the various bid items, unless otherwise shown on the plans.

Provide temporary drain openings at all low points or other drainage structures, as required, at the Contractor's expense.

Remove any obstructions to existing drainage due to the contractor's operations, as required, at the Contractor's expense.

Install all required concrete riprap flumes immediately following the construction of ditches in which they are to be placed. In addition, apply all erosion control measures as shown on the plans or as directed, immediately following construction of channels to their required line, grade and section.

**Item 5. Control of the Work**

Provide beam erection drawings which shall be signed and sealed by licensed engineer. When supplementary bridge plans, shop drawings, shop details, erection drawings, working drawings, forming plans or other drawings, are required, the drawings shall be prepared and submitted on sheets 8 1/2 by 11 inches, 11 by 17 inches, or full size drawings reduced to half scale if completely legible. If, in the opinion of the Engineer, the drawings are not completely legible, they shall be prepared and submitted on sheets 22 by 34 inches, with a one and one-half inch left margin, and a one-half inch top, right, and bottom margin.

All sheets submitted shall have a title in the lower right hand corner. The title shall include the sheet index data shown on the lower right corner of the project plans, name of the structure or element or stream, sheet numbering for the shop drawings, name of the fabricator and the name of the Contractor.

Prior to contract letting, bidders may obtain a free computer diskette or a computerized transfer of files (from the Engineer's office) that contains the earthwork information in ASCII format, plain text files. If copies of the actual cross-sections are requested, in addition to, or instead of, the diskette, they will be available at the Engineers office for borrowing by copying companies for the purpose of making copies for the bidder, at the bidder's expense.

**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, but are not limited to, haul roads, equipment staging areas, borrow and disposal sites. "Associated" as defined here means materials are delivered to or from the PSL. The permit area includes all waters of the U.S. or associated wetlands affected by activities associated with this project. Special restrictions may be required for such work. The contractor shall be responsible for any and all consultations with the USACE regarding activities, including project specific locations (PSLs) that have not been previously evaluated by the USACE. Provide the Department with a copy of all consultation(s) or approval(s) from the USACE prior to 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 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 determination(s) that their activities do not affect a USACE permit area. Maintain copies of their determination(s) for review by the Department or any regulatory agency.

Document and coordinate with the USACE, if required, prior to any excavation hauled from or embankment hauled into a USACE permit area by either (1) or (2) below.

- (1) Restricted Use of Materials for Previously Evaluated Permit Areas.** Document both the project specific location (PSL) and its 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 Item 110 is used for permanent or temporary fill (Item 132, Embankment) within a USACE permit area;
  - b. Suitable embankment (Item 132) from within the USACE permit area is used as fill within a USACE evaluated area; and,
  - c. Unsuitable excavation or excess excavation [“Waste”] (Item 110) that is disposed of at a location approved by the Engineer within a USACE evaluated area.
- (2) Contractor Materials from Areas Other than Previously Evaluated Areas.** Provide the Department with a copy of all USACE coordination or approval(s) prior to 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. Item 132, Embankment, used for temporary or permanent fill within a USACE permit area; and,
  - b. Unsuitable excavation or excess excavation [“Waste”] (Item 110, Excavation) that is disposed of outside a USACE evaluated area.

The total area disturbed for this project is 1.48 acres. The disturbed area in this project, all project locations in the Contract, and the Contractor project specific locations (PSLs), within 1 mile of the project limits, for the Contract will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the ROW. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, provide a copy of the Contractor NOI for PSLs on the ROW to the Engineer and to the local government that operates a separate storm sewer system.

### **Item 8. Prosecution and Progress**

Working days will be computed and charged in accordance with Article 8.3.A.1 Five-Day Workweek.

### **Item 100. Preparing Right of Way**

Measurement for this item shall be along the centerline of the project with the limits of measurements as shown on the plans.

Burning of brush will not be permitted.

Removal of objectionable material from the right of way maybe required by hand. This work will be considered subsidiary to this Item.

**Item 104. Removing Concrete**

When associated with a structure to be removed, removal of riprap as required, approach slabs and shoulder drains are to be included in the unit price bid for Item 496, 'Removing Structures'.

**Item 105. Removing Stabilized Base and Asphalt Pavement**

Cement, lime, and/or lime fly-ash stabilized base material to be removed on this project shall become the property of the Contractor.

**Item 110. Excavation**

Review proposed waste sites to determine if any site is located in a "Base Floodplain" or "Floodway" as defined by the Federal Emergency Management Agency (FEMA).

If waste material from this project is placed in a base floodplain as defined by FEMA, a permit will have to be obtained from the local community responsible for enforcing National Flood Insurance Program (NFIP) regulations. The Contractor is responsible for ensuring that the owner of the property receiving the waste has obtained the necessary permit.

**Items 110, 112, and 132. Excavation, Subgrade Widening, and Embankment**

Sulfate-laden subgrade material that is to be treated with either lime or cement, including material up to one foot outside the proposed treatment limits, is susceptible to sulfate heave. It has been determined that an excessive concentration of sulfate in the soils (>3,000 PPM by dry weight of the soil) exists for given areas of excavation and/or proposed treated subgrade within the project limits. The areas of moderate to high concentrations are as follows:

Areas of subgrade to be treated (3,001 – 7,000 PPM –moderate concentration)

no areas identified

Areas of excavation (>7,000 PPM – high concentration)

no areas identified

Moderate sulfate levels are those defined from 3,001 PPM to 7,000 PPM. Treat these soils with lime at the full 150 lb/CY rate or cement at the full 125 lb/CY rate. Do not split the rates to

ensure complete reaction and mitigation of sulfate heaves. Allow the mixture to mellow for 7 days to provide for complete reaction.

High sulfate levels are not allowed within the treatment and surrounding areas as defined above.

Test soils for soluble sulfates in accordance with Test Method TEX-145 and TEX-146-E.

Treat moderate sulfate or excavate high sulfate areas identified above and other subgrade areas that may be identified during construction as having moderate to high sulfate concentrations to a depth of one foot below and laterally to one foot outside the proposed treatment limits.

Treatment of the moderate level material shall be paid for under Item 260 or Item 275. Removal of the high level material shall be measured and paid for in accordance with Item 110 and replacement with suitable material shall be measured and paid for in accordance with Item 132.

Any excavated sulfate-laden material will be acceptable for use in fill areas. Do not place within previously specified section boundaries of subgrade to be treated with either lime or cement.

Off-Site Borrow Sources. In addition to meeting pertinent specification requirements, test off-site borrow sources for sulfate content. Test soils for soluble sulfates in accordance with Test Method TEX 145 and TEX-146-E and provide documentation that supports compliance with previously stated requirements. The Engineer will perform additional testing for sulfates of this material upon delivery to the project. Only material that is placed within one foot vertically or laterally of subgrade treatment will require testing for sulfates. Remove and replace failing material (sulfate concentrations >7,000 PPM by dry weight).

### **Item 132. Embankment**

Do not provide Type B embankment material with a Plasticity Index (PI) higher than 35.

When embankment is placed as a bridge header bank, test each lift for compliance with density requirements, near the center of each travel lane at the following locations:

1. At the “beginning of bridge” or “end of bridge” station (if abutment is on retaining wall, location may be adjusted by not more than 5 feet.)
2. At 25-foot intervals for a distance of 150 feet in advance of the “beginning of bridge” station.
3. At 25-foot intervals for a distance of 150 feet after the “end of bridge” station.

Density tests shall be conducted by a department-certified independent testing laboratory. Results of tests shall be furnished to TxDOT within 24 hours after testing; a final copy of all test reports shall be signed and sealed by a Professional Engineer in the State of Texas and furnished within five (5) working days after testing. Areas which do not meet minimum density requirements shall be removed, re-compacted, and re-tested for compliance at the

contractor's entire expense. Testing and reporting of test results will not be paid for directly, but will be considered subsidiary to this item.

Construct embankments for bridge header banks to final subgrade elevation prior to excavation for abutment caps and placement of foundation course at approach slabs. Payment for structural excavation and/or excavation for placement of foundation course will not be paid for directly, but will be considered subsidiary to the pertinent bid items.

At all locations where guardrail is shown to flare, widen the embankment as necessary to accommodate the guardrail.

All embankment slopes left idle for more than 14 days will be tracked to prevent erosion. Tracking consists of operating a tracked vehicle or equipment up and down the slope leaving track marks perpendicular to the direction of the slope. Tracking slopes to prevent erosion will not be measured or paid for directly, but will be subsidiary to pertinent Items.

**Item 160. Topsoil**

Place approximately 4 inches of topsoil on areas shown or directed.

Excavation for topsoil shall not exceed 3 feet in depth unless otherwise directed.

**Item 164. Seeding for Erosion Control**

Apply seeding required between December 1 and January 31 using seed types and mixtures as shown in Item 164.2.A, Table 3. If, in the opinion of the Engineer, this does not provide an effective vegetative cover, apply "straw or hay mulch" as specified in Item 164.3.E as soon as possible. After February 1 apply warm season seeding in order to establish a permanent protective vegetative cover.

Seeding limits shall conform to the limits shown in the plans, and any other areas which are disturbed.

**Item 166. Fertilizer**

Fertilize all areas of project to be seeded or sodded.

Fertilizer shall be subsidiary to other items.

**Item 168. Vegetative Watering**

**County:** TARRANT

**Control:** 0902-90-017

**Highway:** CS

Furnish and install an approved rain gauge at the project site, as directed. Furnishing and installation of the rain gauge will not be paid for directly, but will be considered subsidiary to Item 168.

Apply vegetative watering for an establishment period of thirteen weeks following application of seed or installation of sod, at a rate of 1/2" of water depth per week (approximately 13,030 gallons per acre). During the first four weeks after seeding, apply watering twice per week, on non-consecutive days, each at half the weekly application rate. For the remainder of the establishment period, apply vegetative watering once per week during the months of January through June or September through December, at the weekly application rate; apply watering twice per week, on non-consecutive days during the months of July and August, each at one-half the weekly application rate.

Average weekly rainfall rates for the District are as follows:

January – 0.39"	April – 0.86"	July – 0.48"	October – 0.68"
February – 0.46"	May – 1.00"	August – 0.47"	November – 0.46"
March – 0.48"	June – 0.63"	September – 0.74"	December – 0.37"

Water all areas of the project to be seeded.

The engineer will revise or suspend the watering cycles if deemed appropriate.

Watering applications shall constantly maintain the seed bed in a condition favorable for the growth of grass. Watering can be postponed immediately after a rainfall of one-half inch or greater on the site, but shall be resumed before the soil dries out. Watering shall continue until final acceptance.

Obtain water at a source that is metered or shall furnish the manufacturer's specifications showing tank capacity for each truck used.

Notify the engineer prior to watering so that the engineer may verify meter readings or truck counts.

**Item 169. Soil Retention Blankets**

Class 2 – Flexible Channel Liner, Type G shall be Landlok TRM 450, or approved equal.

**Item 247. Flexible Base**

(TY A, GR 4) Furnish crushed stone, gravel, or crushed gravel aggregate conforming to the following requirements:

**County:** TARRANT

**Control:** 0902-90-017

**Highway:** CS

Gradation:

<u>Retained on Sieve Size</u>	<u>Percent (%) by Weight</u>
1-3/4 in.	0 – 5
7/8 in.	5 – 35
No. 4	40 – 75
No. 40	65 – 85

Plasticity Index (PI)	12 max., 4 min.
Liquid Limit	45 max.
Wet Ball Mill	50 max.
Wet Ball Mill, %	20 max.
Increase Passing the No. 40	

Place material in two or more equal lifts unless otherwise directed.

Do not add field sand to modify the final material to meet the requirements.

(TY E, GR 4) Use this item for the foundation course under the approach slabs and other locations shown on the plans. Furnish aggregate conforming to the following requirements:

Gradation:

<u>Retained on Sieve Size</u>	<u>Percent (%) by Weight</u>
1-3/4 in.	0 – 5
No. 4	30 – 75
No. 40	65 – 85

Plasticity Index (PI)	15 max.
Liquid Limit	45 max.
Wet Ball Mill	50 max.
Wet Ball Mill, %	20 max.
Increase Passing the No. 40	

Place material in two or more equal lifts unless otherwise directed.

Do not add field sand to modify the final material to meet the requirements.

Cement treat in accordance with Item 275.

**Item 275. Cement Treatment (Road-Mixed)**

Treat flexible base for bridge approach slab foundation course with 2.4% cement by weight.

Place in two or more equal lifts not to exceed 12" unless otherwise directed

If the Contractor elects to plant-mix cement with the foundation course, mix in accordance with Articles 276.3 and 276.4.A. Place the mixture in accordance with Article 276.4.B and compact in accordance with Article 276.4.C.

**Item 310. Prime Coat**

Provide an AE-P for this Item. Apply AE-P as specified in Item 314. Allow the material to remain undisturbed for a minimum of 24 hours unless otherwise directed by the Engineer.

Provide the material as supplied by the manufacturer. Do not dilute at any time to include at the refinery.

**Item 420. Concrete Structures**

Provide weepholes at bridge ends in the wingwalls as directed.

Concrete for "Interior Bents" will be paid for as a plan quantity.

Saw-cut grooves are not required.

**Item 421. Hydraulic Cement Concrete**

For Class P and S Concrete Only: For concrete plants equipped with 2 aggregate bins and/or no calibrated metering system, blend manufactured and natural sand at the aggregate source only. For concrete plants equipped with a minimum of 3 bins and a calibrated metering system, blending of the separate sands on-site is permitted to meet gradation and AIR requirements.

The strength testing equipment for concrete will be capable of producing an electronic printout of the test results.

Air entrainment requirements are waived for all classes of concrete except all Class S and all Class P Concrete.

Concrete will not be rejected for low air content. Adjustment to the dosage of air entrainment will be as directed or allowed by the Engineer.

Include the approved mix design number on each delivery ticket.

The Engineer may allow the use of local commercial laboratories under contract to provide these services. The previous requirements are required from the Commercial Laboratory prior to any work being performed.

Do not place concrete for paving, approach slabs, or bridge slabs when anticipated weather conditions will result in a predicted evaporation rate above 0.3 ft<sup>2</sup>/hr as determined using the Portland Cement Association publication Design and Control of Concrete Mixtures, Figure 13-8.

Design all concrete with an Optimized Aggregate Gradation in accordance with Special Provision 421---035. Use Test Method Tex-470-A to determine the optimized aggregate gradation. This work is subsidiary to this item.

Design and analyze all concrete for pavement and structures using the Concrete Works Program Version 2.0.6 (Beta) for acceptance by TxDOT. Use Test Method Tex-426-A to develop input for the Concrete Works Program. This work is subsidiary to this item.

Optimized graded aggregate concrete will maximize coarse aggregate content and minimize fine aggregate content while maintaining workability. Coarse aggregate factors or packing factors will be re-established to maximize coarse aggregate content.

**Item 425. Pre-Stressed Concrete Girders**

Pre-Stressed Concrete Girders (TX28) and Bridge Panels are already built for this project. They only need to be hauled for installation from Bear Ready Mix Concrete, 9960 Braun Road, San Antonio, TX (Telephone: 210-688-7144) to the project site for construction of the bridge.

**Item 427. Surface Finishes for Concrete**

Unless otherwise noted, provide a surface area **II** with a rub finish on the bridge(s).

**Item 428. Concrete Surface Treatment**

Provide a Class II surface treatment (Type I) to the roadway slab, inside face of rail and any other areas shown on the detail sheets.

**Item 432. Riprap**

Provide weepholes as directed.

Provide Class B Concrete for riprap.

The quantities for riprap at the location indicated may be varied to the extent necessary to ensure proper functioning for the purpose intended.

**Highway:** CS

All concrete riprap shall be 5" (.42') in thickness, unless otherwise shown in the plans, and shall be reinforced.

An 8 inch (.67') by 18 inch (1.5') toewall will be required at the exposed edge of all concrete riprap, unless otherwise directed.

**Item 440. Reinforcing Steel**

Top and bottom layers of slab reinforcing steel shall be epoxy coated.

**Item 464. Reinforced Concrete Pipe**

All bends and connections in pipe shall be prefabricated.

Bedding shall be Class "B" as shown in figure 1, item 400.

Either cold applied plastic asphalt joint compound or cold applied plastic gaskets shall be used for all joints.

**Item 467. Safety End Treatment**

Riprap will be required on all safety end treatments.

Cutting of reinforced concrete pipes to match side slopes is considered subsidiary to this item.

**Item 496. Removing Structures**

The structure(s) to be removed have surface coatings which may contain hazardous materials. Provide for the safety and health of employees and abide by all OSHA standards and regulations.

The lead based paint has been abated in areas needed for the contractor do demolish the bridge based on a previously approved demolition plan. If the contractor decides to use this plan or another plans that can be accommodated with the existing abatement, no further abatement will be required. Otherwise, to allow for disassembly, the Department will remove paint containing hazardous materials off the steel during the Contract in accordance with the following:

- For simple steel I-beam spans less than 80' in length, a four inch wide strip around the perimeter of the diaphragm member or members at each attachment location to the beams.
- For continuous I-beam units or simple spans more than 80' in length, a six inch wide strip around the perimeter of the beam cross-section for each beam at each cut location. A four inch wide strip around the perimeter of the diaphragm member or members at each attachment location to the beams.

**County:** TARRANT

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- A four inch wide strip around bearing attachments and at the anchor bolts.
- As requested elsewhere and approved by the Engineer. Paint removal requested beyond that listed herein will be at the Contractor's expense.

Provide to the Engineer a detailed plan of the locations of paint removal at least 60 days prior to start of steel structure removal.

Salvage and transport the following items to the storage area or maintenance barn located (2501 Eules Blvd., Eules, TX 76040), or as directed:

**STEEL I-BEAMS**  
**SHOES**  
**DIAPHRAGMS**

#### **Item 502. Barricades, Signs, and Traffic Handling**

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.

Permanent signs may be installed when construction in an area is complete and they will not be in conflict with the traffic control plan for the remainder of the job.

Existing signs are to remain as long as they do not interfere with construction and they do not conflict with the traffic control plan.

Any sign not detailed in the plans but called for in the layout shall be as shown in the current "Standard Highway Sign Designs for Texas".

When traffic is obstructed, arrange warning devices in accordance with arrangements indicated in the latest edition of the "Texas Manual on Uniform Traffic Control Devices".

Cover or remove any work zone signs when work or condition referenced is not occurring.

In addition to the traffic control plans and the latest BC standard plan sheets, provide within the limits of the project, standard barricades, warning signs, delineators, lights, 28" cones, and flaggers in sufficient numbers and any combination as considered necessary by the engineer.

Place one TY III barricade (8 feet) at each stockpile of material that is placed on the right-of-way and is located within 30 feet of the traveled way.

Furnish advisory speed signs in sufficient number as determined by the engineer.

Furnish sufficient personnel available to revise traffic control as directed by the engineer.

Provide the engineer a letter certifying that all truck-mounted attenuators (TMA) used on this project that were purchased on or after October 1, 1998, have been found to be crash worthy using the criteria outlined in NCHRP reports 230 or 350.

After completion of the project the contractor shall fill any holes left by the barricades or sign supports and restore the area in which the signs were removed to its original condition.

Ensure all permanent signs and pavement markings are installed before opening that section of roadway to traffic. Consider subsidiary to the pertinent items. Repair or replace any signs which are damaged during construction, or which are deemed insufficient by the engineer.

Secure a 28-inch cone on top of any foundations that have protruding studs during construction.

Repair barricades within 48 hours after barricade report has been delivered.

**Item 504. Field Office and Laboratory**

Furnish the following structures for this project:

<u>Type</u>	<u>No.</u>
Field Lab (Ty. A)	1
Field Office (Ty. C)	1

Furnish the following for the Field Office structure:

<u>Item</u>	<u>No.</u>
Desktop Microcomputer	1
Laptop Microcomputer with Air Card	1
Internet Service	1
Wireless Router	1
Printer *	1
Plain Paper Fax Machine *	1
Copier capable of copies up to 11"x17" *	1
Desks (minimum)	3
Chairs (minimum)	6
Four drawer locking metal filing cabinet	1

**Highway:** CS

Lockable 3’x3’ floor space storage closets	2
Refrigerator (minimum 10 cu ft)	1
Microwave Oven	1
Water Cooler with Hot & Cold Dispenser	1
Weekly Janitorial Service	1
Minimum 4’x4’ Porch with Steps & Handrail at Each Door	1

The field office structure and its contents will be subject to approval by the Engineer prior to beginning work.

The field office structure with all appurtenances will become the property of the contractor once the project is complete and accepted by the Engineer.

\* Integrated printer/copier/scanner/fax units will be permitted.

**Items 530 And 531. Intersections, Driveways and Turnouts, and Sidewalks**

The furnishing and installation of the sand cushion in the proposed sidewalks, sidewalk ramps and driveways will not be paid for directly but shall be considered subsidiary to this bid item.

**Item 540. Metal Beam Guard Fence**

The locations and lengths of guard fence shown on the plans are approximate. Actual lengths and locations are to be determined in the field.

The tops of timber posts shall be domed. Beveled tops will not be permitted for timber or steel posts.

When holes for timber posts are drilled below bottom of post elevation, backfill the excessive depth with an acceptable sand. The furnishing and installation of the sand backfill will not be paid for directly but shall be considered subsidiary to this Item.

When guardrail posts are placed in a finished surface, backfill the top 4 inches with an asphaltic material, domed to carry water away from the posts or as shown on the plans. The furnishing and installation of the asphaltic material backfill will not be paid for directly but shall be considered subsidiary to this Item.

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

Use Surface Test Type A to evaluate ride quality of travel lanes in accordance with Item 585, “Ride Quality for Pavement Surfaces.”

**Item 1122. Temporary Erosion, Sedimentation, and Environmental Controls**

The SW3P for this project shall consist of using the following items as directed:

- a. Temporary rock filter dams
- b. Temporary sediment control fence
- c. Construction exits
- d. Earthwork for erosion control

Remove accumulated sediment and/or replace SW3P controls when the capacity has been reduced by 50% or when the depth of sediment at the control structure exceeds one foot.

Obtain the Engineer's approval for proposed methods used for erosion control before starting construction.

After temporary erosion control devices are no longer required, cleanup and reshaping of those areas will be required. Consider incidental to pertinent items.

Clean asphalt equipment in such a manner that will not leave any petroleum contaminants in the right of way. No construction waste materials will be buried within the right of way.

Collect wastewater generated on-site by chemical toilets and dispose of properly.

Install "storm inlet sediment traps" and "silt fence" at the earliest time possible, as directed.

Periodically inspect and maintain all sediment traps and silt fence to ensure proper function. The sediment traps and silt fence shall remain in place until vegetation is established as determined solely by the Engineer.

**Item 3267. Dense Graded Hot Mix Asphalt (Method)**

RAP aggregate must meet the requirements of Table 1.

Dilution of tack coat is not allowed.

Provide aggregate with a Surface Aggregate Classification (SAC) value of B for the surface course of the travel lanes.

Provide a PG70-22 asphalt for the surface course.

Provide the PG70-22 asphalt with any of the following modification alternatives:

- \*PG64-22 modified with SBS at the refinery
- \*PG64-22 modified with SBR Latex at the Hot Mix Plant.

\*AC-10 modified with SBR Latex at the Hot Mix Plant.

\*PG64-22 modified with Crumb Rubber and Vestenamer (TOR) at the Hot Mix Plant.

When modified at the Hot Mix Plant, provide the PG 64-22 or AC-10 refinery certification.

The Hamburg Wheel Test Requirements per Table 6 are reduced by 5,000 passes for each binder grade.

Furnish a CSS-1P with greater than 50% asphalt residue for the tack coat on this project. Dilution of the tack coat is not allowed.

Include the approved mix design number on each delivery ticket.

Place mixture when the roadway surface temperature is equal to or higher than the temperatures listed in Table 10 unless otherwise approved or shown on the plans. Measure the roadway surface temperature with a handheld infrared thermometer. The Engineer may allow mixture placement to begin prior to the roadway surface reaching the required temperature requirements if conditions are such that the roadway surface will reach the required temperature within 2 hrs. of beginning placement operations. Unless otherwise shown on the plans, place mixtures only when weather conditions and moisture conditions of the roadway surface are suitable in the opinion of the Engineer.

**Table 10**  
**Minimum Pavement Surface Temperatures**

High Temperature Binder Grade	Minimum Pavement Surface Temperatures in Degrees Fahrenheit	
	Subsurface Layers or Night Paving Operations	Surface Layers Placed in Daylight Operations
PG 64	45	50
PG 70	55 <sup>1</sup>	60 <sup>1</sup>
PG 76	60 <sup>1</sup>	60 <sup>1</sup>
PG 76	65 <sup>1</sup>	70 <sup>1</sup>
Asphalt Rubber (A-R)	65 <sup>1</sup>	70 <sup>1</sup>

Note 1: Contractors may pave at temperatures 10°F lower than the values shown in Table 10 when utilizing a paving process or equipment that eliminates thermal segregation. In which cases, the contractor must use either an infrared bar attached to the paver, or a hand held thermal camera, or a hand held infrared thermometer operated in accordance with Test Method 244-F to demonstrate to the satisfaction of the engineer that the uncompacted mat has no more than 10°F of thermal segregation.

**Project Number:** BR 2015 (500)

**Sheet**

**County:** TARRANT

**Control:** 0902-90-017

**Highway:** CS

CONTROL : 0902-90-017  
PROJECT : BR 2015(500)  
HIGHWAY : CS  
COUNTY : TARRANT

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 JUNE 1, 2004.  
STANDARD SPECIFICATIONS ARE INCORPORATED  
INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS  
ITEM 100 PREPARING RIGHT OF WAY (103)  
ITEM 104 REMOVING CONCRETE  
ITEM 110 EXCAVATION (132)  
ITEM 132 EMBANKMENT (100)(204)(210)(216)(400)  
ITEM 160 TOPSOIL  
ITEM 164 SEEDING FOR EROSION CONTROL (162)(166)(168)  
ITEM 168 VEGETATIVE WATERING  
ITEM 169 SOIL RETENTION BLANKETS  
ITEM 247 FLEXIBLE BASE (105)(204)(210)(216)(520)  
ITEM 275 CEMENT TREATMENT (ROAD-MIXED) (132)(204)(210)(216)(247)  
(300)(310)(520)  
ITEM 310 PRIME COAT (300)(316)  
ITEM 400 EXCAVATION AND BACKFILL FOR STRUCTURES (132)(401)(420)  
(421)  
ITEM 416 DRILLED SHAFT FOUNDATIONS (420)(421)(440)(448)  
ITEM 420 CONCRETE STRUCTURES (400)(404)(421)(426)(427)(438)(440)  
(441)(448)  
ITEM 422 REINFORCED CONCRETE SLAB (420)(421)(424)(426)(430)(440)  
ITEM 425 PRECAST PRESTRESSED CONCRETE STRUCTURAL MEMBERS (420)  
(421)(424)(426)(427)(434)(440)(442)  
ITEM 428 CONCRETE SURFACE TREATMENT (427)  
ITEM 432 RIPRAP (247)(420)(421)(427)(431)(440)  
ITEM 450 RAILING (420)(421)(424)(440)(441)(442)(445)(446)(448)  
(540)  
ITEM 454 BRIDGE EXPANSION JOINTS (429)(442)  
ITEM 464 REINFORCED CONCRETE PIPE (400)(476)  
ITEM 467 SAFETY END TREATMENT (400)(420)(421)(430)(432)(440)(445)  
(460)(464)  
ITEM 479 ADJUSTING MANHOLES AND INLETS (400)(421)(465)

ITEM 496 REMOVING STRUCTURES (430)  
 ITEM 500 MOBILIZATION  
 ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING  
 ITEM 504 FIELD OFFICE AND LABORATORY  
 ITEM 530 INTERSECTIONS, DRIVEWAYS, AND TURNOUTS (247)(260)(263)  
 (275)(276)(292)(316)(330)(334)(360)(421)(440)(3267)  
 ITEM 540 METAL BEAM GUARD FENCE (421)(441)(445)(529)(542)(544)  
 ITEM 544 GUARDRAIL END TREATMENTS  
 ITEM 545 CRASH CUSHION ATTENUATORS (421)  
 ITEM 560 MAILBOX ASSEMBLIES  
 ITEM 644 SMALL ROADSIDE SIGN SUPPORTS AND ASSEMBLIES (421)(440)  
 (441)(442)(445)(634)(636)(643)(656)  
 ITEM 658 DELINEATOR AND OBJECT MARKER ASSEMBLIES (445)  
 ITEM 666 REFLECTORIZED PAVEMENT MARKINGS (316)(318)(662)(677)(678)

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

REQUIRED CONTRACT PROVISIONS, FEDERAL-AID CONSTRUCTION CONTRACTS  
 (FORM FHWA 1273, MAY, 2012)

WAGE RATES

SPECIAL PROVISION "NOTICE TO ALL BIDDERS" (000---003)  
 SPECIAL PROVISION "NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO  
 ENSURE EQUAL EMPLOYMENT OPPORTUNITY" (000---004)  
 SPECIAL PROVISION "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY  
 CONSTRUCTION CONTRACT SPECIFICATIONS" (000---006)  
 SPECIAL PROVISION "CERTIFICATION OF NONDISCRIMINATION IN EMPLOYMENT"  
 (000---009)  
 SPECIAL PROVISION "DEPARTMENT DIVISION MAILING AND PHYSICAL ADDRESS"  
 (000---011)  
 SPECIAL PROVISION "NOTICE OF CHANGES TO U.S. DEPARTMENT OF LABOR  
 REQUIRED PAYROLL INFORMATION" (000--1483)  
 SPECIAL PROVISION "ON-THE-JOB TRAINING PROGRAM" (000--2638)  
 SPECIAL PROVISION "DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL AID  
 CONTRACTS" (000--1966)  
 SPECIAL PROVISION "PARTNERING" (000--2329)  
 SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000--2332)  
 SPECIAL PROVISION "NONDISCRIMINATION" (000--2607)  
 SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000--2839)  
 SPECIAL PROVISION TO ITEM 1 (001---015)  
 SPECIAL PROVISION TO ITEM 2 (002---017)  
 SPECIAL PROVISION TO ITEM 3 (003---033)  
 SPECIAL PROVISION TO ITEM 4 (004---017)  
 SPECIAL PROVISION TO ITEM 5 (005---004)  
 SPECIAL PROVISIONS TO ITEM 6 (006---030)(006---047)  
 SPECIAL PROVISION TO ITEM 7 (007---918)  
 SPECIAL PROVISION TO ITEM 8 (008---119)  
 SPECIAL PROVISIONS TO ITEM 9 (009---009)(009---015)  
 SPECIAL PROVISION TO ITEM 100 (100---002)  
 SPECIAL PROVISION TO ITEM 161 (161---006)  
 SPECIAL PROVISION TO ITEM 164 (164---002)

SPECIAL PROVISION TO ITEM 166 (166---001)  
 SPECIAL PROVISION TO ITEM 169 (169---002)  
 SPECIAL PROVISION TO ITEM 247 (247---033)  
 SPECIAL PROVISION TO ITEM 260 (260---003)  
 SPECIAL PROVISION TO ITEM 275 (275---003)  
 SPECIAL PROVISION TO ITEM 300 (300---039)  
 SPECIAL PROVISION TO ITEM 316 (316---016)  
 SPECIAL PROVISION TO ITEM 318 (318---010)  
 SPECIAL PROVISION TO ITEM 330 (330---001)  
 SPECIAL PROVISION TO ITEM 360 (360---013)  
 SPECIAL PROVISION TO ITEM 420 (420---002)  
 SPECIAL PROVISION TO ITEM 421 (421---035)  
 SPECIAL PROVISION TO ITEM 424 (424---003)  
 SPECIAL PROVISION TO ITEM 425 (425---002)  
 SPECIAL PROVISION TO ITEM 428 (428---001)  
 SPECIAL PROVISION TO ITEM 429 (429---008)  
 SPECIAL PROVISION TO ITEM 431 (431---001)  
 SPECIAL PROVISION TO ITEM 434 (434---003)  
 SPECIAL PROVISION TO ITEM 440 (440---006)  
 SPECIAL PROVISION TO ITEM 441 (441---008)  
 SPECIAL PROVISION TO ITEM 442 (442---016)  
 SPECIAL PROVISION TO ITEM 448 (448---002)  
 SPECIAL PROVISION TO ITEM 450 (450---001)  
 SPECIAL PROVISION TO ITEM 454 (454---003)  
 SPECIAL PROVISION TO ITEM 464 (464---006)  
 SPECIAL PROVISION TO ITEM 465 (465---002)  
 SPECIAL PROVISION TO ITEM 476 (476---003)  
 SPECIAL PROVISION TO ITEM 500 (500---011)  
 SPECIAL PROVISION TO ITEM 502 (502---033)  
 SPECIAL PROVISION TO ITEM 530 (530---006)  
 SPECIAL PROVISION TO ITEM 540 (540---031)  
 SPECIAL PROVISION TO ITEM 545 (545---001)  
 SPECIAL PROVISION TO ITEM 560 (560---001)  
 SPECIAL PROVISION TO ITEM 636 (636---014)  
 SPECIAL PROVISION TO ITEM 643 (643---001)  
 SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 1122 (1122--001)

SPECIAL SPECIFICATIONS:

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 ITEM 1122 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL  
 CONTROLS (161)(432)(556)  
 ITEM 3267 DENSE-GRADED HOT-MIX ASPHALT (SMALL QUANTITY) (210)(300)  
 (301)(320)(520)(585)  
 ITEM 6834 PORTABLE CHANGEABLE MESSAGE SIGN

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

6834

### Portable Changeable Message Sign

1. **Description.** Furnish, operate, and maintain portable trailer mounted changeable message sign (PCMS) units.
2. **Materials.** Furnish new or used material in accordance with the requirements of this Item and the details shown on the plans. Provide a self-contained PCMS unit with the following:
  - Sign controller
  - Changeable Message Sign
  - Trailer
  - Power source

Paint the exterior surfaces of the power supply housing, supports, trailer, and sign with Federal Orange No. 22246 or Federal Yellow No. 13538 of Federal Standard 595b, except paint the sign face assembly flat black.

- A. **Minimum Luminance Requirements.** All PCMS units shall meet the following luminance requirements measured at the character level in candela as is published in Report 4940-2, "Photometric Requirements for Portable Changeable Message Signs," conducted by the Texas Transportation Institute. Luminance will be tested in accordance with Tex-880.
  - Minimum Daytime Character Luminance of 4000cd/m<sup>2</sup> with a contrast ratio of 5.
  - Minimum Nighttime Character Luminance of 30/cd/m<sup>2</sup>.
- B. **Sign Controller.** Provide a controller with permanent storage of a minimum of 75 pre-programmed messages. Provide an external input device for random programming and storage of a minimum of 75 additional messages. Provide a controller capable of displaying up to 3 messages sequentially. Provide a controller with adjustable display rates. Enclose sign controller equipment in a lockable enclosure.
- C. **Changeable Message Sign.** Provide a sign capable of being elevated to at least 7 ft. above the roadway surface from the bottom of the sign. Provide a sign capable of being rotated 360° and secured against movement in any position.

Provide a sign with 3 separate lines of text and 8 characters per line minimum. Provide a minimum 78 in. high x 126 in. wide sign housing. Provide a minimum 18 in. character height. Provide a 5 x 7 character pixel matrix. Provide a message visibility distance of 750 ft. Provide for manual and automatic dimming light sources.

The following are descriptions for 3 screen types of PCMS:

- **Character Modular Matrix.** This screen type comprises of character blocks.
  - **Continuous Line Matrix.** This screen type uses proportionally spaced fonts for each line of text.
  - **Full Matrix.** This screen type uses proportionally spaced fonts, varies the height of characters, and displays simple graphics on the entire sign.
- D. Trailer.** Provide a 2 wheel trailer with square top fenders, 4 leveling jacks, and trailer lights. Do not exceed an overall trailer width of 96 in. Shock mount the electronics and sign assembly.
- E. Power Source.** Provide a diesel generator, solar powered power source, or both. Provide a backup power source as necessary.
- F. Cellular Telephone.** When shown on the plans, provide a cellular telephone connection to communicate with the PCMS unit remotely.
- 3. Construction.** Place or relocate PCMS units as shown on the plans or as directed. The plans will show the number of PCMS units needed, for how many days, and for which construction phases.

Maintain the PCMS units in good working condition. Repair damaged or malfunctioning PCMS units as soon as possible. PCMS units will remain the property of the Contractor.

- 4. Measurement.** This Item will be measured by each PCMS or by the day used. All PCMS units shall be set up on a work area and operational before a calendar day can be considered measurable. When measurement by the day is specified, a day shall be measured for each PCMS set up and operational on the worksite.
- 5. 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 “Portable Changeable Message Sign.” This price is full compensation for PCMS units; set up; relocating; removing; replacement parts; batteries (when required); fuel, oil, and oil filters (when required); cellular telephone charges (when required); software; and equipment, materials, tools, labor, and incidentals.

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