ECMS Highway Construction

Contract: 28116

Joseph B. Fay Co. XX-XXXXXXX

Russellton

724-265-4600 (phone)

724-265-3323 (fax)

jwilkinson@jbfayco.com

Prime Business Partner

AlleghenyCounty

SR 2037, Section A07

2037/Br o' Trtl Ck Ramp T

Location

X111-746-L1CE

Federal Project

P-B0203707A07-1110-361-2

P-B0203707A07-1110-362-1

WBS Element

March 29, 2012

Bid Opening

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Contract

Addendum issued subsequent to the printed proposal have been incorporated into the text of this contract and the modified portions are annotated in the contract - e.g., A1, A2 etc.

Incorporated Addenda are As follows:

Addendum No. 1, **A1,** dated 03/23/2012

Addendum No. 2, **A2,** dated 03/26/2012

THIS AGREEMENT, Made this *1* day of *May* A.D. *2012*, between the Commonwealth of Pennsylvania by the Secretary of Transportation, hereinafter called the Commonwealth and *Joseph B. Fay Co.* his, hers, its or their executors,administrators, successors, or assigns, hereinafter called the Contractor.

W I T N E S S E T H:

1. That the Contractor, for and in consideration of the payment or payments herein specified and agreed to by the Commonwealth, hereby covenants and agrees to furnish and deliver all the materials and to do and perform all the work and labor in the improvement of a certain section of highway at the unit prices bid by said Contractor for the respective estimated quantities aggregating approximately the sum of *$13,439,954.91* and such other items as are mentioned in the Contractor's original proposal, which proposal and prices named, together with Publication 408/2011-1 - Specifications (as specified in the proposal), are made a part of this contract and accepted as such, also the drawings of the project, prepared and/or approved by the Department of Transportation, which drawings are also agreed by each party as being a part hereof.

2. The location and description being situated as follows:
The description and location of the project is as follows:For the steel multi-girder bridge rehabilitation including replacement of steel beams, concrete deck, concrete barrier, bearings, expansion dams, and one pier, substructure repairs, approach slabs, drainage, signing and pavement marking, and other miscellaneous construction, all within a length of 1103.38 linear feet (0.209 miles) as indicated on the approved drawings included in the bid package for STATE ROUTE 2037 SECTION A07 (Ramp T), in ALLEGHENY COUNTY, EAST PITTSBURGH BOROUGH, NORTH VERSAILLES TOWNSHIP, Commonwealth of Pennsylvania.This project being situated as follows:From a point approximately 2140 feet north of SR 2026 (Versailles Avenue) at Segment 0090/0091 Offset 0860/0890 (Station 184+70.71) to a point approximately 2583 feet south of SR 2122 (Electric Avenue) at Segment 0080/0081 Offset 1968/1904 (Station 197+00.00).

3. The Contractor further covenants and agrees that all work shall be performed in the best and most workmanlike manner. He also agrees that all materials furnished and labor performed shall be in strict and complete conformity, in every respect, with all parts of this contract and shall be subject to the inspection and acceptance of authorized representatives of the Department of Transportation. In the event that any portion of work (including materials supplied pursuant thereto) performed by the Contractor is rejected by the Department's authorized representatives as defective, unsuitable, or unacceptable, the Contractor agrees to remove and replace all such rejected portions of work in conformance with this contract and to the satisfaction

of and at no expense to the Department. The Contractor further covenants that prompt payment will be made in full for all labor and materials used in the performance of work on this project.

4. The Contractor covenants and agrees that all work (including, but not limited to, all labor performed and all materials supplied) on this project shall be performed and completed to the satisfaction of the Chief Highway Engineer of the Department of Transportation on or before the expiration date of *10/31/2013*. If, for any reason, except as provided in the contract, the Contractor fails to complete all work on this project to the satisfaction of the Chief Highway Engineer within the aforementioned time allowed, the Department shall deduct from any sums due or which may become due the Contractor the amount indicated in the Specifications for each calendar day used in excess of the aforementioned number of days allowed, or, in case a completion date is fixed, for each calendar day elapsing between that completion date and the actual date of completion. If no sums are due the Contractor, the Contractor agrees to remit to the Department the aforementioned sum for each day used in excess of the time allowed for completion of the contract. The amounts deducted or remitted under this paragraph are liquidated damages and not penalties.

5. The Contractor further covenants and warrants that the Contractor has had sufficient time to examine and has examined the site of the contract work to ascertain for itself those conditions such as may be determined by inspection, investigation, and inquiry, including the location, accessibility, and general character of the site.

6. The Contractor further covenants that he has not relied upon any information provided by the Department, including information contained in the Special Provisions, concerning the time within which publicly or privately- owned facilities below, at or above the ground are expected to be installed, removed, repaired, replaced, and/ or relocated; that he has not relied upon any information provided by the Department concerning the location or existence of all such facilities that might be below, at or above the ground; that he has contacted or will contact all owner of such facilities to verify the location and position of all such facilities and the time within which work on such facilities will be performed; and that he is aware delays might be incurred in the performance of work on this project as a result of work being performed or that will be performed on such facilities by their owners. It is understood further that, notwithstanding assistance of any kind and extent that might be provided by the Department, the Contractor, in every instance, bears the ultimate responsibility of resolving all disputes of every kind with the owners of such facilities. The Contractor agrees to save and hold the Department harmless from liability for all delays, interference and interruptions that might arise during the performance of work on this project as a result of work being or that will be performed on such publicly or privately-owned facilities.

7. The Contractor further covenants and warrants that he has read, is completely familiar with and understands thoroughly the General Conditions; the Specifications of the Commonwealth of Pennsylvania, Department of Transportation, currently in effect; the Supplements, Special Provisions and/or Conditions; and any other addenda or requirements, contained in the governing the performance of work under this contract, whether attached hereto and made a part hereof, or incorporated herein by reference.

8. It is distinctly understood and agreed that the Contractor shall not do any work (including, but not limited to, the supply of labor and/or materials) not covered by the specifications and the contract, unless such work has been authorized in writing as provided in the Specifications. In no event shall the Contractor incur any liability by reason of refusing to obey any verbal directions or instructions that he might be given to perform additional or extra work. Likewise, the Department will not be liable for any work performed as additional or extra work, unless such work is required of the Contractor in writing as provided in the Specifications. All such work which might have been performed by the Contractor without such written order first being given shall be at the Contractor's risk, cost, and expense, and the Contractor hereby covenants and agrees that, without such written order, he shall make no claim for compensation for such unauthorized work.

9. It is further distinctly agreed that the Contractor shall not assign this contract, nor any part thereof, nor any right to any sums to be paid him hereunder, nor shall any part of the work to be done or material furnished under this contract be sublet, without the consent in writing of the Secretary of Transportation.

10. It is also agreed and understood that the acceptance of the final payment by the Contractor shall be considered as a release in full of all claims against the Commonwealth of Pennsylvania arising out of, or by reason of, the work done and materials furnished under this contract.

11. The Contractor shall accept, insofar as the work covered by the contract is concerned, the provisions of the Workmens Compensation Act of 1915, and any supplements or amendments thereto, and shall insure his liability thereunder or file with the Department of Transportation a certificate of exemption from insurance from the Bureau of Workers' Compensation of the Department of Labor and Industry.

12. In order to secure proper and complete compliance with the terms and provisions of this contract, the Contractor shall provide a bond in a sum equal to one hundred percent (100%) of the total contract price of the work to be done. The Contractor shall also secure an additional bond in the same amount for the prompt payment in full for all labor and materials supplied in performing work on this project. Both bonds are attached to and made a part of this contract.

13. Conditioned upon compliance by the Contractor with all pertinent conditions and procedures contained in the contract, claims for damages or extra costs in excess of three hundred dollars ($300.00) arising out of disputes pertaining to this contract shall be referred to the Board of Claims pursuant to Section 1724(a) of the Commonwealth Procurement Code, 62 Pa. C.S. § 1724(a).

14. If for any reason the Commonwealth Procurement Code is inoperative or the Board of Claims cannot function, such claims shall be referred and decided by a panel consisting of the Secretary of Transportation and the General Counsel or their respective deputy or deputies.

15. The Contractor hereby further agrees to receive and the Commonwealth agrees to pay the prices set forth in the linked bid items as full compensation for furnishing all the materials and labor which may be required in the prosecution and completion of all work to be done under this contract, and in all respects to complete the contract to the satisfaction of the Secretary of Transportation.

16. The Contractor certified in his, her, its or their bid submission (covering federal aid projects only) to the disclosure of lobbying activities and, if applicable, completed the disclosure form and by said certification understands that Public Law 101-121, Section 319, prohibits federal funds from being expended by recipient or any lower tier sub-recipients of a federal contract, grant, loan or cooperative agreement to pay any person for influencing or attempting to influence a federal agency or Congress in connection with the awarding of any federal contract, the making of any federal grant or loan, or the entering into of any cooperative agreement.

17. If federal funds are involved, the Contractor shall not discriminate on the basis of race, color, national origin or sex in the performance of this contract. Contractor shall carry out applicable requirements of 49 C.F.R. Part 26 - DATED OCTOBER 16, 2001 in the award and administration of United States Department of Transportation assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the Pennsylvania Department of Transportation deems appropriate. Contractor must include this assurance in each subcontract that it signs with a subcontractor.

Fiscal Information:

Recorded Number:	28116
Certified Fund Available Under Activity Program:	362/361
Symbol:	010-008-26185-11/12/13-2
Amount:	$13,439,954.91

Contract Workflow Status

Status	Name	Disposition	Date/Time
Draft	Becki G Mescher-Vuxta/ PennDOT	Award	04/20/2012 02:05:16 PM
Contractor Review	Tom Westrom/PennDOT BP-001279	Sign	04/20/2012 02:12:59 PM
BOD CMD Review	John C Grigalonis/PennDOT	Accept	04/23/2012 02:20:37 PM
BOD Director Review	R. Wayne Willey/PennDOT	Sign	04/24/2012 08:11:24 AM
Chief Counsel Preliminary Review	Joanne L Lubart/PennDOT	Accept	04/24/2012 09:08:13 AM
Chief Counsel Final Review	Becki G Mescher-Vuxta/ PennDOT	Accept	04/24/2012 09:29:12 AM
Comptroller Review	Becki G Mescher-Vuxta/ PennDOT	Hold	04/24/2012 07:00:58 PM
CMD Review - On Hold	Becki G Mescher-Vuxta/ PennDOT	Resume	04/30/2012 03:44:30 PM
Comptroller Review	Richard C Lepley II/PennDOT	Accept	05/01/2012 08:47:32 AM
CMD Execute	Becki G Mescher-Vuxta/ PennDOT	Submit	05/01/2012 08:50:51 AM

Addenda

Addendum: 1

Description:
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Estimated Project:	$16,381,117.40
Federal Project Status:	PENNDOT Oversight Non-NHS
DBE:	6.00%
Structure Work:	92.00%
Wage Rates:	Yes
Project Type:	Standard
State Type of Work:	BRIDGE OVER ACTIVE RR TRACKS
Prequalification Required:	Yes
Pre-Bid Meeting:	None
Scheduled Let:	03/29/2012 11:00:00 AM
New Let:	
Let Date Move:	
Anticipated NTP:	05/14/2012
Required Completion:	10/31/2013

Additional Information
This is an ECMS project. All Addenda will be electronically posted. Place for delivery of diskette bid before 11:00 a.m. prevailing local time on the scheduled let date: PENNDOT CONTRACT AWARDS ROOM, 7TH FLOOR; COMMONWEALTH KEYSTONE BUILDING; 400 NORTH STREET; HARRISBURG PA 17120

Item and Quantity
Deleted the following items: 5006-0700, 9000-0003

Added the following item: 1006-0610

Special Provision
Deleted the following Special Provision:

ITEM 9000-0003 - DEWATERING HOSE AND PUMP

Revised the following Special Provisions:

ITEM 9000-0002 - UNDERDECK PROTECTIVE SHIELDING
ITEMS 9006-0212/0312 - DRILLED CAISSONS (Also removed Associated Item 5006-0700 - Exploratory Drilling)

ITEM 9948-0001 - REMOVE AND RESET STEEL SIGN STRUCTURE

Added the following Special Provisions:

TEMPORARY RAILROAD CROSSING
SECTION 609.1 DESCRIPTION

Other

Revised the Required Completion date.

Revised wages to PA120004 Modification Number 3 dated March 16, 2012.

Deleted the Pre-Bid Construction Schedule and substituted the new schedule therefore.

Revised the attached NS Temp Private Road Agreement - DOT Projects heading to read:

NS Temp Private Grade Crossing Agreement a.k.a. Exhibit "E"

Deleted the following Attachment:

F.A.R.-Required Contract Provisions Federal-Aid Construction Contracts

Added the following Attachments:

Roadway Plan 01-2
Roadway Plan 01
Location of Temporary and Existing Railroad Crossing
F.A.R. REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

The following changes pertain to the Construction Drawings:

Roadway Plan sheet 16 of 26 - Revise the description for the first symbol under Legend to read: Milling of Bituminous Pav't Surface (See Detail Sheet 6)

Revised prints containing the revisions/additions from this addendum will be furnished to the successful bidder.

Deleted from Structure Plan S-31828 sheets 10, 43, 52, 54, 185, 188 thru 192 of 194 and substituted the new sheets therefore.

Addendum: 2

Description:

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Federal Project Status:	PENNDOT Oversight Non-NHS
DBE:	6.00%
Structure Work:	92.00%
Wage Rates:	Yes
Project Type:	Standard
State Type of Work:	BRIDGE OVER ACTIVE RR TRACKS
Prequalification Required:	Yes
Pre-Bid Meeting:	None
Scheduled Let:	03/29/2012 11:00:00 AM
New Let:	
Let Date Move:	
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Item and Quantity

Revised the following item: 1002-0053

Special Provision

Revised the following Special Provisions:

NOTICE TO CONTRACTOR
SECTION 901
ITEMS 9006-0212/0312 - DRILLED CAISSONS

Other

Added the following Attachment:

Foundation Report

Bid Items

Item	Description	Quantity	Unit Price	Item Total	Addendum
0201-0001	CLEARING AND GRUBBING	1.000	$15,000.00	$15,000.00	
0203-0001	CLASS 1 EXCAVATION	2,073.000	$18.00	$37,314.00	
4203-0003	CLASS 1A EXCAVATION (MODIFIED)	209.000	$75.00	$15,675.00	
0204-0001	CLASS 2 EXCAVATION	59.000	$40.00	$2,360.00	
0204-0100	CLASS 3 EXCAVATION	162.000	$20.00	$3,240.00	
4208-0001	SPECIAL ROLLING (MODIFIED)	20.000	$500.00	$10,000.00	
0212-0001	GEOTEXTILE, CLASS 1	743.000	$2.00	$1,486.00	
0212-0002	GEOTEXTILE, CLASS 2, TYPE A	625.000	$2.20	$1,375.00	
4350-0110	SUBBASE 10" DEPTH (NO. 2A) (MODIFIED)	2,081.000	$19.50	$40,579.50	
0409-0482	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 64-22, 0.3 TO < 3 MILLION ESALS, 9.5 MM MIX, 1 1/2" DEPTH, SRL-H	1,639.000	$11.00	$18,029.00	
0409-6450	SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BINDER COURSE, PG 64-22, 0.3 TO < 3 MILLION ESALS, 19.0 MM MIX, 2 1/2" DEPTH	1,629.000	$13.00	$21,177.00	
0460-0001	BITUMINOUS TACK COAT	3,258.000	$0.30	$977.40	
0501-0020	PLAIN CEMENT CONCRETE PAVEMENT, 4" DEPTH	130.000	$40.00	$5,200.00	
0501-0030	PLAIN CEMENT CONCRETE PAVEMENT, 9" DEPTH	1,617.000	$78.00	$126,126.00	
0503-0001	PROTECTIVE COATING FOR CEMENT CONCRETE PAVEMENTS AND SHOULDERS	209.000	$6.00	$1,254.00	
0504-0001	PAVEMENT RELIEF JOINT	61.000	$300.00	$18,300.00	
0515-0001	SAWING AND SEALING OF BITUMINOUS OVERLAYS	544.000	$8.40	$4,569.60	
4601-7014	18" REINFORCED CONCRETE PIPE, TYPE A, 15' - 2' FILL, 100 YEAR DESIGN LIFE (MODIFIED)	132.000	$110.00	$14,520.00	
4604-7014	18" REINFORCED CONCRETE PIPE, TYPE A, (OPEN JOINT), 15' - 2' FILL, 100 YEAR DESIGN LIFE (MODIFIED)	64.000	$116.00	$7,424.00	
0605-2731	TYPE M CONCRETE TOP UNIT AND BICYCLE SAFE GRATE	4.000	$800.00	$3,200.00	
0605-2734	TYPE M CONCRETE TOP UNIT AND ADA COMPLIANT GRATE	1.000	$850.00	$850.00	
0605-2850	STANDARD INLET BOX, HEIGHT < /= 10'	5.000	$2,200.00	$11,000.00	
0608-0001	MOBILIZATION	1.000	$448,000.00	$448,000.00	
0609-0007	INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES, TYPE B	1.000	$46,000.00	$46,000.00	
0609-0009	EQUIPMENT PACKAGE	1.000	$12,000.00	$12,000.00	
0610-7002	6" PAVEMENT BASE DRAIN	654.000	$12.00	$7,848.00	
0612-0001	SUBGRADE DRAINS	89.000	$25.00	$2,225.00	
0615-0022	6" SUBSURFACE DRAIN OUTLETS	27.000	$20.00	$540.00	
0615-0050	SUBSURFACE DRAIN OUTLET ENDWALL (SLOPED)	1.000	$500.00	$500.00	
0615-0066	66" RED SUBSURFACE DRAIN OUTLET MARKER	1.000	$45.00	$45.00	
0616-1202	CONCRETE END SECTIONS FOR 18" PIPE	1.000	$1,100.00	$1,100.00	
0620-0015	THRIE-BEAM TO VERTICAL WALL BRIDGE BARRIER TRANSITION	1.000	$2,250.00	$2,250.00	
0620-0402	TERMINAL SECTION, BRIDGE CONNECTION	1.000	$120.00	$120.00	
4620-0502	REMOVE EXISTING GUIDE RAIL (DEPARTMENT PROPERTY) (MODIFIED)	363.000	$8.00	$2,904.00	
0620-0862	TYPE 2-S POST ANCHORAGE	1.000	$740.00	$740.00	
0620-1075	TYPE 2-S GUIDE RAIL	300.000	$35.00	$10,500.00	
0627-0001	TEMPORARY CONCRETE BARRIER	70.000	$66.00	$4,620.00	
0630-0001	PLAIN CEMENT CONCRETE CURB	8.000	$96.00	$768.00	
0633-0225	PLAIN CONCRETE MOUNTABLE CURB, TYPE B	460.000	$35.00	$16,100.00	
4643-0001	TEMPORARY CONCRETE BARRIER, STRUCTURE MOUNTED (MODIFIED)	165.000	$72.00	$11,880.00	

0676-0001	CEMENT CONCRETE SIDEWALK	5.000	$54.00	$270.00
0686-0020	CONSTRUCTION SURVEYING, TYPE B	1.000	$4,000.00	$4,000.00
0686-0061	CONSTRUCTION SURVEYING, TYPE D, MODIFIED	1.000	$35,000.00	$35,000.00
0689-0003	CPM SCHEDULE	1.000	$3,500.00	$3,500.00
0695-0004	DETECTABLE WARNING SURFACE, POLYMER COMPOSITE	11.000	$40.00	$440.00
4802-0001	TOPSOIL FURNISHED AND PLACED (MODIFIED)	111.000	$45.00	$4,995.00
0804-0014	SEEDING - FORMULA E	8.000	$15.00	$120.00
0804-0021	SEEDING AND SOIL SUPPLEMENTS - FORMULA W	13.000	$100.00	$1,300.00
0806-0051	EROSION CONTROL MULCH BLANKET	900.000	$2.00	$1,800.00
0845-0001	UNFORESEEN WATER POLLUTION CONTROL	20,000.000	$1.00	$20,000.00
0851-0003	ROCK APRON	6.000	$300.00	$1,800.00
0855-0003	PUMPED WATER FILTER BAG	1.000	$1,000.00	$1,000.00
0860-0000	INLET FILTER BAG FOR TYPE M INLET	5.000	$450.00	$2,250.00
0867-0012	COMPOST FILTER SOCK, 12" DIAMETER	773.000	$8.00	$6,184.00
0901-0001	MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION	1.000	$90,000.00	$90,000.00
0901-0231	ADDITIONAL WARNING LIGHTS, TYPE B	1,000.000	$1.00	$1,000.00
0901-0240	ADDITIONAL TRAFFIC CONTROL SIGNS	200.000	$8.00	$1,600.00
0901-0331	6" STANDARD PAVEMENT MARKINGS, PAINT & BEADS, WHITE	615.000	$2.00	$1,230.00
0901-0450	3-LINE CHANGEABLE MESSAGE SIGN WITH TELECOMMUNICATIONS	4.000	$8,600.00	$34,400.00
0910-0006	JUNCTION BOXES J.B.-25	10.000	$800.00	$8,000.00
0910-5255	2" CONDUIT IN STRUCTURE	1,751.000	$7.00	$12,257.00
4930-0004	POST MOUNTED SIGNS, TYPE A (MODIFIED)	143.000	$19.00	$2,717.00
4931-0001	POST MOUNTED SIGNS, TYPE B (MODIFIED)	23.000	$25.00	$575.00
0935-0001	POST MOUNTED SIGNS, TYPE F	18.000	$15.00	$270.00
0936-0001	STRUCTURE MOUNTED EXTRUDED ALUMINUM CHANNEL SIGNS	156.000	$20.00	$3,120.00
0937-0106	GUIDE RAIL MOUNTED DELINEATOR TYPE B, (W/ B)	10.000	$22.00	$220.00
0937-0113	GUIDE RAIL MOUNTED DELINEATOR TYPE D, (W/ B)	10.000	$22.00	$220.00
0937-0201	BARRIER MOUNTED DELINEATOR, SIDE-MOUNT TYPE R, (W/B)	15.000	$33.00	$495.00
0937-0211	BARRIER MOUNTED DELINEATOR, TOP-MOUNT TYPE S, (W/B)	15.000	$33.00	$495.00
0937-0301	FLEXIBLE DELINEATOR POST, SURFACE-MOUNT TYPE SM-1, YELLOW POST WITH YELLOW SHEETING	16.000	$30.00	$480.00
0937-0330	FLEXIBLE DELINEATOR POST, GROUND-MOUNT TYPE GM-2, WHITE POST WITH WHITE/BLANK SHEETING	2.000	$30.00	$60.00
0963-0006	6" PAVEMENT MARKING REMOVAL	615.000	$2.50	$1,537.50
0964-0002	4" YELLOW EPOXY PAVEMENT MARKINGS	2,166.000	$1.50	$3,249.00
0964-0005	6" WHITE EPOXY PAVEMENT MARKINGS	3,199.000	$2.00	$6,398.00
0964-0021	24" WHITE EPOXY PAVEMENT MARKINGS	30.000	$15.00	$450.00
0964-0101	WHITE EPOXY LEGEND, "ONLY", 8' - 0"	4.000	$300.00	$1,200.00
0964-0222	WHITE EPOXY LEGEND, "RIGHT ARROW", 12' - 0" X 3' - 0"	3.000	$250.00	$750.00
0964-0224	WHITE EPOXY LEGEND, "LEFT ARROW", 12' - 0" X 3' - 0"	3.000	$250.00	$750.00
0966-0017	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (Y/B)	12.000	$46.00	$552.00
0966-0018	SNOWPLOWABLE RAISED PAVEMENT MARKER TWO WAY HOLDER WITH REFLECTOR (W/B)	12.000	$46.00	$552.00
0966-0103	SNOWPLOWABLE RAISED PAVEMENT MARKER, TWO WAY BRIDGE DECK HOLDER WITH REFLECTOR (Y/B)	38.000	$47.00	$1,786.00

0966-0104	SNOWPLOWABLE RAISED PAVEMENT MARKER, TWO WAY BRIDGE DECK HOLDER WITH REFLECTOR (W/B)	38.000	$47.00	$1,786.00	
0971-0001	REMOVE POST MOUNTED SIGNS, TYPE B	1.000	$75.00	$75.00	
1001-0000	CLASS AAA CEMENT CONCRETE	2,200.000	$530.00	$1,166,000.00	
1001-0001	CLASS AA CEMENT CONCRETE	418.000	$800.00	$334,400.00	
1001-0010	CLASS A CEMENT CONCRETE	1,184.000	$850.00	$1,006,400.00	
1001-0730	SELECTED BORROW EXCAVATION, STRUCTURE BACKFILL	79.000	$65.00	$5,135.00	
1002-0001	REINFORCEMENT BARS	66,180.000	$1.15	$76,107.00	
1002-0053	REINFORCEMENT BARS, EPOXY COATED	880,924.000	$1.20	$1,057,108.80	2
1003-0006	DOWEL HOLES, 14" DEPTH	159.000	$30.00	$4,770.00	
1003-0009	DOWEL HOLES, 20" DEPTH	43.000	$60.00	$2,580.00	
1006-0610	TEST HOLES	449.000	$85.00	$38,165.00	1
1016-0003	PARAPET PROTECTIVE FENCE, STEEL	854.000	$175.00	$149,450.00	
1016-0102	SIDEWALK PROTECTIVE FENCE STEEL	10.000	$85.00	$850.00	
1018-0050	REMOVAL OF PORTION OF EXISTING BRIDGE	1.000	$1,240,000.00	$1,240,000.00	
1019-0020	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (EPOXY RESIN)	182.000	$35.00	$6,370.00	
1019-0040	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, REINFORCED CONCRETE SUBSTRUCTURE SURFACES)	3,139.000	$4.50	$14,125.50	
1019-0050	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES (PENETRATING SEALERS, BRIDGE SUPERSTRUCTURE)	7,395.000	$4.00	$29,580.00	
1020-0002	TOOTH EXPANSION DAM WITH DRAIN TROUGH	18,769.000	$7.00	$131,383.00	
1026-0016	NEOPRENE STRIP SEAL DAM, (3 1/2" MOVEMENT)	76.000	$350.00	$26,600.00	
5026-0017	NEOPRENE STRIP SEAL DAM, (4" MOVEMENT) (MODIFIED)	149.000	$375.00	$55,875.00	
1050-0061	HIGH LOAD MULTI- ROTATIONAL BEARINGS - FIXED	8.000	$6,000.00	$48,000.00	
1050-0062	HIGH LOAD MULTI- ROTATIONAL BEARINGS - GUIDED EXPANSION	27.000	$7,500.00	$202,500.00	
1050-0063	HIGH LOAD MULTI- ROTATIONAL BEARINGS - NON-GUIDED EXPANSION	16.000	$4,500.00	$72,000.00	
1050-0085	LAMINATED NEOPRENE BEARING PAD	18.000	$1,500.00	$27,000.00	
1051-0000	DOWNSPOUTING	1,002.000	$250.00	$250,500.00	
5051-0000	DOWNSPOUTING (MODIFIED)	195.000	$45.00	$8,775.00	
5056-0100	FABRICATED STRUCTURAL STEEL (MODIFIED)	2,984,727.000	$1.73	$5,163,577.71	
1056-0110	FABRICATED STRUCTURAL STEEL, GALVANIZED	6,154.000	$3.25	$20,000.50	
1056-0552	SCUPPER, TYPE B	2.000	$3,500.00	$7,000.00	
1091-0331	EPOXY INJECTION CRACK SEAL	293.000	$50.00	$14,650.00	
1999-9999	TRAINEES	2,000.000	$1.00	$2,000.00	
9000-0001	SAWCUT OF EXISTING PAVEMENT, FULL DEPTH	69.000	$12.00	$828.00	
9000-0002	UNDERDECK PROTECTIVE SHIELDING	1.000	$140,000.00	$140,000.00	
9001-0001	SIGN STRUCTURE, ANCHORAGE	1.000	$3,500.00	$3,500.00	
9006-0212	72" DIAMETER DRILLED CAISSONS, SHAFT SECTION	30.000	$1,200.00	$36,000.00	
9006-0312	66" DIAMETER DRILLED CAISSONS, ROCK SOCKET	359.000	$1,675.00	$601,325.00	
9019-0020	PROTECTIVE COATING FOR REINFORCED CONCRETE SURFACES	372.000	$5.00	$1,860.00	
9026-0018	NEOPRENE STRIP SEAL DAM, (5" MOVEMENT)	76.000	$350.00	$26,600.00	
9044-0001	TEXTURIZING CONCRETE BRIDGE DECK SURFACE WITH TRANSVERSE SAWED GROOVES	5,053.000	$1.80	$9,095.40	
9050-0085	LAMINATED NEOPRENE BEARING (STUB GIRDER)	4.000	$6,500.00	$26,000.00	
9056-0552	SCUPPER, TYPE B MODIFIED (TYPE 1)	5.000	$3,000.00	$15,000.00	
9056-0553	SCUPPER, TYPE B MODIFIED (TYPE 2)	3.000	$3,000.00	$9,000.00	

9100-9001	REPAIR DETERIORATED CONCRETE	280.000	$250.00	$70,000.00
9202-0001	ASBESTOS ABATEMENT	1.000	$8,000.00	$8,000.00
9203-0101	TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM	1.000	$120,000.00	$120,000.00
9805-0024	MULCHING-WOOD FIBER	164.000	$1.00	$164.00
9849-0001	ROCK CONSTRUCTION ENTRANCE	2.000	$3,000.00	$6,000.00
9948-0001	REMOVE AND RESET STEEL SIGN STRUCTURE	1.000	$19,000.00	$19,000.00

Contract Total: $13,439,954.91

Bid Total: $13,439,954.91

Special Provisions

G2A - a00002 PUBLIC BID OPENING LOCATION

Addendum:

Associated Item(s):

Header:
PUBLIC BID OPENING LOCATION

Provision Body:

The location of the public bid opening is the Commonwealth Keystone Building, 7th Floor, Contract Awards Room, 400 North Street, Harrisburg. Allow sufficient time before the bid opening to obtain a visitor pass on the 5th Floor and to be escorted to the 7th Floor Contract Awards Room.

G101B - a00101 GOVERNING SPECIFICATIONS AND APPLICABLE DESIGNATED SPECIAL PROVISIONS

Addendum:

Associated Item(s):

Header:
GOVERNING SPECIFICATIONS AND APPLICABLE DESIGNATED SPECIAL PROVISIONS

Provision Body:

I. GOVERNING SPECIFICATIONS. This bid proposal is made under, subject to, and governed by:

Specifications 408/2011, Change No. 1, effective October 7, 2011 of the Pennsylvania Department of Transportation. Within these Specifications where dual measurement and tabular options are presented English standards apply.

II. APPLICABLE DESIGNATED SPECIAL PROVISIONS. The following Designated Special Provisions are found in Appendix C to the above Governing Specifications. Those that apply to this bid proposal are preceded with a check (i.e., "***X***"). Goals, minimum levels of participation, or other project specific requirements associated with these documents are also established where applicable:

X DSP1. Offset Provision for Commonwealth Contracts.

X DSP2. Contractor Responsibility Provisions.

X DSP3. Provisions for Commonwealth Contracts Concerning the Americans with Disabilities Act.

DSP4. Minority Business and Women Business Enterprise Participation Requirements. This is used on 100% State projects requiring Prequalification. The minimum levels of participation for this project are:

MBE WBE

(-)% (-)%

DSP5. Minority Business and Women Business Enterprise Program. This is used only on 100% State projects over $100,000 requiring Prequalification and where DSP4 does not apply.

DSP6. Minority Business and Women Business Enterprise Utilization Requirements. This is used on State projects without Prequalification requirements. Minimum participation levels of 5% for MBE and 3% for WBE of the dollar amount of the bid have been established for this project.

X DSP7. Disadvantaged Business Enterprise Requirements. This is used on Federal - aid projects only. In conjunction with this contract a goal of 6% of the original contract amount has been established.

X DSP9. Special Supplement - Anti-Pollution Measures - August 26, 1999.

X DSP10. Nondiscrimination/Sexual Harassment Clause.

X DSP11. Contractor Integrity Provisions.

X DSP12. Executive Order 11246, with Appendix A and B.

G113B - a00113 CONTRACT PROVISIONS - RIGHT-TO-KNOW LAW

Addendum:

Associated Item(s):

Header:
CONTRACT PROVISIONS - RIGHT TO KNOW LAW

Provision Body:

I. Contract Provisions – Right to Know Law 8-K-1532

a. The Pennsylvania Right-to-Know Law (RTKL), 65 P.S. §§ 67.101-3104, applies to this Contract.

b. If the Department needs assistance in any matter arising out of the RTKL related to this Contract, the Department will notify the Contractor using the legal contact information provided in this Contract. The Contractor, at any time, may designate a different contact for such purpose upon reasonable prior written notice to the Department.

c. Upon written notification from the Department that it requires assistance in responding to a request under the RTKL for information related to this Contract that may be in the Contractor's possession, constituting, or alleged to constitute, a public record in accordance with the RTKL ("Requested Information"), the Contractor will:

1. Provide the Department, within 10 calendar days after receipt of written notification, access to, and copies of, any document or information in the Contractor's possession arising out of this Contract that the Department reasonably believes is Requested Information and may be a public record under the RTKL; and

2. Provide such other assistance as the Department may reasonably request, in order to comply with the RTKL with respect to this Contract.

d. If the Contractor considers the Requested Information to include a request for a Trade Secret or Confidential Proprietary Information, as those terms are defined by the RTKL, or other information that the Contractor considers exempt from production under the RTKL, notify the Department and provide, within 7 calendar days of receiving the written notification, a written statement signed by a representative of the Contractor explaining why the requested material is exempt from public disclosure under the RTKL.

e. The Department will rely upon the written statement from the Contractor in denying a RTKL request for the Requested Information unless the Department determines that the Requested Information is clearly not protected from disclosure under the RTKL. Should the Department determine that the Requested Information is clearly not exempt from disclosure, provide the Requested Information within 7 calendar days of receipt of written notification of the Department's determination.

f. Failing to provide the Requested Information within the time period required by these provisions, indemnify and hold the Department harmless for any damages, penalties, costs, detriment or harm that the Department may incur as a result of this failure, including any statutory damages assessed against the Department.

g. The Department will reimburse the Contractor for any costs associated with complying with these provisions only to the extent allowed under the fee schedule established by the Office of Open Records or as otherwise provided by the RTKL if the fee schedule is inapplicable.

h. The Contractor may file a legal challenge to any Department decision to release a record to the public with the Office of Open Records, or in the Pennsylvania Courts, however, indemnify the Department for any legal expenses incurred by the Department as a result of such a challenge and hold the Department harmless for any damages, penalties, costs, detriment or harm that the Department may incur as a result of the failure, including any statutory damages assessed against the Department, regardless of the outcome of such legal challenge. As between the parties, agree to waive all rights or remedies that may be available as a result of the Department's disclosure of Requested information pursuant to the RTKL.

i. The Contractor's duties relating to the RTKL are continuing duties that survive the expiration of this Contract and continue as long as the Requested Information remains in the Contractor's possession.

00 - a00312 ROAD USER LIQUIDATED DAMAGES (RULD)

Addendum:

Associated Item(s):

Header:
ROAD USER LIQUIDATED DAMAGES (RULD)

Provision Body:

In addition to the requirements of Section 108.07, Road User Liquidated Damages (RULD) will be assessed as follows:

Open SR 2037, Section A07 to unrestricted traffic by the specified interim milestone date listed in the Special Provision entitled Section 901 or be assessed Road User Liquidated Damages in the amount of $18,000.00 for each day or portion thereof that traffic remains restricted beyond the specified interim milestone date.

The Road User Liquidated Damages assessed as specified above, will be deducted from monies due or become due.

00 - a00501 D11 Air Pollution Control

Addendum:

Associated Item(s):

Header:
AIR POLLUTION CONTROL

Provision Body:

Follow the Allegheny County Health Department's Rules and Regulations, Article XXI, adopted October 20, 1995 and its latest revisions concerning Air Pollution Control.

G801A - a00801 PARTNERING

Addendum:

Associated Item(s):

Header:
PARTNERING

Provision Body:

I. In accordance with Section 104.01, INTENT OF PLANS AND SPECIFICATIONS, and as follows:

(a) Covenant Of Good Faith and Fair Dealing. This contract, in its performance and enforcement, imposes an obligation of good faith and fair dealing on the Contractor and the Department.

The Contractor and the Department, with a positive commitment to honesty and integrity, agree to the following mutual duties:

- To function within the laws and statutes applicable to their duties and responsibilities,
- To assist in the other's performance,
- To avoid hindering the other's performance,
- To proceed to fulfill obligations diligently, and
- To cooperate in the common endeavor of the contract.

(b) Voluntary Partnering. The Department intends to encourage the formation of a cohesive partnership with the Contractor and its principal subcontractors and suppliers. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient contract performance and completion of all work within budget, on schedule, and in accordance with the plans and specifications.

This partnership will be bilateral in makeup, and participation will be totally voluntary. Any cost associated with bringing about this partnering will be agreed to by both parties and shared equally. Participation is not a requirement of the contract and, therefore, the costs associated with partnering are not to be included in the bid, and the provisions specified in Section 110.03(d)4. do not apply to these costs.

To implement this partnering initiative prior to the Preconstruction Conference, the Notice to Proceed, and the start of work, as specified in Sections 108.02 and 108.03, the Contractor's management personnel and the District Engineer are to organize a Partnering Seminar/Team Building Workshop as follows:

1. Facilitator. Select and obtain Department concurrence for a third party facilitator to conduct the workshop for the project stakeholders. The Contractor and the Department are to share the cost of the facilitator equally.

2. Attendees. Persons required to be in attendance are the Department's Assistant Construction Engineer, Inspector-in-Charge, and key project personnel; the Contractor's on-site project manager (Superintendent); and key project supervision personnel for both the Contractor and its principal subcontractors and suppliers. The project design engineers, key specialty or technical personnel, utility management personnel, FHWA, and key local government personnel should also be invited to attend, as necessary. The Contractor may wish to have Regional and Corporate level managers in attendance. The Department may wish to have District and State level managers in attendance.

3. Agenda. Workshop agenda is to consist of at least the following:

- Discussion of partnering principles.
- Development of a project charter with defined goals and objectives.
- Defined problem solving procedure and evaluation process.

Approximately 1/3 of the workshop should be devoted to team building and problem solving techniques; with the remainder of the time being devoted to defining project goals and objectives and issue resolution.

4. Duration. Workshop duration should normally be 2 days, but may be modified due to project related variables such as cost, complexity, number of stakeholders, project personnel partnering experience, number of potential issues, and other project-related factors.

5. Location. The workshop is to be located at a "neutral" site, in Pennsylvania, in close proximity to the project site if possible. The Contractor and the Department are to share the cost of the facilities equally.

Follow-up workshops may be held periodically throughout the duration of the contract as agreed to by the Contractor and the Department.

II. The establishment of a partnership charter on this project will not change the legal relationship of the parties to the contract nor relieve either party of responsibility for any of the terms of the contract.

G901B - a00901 ALTERNATE EROSION AND SEDIMENT POLLUTION CONTROL PLAN

Addendum:

Associated Item(s):

Header:
ALTERNATE EROSION AND SEDIMENT POLLUTION CONTROL PLAN

Provision Body:

Comply with these requirements when submitting an alternate plan for accomplishing equal or better temporary and permanent erosion and sediment pollution control. Do not start work until the alternate erosion and sediment pollution control plan, schedules, and operation methods have been approved by the Department and the Department of Environmental Protection, or by the Department and the County Conservation District, as applicable.

Apply for any earth disturbance permits or permit amendments not included in the proposal documents that are required because of the nature of the contemplated construction procedures.

Prepare and furnish, with the applications, plans and documents that are required by the Department of Environmental Protection or the County Conservation District.

Provide simultaneously to the District Executive a copy of all plans and documents that affect the construction requirements.

Provide immediately to the District Executive any modifications that are made to the plans and documents that are required by the Department of Environmental Protection or the County Conservation District.

Obtain the approval of the Department and the permit from the Department of Environmental Protection prior to beginning any work when a permit is required, and the approval of the Department and the County Conservation District when a permit is not required.

Acquire areas outside of the right-of-way that are necessary for erosion and sediment pollution control. Proceed with the agreement procedure described in Section 105.14 (Borrow Areas and Waste Areas).

G1301A - a01301 DISPLAYING OF CORE BORING SAMPLES.

Addendum:

Associated Item(s):

Header:
DISPLAYING OF CORE BORING SAMPLES.

Provision Body:

Core boring samples are available for this project and will be displayed upon request.

G1601A - a01601 E.E.O. COVERED AREA

Addendum:

Associated Item(s):

Header:
E.E.O. COVERED AREA

Provision Body:

For the purpose set forth in the Executive Order 11246 the covered area for this contract is Allegheny County, which is within the Economic Area of Pittsburgh, PA as listed in Appendix B of Designated Special Provision 12 (DSP12) entitled “Executive Order 11246 (with Appendix A and B)” in Appendix C of Pub 408.

00 - a01900 Temporary Railroad Crossing

Addendum: 1

Associated Item(s):

Header:
TEMPORARY RAILROAD CROSSING

Provision Body:
Allow a minimum of 30 days for railroad approvals.

Submit written request to the railroad's Chief Engineer for installation of any temporary grade crossing or use of any existing temporary grade crossing. Submit request in writing 90 days in advance of start of construction or use of a temporary crossing. The Contractor will bear costs incidental to temporary crossings whether it performs the work or the railroad performs the work.

Execute a private crossing agreement between railroad and Contractor before installation and use of crossing(s).

Coordinate with Norfolk Southern Railway Company in maintaining and eventual removal of the temporary railroad crossing. Refer to the attached Location of Temporary and Existing Railroad Crossing drawing. Establish a private crossing agreement with Norfolk Southern Railway Company for the temporary railroad crossing and abide by all conditions of the agreement for the duration of the project. The Contractor is responsible for all costs associated with the private crossing agreement. Make payment directly to Norfolk Southern Railway Company as applicable.

G1901A - a01901 INSURANCE--GENERAL APPLICATION - Union Railroad

Addendum:

Associated Item(s):

Header:
INSURANCE--GENERAL APPLICATION

Provision Body:

I. Name and Address of the Railroad as found in the Project Specific Details, Detail 1(***see below***).

II. GENERAL.

(a) In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, provide and carry Railroad's Protective Public Liability Insurance in the specified amounts. Also, submit a properly executed Insurance Certificate evidencing the issuance of adequate Contractor's Public Liability and Property Damage Insurance with the executed contract when it is returned to the Department.

(b) Carry the specified insurance from the time physical work is started until all physical work required to be performed under the terms of the contract is substantially completed. Failure to carry or keep such insurance in force until all work is substantially completed will constitute a violation of the contract and in such event, the Secretary may avail himself of the remedies provided under Section 108.08.

(c) Furnish to the railroad company a signed copy of the policy for Contractor's Public Liability and Property Damage Insurance and the signed original policy for Railroad's Protective Public Liability Insurance prior to entry upon railroad right-of-way. If any work is subcontracted, also furnish to the railroad a signed copy of the policy for Contractor's Protective Public Liability and Property Damage Insurance.

III. RAILROAD'S PROTECTIVE PUBLIC LIABILITY INSURANCE.

Furnish the Department evidence that, with respect to the operations the Contractor or any subcontractors perform, provide Railroad Protective Public Liability Insurance in the name of the Railroad found in the Project Specific Details, Detail 1 providing coverage for bodily injury, death, and property damage limited to a combined single limit of not less than two million dollars ($2,000,000) per occurrence with an aggregate limit of not less than six million dollars ($6,000,000) for the term of the policy.

IV. CONTRACTOR'S PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE.

In accordance with Sections 103.06 and 107.14, carry regular Contractor's Public Liability and Property Damage Insurance of not less than two million dollars ($2,000,000).

V. CONTRACTOR'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE

If any work is subcontracted, furnish evidence to the Department that regular Contractor's Protective Public Liability and Property Damage Insurance of not less than two million dollars ($2,000,000) is carried, in the Contractor's behalf.

Project Specific Details:

1. The Proper Name and Address of the Railroad as referred to in Para I is:

Union Railroad Company
900 Thompson Run Road
Monroeville, PA 15146

G1902A - a01902 INSURANCE--GENERAL APPLICATION-ADDITIONAL COVERAGE LIMITS - Norfolk Southern

Addendum:

Associated Item(s):

Header:

INSURANCE--GENERAL APPLICATION-ADDITIONAL COVERAGE LIMITS

Provision Body:

I. Name and Address of the Railroad as found in the Project Specific Details, Detail 1(***see below***).

II. GENERAL.

(a) In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, provide and carry Railroad's Protective Public Liability Insurance in the specified amounts. Also, submit a properly executed Insurance Certificate evidencing the issuance of adequate Contractor's Public Liability and Property Damage Insurance with the executed contract when it is returned to the Department.

(b) Carry the specified insurance from the time physical work is started until all physical work required to be performed under the terms of the contract is substantially completed. Failure to carry or keep such insurance in force until all work is substantially completed will constitute a violation of the contract and in such event, the Secretary may avail himself of the remedies provided under Section 108.08.

(c) Furnish to the railroad company a signed copy of the policy for Contractor's Public Liability and Property Damage Insurance and the signed original policy for Railroad's Protective Public Liability Insurance prior to entry upon railroad right-of-way. If any work is subcontracted, also furnish to the railroad a signed copy of the policy for Contractor's Protective Public Liability and Property Damage Insurance.

III. RAILROAD'S PROTECTIVE PUBLIC LIABILITY INSURANCE.

Furnish the Department evidence that, with respect to the operations the Contractor or any subcontractors perform, provide Railroad Protective Public Liability Insurance in the name of the Railroad found in the Project Specific Details, Detail 1 providing coverage for bodily injury, death, and property damage limited to a combined single limit of not less than five million dollars ($5,000,000) per occurrence with an aggregate limit of not less than ten million dollars ($10,000,000) for the term of the policy.

IV. CONTRACTOR'S PUBLIC LIABILITY AND PROPERTY DAMAGE INSURANCE.

In accordance with Sections 103.06 and 107.14, carry regular Contractor's Public Liability and Property Damage Insurance of not less than two million dollars ($2,000,000).

V. CONTRACTOR'S PROTECTIVE PUBLIC LIABILITY AND PROPERTY DAMAGE

If any work is subcontracted, furnish evidence to the Department that regular Contractor's Protective Public Liability and Property Damage Insurance of not less than two million dollars ($2,000,000) is carried, in the Contractor's behalf.

Project Specific Details:

1. The Proper Name and Address of the Railroad as referred to in Para I is:

Norfolk Southern Railway Company
Risk Management
Three Commercial Place
Norfolk, VA 23510-2191

G2201A - a02201 RAILROAD COMPANY CONTACT PERSON

Addendum:

Associated Item(s):

Header:

RAILROAD COMPANY CONTACT PERSON

Provision Body:

Contact the following railroad company representative to request protective services required by the special provision entitled "Maintenance and Protection of Railroad Traffic":

Union Railroad
Cathy Connelly
900 Thompson Run Road
Monroeville, PA 15146
(412) 469-4401

Norfolk Southern Railroad
W. C. Webb, Division Engineer
425 Holiday Drive, Suite 301
Pittsburgh, PA 15222
(412) 893-7255

All questions regarding railroad coordination, policies, and procedures are to be directed to:

Mr. Tom Bracey, Senior Engineer Public Improvements
Norfolk Southern Corporation
1200 Peachtree Street
Atlanta, GA 30309
Phone: 404-527-2536; Fax 404-313-3138
E-Mail: Thomas.bracey@nscorp.com

G2301A - a02301 MAINTENANCE AND PROTECTION OF RAILROAD TRAFFIC

Addendum:

Associated Item(s):

Header:
MAINTENANCE AND PROTECTION OF RAILROAD TRAFFIC

Provision Body:

I. Make the safety and operation continuity of the railroad company traffic of the first importance. At all times protect and safeguard such traffic and arrange project work accordingly. Whenever the work may affect the safety and movement of trains, submit the method of doing such work to the chief engineer of the railroad company or duly authorized representative for approval. Do not begin or prosecute work without such approval. However, the approval of the railroad company's chief engineer or duly authorized representative will not be considered as a release from responsibility for any damage to the railroad company by the acts of the Contractor or those of his/her employees. Prepare and submit plans for approval to the railroad company's chief engineer for all work, including, but not limited to, tunneling under tracks, sheeting, shoring, and erection in the vicinity of and over tracks.

II. During the construction period, the railroad company and the Department will co-operate with each other in the protection of their respective traffic and in the construction as indicated. Give the chief engineer of any involved railroad fourteen (14) days written notice before any work is started on railroad property, in order that the necessary arrangements may be made to properly protect railroad traffic.

III. The railroad company will provide all watchmen, operators, flagmen, clearance men, and similar protective services, considered by the railroad company's chief engineer or his duly authorized representative as necessary to insure the safety of trains contingent upon the project's operations, at the sole expense of the Department. It is agreed, however, that providing of such watchmen, and other precautions, will not relieve liability of payment for damage caused by project operations. The Department will not be responsible for such damage.

IV. It is expressly understood that this contract includes no work for which the railroad company is to be billed. Therefore, do not bill the railroad company for any work which may be performed unless the railroad company gives a written request that such work be performed at its expense.

V. The raising or surfacing of tracks due to any settlement, caused by the project operations will be performed by the railroad, but the cost will be borne entirely by Contractor.

VI. During construction a minimum overhead clearance of 6.7m (7m for electrical tracks) (22 feet (23 feet for electrical tracks)) above the top of rail and a minimum horizontal clearance of 12 feet from centerline of tangent track will be permitted. If the clearances indicated are less than those stated above, then the lesser clearance will be permitted. In any case, this minimum side clearance applies to tangent track only. For curved track, provide additional minimum side clearance to compensate for curvature. Contact the railroad company's chief engineer to ascertain the amount of additional minimum side clearance required. If at any time during construction it is decided that project operations require overhead and/or side clearances less than the minimum stated or indicated submit a request to the railroad company's chief engineer as outlined above for safety and continuity of railroad operations. Deviate from those minimums stated above or indicated, only upon receipt of approval of such a request.

VII. Do not work over any high tension wires or within 10 feet on each side and below such wires. When it is necessary to work or place equipment within these limits, make arrangements with the railroad to furnish electrical clearance men and de-energize the wires contingent upon railroad operation. Where voltage exceeds 50,000 volts, increase this working clearance.

G2401A - a02401 RAILROAD PROTECTIVE SERVICES COSTS

Addendum:

Associated Item(s):

Header:
RAILROAD PROTECTIVE SERVICES COSTS

Provision Body:

I. The Department will make payment to the railroad for all costs associated with watchmen, operators, flagmen, clearance men, and similar protective services provided by the railroad company based on railroad regulations and the Contractor's construction schedule.

II. Actual costs will be assessed by the Department whenever protective services are provided by the railroad at the request of the Contractor, but if such requested services are not utilized due to a change in the Contractor's construction schedule or if it is determined by the Department that the requested services were not necessary, the actual costs to be assessed by the Department against the Contractor will be the amount billed by the railroad to the Department.

III. It will be the Contractor's responsibility to obtain the protective services from the railroad and the Department assumes no liability for any delays caused by the failure of the Contractor to obtain such services.

IV. The actual costs to be assessed above will be deducted from money due or that becomes due the Contractor.

G3003B - a03003 CLARIFICATION OF FEDERAL REGULATION IMPACTS TO F.A.R.

Addendum:

Associated Item(s):

Header:
CLARIFICATION OF FEDERAL REGULATION IMPACTS TO F.A.R. REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS

Provision Body:

Recent federal regulations have modified reporting requirements for federally funded highway construction projects. Those modifications and their impact on the F.A.R. are identified below.

V.Statements and Payrolls

(b) Payrolls and Payroll Records

3.In accordance with federal regulation 29 CFR 5.5(a)(3)(ii)(A), only certified payroll records submitted to the Department shall no longer include the employee's full social security number and address, but shall only include the last four digits of the employee's social security number.All other required documentation shall remain the same.

4. First bullet: In accordance with federal regulation 29 CFR 5.5 (a) (3) (ii) (A), only certified payroll records submitted to the Department shall no longer include the employee's full social security number and address, but shall only include the last four digits of the employee's social security number.All other required documentation shall remain the same.

VI.Record of Materials, Supplies, and Labor

In accordance with final rule regarding federal regulation 23 CFR Part 635.126, which eliminated the FHWA-47, this paragraph no longer applies.

G3201A - a03201 NOTICE TO BIDDERS, WAGE RATE DETERMINATION

Addendum:

Associated Item(s):

Header:
NOTICE TO BIDDERS, WAGE RATE DETERMINATION

Provision Body:

The wage rate determination decision of the U.S. Secretary of Labor which has been incorporated in this proposal is incomplete in that the below listed classifications were omitted from the U.S. Secretary of Labor's decision. Since the bidder is responsible, independently, for ascertaining area practice with respect to the necessity, or lack of necessity, for the use of these classifications in the prosecution of the work contemplated by this project, no inference may be drawn from the omission of these classifications concerning prevailing area practices relative to their use. Further, this omission will not, per se, be construed as establishing any Governmental or Departmental liability for increased labor cost if it is subsequently determined that such classifications are required.

Electrician Apprentices

G4301D - a04301 UTILITIES--THE REQUIREMENT TO LIST INFORMATION

Addendum:

Associated Item(s):

Header:
UTILITIES--THE REQUIREMENT TO LIST INFORMATION

Provision Body:

I. Cooperate with the public utility companies and local authorities in the placement, replacement, relocation, adjustment, or reconstruction of their structures and facilities during construction. Contact all utility representatives at least 15 calendar days before starting operations.

PRIOR	Anticipated completion before the Notice to Proceed is issued. Use actual or anticipated completion date shown.
RESTRICTIVE	To be completed by the utility or string of utilities before operating without restriction. Number of calendar days will start from the actual notice to proceed that is issued to the contractor.
CONCURRENT	Simultaneous with, but not restricting, operations. Number of calendar days required.
COORDINATED	Phasing with specific construction operations. Number of calendar days required after completion of specific construction operations.
NOT AFFECTED	Identifies utility with facilities in the construction area not anticipated to be affected. Specific information may be provided by the utility.
INCORPORATED	Utility relocation work to be incorporated into the prime highway construction contract.
CONDITIONAL RESTRICTIONS AND TIME REQUIREMENTS	Identify conditions affecting the utility's ability to perform a certain type of utility relocation work, i. e., certain times of the day, week, or year that a facility cannot be shut down, acquisition of Right-of-Way by the state, or demolition of buildings.

ALLEGHENY COUNTY SANITARY AUTHORITY

CONTACT: Mr. Kenneth Babin – Telephone (412) 766-4810 Ext. 8283

NOT AFFECTED: SR 2037 – Station 185+00 to Station 188+00 LT/RT (U/G)

Existing underground 54" reinforced concrete tunnel to remain.

AT&T

CONTACT: Mr. Dennis Morgan – Telephone (724) 495-4038

NOT AFFECTED: SR 2037 – Station 189+00 to Station 190+00 LT/RT (U/G)

Existing underground duct bank to remain.

DUQUESNE LIGHT COMPANY

CONTACT: Mr. Jim Runatz – Telephone (412) 393-7813

NOT AFFECTED: SR 2037 – Station 185+50 LT/RT
(U/G)

Existing underground duct bank to remain.

NOT AFFECTED: SR 2037 – Station 185+50 to Station 187+00 RT
(Aerial)

Existing poles and overhead facilities to remain.

NOT AFFECTED: SR 2037 – Station 193+50 LT/RT
(U/G)

Existing underground facilities to remain. Contractor must maintain access to existing manhole and protect underground facilities from damage by heavy equipment. "See Notice to Contractor".

EAST PITTSBURGH BOROUGH

CONTACT: Ms. Dorothy Baccari – Telephone (412) 823-7124

NOT AFFECTED: SR 2037 – Station 185+75 LT/RT
(U/G)

Existing sanitary sewer lines to remain.

EQUITABLE GAS

CONTACT: Mr. Sean Kozielec – Telephone (412) 395-3642

NOT AFFECTED: SR 2037 – Station 185+00 to Station 186+00 LT/RT
(U/G)

Existing 12" natural gas lines, additional gas lines and associated valves to remain. Must provide access to shut off valves at all times. Protect facilities from damage by heavy equipment. "See Notice to Contractor".

MUNICIPAL AUTHORITY OF WESTMORELAND COUNTY

CONTACT: Mr. Donald Guerra – Telephone (724) 755-5800 Ext. 5951

NOT AFFECTED: SR 2037 – Station 191+50 LT/RT
(U/G)

Existing underground 24" water line to remain.

NOT AFFECTED: SR 2037 – Station 192+50 LT/RT
(U/G)

Existing underground 6" water line to remain.

PEOPLES NATURAL GAS

CONTACT: Mr. Paul Hess – Telephone (412) 244-4381

NOT AFFECTED: SR 2037 – Station 192+50 LT/RT
(U/G)

Existing 4" natural gas lines to remain.

QWEST COMMUNICATIONS

CONTACT: Mr. David Craft – Telephone (717) 939-2796

NOT AFFECTED: SR 2037 – Station 189+00 to Station 190+00 LT/RT
(U/G)

Existing underground duct bank to remain.

VERIZON OF PA, INC.

CONTACT: Mr. Jeffery Guido – Telephone (724) 832-3221

NOT AFFECTED: SR 2037 – Station 185+75 LT/RT
(U/G)

Existing underground conduit to remain.

WILKINSBURG-PENN JOINT WATER AUTHORITY

CONTACT: Mr. Anthony A. Russo – Telephone (412) 243-6234

NOT AFFECTED: SR 2037 – Station 185+500 LT/RT
(U/G)

Existing 16" water line to remain.

G4802A - a04802 INDEX PRICE FOR DIESEL FUEL

Addendum:

Associated Item(s):

Header:
Index Price for Diesel Fuel

Provision Body:

The index price for diesel fuel (FB), as determined by the Department, is $ 3.13 per gallon. Use this index price in accordance with Section 110.12 PRICE ADJUSTMENT FOR DIESEL FUEL COST FLUCTUATIONS.

G4902B - a04902 PRICE ADJUSTMENT FOR STEEL COST FLUCTUATIONS

Addendum:

Associated Item(s):

Header:
PRICE ADJUSTMENT FOR STEEL COST FLUCTUATIONS

Provision Body:

These requirements provide for a price adjustment, in the form of a payment to the Contractor or a rebate to the Department, for fluctuations in the cost of the steel used in the applicable materials placed as part of the construction work specified in Sections 620, 621, 948, 1002, 1005, 1050, 1056, 1080, and 1085.

(a) General. These price adjustment provisions apply to items in the contract Schedule of Prices, as specified above, including any modified standard or non-standard item where the work to be performed includes incorporation of one or more of the applicable steel materials specified in the above Sections and addressed herein. Additionally, items in the Component Item Schedule (CIS) for an "as-designed" or alternate design structure, as well as work performed under a design-build contract, will be included when applying the specified price adjustment requirements, provided the work to be performed includes incorporation of one or more of the applicable steel materials specified in the above Sections and addressed herein. Terminal sections, end treatments, transitions, and transition treatments associated with guide rail and metal median barrier work; as well as mechanical splice systems, pile tip reinforcement, high load multi-rotational bearings, shear connectors, and scuppers; will not be subject to the price adjustment criteria and conditions specified herein.

To elect to have these price adjustment provisions apply to one or more of the steel product categories identified herein, when planned for incorporation into a specific project, advance notification must be submitted to the Department. The apparent low bidder is required to submit the Steel Escalation Option form attached to the proposal, via fax to (717) 705-1504, or email to steeloptions@state.pa.us no later than 3:00 pm prevailing local time on the seventh calendar day after the bid opening. When the seventh calendar day after the bid opening falls on a day PENNDOT offices are closed, submit the Steel Escalation Option form no later than 3:00 pm prevailing local time on the next business day. If a properly completed Steel Escalation Option form is not provided by the apparent low bidder within the time specified, the Department will consider the option to apply these price adjustment provisions to the project to be declined. Furthermore, if a Steel Escalation Option form, when provided within the specified time, has been completed such that the Department is unable to ascertain the bidder's intention with regard to the inclusion of any one of the applicable steel product categories, the Department will consider the option to apply these price adjustment provisions to that product category to be declined. No further opportunity to elect steel escalation for the project or an individual steel product category will be made available. In the event the apparent low bid is rejected, the next lowest bidder will be notified to submit the Steel Escalation Option form no later than 3:00 pm prevailing local time on the seventh calendar day after notification.

The Department posts a monthly index price for steel ($ per ton) based on data obtained from the U.S. Department of Labor (USDOL), Bureau of Labor Statistics, which publishes monthly Producer Price Index (PPI) values for various commodities. The statewide index price for steel will be based on the PPI value posted by USDOL for "Semi-finished Steel Mill Products" (Series ID: WPU101702). The Department will post its monthly index price for steel after the USDOL lists the PPI value on which it is based as final.

The "base / benchmark" index price, SB, will be the steel index price posted by the Department, determined as specified above, for the month in which project letting occurred.

The "invoice" index price, SI, will be the steel index price posted by the Department, determined as specified above, for the month in which applicable steel material is invoiced.

Steel material will be considered invoiced as of the date when an invoice from the steel mill providing the necessary raw material is sent to the Contractor or to a subcontractor, fabricator, manufacturer, or supplier. The steel price adjustment provisions specified herein are not applicable to raw steel material having a mill invoice date that precedes the project letting date. On a quarterly basis, provide documentation of the invoice date for applicable steel material incorporated into the work during the prior 3-month period. Documentation is to be in the form of a tabulation that lists all material invoiced during the period, in chronological order by invoice date; the quantity invoiced; and the applicable contract item(s) and corresponding project location(s) where the invoiced quantity or portion thereof was incorporated, along with copies of supporting invoices. Have a representative of the Contractor, authorized to make such statements, certify that the information provided in the tabulation is complete and accurate and may be relied upon by the Department.

Failure to provide the required tabulation within 10 calendar days of the end of each, applicable 3-month period will result in the Department computing a price adjustment (rebate or increase) using a value for SI that results in the greatest possible price rebate or least possible price increase based on the monthly index prices posted by the Department, to date, since work on the project began.

(b) Price Adjustment Criteria and Conditions. The following criteria and conditions will be considered in determining a price adjustment for steel cost fluctuations.

1. No Price Adjustment. When the ratio SI/ SB falls within the range of 0.95 to 1.05, no price adjustment will be made for applicable steel material having an invoice date that falls within the month for which the SI index price was posted.

2. Price Rebate. When the ratio SI/SB is calculated to be less than 0.95, the Department will receive an automatic price rebate, for applicable steel material having an invoice date that falls within the month for which the SI index price was posted, to be determined in accordance with the following formula:

$$P.R. = (0.95 - SI / SB) (SB) (ST)$$

where:

P.R. = Price Rebate

SI = Index price for the month in which applicable steel material is invoiced.

SB = Index price for the month in which project letting occurred.

ST = Quantity (tons) of applicable steel material incorporated into the work during the applicable 3-month period.*

*Computed based on the quantity paid, under applicable contract items, on current estimates processed during the 3-month period addressed in the tabulation provided by the Contractor. Not to exceed the total tonnage of applicable steel material invoiced during the month for which the SI index price was posted, as shown on the Contractor's tabulation.

3. Price Increase. When the ratio SI/SB is calculated to be greater than 1.05, the Contractor will receive a price increase, for applicable steel material having an invoice date that falls within the month for which the SI index price was posted, to be determined in accordance with the following formula:

$$P.I. = (SI / SB - 1.05) (SB) (ST)$$

where:

P.I. = Price Increase

SI = Index price for the month in which applicable steel material is invoiced.

SB = Index price for the month in which project letting occurred.

ST = Quantity (tons) of applicable steel material incorporated into the work during the applicable 3-month period.*

* Computed based on the quantity paid, under applicable contract items, on current estimates processed during the 3-month period addressed in the tabulation provided by the Contractor. Not to exceed the total tonnage of applicable steel material invoiced during the month for which the SI index price was posted, as shown on the Contractor's tabulation.

4. Equivalent Tonnage. For applicable steel material furnished under a separate contract item, under a design-bid-build contract, or under a design-build contract the equivalent steel tonnage will be computed as indicate in the following sections.

For design-build contracts, provide an itemized breakdown of the applicable steel materials addressed herein incorporated into the work and indicate the quantity of each actually installed. Indicated quantities should be based on field measurements or take-offs from the approved plans or shop drawings and be equivalent to those used to compute payments made against the Lump Sum construction item on current estimates.

4.a Guide Rail and Metal Median Barrier. For applicable guide rail and metal median barrier components (i.e. rail elements, posts, and rubbing rail) furnished under separate contract items or as part of a single contract item for guide rail / metal median barrier complete in place, the equivalent steel tonnage is computed as follows:

4.a.1 Guide Rail or Median Barrier Rail Element (Weak Post or Strong Post).

$$\text{Steel Tonnage (ST)} = 7.84 (Q) / 2000$$

where:

Q = Quantity (linear feet) of weak post or strong post guide rail element paid on current estimates processed during the applicable 3-month period

4.a.2. Type 2W Posts.

Steel Tonnage (ST) = 8.67 (L) (Q) / 2000

where:

L = Length of each post (feet) as required by the Standard Drawings or as specified

Q = Quantity (each) of Type 2W posts paid on current estimates processed during the applicable 3-month period.

4.a.3 Type 2S Posts.

Steel Tonnage (ST) = 9.17 (L) (Q) / 2000

where:

L = Length of each post (feet) as required by the Standard Drawings or as specified

Q = Quantity (each) of Type 2S posts paid on current estimates processed during the applicable 3-month period

4.a.4 Rubbing Rail.

Steel Tonnage (ST) = 8.56 (Q) / 2000

where:

Q = Quantity (linear feet) of rubbing rail paid on current estimates processed during the applicable 3-month period

4.b Reinforcement Bars. For applicable reinforcement bars furnished under a separate contract item, as a component item associated with an alternate design structure, or as a component item associated with a design-build contract, the equivalent steel tonnage is computed as follows:

Steel Tonnage (ST) = (Q) / 2000

where:

Q = Quantity (pounds) of reinforcement bars paid on current estimates processed during the applicable 3-month period.

4.c Piles. For applicable steel beam bearing piles, cast-in-place concrete bearing piles, cast-in-place concrete piles, and steel pipe piles, furnished under a separate contract item, as a component item associated with an alternate design structure, or as a component item associated with a design-build contract, the equivalent tonnage is computed as follows:

4.c.1 Steel H-Piles.

Steel Tonnage (ST) = (UW) (Q) / 2000

where:

UW= Unit Weight of the Steel Beam* (pounds per foot)

Q = Quantity (linear feet) of steel piles paid on current estimates processed during the applicable 3-month period.

* The unit weight of steel will be the second of the two numbers associated with the size designation for the beam as cited in the item description (i.e. If the item description is "Steel Beam Bearing Piles, HP12x74", the unit weight of the steel is 74 pounds per foot).

4.c.2 Cast-in-Place Concrete Piles.

Steel Tonnage (ST) = 2.80 (D) (Q) / 2000

where:

D = Diameter of the steel shell (inches)*

Q = Quantity (linear feet) of cast-in-place concrete piles paid on current estimates processed during the applicable 3-month period.

* From the approved structure Plans or field measurements. For cylindrical shells of varying diameter, a weighted average diameter will be used, computed based on the number of shells of each diameter actually installed. For tapered shells, an average diameter will be used, computed as the average of the shell diameters at the butt end and at the tip.

4.c.3 Pipe Piles.

Steel Tonnage (ST) = 6.70 (D) (Q) / 2000

where:

D = Diameter of the steel pipe (inches)*

Q = Quantity (linear feet) of pipe piles paid on current estimates processed during the applicable 3-month period.

* From the approved structure Plans or field measurements.

4.d Steel Sign Structure. For applicable steel sign structures constructed under a separate contract item, the equivalent tonnage is computed as follows:

Steel Tonnage (ST) = (Q) / 2000

where:

Q = Quantity (pounds) of steel in each sign structure, or portion thereof, paid on current estimates processed during the applicable 3-month period.*

*Not to exceed the estimated weight of each sign structure as indicated on the structure Plans.

4.e Fabricated Structural Steel. For applicable fabricated structural steel; furnished under a separate contract item, as a component item associated with an "as-designed" or alternate design structure, or as a component item associated with a design-build contract; the equivalent tonnage is computed as follows:

Steel Tonnage (ST) = (Q) / 2000

where:

Q = Quantity (pounds) of fabricated structural steel girders, rolled beams, angle, and plate paid on current estimates processed during the applicable 3-month period.

4.f Precast Reinforced Concrete Box Culverts and Prestressed Concrete Bridge Beams. For applicable precast reinforced concrete box culvert segments and prestressed concrete bridge beams; furnished under a separate contract item, as a component item associated with an "as- designed" or alternate design structure, or as a component item associated with a design- build contract; the equivalent tonnage is computed as follows:

Steel Tonnage (ST) = (UW)(Q)/2000

where:

UW= Unit Weight (pounds per foot) of reinforcing steel in a box culvert segment or of reinforcing steel and prestressing strands in a prestressed bridge beam.*

Q = Quantity (linear feet) of precast reinforced concrete box culvert segments and prestressed concrete bridge beams paid on current estimates processed during the applicable 3-month period.

* Submit documentation indicating the weight (pounds) of reinforcing steel included in and the length (feet) of each box culvert segment, and the weight (pounds) of mild reinforcing steel and prestressing strands included in and the length (feet) of each prestressed bridge beam. UW will be computed as the average of the unit weight of steel (i.e. weight of steel divided by length) in each box culvert segment, or as the average of the unit weight of steel (i.e. weight of steel divided by length) in each prestressed bridge beam. Documentation must be submitted at the time required shop drawings are submitted for approval.

5. Payment/Rebate. The price adjustment will be paid, or rebated, upon approval of a contract adjustment to be prepared on a quarterly basis as applicable work is completed. Cumulative quarterly price adjustments amounting to less than $1,000 will be disregarded.

6. Expiration of Contract Time. When eligible materials are purchased after expiration of contract time and liquidated damages are chargeable, the value for SI used to compute the price adjustment will be either the index price for the month in which applicable steel material is invoiced or the index price at the time contract time expired, whichever is less.

7. Final Quantities. Upon completion of the work and determination of final pay quantities, a final contract adjustment may be prepared to reconcile any difference between estimated quantities previously paid and the final quantities. In this situation, the value for SI used in the price adjustment formula will be the average of all SI values previously used for computing price adjustments.

8. Inspection of Records. The Department, through the Office of Inspector General, reserves the right to inspect the records of the prime contractor and its subcontractors and material fabricators and suppliers to ascertain actual invoicing dates and quantity information for the steel material used in the performance of applicable items of work.

9. Extra Work. When applicable items of work, as specified herein, are added to the contract as Extra Work, in accordance with the provisions of Section 110.03, no price adjustment will be made for fluctuations in the cost of the steel used in manufacturing the materials placed during performance of the extra work. The current price for steel is to be used when preparing required backup data for extra work to be performed at a negotiated price. For extra work performed on a force account basis, reimbursement of actual material costs, along with the specified overhead and profit markup, will be considered to include full compensation for the current cost of steel.

G7022A - a07022 CHANGES TO SPECIFICATION: SECTION 107

Addendum:

Associated Item(s):

Header:

CHANGES TO SPECIFICATIONS: SECTION 107

Provision Body:

SECTION 107 - Legal Relations and Responsibility to the Public

- Section 107.30(a)1. Revise to read as follows:

1. Equal employment opportunity requirements not to discriminate and to take affirmative action to assure equal employment opportunity, as required by Executive Order 11246 and Executive Order 11375, are set forth in Required Contract Provisions (Form FHWA-1273, except V. 2.b. revise first sentence to read as follows: the payroll records shall contain the name; an individually identifying number [e.g., the last four digits of the employee's social security number]; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid) and these requirements; imposed pursuant to 23 U.S.C. 140, as established by Section 22 of the Federal-Aid Highway Act of 1968. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-43 and the provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. The requirements set forth herein constitute the specific affirmative action requirements for project activities under this contract and supplement the equal employment opportunity requirements set forth in the Required Contract Provisions.

G7028C - a07028 CHANGES TO SPECIFICATIONS: SECTION 1105

Addendum:

Associated Item(s):

Header:

Changes to Specifications: Section 1105

Provision Body:

- Revise Section 1105 - Fabricated Structural Steel to read as follows:

SECTION 1105 - STRUCTURAL STEEL AND ALUMINUM

1105.01 GENERAL REQUIREMENTS—

(a) Prequalification. Structural steel and aluminum fabricators performing work for the Department are required to prequalify according to the American Institute of Steel Construction's (AISC) Quality Certification Program and obtain approval from the Chief Structural Materials Engineer. Plants and shops must be registered and certified under the AISC program with Simple Steel Bridge Structures (SBr), Major Steel Bridge (CBr) or Standard for Bridge and highway Metal Component Manufacturers (B- CMP) certification and must submit a valid certificate to the Chief Structural Materials Engineer, at 81 Lab Lane, Harrisburg, PA. 17110. Annual submission of an endorsed copy of the certificate is required for continued prequalification. New fabricators or certified fabricators wishing to upgrade certification are required to furnish acceptable references for which the fabricator has successfully completed fabrication of similar members. If unable to furnish references, the fabricator must satisfactorily produce a sample member to obtain Department approval and listing in Bulletin 15.

Only fabricators having CBr certification including the Fracture Critical endorsement may fabricate the following:

Fracture critical members and attachments.

Only fabricators having CBr certification may fabricate the following:

Main bridge members, except for certain rolled beams

Welded floorbeams

Cross frames and diaphragms for curved bridges

Bracing, portals, and stiffening members for arches, trusses, cable stayed and suspension bridges

Rolled beams with butt welds that are heat-curved, or heat-cambered, or cold cambered.

Fabricators having either the CBr or SBr certification may fabricate the following:

Rolled beams with bearing stiffeners and diaphragm connection or cover plates[2]

Cross frames and diaphragms for straight bridges

Shop-fabricated material for reinforcing existing bridges[1]

Lateral bracing except for arches, trusses, cable-stayed, and suspension bridges[1]

Note 1: Fabricate in a CBr certified plant if welding is required.

Note 2: SBr certified plants must qualify for initial approval from the Chief Structural Materials Engineer to perform heat cambering or cold cambering on rolled beams.

Fabricators having CBr, SBr, or B-CMP certification may fabricate the following:

Expansion dams

Bridge drainage material

Welded bearings

Inspection walks

Steel grid flooring

Overhead sign structures

Welded sound barrier supports

Bridge railing

Pedestrian railing

Structure mounted guide rail

Welded protective barrier

Traffic, lighting or camera poles

AISC certification is not required for the following:

Castings, forgings, and machined parts not welded

Non metallic bearings

Protective fence

Material not requiring shop fabrication or shop welding, such as plates and shapes for strengthening existing bridges and manufactured items accepted by certification

Prequalification of 'machine shops' (who provide services and materials to approved fabricators) for listing in Bulletin 15 is required. Approved fabricators are not required to prequalify as machine shops. Approved machine shops may perform one or more of the following operations[3]:

- Cutting or shearing materials to finish size
- Grinding
- Drilling or punching
- Cold bending
- Machining
- Flattening

Note 3: Individual shop operations may be limited. Refer to Bulletin 15 for limitations.

(b) Standard Reference. Section 105.04

(c) Shop Drawings. Section 105.02 and as follows:

Bridge members and other structures are generally designed in lengths, depths, and widths that can be transported from the fabrication source to the project. Field splices, if required, must be indicated and detailed on the shop drawings. If required by the District Executive, submit design computations prepared by a Professional Engineer registered in the State according to the Design Manual, Part 4, Structures. The District Executive will not review requests for elimination of field splices unless a notice is included from the Bureau of Maintenance and Operations that a hauling permit can be obtained to ship beams exceeding the dimensions shown on the structure drawings.

(d) Erection Drawings. Section 1050.3(c)2.d

(e) Inspection.

1. General. The MTD will oversee and manage in-plant Quality Assurance inspection. The fabricator is responsible for notifying their assigned consultant inspection firm a minimum of 48 hours (excluding weekends and holidays) before the beginning of work so that arrangements can be made for inspection.

The Representative may waive shop inspection and make a complete inspection at a later stage in the construction sequence. Furnish certified mill reports, in duplicate, covering the structural steel used.

2. Facilities for Inspection. Furnish necessary facilities for the inspection of material and workmanship. Furnish an Inspector's Field Office, Type C, as specified in Section 714.5(a), except provide a four drawer, fire resistant (D label) metal file cabinet in place of a two drawer, fire resistant (D label) metal file cabinet. Allow inspectors employed by the Department unrestricted access to work in process and stored material during plant working hours.

3. Plant Inspector's Authority. Plant Inspectors have the authority to reject any material or work not conforming to the requirements of these Specifications. In case of dispute, the Contractor may appeal to the Representative, whose decision will be final.

4. Rejections. Material, workmanship, or finished members accepted by the inspector at the shop may be rejected later if they do not conform to the specifications. Repair or replace rejected material or members.

5. Testing. If directed, furnish test specimens of material, as well as equipment, tools, and labor necessary to prepare the specimens and to make the tests.

6. Mill Orders and Shipping Statements. Furnish copies of mill orders and shipping statements as directed. Show the weights of the individual members on the statement. Ensure that the fabricator submits a copy of the shipping invoice to the Department's Shop Inspector to be stamped for verification of inspection and acceptance of steel items before shipment. Forward the stamped copy of the shipping invoice with the shipment for the project file. The Shop Inspector will review and accept mill certifications and return them to the fabricator.

(f) Storage of Materials. Section 106.05 and as follows:

> Place materials stored aboveground on platforms, skids, or other supports. Place and support materials to avoid overstress, deformation, or damage. Exercise special care for curved members. Keep materials free from dirt, grease, and other foreign materials. Ensure proper drainage and protect materials from corrosion.

(g) QC.

1. General. Establish and maintain a level of QC based on uniform fabrication practices. Do not initiate fabrication without an approved QC plan.

2. QC Plan. Shops seeking prequalification must submit a QC Plan to the Chief Structural Materials Engineer, MTD, for review and approval. Develop the plan in accordance with the criteria established in AASHTO-NSBA Steel Bridge Collaboration document S4. 1-2002 "Steel Bridge Fabrication QC/QA Guide Specification" (refer to Publication 135 for an outline of the QC plan criteria). Facilities performing welding that require non-destructive testing must submit their written practice according to the current version of ASNT- SNT-TC-1A. Pre-qualified shops must submit an updated QC Plan to the Chief Structural Materials Engineer, MTD, if there are any changes in materials, processes, or personnel.

3. QC Personnel. Assign sufficient qualified personnel with structural steel and/ or aluminum fabrication experience to be responsible for QC during the fabrication process, storage, and shipment. Do not proceed with fabrication until qualified QC personnel are present and approved by the Department. Provide an AWS Certified Welding Inspector (CWI) on site as the Fabricator's designated QC Representative to oversee all processes of fabrication that involve welding, application of heat, or straightening of material.

1105.02 MATERIAL—

(a) Structural Steel and Aluminum.

1. General. AASHTO M 160/M 160M (ASTM A 6/A 6M)

2. Carbon Steel. AASHTO M 270/M 270M (ASTM A 709/A 709M), Grade 250 (Grade 36), ASTM A 36, ASTM A992 (Structural Steel Shapes).

2.a Cold Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes. ASTM A 500/A500M, Grade A, B, or C.

2.b Hot Formed Welded and Seamless Carbon Steel Structural Tubing. ASTM A 501

3. High-Strength Low Alloy Structural Steel for Welding.

3.a High Strength Low Alloy, Quenched and Tempered Structural Steel Plate. AASHTO M 270/ M 270M (ASTM A 709/ A 709M), Grade HPS 485W (Grade HPS 70W).

3.b High-Strength Low-Alloy TMCP Structural Steel Plate. AASHTO M 270/M 270M (ASTM A 709/A 709M), Grade HPS 485W (Grade HPS 70W), up to 2 inches thick.

3.c High Strength Low Alloy Structural Steel. AASHTO M 270/M 270M (ASTM A 709/A 709M), Grades 345 or 345W (Grades 50 or 50W), ASTM A 572, Grade 345 (Grade 50), of a quality suitable for welding.

3.d High Strength Low Alloy Columbium Vanadium Steel of Structural Quality. AASHTO M 270/ M 270M (ASTM 709/ A 709M), Grade 345 (Grade 50), ASTM A 572, Grade 345 (Grade 50).

3.e High Strength Low Alloy Structural Steel with 50,000 pounds per square inch Minimum Yield Point to 4 inches Thick. AASHTO M 270/M 270M (ASTM A 709/A 709M), Grade 345W (Grade 50W), ASTM A 588 (Grades A, B, and C only[4]).

Note 4: Plate thicknesses greater than 4 inches are required to conform to the physical properties listed in the specification for plate thicknesses 4 inches and under.

3.f High Yield Strength, Quenched and Tempered Alloy Steel Plate.

3.f.1 High Yield Strength, Quenched and Tempered Alloy Steel Plate, Suitable for Welding. AASHTO M 270/M 270M (ASTM A 709/A 709M), Grades 690 or 690W (Grades 100 or 100W).

3.f.2 High Strength Alloy Steel Plates, Quenched and Tempered, for Pressure Vessels. ASTM A 517/A 517M. Conforming to the supplementary notch toughness requirements of AASHTO M 244/M 244M-1996.

3.f.3 Quenched and Tempered Alloy Steel Structural Shapes and Seamless Mechanical Tubing. Products conforming to all of the mechanical and chemical requirements of ASTM A 709/A 709M, Grades 690 or 690W (Grades 100 or 100W) steel, except with a maximum tensile strength of 140,000 pounds per square inch for structural shapes and 145,000 pounds per square inch for seamless mechanical tubing, are to be considered as ASTM A 709/A 709M.

3.g Stainless Steel. As indicated on the plans. Use only prequalified base metals listed in AWS D1.6/D1.6M – 2007.

4. Aluminum. As indicated on the plans. Use only prequalified based metals listed in AWS D1.2/D1.2M – 2008.

5. Supplemental Requirements for Notch Toughness. Provide structural steel conforming to the supplementary notch toughness requirements for the longitudinal Charpy V notch tests specified for Zone 2 of the applicable AASHTO Materials Specifications. Unless otherwise indicated, the supplemental requirements are mandatory for the following load-carrying member components subject to tensile stress:

- Rolled shapes
- Webs
- Tension flanges of built up beams
- Beam splice material
- Truss members and gusset plates attached to such truss members.
- Diaphragms, X frames, bracing, and connecting plates for curved girder bridges or straight girder bridges if the skew is less than 70 degrees.

The requirements are not mandatory for:

- Stiffeners
- Drainage material
- Expansion dams
- Bearings
- Other secondary material
- Diaphragms, X frames, bracing, and connecting plates for straight girder bridges if the skew is 70 degrees or greater, or unless otherwise indicated as requiring notch toughness.

If directed, provide samples for Charpy V Notch testing from steel used in fabricating fracture-critical plates and shapes. Submit the samples to the Chief Structural Materials Engineer, 81 Lab Lane, Harrisburg, PA. 17110. Obtain the samples from plates delivered to the fabricator.

(b) Bedding Material for Bridge Shoes. Section 1113.03(h)

(c) Bolts, Nuts, and Washers. From a manufacturer listed in Bulletin 15 and as follows, unless otherwise indicated or specified:

1. Bolts for General Application.

- ASTM F 568, Class 4.6
- ASTM A 307, Grade A

1.a Nuts.

- ASTM A 563, Hex Nut, Style 1
  - M16 to M36, Class 5
- ASTM A 563, Heavy Hex
  - M42 to M100, Class 5
- ASTM A 536, Heavy Hex
  - All Diameters, Class A

1.b Washers. ASTM F 436 or ANSI B18.22M

2. Anchor Bolts. AASHTO M 270/M 270M (ASTM A 709/A 709M), Grade 250 (Grade 36), anchor bolts (headed or non-headed, either straight or bent) and cap screws, hot-dip or mechanically galvanize as specified in Section 1105.02(s).

2.a Nuts. ASTM A 563

2.b Washers. ASTM F 436

3. Anchor Bolts. ASTM F 1554, Grades 36, 55, 105, anchor bolts (headed or non-headed, either straight or bent) and cap screws (fully threaded shank), hot-dip or mechanically galvanize as specified in Section 1105.02(s).

3.a Nuts. ASTM A 563

3.b Washers. ASTM F 436

(d) High Strength Bolts. Use bolts, nuts, and washers mechanically galvanized as specified in Section 1105.02 (s), unless otherwise indicated or specified. For AASHTO M 270/M 270M (ASTM A 709/A 709M), Grade 345W (Grade 50W) steel, unpainted, use bolts, nuts, and washers conforming to atmospheric corrosion resistance requirements of AASHTO M 270/M 270M (ASTM A 709/A 709M), Grade 345W (Grade 50W). Use mechanically galvanized bolts, nuts, and washers on painted portions of weathering steel structures.

Provide high strength, carbon steel bolts; suitable nuts; and plain hardened washers for structural joints from a manufacturer listed in Bulletin 15, and, unless otherwise indicated or specified, conforming to the following requirements:

1. Identifying Marks. Identify bolts manufactured to AASHTO M 164 (ASTM A 325) and nuts manufactured to specifications referenced in AASHTO M 164 (ASTM A 325) by specific markings on the top of the bolt head and on the face of the nut. Identify the bolt strength grade by the symbol “A325,” the bolt manufacturer, and the bolt type using head markings. Identify the nut strength grade, the nut manufacturer, and, if Type 3, the nut type using nut markings.

Identify bolts manufactured to AASHTO M 253 (ASTM A 490) and nuts manufactured to specifications referenced in AASHTO M 253 (ASTM A 490) by specific markings on the top of the bolt head and on the face of the nut. Identify the bolt strength grade by the symbol “A490”, the bolt manufacturer, and the bolt type. Identify the nut strength grade, the nut manufacturer, and, if Type 3, the nut type using nut markings.

Identify washer manufacturer and, if Type 3, the washer type using washer markings.

2. Dimensions. Ensure bolt and nut dimensions conform to the requirements for Heavy Hex Structural Bolts and for Hex Nuts, Heavy given in ANSI Standards B18.2.1 and B18.2.2, respectively.

3. Bolts. AASHTO M 164 (ASTM A 325), except as amended and revised below:

Provide a lot number on the supplier's certification corresponding to that appearing on the shipping package and certification Form CS-4171. Note on the supplier's certification when and where all testing was done, including the rotational capacity tests specified. If galvanized bolts are used, include zinc thickness on the supplier’s certification.

Furnish bolts with diameters of 1/2 inch to 1 inch inclusive, and a hardness of 24 to 33 HRC. Provide black bolts “oily” to the touch when installed.

4. Nuts. AASHTO M 292/M 292M (ASTM A 194/A 194M) or AASHTO M 291 (ASTM A 563), as applicable.

Provide galvanized, heat-treated nuts, Grade 2H, DH, or DH3, and mechanically galvanized nuts as specified in Section 1105.02 (s) (AASHTO M 232 or AASHTO M 298).

Provide plain (ungalvanized) nuts, which are Grade 2, C, D, or C3, having a Rockwell Hardness of 89 HRB; or heat-treated, Grade 2H, DH, or DH3.

Lubricate all galvanized nuts. Use a lubricant containing a dye of any color that contrasts with the color of the galvanizing so that a visual check can be made for the lubricant at the time of field installation.

Furnish nuts to be galvanized that are tapped oversize the minimum amount required to allow assembly on the bolt thread in the coated condition. Ensure nuts conform to the requirements of AASHTO M 291 (ASTM A 563) and the rotational capacity test specified.

5. Washers. AASHTO M 293 (ASTM F 436), unless otherwise indicated. When indicated, galvanize as specified in Section 1105.02(s) (AASHTO M 232 or AASHTO M 298).

6. Direct Tension Indicator (DTI) Devices. ASTM F 959 and as follows:

Provide Direct Tension Indicator (DTI) devices having a hardness not greater than 35 HRC and within ±2 HRC and 0.75 standard deviation of the lot’s target HRC (as indicated on the CS-4171 certification provided by the manufacturer). Furnish plain DTI devices for use with plain bolts, and, if galvanized bolts are indicated or specified, provide galvanized DTI devices. Galvanize as specified in Section 1105.02(s) (ASTM B 695).

In addition to the bolt tension tests specified in ASTM F 959, test plain finish DTI devices a second time by applying the compression load until the average gap measures 0.005 inch. Ensure that the loading remains within the acceptable range according to Table 3 of ASTM F 959 for the applicable type.

Ship each lot in protective containers marked with the type, lot number, quantity, and total lot size. Include a copy of the certification with each shipment.

Handle and store DTI devices according to the manufacturer's recommendations.

Obtain a minimum of eight samples from each lot according to PTM No. 1 for testing at the MTD.

7. Testing. Test bolts, nuts, washers, and assemblies as follows:

7.a Bolts. Perform proof load tests according to ASTM F 606, Method 1, at the minimum frequency specified in AASHTO M 164 (ASTM A 325), Section 9.2.4.

Perform wedge tests on full size bolts according to ASTM F 606, Section 3.5. If bolts are to be galvanized, perform testing after galvanizing. Use the minimum testing frequency specified in AASHTO M 164 (ASTM A 325), Section 9.2.4.

If galvanized bolts are supplied, determine the thickness of zinc coating by taking measurements on the wrench flats or top of bolt head.

7.b Nuts. Perform proof load tests according to ASTM F 606, Section 4.2, at the minimum frequency specified in AASHTO M 291 (ASTM A 563), Section 9.3, or AASHTO M 292/M 292M (ASTM A 194/A 194M), Section 7.1.2.1. If nuts are to be galvanized, perform testing after galvanizing, overtapping, and lubricating.

If galvanized nuts are supplied, determine the thickness of zinc coating by taking measurements on the wrench flats.

7.c Washers. If galvanized washers are supplied, perform hardness testing after galvanizing. Remove the galvanized coating before taking hardness measurements.

If galvanized washers are supplied, measure the thickness of zinc coating.

7.d Assemblies. Perform rotational-capacity tests on all black or galvanized bolt, nut, and washer assemblies before shipping. Test galvanized assemblies after galvanizing. Washers are required as part of the test, even if not required as part of the installation procedure. Perform the rotational-capacity test according to AASHTO M 164 (ASTM A 325), except as modified below:

- For long bolts or bolts too short to fit the tension calibrator, test according to PTM No. 427.
- Test each bolt production lot, nut lot, and washer lot in combination as an assembly. If washers are not required as part of the installation procedure, do not include in the lot identification
- Assign a rotational-capacity lot number to each combination of lots tested.
- Test a minimum of two assemblies per rotational-capacity lot
- Test the bolt, nut, and washer assembly in a Skidmore Wilhelm Calibrator or an equivalent approved device.

8. Documentation. Report the results of all tests (including zinc coating thickness) on the appropriate test report as required in the applicable AASHTO or ASTM standards and as specified below. Report the location where tests were performed and date of testing. Ensure that the manufacturer or distributor performing tests certifies that the results recorded are accurate.

8.a Mill Test Report (MTR). Furnish a MTR for all mill steel used in manufacturing bolts, nuts, and washers. Indicate where the material was melted and manufactured.

8.b Manufacturer Certified Test Report (MCTR). Provide a MCTR for each item furnished. Ensure that the manufacturer performing the rotational-capacity test include the following on the MCTR:

- The Lot Number of each of the items tested.
- The Rotational-Capacity Lot Number.
- The results of required tests.
- The location where tests were performed and date of testing.
- Certification that the MCTR's for the items conform to this specification and the applicable AASHTO or ASTM standards.
- The location where the bolt, nut, and washer assembly components were manufactured.

8.c Distributor Certified Test Report (DCTR). Ensure that the distributor performing tests furnish a certified test report including the following:

- The MCTR for the various bolt, nut, and washer assembly components.
- The results of all required tests, including the rotational-capacity test if performed by the distributor instead of the manufacturer.
- The location where tests were performed and date of testing.
- The Rotational-Capacity Lot Number.

- Certification that the MCTR's conform to this specification and the applicable AASHTO or ASTM standards.

(e) Welded Stud Shear Connectors.

1. Materials. Provide shear connector studs conforming to AASHTO M 169 (ASTM A 108), cold drawn bars, Grade 1015, 1018, or 1020, either semi-or fully-killed. If flux retaining caps are used, furnish caps of low carbon grade steel suitable for welding and conforming to ASTM A 109/A 109M.

2. Testing. Determine tensile properties of either bar stock after drawing or of finished studs according to the applicable sections of ASTM A 370. Perform tensile tests of finished studs on studs welded to test fixture similar to that shown in Figure 7.2 of AASHTO/AWS Bridge Welding Code D1.5-/D1.5M - 2008. If fracture occurs outside of the middle half of the gage length, repeat the test.

The required tensile properties are:

Tensile Strength 60,000 psi (min.)

Yield Strength* 50,000 psi (min.)

Elongation 20% in 2 inches (min.)

Reduction of area 50% (min.)

*As determined by a 0.2% offset method.

3. Finish. Provide finished studs of uniform quality and condition, free from injurious laps, fins, seams, cracks, twists, bends, or other injurious defects. Produce finish by cold drawing, cold rolling, or machining.

4. Certification. Provide the manufacturer's certification that the studs, as delivered, conform to the material requirements of this section. Furnish certified copies of in-plant QC test reports to the Representative upon request.

5. Check Samples. If required, provide check samples of studs of each type and size used under the contract. The Representative will select the samples.

(f) Steel Forgings and Steel Shafting.

1. Steel Forgings. Furnish steel forgings conforming to AASHTO M 102 (ASTM A 668/A 668M), Classes C, D, F, or G.

2. Cold Finished Carbon Steel Shafting. Furnish cold-finished carbon steel shafting conforming to AASHTO M 169 (ASTM A 108), UNS Designations G10160-G10300, inclusive, unless otherwise indicated or specified.

(g) Steel Castings.

1. Mild Steel Castings. Furnish steel castings for use in highway bridge components conforming to AASHTO M 103/M 103M (ASTM A 27/A 27M). Provide steel of Class 485 (Class 70) or Grades 485-250 (Grades 70-36), respectively, unless otherwise indicated or specified.

2. Chromium Alloy Steel Castings. Furnish chromium, alloy-steel castings conforming to AASHTO M 163/M 163M (ASTM A 743/A 743M), Grade CA-15, unless otherwise indicated or specified.

3. Workmanship and Finish. Furnish castings true to pattern in form and dimensions, free from pouring faults, sponginess, cracks, blow holes, and other defects in positions affecting the castings' strength and value for the service intended. Provide boldly filleted angles and sharp and perfect arrises.

The Contractor may correct defects not affecting the strength and value of the casting for the service intended if allowed in writing by the Chief Bridge Engineer. The Representative may reject castings containing:

- A blow hole having a length greater than 1 inch, a cross sectional area greater than 1/2 square inch, or a depth greater than 1/2 inch.

- A group of holes in a straight line with a total length greater than or equal to 1 foot, measured on the surface of the casting, and with an aggregate length greater than 1 inch.

4. Testing.

4.a Major Castings. Major castings are those subject to high loading whose failure in service would cause major damage (e.g., bridge bearings or machinery parts in movable bridges). All castings over 1,000 pounds are major castings. Test major castings by radiographing with x ray or gamma ray apparatus according to ASTM E 186, E 280 or E 446, as applicable, and according to Table A below.

4.b Minor Castings. Minor castings are those whose failure would not lead to failure of main bridge members (e.g., scuppers or gratings). Test minor castings by suspending them and hammering them all over.

4.c Rejection. The Representative may reject castings that contain cracks, flaws, or other defects that appear during or after testing.

(h) Iron Castings.

1. Gray Iron Castings. Furnish gray iron castings conforming to AASHTO M 105 (ASTM A 48/A 48M), Class 225B (35B), unless otherwise indicated or specified.

For castings subject to traffic loads furnish gray iron castings conforming to AASHTO M 105 (ASTM A 48/A 48M), Class 225B (35B) and AASHTO M306, unless otherwise indicated or specified.

2. Malleable Iron Castings. Furnish malleable iron castings conforming to ASTM A 47/A 47M, Grade 22010 (32510), unless otherwise indicated or specified.

3. Ductile Iron Castings. Furnish ductile iron castings conforming to ASTM A 536, Grade 60-40-18, unless otherwise indicated or specified. In addition to the specified test coupons, test specimens from parts integral with the castings, such as risers, for castings having a weight more than 1,000 pounds. Ensure that the required quality is obtained in the castings in the finished condition.

TABLE A

Severity Levels - Radiographically Inspected Castings*

Specification ASTM Designation	**Discontinuity Type Designation**	**Acceptable** Severity Level**	**Remarks**
E 466 up to 2 inches	A	3	
	B	3	
	C-1	3	
	C-2	3	
	C-3	3	
	C-4	3	

	D	-	None Allowed
	E	-	None Allowed
	F	-	None Allowed
	G	-	None Allowed
E 186 2 inches to 4 1/2 inches	A	3	
	B	3	
	C-1	2	
	C-2	3	
	C-3	3	
	D	-	None Allowed
	E	-	None Allowed
	F	-	None Allowed
E 280 4 1/2 inches to 12 inches	A	3	
	B	3	
	C-1	2	
	C-2	3	
	C-3	3	
	D	-	None Allowed
	E	-	None Allowed
	F	-	None Allowed

* Radiograph all critical areas, but not less than 25% of each casting, or 25% of all castings, as indicated or as directed.

** If unacceptable defects are found in more than 10% of the radiographs, radiograph 100% of castings until the accumulated rejection level falls to 10% or less. The Contractor may then resume testing 25% of castings.

4. Workmanship and Finish. Furnish iron castings true to pattern in form and dimensions, free from pouring faults, sponginess, cracks, blow holes, and other defects in positions affecting the castings' strength and value for the service intended. Provide boldly filleted angles and sharp and perfect arises.

5. Cleaning. Remove scale and sand from all castings to provide a smooth, clean, and uniform surface.

(i) Bronze Bearing and Expansion Plates. AASHTO M 107 (ASTM B 22), Alloy No. C91100 or C91300, except with a maximum of 2 1/2% lead, unless otherwise indicated or specified.

If indicated, make surfaces permanently self lubricated. Provide a coefficient of friction of less than 0.10 or as indicated.

(j) Steel Pipe.

1. Pipe and Couplings. ASTM A 53

2. Flanges and Pipe Fittings. ASTM A 338

3. Welded Fittings. ASTM A 234/A 234M

4. Threaded Parts. Apply one coat of primer to all threads immediately before assembly. Wipe clean after assembly.

(k) Low Alloy Steel Pipe.

1. Pipe and Couplings. Manufactured from low alloy steel AASHTO M 270/M 270M (ASTM A 709/A 709M), Grade 345 or 345W (Grade 50 or 50W), Type 2 or AASHTO M 270/M 270M (ASTM A 709/A 709M) Grade 345W (Grade 50W), and conforming to either ASTM A 53, or to ASTM A 714, Class 4, Grade V.

2. Flanges and Pipe Fittings. ASTM A 338

3. Welding Fittings. ASTM A 234/A 234M

4. Threaded Parts. Apply one coat of primer to all threads immediately before assembly. Wipe clean after assembly.

(l) Not Used.

(m) Steel Tubing. ASTM A 500 or ASTM A 501

(n) Cast Iron Pipe. ASTM A 74 or ASTM A 377

(o) Not Used.

(p) Sheet Copper. AASHTO M 138/M 183M (ASTM B 152/B 152M), and conforming to the requirements of the Embrittlement Test, Section 12 of AASHTO M 138/M 138M (ASTM B 152/B 152M) and ASTM B 577.

Make lapped joints by soldering or by riveting and soldering.

(q) Sheet Zinc. ASTM B 69, Type II.

Make lapped joints by soldering.

(r) Sheet Lead. Common desilverized lead A, as specified for pig lead, ASTM B 29.

(s) Galvanizing. From a galvanizer listed in Bulletin 15 and as follows:

1. General. If indicated or specified, galvanize materials as specified in the applicable material specifications. If the applicable material specifications do not include galvanizing, galvanize according to ASTM A 53; ASTM B 633; ASTM A 392, Class 2 coating; ASTM B 695 and B 696 (AASHTO M 298 and M 299); ASTM A 123 (AASHTO M 111); or ASTM A 153 (AASHTO M 232), as applicable.

Test for the specified weight of galvanizing according to ASTM A 90/A 90M (AASHTO T 65).

Comply with ASTM A 143 and ASTM A 385.

2. Repair of Damaged Galvanizing. After erecting galvanized material in place, repair in accordance with ASTM A 780/A 780M.

3. Quenching after Galvanizing. Quenching after galvanizing is allowed for the following items:

Non-welded secondary bridge members

Railings

Drainage Scuppers

Downspouts

Inlet grates

Utility brackets

Angle Supports

Embedded plates

Quenching after galvanizing is not allowed for the following items without approval of the Engineer:

Primary bridge members

Welded secondary members

Sign Structures

Traffic and lighting poles

Any member to be painted after galvanizing

Items not listed may not be quenched without approval of the Engineer.

(t) Welding Material. AASHTO/AWS D1.5 2008 Bridge Welding Code, modified as specified in Section 1105.03(m)1.

(u) Paint. Section 1060.2

(v) Certification. Section 106.03(b)3

(w) Eyebars. Furnish a weldable grade of steel for eyebars. Acceptable grades include:

- Structural steel for bridges, AASHTO M 270/M 270M (ASTM A 709/A 709M), Grade 250 (Grade 36), ASTM A 36.
- Structural steel for bridges, AASHTO M 270/M 270M (ASTM A 709/A 709M), Grades 345 and 345W (Grades 50 and 50W), ASTM A 572, Grade 345 (Grade 50), ASTM A 588, Grades A, B, and C only.

1105.03 FABRICATION—

(a) Straightening Material and Curving Rolled Beams and Welded Girders. Section 1050.03(c)5 and as follows:

1. Materials. Do not heat straighten or heat curve steels that are manufactured to a specified minimum yield point greater than 50,000 pounds per square inch without approval.

2. Type of Heating. Curve beams and girders by either continuous or V-type heating, unless otherwise approved.

2.a Minimum Radius of Curvature. For heat-curved beams and girders, the horizontal radius of curvature measured to the centerline of the girder web cannot be less than 150 feet and cannot be less than the larger of the values calculated from the following two equations:

$R = 14bD/(\sqrt{(F_{yw}}\ )\ \Psi t_w\ )$

$R = 7{,}500b/(F_{yw}\ \Psi)$

where:

t_w = thickness of the web (inches)

Ψ = ratio of the total cross-sectional area to the cross-sectional area of both flanges

b = widest flange width (inches)

D = clear distance between flanges (inches)

F_{yw} = specified minimum yield strength of a web (kips per square inch)

R = radius of curvature (inches)

In addition to the above requirements, the radius cannot be less than 1,000 feet when the flange thickness exceeds 3.0 inches or the flange width exceeds 30.0 inches.

2.b Continuous Heating. For the continuous method, heat a strip or intermittent strips along the edge of the top and bottom flange approximately simultaneously depending on flange widths and thicknesses. Use a strip of sufficient width and temperature to obtain the required curvature.

2.c V-type Heating. For the V-type heating, heat the top and bottom flanges in truncated triangular or wedge-shaped areas having their base along the flange edge and spaced at regular intervals along each flange. Use the spacing and temperature necessary to obtain the required curvature and to allow heating to progress along the top and bottom at approximately the same rate. Terminate the apex of the truncated triangular area applied to the inside flange surface just before the junction of the web and the flange is reached. When heating the inside flange surface (the surfaces that intersect the web), do not apply heat directly to the web. If the radius of curvature is 1,000 feet or more, extend the apex of the truncated triangular heating pattern applied to the outside flange surface to the juncture of the flange and web. If the radius of curvature is less than 1,000 feet, extend the apex of the truncated triangular heating pattern applied to the outside flange surface past the web for a distance equal to one-eighth of the flange or 3 inches, whichever is less. For the truncated triangular pattern, provide an included angle of approximately 15 to 30 degrees, but do not exceed 10 inches for the base of the triangle. Do not make variations in the patterns prescribed above unless permitted.

For both types of heating, heat the flange edges that will be on the inside of the horizontal curve after cooling. Heat both the inside and outside flange surfaces only if the flange thickness is 1 1/4 inches or greater. Heat the two surfaces concurrently.

3. Temperature. Conduct the heat-curving operation in such a manner that the steel temperature does not exceed 1,150F as measured by temperature indicating crayons or other suitable means. Do not artificially cool the girder until after it naturally cools to 600F. Obtain approval for the method of artificial cooling.

4. Position for Heating. Heat-curve the girder with the web in either a vertical or a horizontal position.

If curved in the vertical position, brace or support the girder in such a manner that the tendency of the girder to deflect laterally during the heat-curving process will not cause the girder to overturn.

If curved in the horizontal position, support the girder near its ends and at intermediate points, as necessary, to obtain a uniform curvature. Do not allow the bending stress in the flanges due to the dead weight of the girder to exceed the usual allowable design stress. Maintain intermediate safety catch blocks at the mid-length of the girder within 2 inches of the flanges at all times during the heating process to guard against a sudden sag due to plastic flange buckling.

5. Sequence of Operations. Heat-curve the girder in the fabrication shop before it is painted. Conduct the heat curving operation either before or after all the required welding of transverse intermediate stiffeners is completed. However, unless provisions are made for girder shrinkage, locate and attach connection plates and bearing stiffeners after heat curving. If longitudinal stiffeners are required, heat-curve or oxygen-cut them separately and then weld them to the curved girder. When cover plates are to be attached to rolled beams, attach them before heat curving if the total thickness of one flange and cover plate is less than 2 1/2 inches and the radius of curvature is greater than 1,000 feet. For other rolled beams with cover plates, heat-curve the beams before the cover plates are attached; either heat-curve or oxygen-cut cover plates separately, then weld them to the curved beam.

6. Camber. Camber girders before heat curving. Obtain camber for rolled beams using approved heat-cambering or cold cambering methods. For plate girders, cut the web to the prescribed camber with suitable allowance for shrinkage due to cutting, welding, and heat-curving. However, if permitted, correct moderate deviations from specified camber by a carefully supervised application of heat. Correct deviations from the specified camber according to Publication 135.

7. Measurement of Curvature and Camber. Measure horizontal curvature and vertical camber after all welding and heating operations are completed and the flanges have cooled to a uniform temperature. Check horizontal curvature with the girder in the vertical position.

(b) Finish. Finish exposed work. Shear, flame cut, and chip carefully and accurately. Make sharp corners and round edges by grinding or other acceptable means.

When AASHTO M 270/M 270M (ASTM A 709/A 709M), Grade 345W (Grade 50W), Grade 485W (Grade HPS 70W), ASTM A 588, Grades A, B, and C only steel is specified for beams or girders, blast clean only the fascia side of exterior beams or girders in the field according to SSPC-SP6-85, Commercial Blast Cleaning. Blast clean from the top outside (fascia) edge of the top flange to the inside edge of the bottom flange including the bottom of the bottom flange. Blast clean the faying surfaces of splices and connections of all structural elements according to SSPC-SP-1085. Reblast unpainted elements that remain unassembled for a period of 12 months following the initial cleaning.

(c) Bolt Holes.

1. General. Unless otherwise specified, only punch or drill holes for bolts as indicated below.

Unless subpunching and reaming are specified in Section 1105.03(d), punch material forming parts of a member composed of not more than five thicknesses of metal 1/16 inch larger than the nominal diameter of the bolts whenever the thickness of the material is not greater than 3/4 inch for structural steel, 5/8 inch for high-strength steel or 1/2 inch for quenched and tempered alloy steel. If there are more than five thicknesses or if any of the main material is thicker than 3/4 inch for structural steel, 5/8 inch for high-strength steel, or 1/2 inch for quenched and tempered alloy steel, either subdrill and ream or drill all holes full size.

When specified, either subpunch (or subdrill if thickness limitation governs) all holes 3/16 inch smaller than the nominal diameter of the bolts and, after assembling, ream to 1/16 inch larger than the nominal diameter of the bolts, or drill all holes full size to 1/16 inch larger than the nominal diameter of the bolts.

When indicated, provide enlarged or slotted holes with high-strength bolts.

2. Punched Holes. Furnish dies with diameters that do not exceed the diameter of the corresponding punch by more than 1/16 inch. Ream any holes that must be enlarged to admit the bolts. Cut holes clean without torn or ragged edges.

3. Reamed or Drilled Holes. Furnish reamed or drilled holes perpendicular to the member, cylindrical, and conforming to the size requirements specified in Section 1105.03(c)1. Where practical, direct reamers by mechanical means. Remove burrs on the outside surfaces. Use twist drills, twist reamers, or rotobroach cutters for reaming and drilling. Assemble and securely hold connecting parts while they are being reamed or drilled. Match mark the connecting parts before disassembling.

4. Accuracy of Holes. Furnish holes not more than 1/32 inch larger in diameter than the true decimal equivalent of the nominal diameter. The slightly conical hole that results from punching operations is acceptable. Ensure that the width of slotted holes produced by flame cutting or a combination of drilling and flame cutting or punching and flame cutting are not more than 1/32 inch greater than the nominal width. Grind the flame cut surface smooth.

5. Numerically-Controlled Drilled Field Connections. Instead of reaming sub-sized holes or drilling full-sized holes while assembled, the Contractor may use numerically controlled (N/C) drilling or punching equipment to drill or punch full-sized bolt holes in unassembled pieces, connections, and templates for use with matching sub-sized and reamed holes. The Contractor may use N/C equipment to either drill or punch holes through individual pieces or drill through any combination of pieces held tightly together. Full-size punched holes shall meet the requirements of Section 1105.03(c)2.

If N/C drilling or punching equipment is used, demonstrate the accuracy of the drilling or punching procedure by means of check assemblies as specified in Section 1105.03(g).

6. Holes for Turned Bolts or Other Approved Bearing Type Bolts. Subpunch or subdrill all holes 3/16 inch smaller than the nominal diameter of the bolt for turned bolts or other approved bearing-type bolts. After assembling, either ream, drill to a steel template, or drill from the solid. Provide a driving fit for the finished holes as indicated or as specified in the special provisions.

(d) Preparation of Field Connections. Unless otherwise approved, prepare bolt holes for field connections and field splices as follows:

- Field connections and field splices of main members of trusses, arches, continuous beam spans, bents, towers (each face), plate girders, and rigid frames – subpunch or subdrill and subsequently ream while assembled or drill full size through a steel template while assembled.
- Field splices of rolled beam stringers continuous over floor beams or cross frames – the fabricator may drill full size unassembled to a steel template.
- Floor beams or cross frames – the fabricator may drill full size unassembled to a steel template.
- Floor beam and stringer field end connections – subpunch and ream while assembled or drill full size to a steel template while assembled.
- For any connection, instead of subpunching and reaming, or subdrilling and reaming, the fabricator may drill holes full size with all thicknesses of material assembled in proper position.

When using a steel template, ream and drill full size all field connection holes through the template after the template has been placed in the proper position and angle and firmly bolted into place. Use templates that are exact duplicates for reaming matching members or the opposite faces of a single member. Accurately locate templates used for connections on like parts or members so that the parts or members are duplicates and require no match-marking.

(e) Accuracy of Hole Group.

1. Accuracy Before Reaming. Punch full size, subpunch, or subdrill holes such that after assembling, and before any reaming is done, a cylindrical pin 1/8 inch smaller in diameter than the nominal size of the hole may be entered perpendicularly to the face of the member without drifting in at least 75% of the contiguous holes in the same plane. The Representative will reject pieces that do not conform to this requirement. Also, the Representative may reject any piece that contains at least one hole that will not pass a pin 3/16 inch smaller in diameter than the nominal size of the hole.

2. Accuracy After Reaming. After holes are reamed or drilled, ensure that the offset between adjacent thicknesses of metal is no greater than 1/32 inch for at least 85% of the holes in any contiguous group.

For all steel templates, provide hardened steel bushings in holes accurately dimensioned from the centerlines of the connection as inscribed on the template. Use the centerlines to accurately locate the template from the milled or scribed ends of the members.

(f) Bolting. Clean surfaces of metal in contact before assembling. Assemble, pin, and firmly draw together the parts of a member before drilling, reaming, or bolting. If necessary, dismantle assembled pieces to remove burrs and shavings produced by the operation. Furnish members free from twists, bends, and other deformation.

When assembling, allow enough drifting to bring the parts into position, however, do not allow the drifting to enlarge the holes or distort the metal.

(g) Preassembly of Field Connections.

1. General. As necessary, preassemble field connections of main members of trusses, arches, continuous beams, plate girders, bents, towers and rigid frames before erection to verify the geometry of the completed structure or unit and to verify or prepare field splices.

Submit an appropriate method of preassembly for approval. Provide a method and details of assembly consistent with the erection procedure indicated on the approved erection plans and camber diagrams. At a minimum, provide a preassembly procedure consisting of assembling three contiguous panels accurately adjusted for line and camber. Provide a procedure for progressive assemblies consisting of at least one section or panel of the previous assembly (repositioned if necessary and adequately pinned to ensure accurate alignment) plus two or more sections or panels added at the advancing end. For structures longer than 150 feet, furnish a procedure for assemblies not less than 150 feet long regardless of the length of individual continuous panels or sections. The Contractor may start the sequence of assembly from any location in the structure and proceed in one or both directions provided that the preceding requirements are satisfied.

Use the Progressive Truss and Girder Assembly unless otherwise specified in the proposal.

2. Bolted Connections. For bolted connections, prepare holes as specified in Section 1105.03(c). Where applicable, assemble major components of compression members with milled ends in full bearing, and then ream the sub-sized holes to the specified size.

3. Check Assembly-Numerically Controlled Drilling. When using numerically controlled drilling, furnish a check assembly for each major structural type of each project unless otherwise indicated or specified in the special provisions. Provide check assemblies consisting of at least three contiguous shop sections or, for a truss, all members in at least three contiguous panels but not less than the number of panels associated with three contiguous chord lengths (i.e., length between field splices). Base check assemblies on the proposed order of erection, joints in bearings, special complex points, and similar considerations. Special complex points include the portals of skewed trusses.

Use the first sections of each major structural type to be fabricated as the check assemblies.

Obtain approval for each N/C drilled check assembly before reaming or dismantling the assembly. If a check assembly fails to demonstrate that the required accuracy is being obtained for camber, alignment, accuracy of holes, and fit of milled joints, the Representative may require additional check assemblies. Additional check assemblies will be at no additional cost to the Department.

4. Field Welded Connections. Preassemble field welded connections as specified in Section 1105.03(g)1 and verify the fit of members, including the proper space between abutting flanges.

(h) Match Marking. Match-mark connecting parts preassembled in the shop to ensure proper fit in the field. Furnish a diagram showing match-marks to the Representative.

(i) Connections Using Unfinished or Turned Bolts.

1. General. When unfinished bolts are specified, furnish unfinished or turned bolts conforming to ASTM A 307, Grade A Bolts. Provide bolts with single self-locking nuts or double nuts unless otherwise indicated or specified in the special provisions. Use beveled washers where bearing faces have a slope of more than 20:1 with respect to a plane normal to the bolt axis.

For bolted connections fabricated with high-strength bolts, assemble connections as specified in Section 1105.03(j).

2. Turned Bolts. Provide turned bolts with an ANSI roughness rating value of 125 for the surface of the body of the bolts. Furnish hexagonal heads and nuts with standard dimensions for bolts of the nominal size specified or the next larger nominal size. Provide thread diameters equal to the body of the bolt or the nominal diameter of the bolt specified. Carefully ream holes for turned bolts with bolts furnished to provide for a light driving fit. Furnish bolts with threads that are entirely outside of the holes. Provide a washer under the nut.

(j) Connections Using High Strength Bolts. Section 1050.3(c)7 and as follows:

1. General. Provide AASHTO M 164 (ASTM A 325) or equivalent high strength bolts. Furnish bolt holes as specified in Section 1105.03(c). When Turn-of-Nut Tightening Method is used, provide hardened washers as specified in Section 1105.02(d)5, under the element turned in tightening.

2. Bolted Parts. Use steel for all material within the grip of the bolt; do not use compressible material such as gaskets or insulation within the grip. Ensure that bolted steel parts solidly fit together after the bolts are tightened. Bolted steel parts may be coated or uncoated. Do not exceed a slope of 20:1 for the surfaces of parts in contact with the bolt head or nut with respect to a plane normal to the bolt axis.

3. Surface Conditions. At the time of assembly, ensure that all joint surfaces, including surfaces adjacent to the bolt head and nut, are free of scale (except tight mill scale), dirt, or other foreign material. Remove burrs that would prevent solid seating of the connected parts.

Paint is allowed on the faying surface in connections except for slip-critical connections as defined in Article 6.13.2.1.1 of the LRFD Specification. Prepare faying surfaces for slip-critical connections according to the following requirements, as applicable:

3.a Non-coated Joints. Exclude paint, including any inadvertent over spray, from the area within the bolt pattern and areas closer than one bolt diameter, but not less than 1 inch, from the edge of any hole.

3.b Joints with Painted Faying Surfaces. Blast clean joints specified to have painted faying surfaces. Except as specified in Section 1105.03(j)3.c, coat the joints with a Class A or B paint according to Section 6.13.2.8 of the LRFD Specification.

3.c Coatings with Low Slip Coefficient. If permitted, and provided that the mean slip coefficient is established (tested according to Section 6.13.2.8 of the LRFD Specification) and the allowable slip load per unit area is achieved, the Contractor may use a coating providing a slip coefficient less than 0.33.

3.d Minimum Coating Curing Time. Do not assemble coated joints before the coating has cured for the minimum time used in the qualifying test.

3.e Galvanized Faying Surfaces. Hot-dip galvanize faying surfaces specified to be galvanized according to AASHTO M 111 (ASTM A 123). Subsequently roughen galvanized surfaces by hand wire brushing. Do not roughen using power wire brushes.

3.f Existing Field Surfaces. For connections to existing structures, provide surface conditions according to the contract documents.

(k) Plate Cut Edges.

1. Edge Planing. Plane, mill, grind, or thermal cut to a depth of 3/16 inch the sheared edges of plates more than 5/8 inch thick that carry calculated stress.

2. Thermal Cutting. Section 1105.03(p)

3. Visual Inspection and Repair of Plate Cut Edges. Perform visual inspection and repair of plate cut edges according to the AASHTO/AWS Bridge Welding Code D1.5/D 1.5M – 2008.

(l) Not used.

(m) Welding. All Weld Procedure Specifications must be based upon Weld Procedure Specification (WPS) qualification tests, pre-tests and verification tests which have been performed not more than 60 months in advance of production welding. WPS qualification welding must be witnessed by a Department representative unless otherwise approved by the Chief Structural Materials Engineer.

For welding aluminum structures, conduct welding, welder qualification, prequalification of weld details and inspection of welds in accordance with AWS D1.2/D1.2M-2008. For the purpose of establishing weld acceptance criteria, define all welded aluminum structures as ‘Class II’ structures.

For welding sheet steel, conduct welding, welder qualification, prequalification of weld details and inspection of welds in accordance with AWS D1.3/D1.3M-2008.

For welding stainless steel or stainless steel to carbon steel, conduct welding, welder qualification, prequalification of weld details and inspection of welds in accordance with AWS D1.6/D1.6M-2007.

Unless otherwise indicated or specified, for tubular steel structures, conduct welding, welder qualifications, prequalification of weld details, and inspection of welds according to AASHTO/AWS D1.1/D1.1M-2008 subject to the following limitations:

- Use on low-hydrogen electrodes
- Provide a minimum preheat and interpass temperature of at least 50 F.

Conduct welding, welder qualifications, prequalification of weld details, and inspection of welds according to the AASHTO/AWS Bridge Welding Code D1.5/D1.5M-2008.

Do not weld or tack brackets, clips, shipping devices or other material not indicated or specified in the special provisions to any member unless shown on the shop drawings and approved.

1. Weld structural steel for highway bridges according to the AASHTO/AWS Bridge Welding Code D1.5/D1.5M-2008 with the following modifications:

- Section 1.1.3. Revise completely as follows:

  All references to acceptance or approval will denote acceptance or approval by the Engineer. The term Engineer refers to the Chief Bridge Engineer or the Chief Bridge Engineer's representative; namely, the Chief Structural Materials Engineer.

- Section 1.3.2. Delete this section.
- Section 1.3.6. Welding of Ancillary Products. Delete this section.
- Section 2.3.3. Plug and Slot Welds. Delete this section.
- Section 2.9. Details of Plug and Slot Welds. Delete this section.

- Section 2.17.6.1 Revise section sentence as follows:

  Design connections or splices made with fillet welds for the average of the calculated stress and the strength of the member, but no less than 75% of the strength of the member.

- Section 3.5.1.6(2). Revise completely as follows:

  Panels are designated as unstiffened (no intermediate stiffeners) in any location along the girder where the spacing of stiffeners, including diaphragm connection plates, exceeds 1.5 times the web depth for straight girders and 1.0 times the web depth for curved girders. Web flatness must be checked for conformance in all girder panels by the fabricator, and witnessed by the Department's agency inspector. Flatness variations exceeding the tolerance must be documented. Submit a repair procedure to the Chief Structural Materials Engineer for review and approval prior to repair.

- Section 3.5.1.9. Revise completely as follows:

  Fit bearing stiffeners as specified in Section 1105.03(u). Flatness tolerance of sole plates after welding as specified in Section 1111.03(c), Class B.

- Section 4.1.6. Delete this section.
- Table 4.2 Matching Filler Metal Requirements for WPSs Qualified in Accordance with 5.13. Delete all references to electroslag or electrogas welding.
- Clause 4 Part E, Electroslag Welding (ESW) and Electrogas Welding (EGW). Delete this part.
- Clause 4 Part F, Plug and Slot Welds. Delete this part.
- Section 5.3 Duration. Add the following:

  Unless directed.

- Section 5.14 Electroslag and Electrogas Welding. Delete this section.
- Table 5.4 Additional PQR Essential Variable Changes Requiring WPS Requalification for Electroslag or Electrogas Welding. Delete this table.
- Section 5.16.4. Delete Item (2).
- Section 5.19.5.2 ESW and EGW Specimens. Delete this section.
- Section 6.7.1. Revise completely as follows:

  Non-destructively test complete penetration groove welds as specified in Section 1105.03(m)8.

- Section 6.7.1.1. Delete this section.
- Section 6.7.1.2(2). Revise completely as follows:

  Twenty-five percent of each joint subject to compression or shear.

- Section 6.7.1.2(2)(d). Delete this section.
- Section 6.7.2.1 Revise the first sentence as follows

  At least 12 inches will be tested in every 10-foot length and 12 inches of such welds less than 10 feet in length of each size of weld and type joint in main members including the end connections of such members.

- Section 12.6. Consumable Requirements – Delete all references to optional supplemental diffusible hydrogen designator H16.

2. Do not weld to flanges in tension areas unless indicated.

3. Show specification, grade, type, and any supplementary requirements for each steel indicated on the shop drawings.

4. Do not weld temporary fabrication and construction details, such as rails for deck finishing equipment, bar supports, or deck forming devices, to beams, girders, or other main members, unless permitted. Identify locations of such welds on the shop drawings.

5. Do not use electroslag or electrogas welding.

6. Gas Metal Arc Welding (GMAW) and Flux Cored Arc Welding (FCAW) – Shop Application only.

6.a Main Load Carrying Bridge Members. Do not use the GMAW or FCAW processes (including tack welding except as otherwise approved herein) for any of the following conditions:

- web-to-web welds[5],
- web-to-flange welds[5],
- flange-to-flange welds[5], and
- welds on truss members and gusset plates[5].

Note 5: Including rolled shapes.

For stiffener and connection plate welds to flanges and webs and for X-frames and diaphragms considered main members, the fabricator may use the FCAW-G (gas shielded) process and the GMAW process, subject to the following restrictions:

- Use only GMAW spray and constant voltage pulsed spray transfer modes.
- Use only metal cored electrodes for GMAW on fracture critical members.
- Use only GMAW equipment with the following features:
  - A 'lock out' feature to prevent the operator from adjusting the equipment outside the approved WPS parameters.
  - An adaptive mode capable of automatically correcting amperage, etc. due to operator variations (stick-out, etc.) to maintain the desired transfer mode.

    For fracture critical members, only metal cored electrodes are allowed.

  - Single-pass GMAW tack welds and root passes are allowed for all joints on all main load carrying members provided the Contractor can demonstrate that such welds are completely re-melted by subsequent Submerged Arc Welding (SAW) passes.
  - Other applications may be allowed by the Engineer if prior approval is received.

6.b Secondary Members and Other Welded Structures. Either the GMAW or FCAW-G process may be used for welding bridge drainage material, expansion dams, bearings, bracing, those X-frames and diaphragms not considered main members, soldier piles, sound barrier posts, and other welded structures. Both Globular and Short Circuit GMAW transfer modes are prohibited unless otherwise specifically approved or specified.

7. Do not use plug welds to repair misplaced holes.

8. Non destructively test all groove welds in main members according to the AASHTO/ AWS Bridge Welding Code D1.5/ D1.5M-2008. Unless otherwise indicated or specified, use radiographic testing on butt joints. Use radiographic or ultrasonic testing for corner or "T" joints. Use magnetic particle testing according to AASHTO/AWS D1.5/D1.5M-2008, Section 6.7.2.

9. All welding consumables (electrodes and electrode/flux combinations) used for welding of fracture critical members will conform to the diffusible hydrogen requirements of the AWS filler metal specifications optional supplemental designator H4 or H8 only.

10. Perform weld repairs according to specified welding code and Department approved procedure(s). Do not repair individual locations more than three times without written permission of the Engineer. Following the third unsuccessful attempt, submit a proposed repair procedure for review.

11. Do not repair any individual area on welded pole to base or splice plate to chord or gusset plate connections for luminaire supports, traffic signal supports, and sign structure supports more than one time without written permission of the Engineer.

(n) Weld Repairs and Geometric Corrections using Applied Heat. For non-fracture critical members only, refer to Publication 135 for pre-approved base metal repair procedures and heat correction procedures. The fabricator may use the pre-approved procedures after the Department's inspector has verified that the discontinuity to be repaired is covered by the specific procedure. Any repairs performed are subject to inspection by the Department's inspector.

(o) Not used.

(p) Thermal Cutting. Unless otherwise approved, cut steel and weld metal using oxy-fuel gas, air plasma arc, or oxygen plasma arc processes. Conduct cutting for all processes according to the AASHTO/AWS Bridge Welding Code D1.5/D1.5M-2008. Do not submerge base metal in water during any process unless otherwise indicated.

(q) Facing of Bearing Surfaces. Ensure that the surface finishes of bearing and base plates and other bearing surfaces in contact with each other or concrete conform to the ANSI surface roughness requirements defined in ANSI/ASME B46.1 and listed below:

• Steel slabs	ANSI 2 mils
• Heavy plates in contact with shoes to be welded	ANSI 1 mil
• Milled ends of compression members, milled or ground ends of stiffeners and fillers	ANSI 0.5 mil
• Bridge rollers and rockers	ANSI 0.25 mil
• Pins and pin holes	ANSI 0.13 mil
• Sliding bearing	ANSI 0.13 mil
• Sliding bearings—Stainless Steel to Polytetrafluoroethylene (PTFE)	ANSI 0.008 mil

Fabricate bearing surfaces according to the following additional requirements:

- Machine sliding bearings having a surface roughness of 0.063 mil or rougher so the lay of the cut is parallel to the direction of movement.
- Provide machined surfaces plane and true, conforming to the indicated dimensions.
- For surfaces designed to be flat, machine surfaces to within 0.01 inch of flatness. Determine flatness as specified in Section 1111.03(c).
- Maintain uniform and even contact when assembling adjacent bearing surfaces. Unless a closer tolerance is indicated or specified, do not exceed a gap of 0.040 inch between bearing surfaces. Machine all sliding surfaces of base plates.
- Do not machine any surfaces of fabricated members until all fabrication and welding of the assembly or subassembly is complete. Machine heat treated components after completion of heat treating.

(r) Abutting Joints. Mill or saw-cut abutting joints in compression members of trusses and columns to obtain a square joint and uniform bearing. Do not allow the opening at other joints not required to be faced to exceed 3/8 inch.

(s) Plates: Direction of Rolling. Fabrication of Members. Unless otherwise indicated, cut and fabricate steel plates for main members and splice plates for flanges and main tension members (not secondary members) so that the primary direction of rolling is parallel to the direction of the main tensile and compressive stresses. Unless otherwise indicated or specified, fabricate I shaped beams and girders so that when erected and under their own weight, the webs are within the allowable tolerance of vertical. Provide flanges normal to the web, unless otherwise indicated.

(t) Bent Plates.

1. General. Fabricate bent, unwelded, load-carrying, rolled-steel plates from the stock plates so that the bend lines will be at right angles to the direction of rolling. If allowed, cold-bent ribs for orthotropic-deck bridges may be bent with bend lines in the direction of rolling.

Before bending, round the corners of the plate where bending is to occur to a radius of 1/8 inch.

2. Cold Bending. Cold bend such that no cracking of the plate occurs. Provide minimum bend radii, measured to the concave face of the metal, according to the following table:

Thickness (t) in inches	Up to 1/2	Over 1/2 to 1	Over 1 to 1 1/2	Over 1 1/2 to 2 1/2	Over 2 1/2 to 4
Bend radii for all grades of structural steel in this specification	2t	2 1/2t	3t	3 1/2t	4t

Provide allowance for springback of Grades 690 and 690W (Grades 100 and 100W) steels of about three times that for Grade 250 (Grade 36) steel. For break press forming, provide a lower die span of at least 16 times the plate thickness. Multiple hits are advisable. Cold Bending of fracture critical members is prohibited.

3. Hot Bending. If a radius shorter than the minimum specified for cold bending is necessary, hot bend the plates at a temperature not less than 800F and not greater than 1,200F. If Grades 690 and 690W (Grades 100 and 100W) steel plates are heated to a temperature greater than 1,100F, requench and temper them according to the producing mill's practice.

(u) Fit of Stiffeners. Ensure that at least 75% of the bearing area of end bearing stiffeners for girders and stiffeners intended as supports for concentrated loads have full bearing on the flanges that they transmit load to or receive load from. Full bearing is defined as a gap not exceeding 0.005 inch. The maximum gap between the bearing stiffener and the flange on the remaining 25% may not exceed 1/32 inch. Mill or grind the ends of bearing stiffeners to achieve the required bearing on the flanges. For weldable steel in compression areas of flanges, weld stiffeners as indicated or specified.

Provide a tight fit against the compression flange for intermediate stiffeners not intended to support concentrated loads unless otherwise indicated or specified. Tight fit is defined as a gap not exceeding 1/16 inch.

(v) Eyebars. Flame cut pin holes at least 2 inches smaller in diameter than the finished pin diameter. Securely fasten together all eyebars that are to be placed side by side in the structure in the order that they will be placed on the pin and bore both ends while clamped. Pack and match-mark eyebars for shipment and erection. Stamp all identifying marks on the edge of one head of each member with steel stencils after fabrication is completed so that the marks are visible when the bars are nested in place on the structure. Provide low stress type steel die stamps.

Furnish eyebars straight and free from twists. Accurately locate pin holes on the centerline of the bar. Limit inclination of any bar to the plane of the truss to 1/16 inch to a foot.

Simultaneously cut the edge of eyebars that lie between the transverse centerline of their pin holes with two mechanically operated torches abreast of each other and guided by a substantial template. Prevent distortion of the plates.

(w) Annealing and Stress Relieving. Anneal (full annealing) and normalize structural members indicated according to ASTM A 941. Finish machining, boring, and straightening structural members subsequent to heat treatment. Maintain the temperature uniformly throughout the furnace during heating and cooling so that the temperatures of any two points on the member differ by no more than 100F at any one time.

Do not anneal or normalize members consisting of Grades 690 and 690W (Grades 100 and 100W) or Grade 485W (Grade 70W) steel. Stress relieve these members only if permitted. Do not allow the holding temperatures for stress relieving Grades 690 and 690W (Grades 100 and 100W) and Grade 485W (Grade 70W) steels to exceed 1,100F and 1,050F, respectively.

Furnish a record of each furnace charge identifying the pieces in the charge and showing the temperature and schedule actually used. Provide proper instruments, including recording pyrometers, to determine the temperatures of members in the furnace at any time. Submit the records of the treatment operation for approval.

When indicated or specified, stress relieve members such as bridge shoes, pedestals, or other parts that are built up by welding sections of plate together according to Section 4.4 of the AASHTO/AWS Bridge Welding Code D1.5/D1.5M-2008.

(x) Pins and Rollers. Turn pins and rollers to the dimensions indicated and ensure that they are straight, smooth, and free from flaws. Forge and anneal pins and rollers more than 9 inches in diameter. Either forge and anneal or use cold-finished, carbon-steel shafting for pins and rollers 9 inches or less in diameter.

In pins larger than 9 inches in diameter, bore a hole not less than 2 inches in diameter full length along the axis of the pin after the forging has cooled to a temperature below the critical range and before annealing. Bore the hole under suitable conditions to prevent damage by cooling too rapidly.

(y) Boring Pin Holes. Bore pin holes true to the specified diameter, smooth and straight, at right angles with the axis of the member and parallel with each other unless otherwise indicated or specified. Produce the final surface by a finishing cut.

Do not allow the diameter of the pin hole to exceed that of the pin by more than 1/50 inch for pins 5 inches or less in diameter, or by more than 1/32 inch for pins larger than 5 inches in diameter. Do not allow the distance outside to outside of end holes in tension members and inside to inside of end holes in compression members to vary more than 1/32 inch from that indicated or specified. Bore pin holes in built-up members after the member has been assembled.

(z) Threads for Bolts and Pins. Provide threads for all bolts and pins for structural steel construction conforming to Unified Standard Series UNC ANSI B1.1, Class 2A for external threads and Class 2B for internal threads, except furnish pin ends having a diameter of 1 3/8 inches or threaded more than six threads to 1 inch.

(aa) Full Size Tests. When full size tests of fabricated structural members or eyebars are indicated or specified, provide suitable facilities, material, supervision, and labor necessary for making and recording the required tests.

(bb) Marking and Shipping. Paint or mark each member with an erection mark for identification. Furnish an erection diagram to the Representative indicating the location of the erection marks on each member, so that the marks can be located in the field.

Furnish copies of material orders, shipping statements, and erection diagrams to the Representative. Show the weights of the individual members on the statements. Mark the weights of members with a weight greater than 3 tons on the members. Load structural members on trucks or cars in such a manner that they may be transported and unloaded at their destination without being excessively stressed, deformed, or otherwise damaged.

Pack bolts of one length and diameter and loose nuts or washers of each size separately. Ship pins, small parts and packages of bolts, washers, and nuts in boxes, crates, kegs, or barrels, but do not allow the gross weight of any package to exceed 300 pounds. Plainly display a list and description of contents on the outside of each shipping container.

(cc) Painting. Section 1060.3 and as follows:

Include the manufacturer of the complete self curing inorganic zinc system consisting of the primer, intermediate tie, and finish coats on the shipping papers.

(dd) Identification of Steel During Fabrication. Use a system of assembly- marking individual pieces and issuing cutting instructions to the shop (generally by cross- referencing the assembly- marks indicated on the shop drawings with the corresponding item covered on the mill purchase order) that maintains the identity of the original piece.

Only furnish steel from stock material that can be identified by heat number and mill test report.

During fabrication, up to the point of assembling members, clearly and legibly show the grade designation on each piece of steel other than Grade 250 (Grade 36) steel. Either write the grade designation on the piece or use the identification color code shown in Table B.

TABLE B

Identification Color Codes

Grade **Metric (English)**	**Color Code**
345 (50)	Green & Yellow

345W (50W)	Blue & Yellow
485W (70W)	Blue & Orange
690 (100)	Red
690W (100W)	Red & Orange

Except for Grade 250 (Grade 36) steel, establish an individual color code for steels not covered in Table B or included in AASHTO M 160/M 160M (ASTM A 6/A 6M). Provide the color code to the Representative.

Die stamp or firmly attach a substantial tag to identify the grade designation of those pieces of steel, other than Grade 250 (Grade 36) steel, that before being assembled into members will be subjected to fabricating operations such as blast cleaning, galvanizing, heating for forming, or painting that might obliterate paint color code markings. Furnish low stress-type steel die stamps.

If requested by the Representative, furnish an affidavit certifying that the identification of the steel was maintained according to this specification throughout the fabrication operation.

(ee) Welded Connections. Ensure that surfaces and edges to be welded are smooth, uniform, clean, and free of defects that would adversely affect the quality of the weld. Prepare edges according to the AASHTO/ AWS Bridge Welding Code D1.5/ D1.5M-2008.

(ff) Numerically-Controlled Drilled Field Connections. Section 1105.03(c)5

(gg) Facing of Bolted Surfaces. ASTM A 6/A 6M, and as follows:

- Provide surfaces plane and true, within the specified tolerances.
- Variations for surfaces designed to be flat: Conforming to ASTM A 6/A 6M, Tables A1.13, A1.14, and A1.15, unless otherwise indicated or specified.
- Complete all welded attachments to bolted surfaces before machining surfaces to required tolerances.
- Grind only on surfaces less than 2 inches wide, unless otherwise allowed.
- Use milling or other acceptable procedures to correct plate flatness to within the specified tolerances
- Provide plate thickness as indicated.
- Identify each plate and the methods used to correct plate flatness to the specified tolerances.
- Replace rejected plates at no additional cost to the Department.

(hh) Determination of Surface Flatness.

Furnish surfaces having flatness as determined by the following method:

- Place a precision straightedge that is a minimum of 6 inches longer than the surface to be measured in contact with and as parallel as possible to the surface. The straightedge may be located in any position on the surface being evaluated and not necessarily at 90 degrees to the edge.
- Attempt to insert a feeler gage having the required tolerance under the straightedge.
- Flatness is acceptable if the feeler gage does not pass between the straightedge and the surface.

G7035B - a07035 CHANGES TO SPECIFICATIONS: SECTIONS 108, 711, and 948

Addendum:

Associated Item(s):

Header:

Changes to Specifications: Sections 108, 711, and 948.

Provision Body:

SECTION 108 – PERFORMANCE AND PROGRESS

- **SECTION 108.06(a), TIME EXTENSIONS. Revise the fifth bullet within the second paragraph to read:**

    - The District Executive, in writing, authorizes additional and/or extra work, which affects progress on one or more controlling operations. Submit a time extension request within 30 calendar days after the date the prices to be paid for all authorized additional work and/or extra work at a negotiated price are agreed upon and, when applicable, accepted by the Department, or, if authorized extra work is to be paid on a force account basis, within 30 calendar days after the date the force account work is completed.

SECTION 711 - CONCRETE CURING MATERIAL AND ADMIXTURES

- **SECTION 711.3(c) SHIPMENT. Revise to read a follows:**

(c) Shipment. Ship and deliver in drums, in bulk or in bags. Mark or tag each drum or bag with the batch or lot number and date of manufacture. Forward a bill of lading with each bulk shipment, bearing the same information as necessary for drums. Each shipment will be subject to sampling and testing at any time.

- **SECTION 711.3 CONCRETE ADMIXTURES - Revise to add the following:**

(g) Fibers for Plastic Shrinkage Cracking. Monofilament or collated fibrillated synthetic fiber, complying with ASTM C 1116, 4.1.3-Type III. Provide test report complying with ICC Evaluation services (ICC-ES) AC32 Acceptance Criteria for Concrete with synthetic fibers, Section 3.2.1 from an Independent Certified Laboratory.

Provide a method of adding the fibers to the mix such that the fibers are dispersed during mixing and no clumps of fibers are present at the end of a mix cycle.

SECTION 948—STEEL SIGN STRUCTURE

- **SECTION 948.2(a) CANTILEVER, CENTERMOUNT, OR SPAN WITH SINGLE PLANE TRUSS. Revise to read as follows:**

(a) Cantilever, Centermount, Monopipe, or Span with Single Plane Truss.

1. Columns, Struts, and Truss Chords—

1.a ASTM A 53/A 53M, Grade B, Type E or S

- Provide supplemental CVN testing (Zone 2) for pipe with wall thicknesses greater than or equal to 1/2 inch.

1.b API 5L, Grades B, X42 or X52; PSL2, with the following characteristics:

- No jointers permitted.
- Do not use thermomechanical rolled or thermomechanical formed (grade suffix M) pipe on monopipe structures.
- Process of manufacture: seamless, electric resistance welded, or longitudinal seam, submerged arc welded.
- f_y = 65,000 pounds per square inch, maximum
- Provide supplemental CVN testing (Zone 2) for pipe with wall thicknesses greater than or equal to 1/2 inch.

1.c ASTM A 500, Grade B

- Provide supplemental CVN testing (Zone 2) for pipe with wall thicknesses greater than or equal to 1/2 inch.

1.d ASTM A 106, Grade B

- Provide supplemental CVN testing (Zone 2) for pipe with wall thicknesses greater than or equal to 1/2 inch.

- **SECTION 948.2(d) FABRICATED STRUCTURAL STEEL. Revise to read as follows:**

(d) Fabricated Structural Steel. Section 1105, except identify on the shop drawings weld locations, type, size, process, and nondestructive testing. Shielded Metal Arc Welding (SMAW), Submerged Arc Welding (SAW), Gas Metal Arc Welding (GMAW), and gas-shielded Flux Cored Arc Welding (FCAW) are approved. Galvanize as specified in Section 1105.02(s). If necessary, repair base connection welds one time. If more than one repair is necessary, obtain approval. Column base plates must meet a Class C flatness tolerance, as specified in Section 1111, for structures erected directly on a pre-finished concrete foundation using bridge shoe bedding material.

1. Perform the following minimum ultrasonic testing of Complete Joint Penetration (CJP) groove welds.

1.a 25% of the length of CJP groove welds connecting each flange splice plate to the truss chords, each base plate to the tower columns, each connection plate to the chords or columns, each CJP weld on truss seat plates, and each CJP longitudinal seam weld on cantilever and center-mount sleeves. 100% of the length of CJP groove (butt) welds on monopipe structures.

- If a rejectable defect is found, then test 100% of the weld on that plate or sleeve.

1.b 100% of the groove weld length on at least 25% of the number of similar type connections of web members to the truss chords.

- If any rejectable defect is found, double the testing frequency until no rejectable defects are discovered.

2. Perform the following minimum magnetic particle inspection (MT) of fillet welds and Partial Joint Penetration (PJP) groove welds.

2.a Intermediate member connections: MT 100% of the weldment length on at least 25% of the total number of connections on trusses and towers, respectively.

- If any rejectable defect is found, double the testing frequency until no rejectable defects are discovered.

2.b Welds on truss seat plates, cantilever and center-mount sleeves, and alternate press-break members and fillet welds connecting backing rings base plates and flange splice plates: MT a minimum of 25% of the total length of each weld.

- If a rejectable defect is found, then test 100% of the weld on the element.

2.c Welds attaching handhole frames to columns: MT of the length of each weld.

2.d All other connections: MT 100% of the weldments on at least 10% of the total number of connections.

- If any rejectable defect is found, double the testing frequency until no rejectable defects are discovered.

3. Perform 100% radiographic inspection of complete penetration longitudinal seam welds on tapered tube structures.

4. The Department's plant inspector will select weld locations and weldments to be tested.

5. Backing rings for full penetration welds must be continuous or butt welded with a full penetration weld. Perform 100% ultrasonic inspection (UT) of butt welds in rings 5/16-inch and thicker. Perform 100% MT on rings less than 5/16-inch thick. Test to AWS D1.5/D1.5-2008 tension criteria.

- **SECTION 948.2(i) STAINLESS STEEL U-BOLTS AND WASHERS. Revise to read as follows:**

(i) Stainless Steel U-Bolts and Washers. ASTM A 276, Type 304. Maximum allowable diameter for stainless steel U-bolts is 3/4 inch Condition B.

- **SECTION 948.2(j) STAINLESS STEEL NUTS. Revise to read as follows:**

(j) Stainless Steel Nuts. ASTM F594, Alloy Group 1

- **SECTION 948.2(k) HIGH STRENGTH BOLTS. Revise to read as follows:**

(k) High Strength Bolt. Section 1105.02(d)

- Furnish bolts, nuts, and washers for testing purposes and test as specified in Section 1050.3(c)7.b.
- U-bolts, other than stainless steel, shall conform to ASTM A 449.
- Stainless Steel U-bolts as specified in Section 948.2(j) may be substituted for ASTM A 449.
- U-bolts for bolt diameters of 3/4 inch and smaller.

G7036B - a07036 CHANGES TO SPECIFICATIONS: SECTIONS 609 AND 688

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Sections 609 and 688

Provision Body:

SECTION 609—INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES

- **SECTION 609- Inspector's Field office and Inspection Facilities. Revise to read as follows:**

SECTION 609—INSPECTOR'S FIELD OFFICE AND INSPECTION FACILITIES

609.1 DESCRIPTION—This work is furnishing, setting up, maintaining, and removing a field office of the type indicated and, if indicated, a field laboratory, proportioning plant office, and/or equipment package for the exclusive use of Department personnel.

609.2 MATERIAL—

(a) General. Provide offices and laboratories having the minimum floor space specified, along with all required furnishings, equipment, and materials. Furnish office and laboratory facilities that conform to applicable occupational safety and health regulations, including, but not limited to, those governing sanitation, illumination, ventilation, means of egress, medical services and first aid, and fire protection. Ensure that offices and laboratories have at least 7-foot ceilings, locking windows, adequate electric lighting, an adequate number of storage cupboards and closets, a mail slot or drop box, and a private entrance secured with lock and key. Ensure that stairway systems installed for access to offices and laboratories include a handrail and non-skid treads. Provide systems to heat and cool interior spaces, as necessary, to maintain an ambient temperature between 65F and 75F. Maintain acceptable sanitary toilet facilities, for exclusive use by Department personnel, near or within offices and laboratories. Ensure that the number of sanitary toilet facilities furnished is sufficient based on the size of the Department inspection staff that will likely be stationed in the indicated office or laboratory. Maintain acceptable lavatory (wash-up) facilities near or within sanitary toilet facilities. If the field office is located in an existing building ensure that lavatory facilities are equipped with hot and cold (or tepid) running water: hand soap or similar cleansing agents; and clean, sanitary, cloth or paper hand towels or warm air blowers. If a construction trailer is used as a field office, ensure that a sanitary toilet facility is located near the field office and ensure that it is equipped with waterless hand soap. Ensure that the electric supply service is of sufficient capacity to allow unrestricted operation of all indicated electronic systems, appliances, and equipment. Furnish documentation certifying that indicated equipment requiring calibration has been calibrated within the last 12 months, and continue to have such equipment recalibrated annually for the duration of the project. If required furnishings and/or equipment being provided have been previously used, ensure that such items are in satisfactory condition and fully functional as of the scheduled start of work. Whenever practical, obtain maintenance agreements for communications, electronic, and/or specialized equipment that provide for on site repair service. If malfunctioning equipment cannot be repaired on site, provide a replacement within a 24 hour time frame based on the relative importance of the piece to the timely performance of required project management functions as determined by the Representative.

1. Inspector's Field Office. Set up the indicated field office in an acceptable weatherproof building or trailer. Situate the field office in an acceptable location on or in the immediate vicinity of the project, separate from other construction offices. For field offices

where multiple individual partitioned rooms are indicated, submit a floor plan showing the layout of the interior space for approval. Equip the field office as specified in Table A.

2. Proportioning Plant Office. If indicated, provide an office at the proportioning plant. Set up the indicated plant office in an acceptable weatherproof building or trailer. Equip the office as specified in Table A.

3. Field Laboratory. If indicated, provide a laboratory for materials and soils testing. Set up the indicated field laboratory in an acceptable weatherproof building or trailer situated in an acceptable location. Supply a gravity or pressure potable water system having at least a 100-gallon capacity and connected to a service sink with a faucet and acceptable outside drain. Do not drain or discharge wastewater into the surrounding environment; use a container of sufficient size to collect all drained or discharged wastewater and transport and dispose of wastewater at an approved site for handling such wastewater. Equip the field laboratory as specified in Table A.

4. Nuclear Gauge Temporary Storage. If indicated, provide a temporary storage location within the Inspector's Field Office or Field Laboratory for temporary storage of moisture density nuclear gauges by a Department Representative. Provide a temporary storage location consisting of an enclosed closet with a minimum area of 9 square feet and secured with two independent locks and keys. Provide all keys to only the licensed Department nuclear gauge operator. Do not provide keys to any other persons. Where possible, locate the closet at least 20 feet from a permanent work station (i.e., desk area). Where a 20 feet minimum distance from a permanent work station is not reasonably possible, the Department licensed nuclear gauge operator will temporarily store the nuclear gauge within the storage location following current Department policy and procedures to prevent radiation exposure to the public.

(b) Testing Equipment. On projects where a Field Laboratory is indicated, furnish and maintain the following equipment for required testing of soil or aggregates:

Number of Each	Equipment
1	C.A. Mechanical Sieve Shaker with Timer
1	F.A. Mechanical Sieve Shaker with Timer
1	Set Standard Sieves for C.A.
1	Set Standard Sieves for F.A. and Soils
1	Unit Mass (Weight) Metal Container 1 cubic foot
1	Unit Mass (Weight) Metal Container 1/2 cubic foot
1	Platform Scale, 200-pound capacity, sensitive to 0.01 pound
1	Balance, 70.5-ounce capacity, sensitive to 3.5x103 ounce, with one complete set of Masses (Weights).
1	Exhaust Fan (for venting Mechanical Shakers)
1	Density Sample Extruder

1	Proctor Mold and Rammer
1	12-inch Steel Straightedge
2	Mixing/Drying Pans
1	Mixing Spoon
1	Broom & Dust Pan

In addition, on projects where a Field Laboratory is indicated and cement concrete, bituminous concrete, and/ or construction aggregates are to be used; furnish and maintain the equipment specified in Section 704.2(a), in the plant requirements of Bulletin 27, and/or in Sections 703.1(b) and 703.2(b), respectively.

(c) Communications Equipment. When indicated, provide the communications equipment specified in the proposal. Furnish communications equipment in the quantity indicated and meeting the following requirements:

1. Copier. A digital laser copier, with automatic document feeder, having reduction/ enlargement functions and capable of accepting maximum 11–inch by 17-inch size originals and producing 8 1/2–inch by 11-inch and 8 1/2-inch by 14 – inch size copies at a minimum rate of 10 letter size copies per minute. Include sufficient imaging cartridges (toner/ drum/ developer) to yield a minimum of 5,000 copied pages.

2. Fax Machine. A high speed desktop facsimile machine capable of transmitting and receiving copies of standard, 8 1/2–inch by 11–inch printed material, pictures, etc. over a standard telephone line. Provide compatible toner cartridges, as required.

3. Cellular Phone. A portable, handheld unit capable of providing wireless communications within a 50-mile radius of the project. Include a carrying case with belt loop/clip, cigarette lighter adapter, spare battery, and desk charger. Arrange for a cellular service plan that includes a voice mail option, call waiting, and 400 peak minutes of unrestricted use per month, for each device supplied, for the duration of the project.

(d) Electronic Equipment. When indicated, provide the electronic equipment specified in the proposal. Furnish electronic equipment in the quantity indicated and meeting the following requirements:

1. Digital Camera. A minimum 5-megapixel image resolution digital camera having 12X combined zoom (3X optical, 4X digital) and capable of producing pictures in JPG/JPEG file format. Imaging quality best up to 5 inches by 7 inches. Include two sets of NiMH rechargeable batteries and a compatible battery charger capable of recharging one set of batteries in 2 hours or less. Furnish a 2GB (minimum) internal memory card having the appropriate format for use with the camera; an external, USB-connected adapter capable of reading the memory card regardless of format (i.e. SmartMedia, Compact Flash, xD, SD, etc.); and any other operating essentials. Must be compatible with the Microcomputer System specified in Section 688.2.

2 Document Scanner. A flatbed, color scanner with a 50 sheet minimum automatic document feeder (ADF) capable of scanning a minimum of 8 pages per minute in black and white mode and having, at a minimum, an optical resolution of 2400 dpi, a 48-bit color rate, and capable of delivering 8 1/2-inch by 11-inch and 8 1/2-inch by 14-inch prints, a USB interface, and text scanning and image editing software. Software provided must support TIFF Group 4-2D and JPEG file formats and create PDF files. Must be compatible with the Microcomputer System specified in Section 688.2.

3 Laser Printer. A laser printer having USB connectivity, at a minimum, a black and white print resolution of 1200 X 1200 dpi, capable of delivering 8 1/2-inch by 11-inch and 8 1/2-inch by 14-inch prints at a minimum speed of 15 pages per minute. Include all necessary cords and cables. Provide compatible toner cartridges, as required; they must be compatible with the Microcomputer System specified in Section 688.2.

4. Color Printer. A color inkjet printer having, at a minimum, a black and white print resolution of 600 x 600 dpi, a color print resolution of 4800 x 1200 dpi, parallel port or USB connectivity, and 64KB of standard memory; capable of delivering 8 1/2-inch by 11-inch and 8 1/2-inch by 14-inch black and white prints at a minimum speed of 20 pages per minute and color prints at 15 pages

per minute. Include all necessary cords and cables. Provide compatible inkjet cartridges, as required; they must be compatible with the Microcomputer System specified in Section 688.2.

(e) Specialized Equipment. When indicated, provide the specialized equipment specified in the proposal. Furnish specialized equipment in the quantity indicated and meeting the following requirements:

1. Surveyor's Level and Measuring Rod. A standard, waterproof, surveyor's leveling instrument having, as a minimum, 20x magnification and a sighting range of up to 200 feet; with a job accuracy range within 1/4 inch at 75 feet. Include a 25-foot minimum, fiberglass measuring rod, folding leg tripod, rain cover, and carrying case.

2. Electronic Digitizer. A stationary or portable, high performance digitizer system capable of electronically measuring the exact, net area and perimeter of linear shapes on plan drawings at any scale, and converting those measurements to areas and volumes. Furnish electronic digitizer having a tablet with a minimum 22-inch by 36-inch active area. Include necessary cabling, carrying case, and all other operating essentials.

3. Digital Display Level. A durable level with automatic calibration function, that reads angles with precision and digitally displays readings in degrees, percent slope, and pitch to within 1/10 degree accuracy. Include battery(ies).

When inspecting ADA curb ramps or sidewalk slopes use a 4 feet maximum length digital display level with the readout set to % slope and entered using one decimal place.

4. Infrared Thermometer. A hand-held, portable, non-contact thermometer capable of measuring temperatures between – 4F and 482F and with a field of view (i.e., spot ratio) of at least 6:1. Include protective case, battery(ies) and all other operating essentials.

5. Laser Range Finder. A self-contained, light-weight, hand-held instrument that measures and records distances in feet, yards, or meters; having a maximum range of 750 feet to an uncooperative, non-reflective target; LCD display; and shock/water resistant housing. Include battery(ies), cabling, carrying case, and all other operating essentials.

6. Paper Shredder. Lightweight, crosscut shredder capable of shredding 4 sheets at one time.

(f) Internet Service. For each type Field Office indicated, purchase a subscription to an Internet service, for exclusive use by Department personnel, for the duration of the project. Purchase a separate Internet service subscription for the Proportioning Plant Office, if indicated. Choose a proprietary or mid-market service that provides for high-speed access to the account by means of a Digital Subscriber Line (DSL), Cable, or other Broadband connection (Dial-up service will not be accepted). Based on the specific type of high-speed connection provided, furnish a compatible modem with built-in hardware firewall protection. If such high-speed access is not available within the area where the project is located, choose a wireless air card for the Internet service. Ensure that the subscription package allows for the exchange of electronic mail and includes some means of securing access to the account (e.g. password protection) by at least four different users.

If a high-speed Internet service is provided for the Field Office, and the proposal indicates that more than one microcomputer system will be used on the project, to provide a compatible, powered wired router with built-in hardware firewall protection and Ethernet switch, and the cabling needed to interconnect the router with the modem and all microcomputers. A wireless router will not be acceptable.

Demonstrate connectivity with the Internet Service Provider at the time of or immediately following microcomputer system installation.

(g) Miscellaneous Materials. For each microcomputer system that will be used on the project, as indicated in the proposal, at a minimum provide the following:

All compact disks and flash drives become Department property.

- Ten, recordable CD-R 700 MB (minimum) compact disks (CD's) with individual protective cases,
- Ten, rewritable CD-RW 700 MB (minimum) compact disks (CD's) with individual protective cases,
- One, CD-ROM drive cleaning kit,
- Two, Memory Flash Drives 8 GB (minimum).

All binders and paper become Department property.

In addition, at a minimum provide the following miscellaneous materials:

- Five, 8 1/2-inch by 11-inch; ten, 11-inch by 8 1/2-inch; and five, 8 1/2-inch by 14-inch pressboard or plastic computer paper binders with plastic locking strips as required.
- Four, 3-inch, three D-ring binders, with vinyl covers, having dimensions of 8 1/2 inches by 11 inches.
- 8 1/2 -inch by 11-inch and 8 1/2-inch by 14-inch, and 11-inch by 17-inch 20# white bond paper for copiers and printers, as specified, sufficient for the life of the project. Providing only one ream of paper at a time is unacceptable.

609.3 CONSTRUCTION—Install the indicated facilities no later than 5 working days after the Notice to Proceed Date or 5 days before the scheduled start of work. Anchor the facilities to withstand high winds. Maintain the facilities from installation until 30 days after physical work (including punch list items from final inspection) has been satisfactorily completed, unless released earlier by the Representative. Satisfactorily clean or arrange for the indicated facilities to be cleaned at least once per week. Provide an adequate number of accessible parking spaces immediately adjacent or in close proximity to the offices or laboratory for exclusive use by Department personnel. Provide proper maintenance of parking areas. Ensure that there is sufficient lighting to illuminate the exterior of offices or laboratory and all parking areas. Designate a specific individual to serve as the contact person for service-related problems. After physical work has been completed, but before release by the Representative, arrange to meet with the Inspector-in-Charge to examine and determine the condition of all specialized equipment that is contractor-owned. Report any unresolved disputes over the condition of such equipment to the Representative. Failure to meet with the Inspector-in-Charge or to report problems with the condition of specialized equipment will create a presumption that, except for expected wear resulting from normal usage, the equipment is in good condition and remains fully functional. Specialized equipment that is lost or determined to be damaged beyond repair will be replaced or reimbursement will be made as specified in Section 110.03, provided such loss or damage is not the result of carelessness or negligence on the part of the Contractor or any other responsible third party. The Representative may direct that the facilities be maintained for more than 30 days after physical work has been satisfactorily completed, as necessary, to allow time for Department personnel to process outstanding project records. Remove and dispose of furnishings, equipment, and materials upon release by the Representative.

609.4 MEASUREMENT AND PAYMENT—Lump Sum

The proposal will include separate pay items for the Inspector's Field Office and Inspection Facilities, Field Laboratory, Proportioning Plant Office, and Equipment Package, as applicable.

Each contract item will be paid, as specified in Section 110.05, in two equal payments, according to the following schedule:

- When work is completed in an amount equivalent to at least 10% of the original contract amount, excluding the bid price for the applicable item, the first payment will be made.
- When work is completed in an amount equivalent to at least 60% of the original contract amount, excluding the bid price for the applicable item, the second payment will be made.

(a) Price Adjustments. Adjustments to the lump sum prices bid for the indicated office or laboratory facilities and equipment package, as applicable, will be made as follows:

1. Time Extensions and Reductions. In the event the time for completion of all work on the project is extended or reduced, as specified in Section 108.06, an appropriate adjustment (payment to the Contractor or rebate to the Department) will be made to the lump sum prices bid for the indicated office or laboratory facilities and equipment package, as applicable, for the days in excess of (payment) or less than (rebate) the original contract time, at the following daily rate:

$$\text{Daily Price Adjustment Rate} = \frac{75\% \times \text{Contract Lump Sum Price}}{\text{Original Contract Time in Days}}$$

2. Facilities Maintained for More than 30 Days After Physical Work Completion. In the event the Representative directs that the office or laboratory facilities and equipment package be maintained for more than 30 days after the date of physical work completion, as specified in Section 609.3, an appropriate adjustment (payment to the Contractor) will be made to the lump sum prices bid for the indicated office or laboratory facilities and equipment package, as applicable, for the days in excess of 30 until released by the Representative, at the Daily Price Adjustment Rate specified in Section 609.4(a)1.

No adjustment will be made if the Representative directs that the office or laboratory facilities and equipment package be maintained for more than 30 days after the date of physical work completion due to the Contractor's failure to submit, complete, and/or correct required certificates or documents, as established during the final inspection.

TABLE A

Office/Laboratory and Standard Equipment

	Type A Field Office	Type B Field Office	Type C Field Office	Proportioning Plant Office	Field Laboratory
Floor Space square foot, out to out	1,300	650	240	150	150
Individual Partitioned Rooms	6	3	2	1	1
Conference Table & Chairs	1				
Desk(s) & Chair(s)	6	3	2	1	1
Office Chairs	15	9	6		
Plan Rack(s)	2	2	2		1
Work Table(s) (1)	5	3	2	1	1
Printer Stand(s) (2)	5	3	1		
4-Drawer File Cabinet (3)	4	3	2	1	1
2-Drawer File Cabinet (3)	2	1	1		
Sample Splitter (4)					1
Range (5)					1
Sanitary Electric Water Cooler	1	1	1	1	1
Individual Access Phone Line(s) (6)	4	4	4	3	
Telephone(s) w/ Answering Machine(s) or Voice Mail	2	2	2	1	

(1) Work Table. Minimum size: 2 1/2 feet by 7 feet by 2 1/2 feet high.

(2) Printer Stand. Specifically designed to accommodate laser and color printers, with paper storage/feeder tray. Minimum size: 18 inches by 18 inches by 2 1/2 feet high.
(3) File Cabinets. Fire resistant (D-Label), lockable, metal file cabinet.
(4) Sample Splitter. For coarse and fine aggregate, with adjustable chute opening.
(5) Range. Standard, 36-inch range, gas or electric, new or used, with oven capable of operating at 230F ± 9F.
(6) Individual Access Phone Line(s). The number indicated includes the phone line(s) needed for microcomputer system operation and Internet service.

Appendix

Table A

Equipment Package

EQUIPMENT PACKAGE

Equipment	**Quantity***
Communications Equipment	
Copier (1)	
Fax Machine (1)	
Cellular Phone(s)	
Electronic Equipment	
Digital Camera	
Document Scanner (2)	
Laser Printer (2)	
Color Printer (2)	
Specialized Equipment	
Surveyor's Level & Measuring Rod	
Electronic Digitizer	
Digital Display Level	
Infrared Thermometer	
Laser Range Finder	
Paper Shredder	
Miscellaneous Items	
Internet Service Provider	
Computer Media	Yes/No
Toners/Cartridges	Yes/No

(1) Unless otherwise approved, a multifunction machine may not be furnished in lieu of a separate copier and fax.
(2) Unless otherwise approved, a multifunction machine may not be furnished in lieu of a separate scanner, laser printer and color printer.
* The special provision will be included in the proposal indicating the quantity of each type of communications, electronic, and/or specialized equipment to be furnished.

Microcomputer Systems. This information is being provided to assist Bidders in meeting the requirements of Section 609.2(f), Internet Service, and Section 609.2(g), Miscellaneous Materials, the special provision in the proposal will indicate the total number of microcomputer systems that will be used on the project.

Microcomputer systems may be furnished by the Department. If microcomputer systems are to be furnished by the Contractor, as part of the construction Contract, the bid will include applicable, 0688-XXXX bid items. When indicated, furnish microcomputer systems meeting the requirements of Section 688.

SECTION 688—MICROCOMPUTER SYSTEM

- **SECTION 688 - Microcomputer System. Revise to read as follows:**

SECTION 688—MICROCOMPUTER SYSTEM

688.1 DESCRIPTION—This work is furnishing, setting up, and maintaining a microcomputer of the type specified, and a battery backup system if indicated, for the exclusive use of Department personnel.

688.2 MATERIAL—

(a) General. Provide all material necessary for setup and operation of a microcomputer system, including all cords and cabling. Upon delivery to the field office, ensure that all hardware and software are compatible and operational.

(b) Microcomputer. The Type A microcomputer is a desktop or tower model. The Type C microcomputer is a laptop computer. The minimum hardware specifications for each type microcomputer systems are as indicated in Table A and as follows:

1. Monitor. For the Type A microcomputer system, provide a 19-inch minimum, widescreen LCD monitor with WXGA video support having at a minimum a resolution of 1440 x 900 dpi, with 800: 1 Contrast Ratio with VGA and DVI connectors.

For the Type C microcomputer system, provide a 14.1-inch widescreen WXGA+LCD Panel screen having a minimum resolution of 1024 x 768 dpi.

2. Surge Protector. Provide a surge protector for each computer (Type A and/or Type C), with a minimum of six AC outlets and one telephone outlet, having a line voltage regulator/conditioner that protects against chronic low or high voltage, voltage spikes, and radio frequency interference.

3. Input Devices. Provide a Windows compatible, 104 key, full size Multimedia function keyboard, USB with a 6 foot minimum length cord. Provide a Microsoft compatible 3 button optical scrolling mouse, USB with a 6 foot minimum length cord. Provide both devices for Type A and/or Type C computers (one each).

4. Miscellaneous.

- Provide two Lithium-Ion batteries, with 3 hours minimum per battery, AC adapter, automobile adapter, with a Type C microcomputer.
- Provide a carrying case large enough to carry the Type C microcomputer, spare battery pack, external pointing device (mouse), AC adapter, automobile adapter.

(c) Software. All system software must be installed on the C: drive partition.

- Provide MS Windows 7 Professional 64 bit operating system, with Service Pack 1, to include all Windows and Microsoft updates.. Internet Explorer version 8 should be installed for guaranteed compatibility with all current PENNDOT based websites. Set up this operating system as a new installation, not as an upgrade from a previously installed, older version of Windows.
- Provide MS Office - Professional 2007 Service Pack 2 Edition, with all Microsoft Office updates.
- Provide Acrobat Reader 10 (X) or newer with the most current version.
- Provide Symantec PC Anywhere version 12.5 – (Host and remote Mode) and/or most current version.

- Provide WinZip version 14 (or newer).
- Provide sun Microsystems Java with most current version with all updates.
- Provide Adobe Flash Player with most current version with all updates.
- Provide antivirus software that meets the Department's current standard, with updates for the duration of the project.
- Provide the Inspector-In-Charge with all OEM software CD's/licenses, manuals, and documentation, to be maintained in the Department's Project Field Office for the duration of the project.
- Provide a compatible Internet browser that meets the Department's current standard for ECMS as specified in Section 609.2(f).

(d) Battery Backup System. For the Type A microcomputer, provide a UPS (uninterrupted power supply) battery backup system meeting the following minimum requirements:

- Load Wattage (minimum) 500
- Full Load maximum time 9 minutes
- Number AC Outlets Regulated 4
- Number AC Outlets w/battery backup 2
- Number AC Outlets with noise isolation and spike protection 4
- Indicator Lights Line and Battery Power
- Circuit Protection
    - Line Breaker
    - Battery (internal) Fuse
- Alarm (audible tone during battery operation with defeat switch)

TABLE A

Minimum Specifications

System Type	**Type A**	**Type C**
Central Processing Unit (Min)	Intel Core 2 Duo E 6000 series	Inter Core 2 Duo T7000 series
CPU Speed (Min)	2.33 GHz, 4MB L2 Cache, Intel VT	2.00 GHz L2 Cache
Random Accessible Memory (RAM) (Min)	4GB DDR2	4 GB DDR2
Internal SATA Hard Drive (Min)	500GB, SATA 3.0Gb/s and 8 MB Cache	250 GB, SATA
Internal DVD Burner (Min)	24X DVDRW, SATA	8X CD/DVD Burner
USB 3 Button Optical Mouse	Yes	Yes
Internal Pointing Device (Touchpad)	—	Yes
USB 2.0 Ports (Min)	6 (2 front, 4 rear)	4

External USB 2.0 4-Port Hub (Min)	—	Yes
Network Port	Yes	Yes
Type II PCMCIA Slots	—	1

(e) Maintenance Agreement. Furnish a maintenance agreement, which provides for on site repair service within 24 hours of notification. If the system can not be repaired, provide a replacement within 48 hours of notification.

(f) Compatibility. All references to compatibility require that compatibility be demonstrated in the Inspector's Field Office.

688.3 CONSTRUCTION—Furnish microcomputer(s) for Department use no later than 5 working days after the Notice to Proceed date or 5 days before the scheduled start of work. Provide the type of microcomputer specified and install in the Inspector's Field Office. Maintain the system from installation until 30 days after physical work including work on punch list items identified during the final inspection, has been satisfactorily completed unless released earlier by the Representative. The Representative may direct that the system be maintained for more than 30 days after physical work has been satisfactorily completed, as necessary, to allow time for Department personnel to process outstanding project records. Remove and properly dispose of all dispensable items for the life of the project and upon release by the Representative.

688.4 MEASUREMENT AND PAYMENT—Lump Sum

For the type indicated.

Paid in three payments, in accordance with the following schedule:

- Whenever all the requirements specified of Section 688.2(a) have been met and compatibility satisfactorily demonstrated to the Representative, 80% of the amount bid for this item will be paid.
- Whenever work is performed equal to 40% of the original contract amount, excluding the bid price for this item, 10% of the amount bid for this item will be paid.
- Whenever work is performed equal to 80% of the original contract amount, excluding the bid price for this item, the remaining 10% of the amount bid for this item will be paid.

(a) Price Adjustments. Adjustments to the lump sum prices for the indicated type microcomputer system, as applicable, will be made as follows:

1. Time Extensions and Reductions. In the event the time for completion of all work on the project is extended or reduced, as specified in Section 108.06, to be more than A percent or less than B percent of the original contract time, where A and B are as specified in Table B, an appropriate adjustment (payment to the Contractor or rebate to the Department) will be made to the lump sum prices bid for the indicated microcomputer systems, as applicable, for that portion of adjusted contract time in excess of A percent of (payment) or less than B percent of (rebate) the original contract time, at the following daily rate:

$$\text{Daily Price Adjustment Rate} = \frac{75\% \times \text{Contract Lump Sum Price}}{\text{Original Contract Time in Days}}$$

TABLE B			
Contract Time			
Original Contract Time in Days		**Percent**	
From More Than	**To and Including**	**A**	**B**

0	100	130	70
100	300	120	80
300	500	115	85
500	1000	112	88
1000		110	90

2. Systems Maintained More than 30 Days After Physical Work Completion. In the event the Representative directs that the microcomputer systems be maintained for more than 30 days after the date of physical work completion, as specified in Section 688.3, an appropriate adjustment (payment to the Contractor) will be made to the lump sum prices bid for the indicated microcomputer systems, as applicable, for the days in excess of 30 until released by the Representative, at the Daily Price Adjustment Rate specified in Section 688.4(a)1.

No adjustment will be made if the Representative directs that the microcomputer systems be maintained for more than 30 days after the date of physical work completion due to the Contractor's failure to submit, complete, and/or correct required certificates or documents, as established during the final inspection.

G7037C - a07037 CHANGES TO SPECIFICATIONS: SECTIONS 106, 108, 514, 515, 516, AND 1107

Addendum:

Associated Item(s):

Header:
Changes to Specifications: Sections 106, 108, 514, 515, 516, and 1107

Provision Body:

SECTION 106—CONTROL OF MATERIAL

- **Section 106.01 General.Revise to read as follows:**

106.01 GENERAL—Use material complying with the requirements of these specifications. At the pre-construction conference, submit a list of material to be sampled and tested by the Contractor and a list of material to be sampled and tested by the Department.

Comply with the provisions of the Pennsylvania Trade Practices Act, 71 P.S. Section 773.101, et seq., concerning the purchase of aluminum and steel products produced in a foreign country. On Federal-Aid projects, also comply with the provisions specified in Section 106.10.

Comply with the provisions of the Steel Products Procurement Act, 73 P.S. Section 1881, et seq. in the performance of the contract or any subcontract.

Following contract execution, furnish to the Department a complete statement of the project construction material's origin, composition, and manufacture.

For Fabricated Structural Steel materials, as identified in Section 1105.01(a) and inspected in accordance with Section 1105.01(e), and any other fabricated aluminum, precast or prestressed concrete products inspected during manufacturing, stamped and approved for shipment by the Department's Representative, furnish Form CS-4171 to the Inspector-in-Charge. Certified mill test reports for any steel included will be reviewed by the Department's Inspector and retained by the fabricator.

For all other steel products or products containing steel that will serve a permanent functional use in the project, provide the Inspector-in-Charge the following when the product is delivered to the project site:

- For any "identifiable" steel products, certification that Section 4 of the Steel Products Procurement Act, 73 P.S. Section 1884, has been complied with. Identifiable steel products are steel products which contain permanent markings which indicate the material was both melted and manufactured in the United States.
- For all other "unidentifiable" steel products, documentation such as invoices, bills of lading, and mill certification that positively identify that the steel was melted and manufactured in the United States.

The provisions of the Steel Products Procurement Act will not be waived unless the Secretary has determined, under authority granted in Section 4 (b) of the act, that a certain steel product or products is not produced in the United States in sufficient quantities to meet contract requirements. Such a determination will be set forth in a proposal for the Department's review and response. Include with the proposal a comprehensive list of sources, including names and contact information, for verification. The Secretary does not have the authority to waive the provisions specified in Section 106.10.

Steel products are defined as products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated, otherwise similarly processed, or processed by a combination of two or more of these operations from steel made in the United States by the open hearth, basic oxygen, electric furnace, Bessemer, or any other steel-producing process. Included are cast iron products and machinery and equipment as listed in United States Department of Commerce Standard Industrial Classification 25, 35, and 37 and made of, fabricated from, or containing steel components. If a product, as delivered to the project, contains both foreign and United States steel, such product is considered to be a United States steel product only if at least 75% of the cost of the articles, materials, and supplies have been mined, produced, or manufactured, as the case may be, in the United States. On Federal-Aid projects, comply with the provisions specified in Section 106.10.

No payment will be made on the contract if unidentified steel products are supplied, until the hereinbefore requirements are met.

Any payments made that should not have been made may be recoverable from a manufacturer or supplier as well as from a contractor or subcontractor.

Any person who willfully violates the Steel Products Procurement Act will be prohibited from submitting bids for any contract for a period of 5 years from the date of determination that a violation has occurred. If a subcontractor, manufacturer or supplier, violates the Steel Products Procurement Act, such person will be prohibited from performing any work or supplying any materials to the Department for a period of 5 years from the date of determination that a violation has occurred.

If steel products are used as a construction tool or appurtenance and will not serve a permanent functional use in the project, compliance with the Steel Products Procurement Act is not required.

When standard manufactured items are specified and these items are identified by unit mass (unit weight), section dimensions, or similar characteristics, their identification will be considered to be nominal masses (weights) or dimensions. Unless more stringently controlled by specified tolerances, industry established manufacturing tolerances will be accepted.

SECTION 108—PERFORMANCE AND PROGRESS

- **Section 108.07(a) Construction Engineering Liquidated Damages. Revise to read as follows:**

(a) Construction Engineering Liquidated Damages. For each day that any physical work remains uncompleted after the Required Completion Date, the sum per day specified in the following schedule, unless otherwise stated in the proposal, will be deducted from money due or to become due. This deduction will not be as a penalty, but as Construction Engineering Liquidated Damages.

Original Contract Amount		Schedule of Daily Charges For Construction Engineering Liquidated Damages
From More Than	To and Including	Per Calendar Day
$ 0	$ 400,000	$ 825
400,000	1,000,000	1,535
1,000,000	5,000,000	2,085
5,000,000	10,000,000	3,280
10,000,000	15,000,000	4,285
15,000,000		5,660

In the event the Contractor is declared in default, as specified in Section 108.08, Construction Engineering Liquidated Damages will be charged as provided by this section. If the total amount chargeable as Construction Engineering Liquidated Damages exceeds the amount payable to the Contractor or the surety, the excess is to be paid to the State by the Contractor or the surety.

SECTION 514—DIAMOND GRINDING OF CONCRETE PAVEMENT

- **SECTION 514.3(e) Concrete Pavement Rehabilitation. Revise to read as follows:**

(e) Concrete Pavement Rehabilitation. Concrete pavement repairs including concrete pavement patching, concrete spall repair, dowel retrofit, slab stabilization, and slab jacking must be completed before the start of any diamond grinding operations.

After completing the concrete rehabilitation operation, determine the ride quality of the existing pavement in accordance with Section 507.3(a) and Section 507.3(b), before performing any diamond grinding. After completing the diamond grinding operations, reevaluate the ride quality of the pavement surface according to Section 507.3(a) and Section 507.3(b). Use the same pavement surface profile measuring equipment to perform all ride quality evaluations on the project.

After diamond grinding the pavement surface, provide a maximum IRI of 70 in/ mile for facilities where posted speed limits are greater than 45 miles per hour, and a maximum IRI of 90 in/mile for facilities where posted speed limits are less than or equal to 45 miles per hour. Meet these requirements in all IRI lots where diamond grinding of the pavement was performed to receive payment.

1. Lots. A full lot is 528 feet of a single lane. The Representative will designate lots starting at the beginning ride quality limit and continuing to the ending ride quality limit for each pavement lane and ramp that is 12 feet or wider. Do not include the length of excluded areas in the 528 feet. Excluded areas will consist of; bridge decks, ramps less than 1,500 feet,in length, tapered pavements less than 12 feet wide, partial lots less than 100 feet in length, shoulders, medians, and other pavement surfaces as indicated.

SECTION 515—SAWING AND SEALING OF BITUMINOUS OVERLAYS

- **SECTION 515.3(b) Sawing. Revise to read as follows:**

(b) Sawing. Make all saw-cuts directly above the existing transverse joints within ± 1 inch. Saw-cuts which do not meet this tolerance will be declared defective as outlined in Section 105.12. Do not saw cut until the bituminous course has cooled below 140F. Perform saw cutting within 7 days after placing the wearing course. Perform this work on all finished overlay areas before discontinuing work due to seasonal paving limitations.

Make saw-cuts only in the lane in which the existing joint is located. Extend the saw-cuts through any existing widening. Provide separate saw-cuts in each lane if existing transverse joints are offset more than 1 inch.

Use the following table to determine saw-cut reservoir size:

Overlay Thickness	**Reservoir**
inches	**inches**
≤1 1/2	1/2 deep by 1/2 wide
>1 1/2	1 deep by 1/2 wide

Additionally, if the total depth of overlay is 3 1/2 inches or greater, make an initial saw-cut 1/8 inch wide to a depth of 1 1/2 inches or one-third of the total overlay thickness, whichever is greater. Indicated overlay depths do not include scratch or leveling courses less than 1 inch.

If wet sawing, immediately flush the reservoir with water.

If not placing the wearing course within the same construction season, provide a 1/8-inch wide saw-cut in the last placed bituminous course to a minimum depth of 1 inch or one-third the thickness of the bituminous material placed, whichever is greater.

SECTION 516—CONCRETE PAVEMENT PATCHING

- **SECTION 516—Description. Revise to read as follows:**

516.1 DESCRIPTION—This work is the construction of single course, full depth, normal strength or accelerated strength, cement concrete pavement patches. Do not patch less than one lane width. If diamond grinding is to be performed, test the pavement surface in the longitudinal direction as specified in Section 514.3(d)2.

(a) Patching Joint. Provide full depth saw-cuts at the existing pavement/patch interface, install load transfer dowels in the transverse faces of the existing pavement, construct a sealant reservoir, and seal the joint.

(b) New Pavement Joint. Provide load transfer unit, construct sealant reservoir, and seal the joint.

(c) Normal and Accelerated Concrete Pavement Patching, Type A. Construct patches between 6 feet and 20 feet long.

(d) Normal and Accelerated Concrete Pavement Patching, Type B. Construct patches between 20.1 feet and 65 feet long.

(e) Normal and Accelerated Concrete Pavement Patching, Type C. Construct patches between 65.1 feet and 500 feet long.

- **Section 516.2(a) – Cement Concrete—Class AA. Revise to read as follows:**

(a) Cement Concrete—Class AA. Section 704

- **Section 516.2(g) Concrete Curing Materials. Revise to read as follows:**

(g) Concrete Curing Materials. For normal strength concrete, use Section 711.1(a), (b), (c), (d), and (e); or Section 711.2(a), Type 2.

For accelerated strength concrete, use Section 711.1(b) and Section 711.2(a), Type 2, or 711.2(b).

- **Section 516.2(j) Tape Bond Breaker. Revise to read as follows:**

(j) Tape Bond Breaker. An approved self adhesive tape.

- **Section 516.2(k) Anchor Material. Revise to read as follows:**

(k) Anchor Material. An approved adhesive anchoring material listed in Bulletin 15.

- **Section 516.3(a) General. Revise to read as follows:**

(a) General. Prepare a QC Plan as specified in Section 106.03(a)2.a and submit it for review. The QC Plan must describe appropriate action points for all phases of construction, including concrete mixing and curing, joint sawing and sealing, and sampling and testing for opening to traffic. If patching adjacent lanes, construct concrete pavement patches one lane at a time where two lane width construction would interfere with traffic. The Representative will surface mark patch areas in advance of the sawing operations.

Protect traffic from drop off conditions as specified in Section 901.3(j). Do not allow excavated patch areas to remain un-patched for more than 2 calendar days or over weekends or holidays.

If it rains while the patch area is open, excavate an outlet through the shoulder at the lowest point of the patch as directed. Repair any damage to the existing shoulders as a result of this work, at no expense to the Department. After saw cutting the existing pavement, allow traffic on patch areas of existing pavement for a maximum of 72 hours. Do not allow saw cuts in excess of 1/2 inch in width to be opened to traffic.

For normal strength patches, do not place concrete if the air temperature falls below 40F. For accelerated strength patches, do not place concrete if the air temperature falls below 45F. Before placing concrete, ensure adequate equipment and trained personnel are available, and sufficient hauling units scheduled, to maintain continuity in placement.

- **Section 516.3(b) Saw Cutting. Revise to read as follows:**

(b) Saw Cutting. Use a saw equipped with a diamond-tipped blade, a blade guard, alignment guides, water cooling system, and cut-depth controls for saw cutting the perimeter of the patch. Do not allow cooling water, slurry, and dust from the sawing operation to enter any lane opened to traffic. Make all required full depth longitudinal saw cuts along the perimeter of the patch prior to making any full depth transverse saw cuts.

Where only one lane is being patched, make a full depth saw-cut in the existing longitudinal joint for the full length of the patch. Where multiple lanes are being patched one lane at a time, perform one of the following:

- Make a full depth saw-cut within the adjacent lane to be patched. Make the saw-cut parallel and not more than 1 foot from the existing longitudinal joint. Form the patch joint in the same location as the existing longitudinal joint and backfill behind the forms with aggregate at no additional cost to the Department.

- Make a full depth saw-cut in the existing longitudinal joint for the length of the patch and insert a temporary rigid separator between the adjacent lane and the patch area. Do not use a temporary rigid separator greater than 1/8 inch thick.

Make full depth transverse saw-cuts at the locations marked on the pavement surface. Do not break back the underside of the existing pavement. If break back or spalling occurs, make a new full depth transverse saw-cut beyond the area of break back or spalling. Place the additional length of patch at no expense to the Department. If break back or spalling occurs in the adjacent lane, repair the damaged area at a minimum with a full depth Type A concrete patch at no additional expense to the Department. Full depth saw cuts at the patch limits will be allowed to extend transversely into the adjacent pavement up to full depth + 2 inches provided dowel bars in the adjacent lane are not damaged. Additional full depth transverse saw cuts will be allowed to facilitate slab removal but may not extend transversely into the adjacent pavement to remain in place.

- **Section 516.3(c) Removal of Existing Pavement. Revise to read as follows:**

(c) Removal of Existing Pavement. Remove concrete between narrowly spaced saw-cuts at the end of a proposed patch area in a manner that does not damage any adjacent pavement that is to remain in place.

As an alternate, a wheel saw having carbide steel tips may be used before making the full depth transverse saw-cuts necessary for the patching joint. Limit penetration of the wheel to minimize disturbance to the subbase. Do not allow wheel saws with carbide steel tips to cut into pavement that is to remain in place. Discontinue using a wheel saw if unsatisfactory results are obtained as determined by the Representative.

Remove the concrete in the patch area in one or more pieces minimizing disturbance to the subbase, subgrade, and the adjacent pavement to remain in place. Do not use drop hammers or hydro hammers. If damage occurs to pavement to remain in place, repair as specified in Section 516.3(b) at no additional cost to the Department.

If the surface of the subbase is disturbed by the removal technique, recompact the surface using small vibratory compactors. If the disturbed material is deeper than 1 inch, remove the disturbed material with hand tools and replace with concrete during paving at no expense to the Department.

Correct all subbase surface irregularities exceeding 1 inch in depth by loosening the surface and removing or adding material as required. Compact the corrected area and surrounding surface by rolling to proper grade and slope.

- **Section 516.3(j) Curing of Concrete. Revise to read as follows:**

(j) Curing of Concrete. For normal strength patches, immediately after finishing operations have been completed, cover and cure the patch surface as specified in Section 501.3(l).

For accelerated patches, cure concrete as specified in Section 501.3(l)1.b or using approved curing insulation materials. Apply white membrane-forming curing compound as specified in Section 501.3(l)1.c. The Contractor may use black membrane-forming curing compound provided the patch area will not be accessible to traffic before placement of a surface course. Discontinue use of black membrane-forming curing compound if it performs unsatisfactorily as a curing agent, and resume curing by other methods as specified. Cure test cylinders under the same conditions as the concrete pavement patch. Provide insulation or heating of patches if the ambient temperature drops below 80F during the curing operation. Control the curing temperature and monitor at least hourly to ensure that the concrete pavement patch does not experience a curing temperature change in excess 40F within any 1-hour period during the curing operation. If a change in curing temperature in excess of 40F occurs in the concrete pavement patch within any 1-hour period, the work will be considered defective.

- **Section 516.3(m) Longitudinal Joints. Revise to read as follows:**

(**m) Longitudinal Joints.** In two lane width patching being performed at the same time, construct a Type L joint as shown on the Standard Drawings.

In two lane patching being performed one lane at a time, or one lane patching, provide a 1/4-inch, full depth, polystyrene board bond breaker in the longitudinal joint of Type A and B patches. Do not provide a bond breaker in the longitudinal joint of Type C patches. Provide tiebars in all Type C patches. For all patch types, saw cut the longitudinal joint 1/4 inch wide and 1 inch deep. Center the saw-cut over the joint.

- **Section 516.3(n) Sealing. Revise to read as follows:**

(n) Sealing. Seal all longitudinal and transverse joints constructed as part of this work, as specified in Section 501.3(n).

Seal all saw-cuts extending beyond the patch limits.

- **Section 516.3(q) Opening to Traffic. Revise to read as follows:**

(q) Opening to Traffic. For normal strength patches, do not open the repaired area to traffic until the concrete has obtained a minimum compressive strength of 3,000 pounds per square inch, when tested according to PTM No. 604.

For accelerated strength patches, obtain samples of plastic concrete, for compressive strength testing for opening to traffic, from each 100 cubic yards or fraction thereof of the day's placement, and, unless otherwise required, from the last mixer load of the day, according to the approved QC Plan. Sample locations will be selected according to PTM No. 1. Test concrete for compressive strength according to PTM No. 604, at the time of opening to traffic but no later than 7 hours after the test specimens were molded. Concrete lots that have not attained a minimum compressive strength of 1,200 pounds per square inch at the time of opening to traffic will be considered defective work.

SECTION 1107—PRESTRESSED CONCRETE BRIDGE BEAMS

- **Section 1107.03(d)5.b. Air Content. Revise to read as follows:**

5.b Air Content. Provide an air content of 6% ± 1.5% for traditional mixes and 7% ± 2% for self consolidating (SCC) mixes. The air content requirement may be waived if the mix meets the following additional qualification tests before production:

- Rapid Chloride Permeability, AASHTO T277: 1500 coulombs at 56-days
- Freeze Thaw Resistance, ASTM C666, Procedure A or B: Minimum durability factor of 90 at 300 cycles.

N10401B - a10401 BRIDGE PARAPET

Addendum:

Associated Item(s):

Header:
BRIDGE PARAPET

Provision Body:

All references to Precast Parapet in Standard Drawings, BLC Standards, and Publication 408 Specifications are voided. Only cast-in-place parapets are permitted.

N10501A - a10501 BRIDGE SHOP DRAWINGS

Addendum:

Associated Item(s):

Header:
BRIDGE SHOP DRAWINGS

Provision Body:

The District Engineer has designated AECOM Technical Services, Inc to act as agent for the review and acceptance of bridge shop drawings. Submit print sets for review and acceptance, as specified in Section 105.02(d), to the following address:

AECOM Technical Services, Inc
707 Grant Street
Gulf Tower, 5th Floor
Pittsburgh, PA 15219

N10560A - a10560 ENVIRONMENTAL COMMITMENT AND MITIGATION TRACKING SYSTEM (ECMTS) REPORT REVIEW AND SIGN-OFF

Addendum:

Associated Item(s):

Header:
ENVIRONMENTAL COMMITMENT AND MITIGATION TRACKING SYSTEM (ECMTS) REPORT REVIEW AND SIGN-OFF

Provision Body:
This work is the Contractor review and documented evidence of implementation of the environmental commitments identified in the project Environmental Commitments and Mitigation Tracking System (ECMTS) report.

Designate a responsible individual (Project Manager or Site Superintendent) to maintain the ECMTS Report during construction. Identify the designated individual's name in a note at the bottom of the matrix. Include additional names if responsible individuals change during the construction of the project.

The designated individual will review each Mitigation Category and associated mitigation identified in the ECMTS Report with the Department Construction Project Manager, Inspector-In-Charge, and District Environmental Manager (or Environmental Monitor if one is assigned to the project). As each mitigation requirement is completed, have the designated individual initial and date the appropriate block. By initialing and dating the block, the designated individual confirms that the Contractor has reviewed the mitigation commitment, understands the commitment, and has incorporated the mitigation commitment in the construction of the project, as appropriate.

Ensure that the mitigation commitments are completed in a timely manner. Review the ECMTS Report with the Department Construction Project Manager, Inspector- In- Charge, and District Environmental Manager (or Environmental Monitor if one is assigned to the project) at each status meeting. The Department Construction Project Manager (or Environmental Monitor) will verify, date, and initial each mitigation commitment as it is completed.

Direct questions regarding the mitigation commitments to the District Environmental Manager (or Environmental Monitor). The District Environmental Manager is to be notified of any problems with implementing the commitments. Changes to mitigation commitments are to be reviewed and approved by the District Environmental Manager. The District Construction Services Engineer should be notified of any problems encountered during the implementation of the commitments and mitigation measures.

Maintain one copy of the ECMTS Report at the Contractor's project field office and provide one copy to the Inspector-In-Charge after each update.

Submit one copy of the completed ECMTS Report to the Department Construction Project Manager, one copy to the District Construction Services Engineer, and one copy to the District Environmental Manager upon completion of the project.

This work includes the review and sign-off of the ECMTS Report only, and is considered incidental to the project. Any work associated with the mitigation commitments are paid for under separate contract pay items or are considered incidental to construction.

00 - a35650 D11 Project Documentation

Addendum:

Associated Item(s):

Header:
PROJECT DOCUMENTATION

Provision Body:

Upon project completion, the Contractor will submit in .tif or .pdf electronic format, all engineering related submissions developed for the construction of the project. This includes but is not limited to the following: shop drawings, jacking plans and calculations, temporary shoring plans and calculations, demolition plans and calculations, alternate design plans and calculations, value engineered plans and calculations, Contractor proposed alternate details and supporting calculations, dynamic pile tests, caisson log, anchor log, vibration monitoring log, noise monitoring log, changes to deck pouring sequences, and erection plan submission and calculations.

The files will be accompanied by a hard copy index listing a summary of the electronic files as well as the contents of each file.

Contact Paul Trusiak, EDMS Coordinator at (412) 429-3786 prior to submission of the files.

Payment for project documentation is incidental to the other items of work in the contract and will not be paid for separately.

00 - a35720 D11 Resetting Segment Markers

Addendum:

Associated Item(s):

Header:
RESETTING SEGMENT MARKERS

Provision Body:

At the completion of project, install all the segment markers removed during construction back to their original locations. Please contact Mr. Bill Dipner, District Pavement Manager at (412) 429-3814 if you have any questions.

00 - a35750 Notice to Contractor

Addendum: 2

Associated Item(s):

Header:
NOTICE TO CONTRACTOR

Provision Body:

Maintain access to the building located at approximate Station 186+00, Offset 70' Left. Coordinate any temporary blockage of vehicular access to the building with:

Douglas E. Spicuzza, P.G.
Cummings/Riter Consultants, Inc.
300 Penn Center Boulevard, Suite 800
Pittsburgh, PA 15235
Phone: 412-241-4500

Old Braddock Avenue located beneath Ramp T is permitted to be closed as needed during the duration of the project. Contact Fred Hayes, Program Manager, of the Regional Industrial Development Corporation at (412) 315-6453 prior to any construction activities on RIDC property and prior to any closures of Old Braddock Avenue. The existing gate and portions of the existing fencing are permitted to be removed as required. Once the proposed work is completed restore the existing road back to its original condition and replace any portions of the gate and fencing back to its original location and condition and to the satisfaction of the RIDC Program Manager.

Provide and maintain secure gates at the Regional Industrial Development Corporation of Southwestern Pennsylvania (RIDC) property Between Second Street and Norfolk Southern property. Gates on each side of the property should remain locked when not in use.

Contact Greg Bykowski, P.E. of the Union Railroad at (412) 310-1123 prior to any construction activities on RIDC property which would foul (to impede or obstruct) their tracks. The Union Railroad has requested that a flagger be present any time the tracks are fouled.

00 - b01031 Section 103.05

Addendum:

Associated Item(s):

Header:
SECTION 103.05

Provision Body:
In additional to naming the State as additionally insured, also name Regional Industrial Development Corporation of Southwestern Pennsylvania as additionally insured.

S1033B - b01033 SECTION 103.2(a) LETTER OF INTENT

Addendum:

Associated Item(s):

Header:
SECTION 103.02(a) LETTER OF INTENT

Provision Body:

- SECTION 103.02 AWARD OF CONTRACT- Revise by adding the following new subsection:

(a) Letter of Intent.It has been determined that the nature of this project is such that advance preparation by the Contractor may be required. Therefore, prior to the Notice to Proceed date, a Letter of Intent may be issued by the Deputy Secretary for Highway Administration. The project-specific Letter of Intent will outline the extent to which the Contractor may prepare to start work and incur costs in preparation for performance of the contract.

The following have been identified by the Deputy Secretary as being preparatory costs that may be incurred for this contract with the Department's assurance that actual expenses will be reimbursed in the event the contract is canceled before the Notice to Proceed date: Prior to proceeding with any design work identified below, the Design-Build Design Activities Firm Identification and Qualifications form must be approved by the District Project Manager.

- Orders for the fabrication of steel girders and
- Preparation of shop drawings for steel girders.

No work may commence at the construction site and no payments will be made until the contract is fully executed.

In the event the Secretary elects to cancel the award of the contract or the contract, as specified in Sections 103.03 and 103.07, reimbursement will be made for the documented cost of insurance and surety bonds required under Sections 103.04 and 103.05, and the documented cost of actual expenses reasonably incurred in accordance with the Letter of Intent issued by the Deputy Secretary for Highway Administration. Any material reimbursed at actual purchase price becomes Department property. Alternatively, the Department is to receive credit for the salvage value of any material, for which reimbursement is made, that is then retained by the Contractor. No payment will be made for damages of any kind including, but not limited to, loss of anticipated profit, loss of use of money, or administrative or overhead costs.

- SECTION 103.03 CANCELLATION OF AWARD. Revise to read as follows:

103.03 CANCELLATION OF AWARD - The Secretary reserves the right to cancel the award of any contract at any time before its approval by the Chief Counsel, the General Counsel, and/or the Attorney General, or their designees, when such cancellation is in the best interests of the State. In the event of such cancellation, payment will be made for the documented costs of insurance and surety bonds required under Sections 103.04 and 103.05, and the documented cost of actual expenses reasonably incurred in accordance with the Letter of Intent issued by the Deputy Secretary for Highway Administration as specified in Section 103.02(a).

- SECTION 103.07 CANCELLATION OF CONTRACT. Revise to read as follows:

103.07 CANCELLATION OF CONTRACT - The contract may be canceled by either party if the notice to proceed is not issued within 30 days of award of the contract. Extension(s) of the 30-day period will be made only by mutual written consent of the parties to the contract provided such written consent is given before the expiration of the 30-day period. Prices will not be renegotiated. The Secretary also reserves the right to cancel the contract any time before the Notice to Proceed date. If the contract is canceled, payment will be made for the documented costs of insurance and surety bonds required under Sections 103.04 and 103.05, and the documented cost of actual expenses reasonably incurred in accordance with the Letter of Intent issued by the Deputy Secretary for Highway Administration as specified in Section 103.02(a). No payment will be made for damages of any other kind including, but not limited to, lost profits.

00 - b01050 D11 Section 105.14(a) Non-Designated Areas

Addendum:

Associated Item(s):

Header:
SECTION 105.14(a) NON-DESIGNATED AREAS

Provision Body:

Use the attached PENNDOT Waste/Borrow Area package developed by District 11-0 for obtaining Conservation District approval on all areas less than one acre. Borrow/Waste areas larger than one acre will require a National Pollution Discharge Elimination System (NPDES) permit. Coordinate with the District Environmental Unit for all submissions.

S1051B - b01051 SECTION 105.17 - ACCEPTANCE OF CONSTRUCTION LOADINGS AND MATERIAL STOCKPILING ON BRIDGES

Addendum:

Associated Item(s):

Header:
SECTION 105.17 - ACCEPTANCE OF CONSTRUCTION LOADINGS AND MATERIAL STOCKPILING ON BRIDGES

Provision Body:

- **SECTION 105.17 – Acceptance of Construction Loadings and Material Stockpiling on Bridges. Revise to to read as follows:**

SECTION 105.17- Acceptance of Construction Loadings and Material Stockpiling on Bridges –Do not stage equipment or stockpile materials on a bridge unless a written request has been submitted and accepted by the Representative.Submissions are to be signed and sealed by a Professional Engineer, registered in the State. The Representative will review the documentation, supporting analysis, if required, and respond to the written request within:

- 10 calendar days of receipt for a load limit submission
- 21 calendar days of receipt for a review of analytical calculations for cases that exceed the specified loading limits, or for a crane placement submission.

Acceptance by the Representative will not relieve the Contractor of liability for damages resulting from the stockpiling of materials or from the operation and movement of construction equipment.

A bridge is considered completed if all the following conditions are satisfied:

- All applicable structural members are erected.
- Spans proposed for construction loading and material stockpiling are completed from expansion joint to expansion joint or from abutment to abutment excluding barriers and deck joints.
- If staged construction for maintenance-of-traffic, spans of staged width proposed for construction loading and material stockpiling are completed from expansion joint to expansion joint or from abutment to abutment excluding barriers and deck joints, and the staged width has been designed for and will be opened to all legal loads without restriction.

For construction equipment on deck slabs, the written request must describe the loading magnitude, arrangement, movement, and position of the equipment on the structure, including the mechanism of load transfer (load path) to the bridge.

(a) Loading Limits. For spans over 40 feet, carrying live traffic loads (staged construction) or over live traffic, limit the stockpiling of material and staging of equipment on a non-weight posted completed bridge to the following:

1. Individual material stockpile (including but not limited to pallets of products, reinforcement bar bundles, aggregate piles) - Limited to one individual stockpile with a maximum weight of 250 pounds/square foot and a maximum size of 100 square feet.
2. Multiple material stockpiles - Maximum weight of 65 pounds/square foot with a maximum total stockpile area of 1000 square feet.
3. Combinations of material stockpiles, vehicles, other materials, and equipment are limited to a maximum total weight of 100,000 pounds per span in any work zone width less than 24 feet, and a maximum total weight of 200,000 pounds per span for work zones >/= 24 wide, provided loading limits in Sections 105.17(a)1 and 2 are not exceeded. The force effects produced by combinations of material stockpiles, vehicles and other materials and equipment are limited to the force effects produced by vehicles of legal configuration evaluated at operating rating levels as defined in Publication 238.

On a weight posted completed bridge, the above thresholds are to be reduced proportionately based on the ratio of the posted load limit(s) to the legal load limit(s).

If loads are proposed that will exceed the above loading limits or loads are proposed to be placed on an incomplete bridge, submit analytical calculations showing the flexural, shear, and axial stresses due to construction loadings do not exceed the operating stress levels as defined in Publication 238 for the main load carrying members of the structure or the deck slab.

(b) Placement of a Crane. Submit a working drawing showing the location of crane, matting, and all other loads and denote their weights.Submit analytical calculations showing that flexural, shear, and axial stresses due to construction loadings do not exceed the operating stress levels as defined in Publication 238 for the main load carrying members of the structure or the deck slab. Provide matting to protect the deck slab from damage.Placement of cranes is not allowed on newly constructed bridge decks until the deck concrete has cured for a minimum of 14 calendar days and has attained a minimum compressive strength of 4,000 pounds per square inch.

S2081A - b02081 SECTION 208 - SPECIAL ROLLING (SU)

Addendum:

Associated Item(s):

Header:
SECTION 208 - SPECIAL ROLLING

Provision Body:

208.1 DESCRIPTION - This work is the special rolling of embankments.

208.2 MATERIAL - Use acceptable pneumatic-tired equipment for special rolling, capable of varying the load from 267 kN (30 tons) to 445 kN (50 tons). Use a roller constructed to transmit the load through four wheels, equally spaced over the roller width, mounted on two (2) or four (4) axles in line, permitting oscillation of the individual wheels or pairs of wheels. Use a roller with tires capable of operating at inflation pressures ranging from 0.62 MPa (90 pounds per square inch) to 1.03 Mpa (150 pounds per square inch). Provide charts or tabulations showing the contact areas and contact pressures for the full range of tire inflation pressures and loadings for the particular tires furnished.

208.3 CONSTRUCTION - Adjust the roller load and tire pressures for contact pressures to approximately the maximum supporting value of the layer being rolled. When the special rolling of any layer shows an area to be unstable or nonuniform, satisfactorily stabilize the area by providing additional compaction on these areas or by removing the unsuitable material, replacing it with suitable material, and recompacting.

Operate the roller in a systematic manner so the number of passes can be readily determined and recorded. Normally, operate the roller at a speed of not less than 4.0 km/h (2-1/2 miles per hour).

Perform special rolling only in the presence of the Inspector-in-Charge who will approve or disapprove the stability of the embankment and recommend corrective measures.

208.4 MEASUREMENT AND PAYMENT - Hour

No measurement and payment will be made for idle equipment time because of repairs, servicing, loading or unloading ballast, increasing or decreasing tire pressure, bad weather, or for any other similar reason.

00 - b04091 Section 409.3(k)

Addendum:

Associated Item(s):

Header:
SECTION 409.3(k)

Provision Body:

Section 409.3(k)1.a General. Revise as follows:

Revise the second paragraph to read:

Before placing abutting lanes, paint the entire area of the joint with a uniform coating of Class AET, Class E-6 (AASHTO SS-1 or CSS-1) or E-8 (AASHTO SS-1h or CSS-1h) emulsified asphalt instead of hot bituminous material, using two applications of AET emulsified asphalt. Painting of the joint face is not required for scratch courses.

Revise by adding the following:

For wearing courses, seal the surface at all longitudinal joints with hot PG 64-22 asphalt cement. Heat and maintain asphalt cement between 130°C (265°F) and 160°C (320°F). Do not place sealant when the air temperature is below 4°C (40°F), unless otherwise allowed by the representative. Apply sealant only to joints in pavement surfaces that are clean, dry, and free of any loose material and debris. Clean with a power broom and/or compressed air as required. Utilize a pressure applicator with a wand or nozzle capable of applying hot asphalt sealant in a straight and consistent width band of 75 mm ± 25mm (3" ±1") and thickness of 1.5 mm ± 0.75 mm (1/16" ± 1/32") at specified temperature range. Center the sealant band within 25 mm (1") of the joint. Immediately level the high spots with squeegee or wand. Remove and dispose of excess sealant at no expense to the Department. Re- seal areas of the joint that are inconsistently or not completely covered at no additional expense to the Department.

Complete any required rumble strip installation at joints before sealing operations. Coordinate sealing of the longitudinal joints with the application of pavement markings. Replace pavement markings that are marred by sealing operations at no additional cost to the Department. Longitudinal joint sealing is incidental work and will not be paid for separately.

Section 409.3(k)2. Transverse Joints. Revise the fifth sentence to read:

Paint the joint face with a thin coating of Class AET, Class E-6 (AASHTO SS-1 or CSS-1) or E-8 (AASHTO SS-1h or CSS-1h) emulsified asphalt instead of hot bituminous material before placing fresh mixture against the joint face, using two applications of AET emulsified asphalt.

00 - b06051 D11 Section 605

Addendum:

Associated Item(s):

Header:
SECTION 605

Provision Body:

Section 605.2(f) Other Material. Revise by adding the following:

Use only cast-in-place top units in roadway pavement areas.

S6081C - b06081 SECTION 608 - MOBILIZATION

Addendum:

Associated Item(s):

Header:
SECTION 608 - MOBILIZATION

Provision Body:

- Section 608.1 Description. Revise by adding the following:

When developing agreements with DBE subcontractors include an opportunity for the DBE to identify an item for their mobilization. Include any agreed upon amounts in the contract lump sum price bid for mobilization. Also, list agreed to amounts for each DBE subcontractor on the DBE Participation for Federal Projects form specified in the "Disadvantage Business Enterprise Requirements" Designated Special Provision in Appendix C of Pub. 408.

- Section 608.4 Measurement and Payment. Revise by adding the following:

(c) DBE Payment Schedule. Within the Schedule submitted as specified in Section 108.03, indicate the starting date of work subcontracted to DBE's. One month before the scheduled start of subcontracted DBE work, but not earlier than the Notice to Proceed, pay 25% of the amount shown for mobilization on the applicable DBE Participation for Federal Projects form. Pay the remaining 75% of the amount shown for mobilization on the applicable DBE Participation for Federal Projects form, in three equal payments, when subcontracted DBE work is 25%, 50%, and 75% complete. Pay the affected DBE within 7 days of its reaching the specified milestones for percentage of work completed.

00 - b06091 Section 609.1 Description

Addendum: 1

Associated Item(s):

Header:
SECTION 609.1 DESCRIPTION

Provision Body:
Revise to read:

This work is furnishing, setting up, maintaining, and removing a field office of the type indicated and, if indicated, a field laboratory, proportioning plant office, and/or equipment package for the exclusive use of Department and one Railroad personnel.

S6092A - b06092-SECTION 609.2(g) MISCELLANEOUS MATERIALS

Addendum:

Associated Item(s):

Header:
SECTION 609.2(g) MISCELLANEOUS MATERIALS

Provision Body:

Section 609.2(g) Miscellaneous Materials. Add the following new set of bullets:

The laser printer(s) and/or color printer(s) needed for this project will be obtained for Department use through a statewide lease agreement and not as part of the Equipment Package contract item.

A total of (*See "a" in Project Specific Details)* Laser Printer(s) and (*See "b" in Project Specific Details)* Color Printer(s) will be leased for the project.

Provide compatible toner cartridges for each laser printer and compatible ink jet cartridges for each color printer indicated above, as required. The exact make and model of laser printer and/or color printer being used on the project will not be known until the start of work. For cost estimating purposes, toner cartridges and/or ink jet cartridges furnished must be usable with the type of printer specified in Section 609.2(d)3. and Section 609.2(d)4., as applicable.

Project Specific Details:

a. One
b. One

00 - b09010 D11 Section 901

Addendum: 2

Associated Item(s):

Header:

SECTION 901

Provision Body:

ADVANCE REQUIREMENTS

Provide two weeks advance notice to affected municipalities, respective Emergency Services, City of Pittsburgh Department of Public Works' Bureau of Transportation and Engineering (412-255-8850), local school districts, the Allegheny County Port Authority (412-854-7328) and Chuck Rompala at (412-566-5321), PENNDOT Allegheny County Maintenance Manager (412-781-3260), and the appropriate State Representative or Senator, prior to beginning any work or imposing any traffic restrictions. Additionally, provide notification to all affected businesses and property owners four days prior to the erection of the Advance Construction Advisory signs. (District Construction Unit will provide typical form at pre-job conference.) Keep them informed at all times of changes to traffic restrictions as they occur.

Notify property owners ten days in advance of driveway restrictions affecting their properties.

Make a survey along with the Project Manager or his authorized representative by videotaping and voice recording onto a DVD format the location of all existing pavement markings, existing signs, road conditions and all potential driveway and/or private problems within the project limits prior to beginning construction. Use this information in placing all pavement markings and signs. Provide an additional copy of the DVD to the Inspector-in-Charge or his authorized representative before construction begins. Properly label the DVD with the Contract #, SPN, SR #(s), date video was taken and by whom. Contact the District Traffic Engineer before making any changes to the existing pavement marking patterns, or signs or other devices.

Section 901.1 DESCRIPTION –

> Revise the first sentence to read: This work is the furnishing, installing, maintaining and protection of traffic adjacent to and within the Work Zone including the Active Work Zone, and relocating of traffic control devices.

Section 901.3(h) Existing Department Signs. Revise first sentence of first paragraph to read:

> Remove all existing signs as required to accommodate construction operations.
>
> Reinstall these signs at the completion of the project and/or as directed by the Inspector-in-Charge.

Arrange with local police to restrict parking on streets within the work area. Maintain the minimum number of lanes specified.

Ten days prior to construction, erect the Advance Construction Advisory signs on Type III barricades as depicted below.

EAST PITTSBURGH MCKEESPORT BOULEVARD ROAD WORK	Use 150 mm (6") Series C black letters on a reflective orange background with a 12 mm (1/2") black border and 150 mm (6") corner radius.
Begins (Date)	

Erect signs at each limit of work and at the following locations:

Tri-Boro Expressway and Electric Avenue, SR 0030, and Fifth Avenue

Remove the signs when construction begins.

After the pre- job conference and before the closure, meet with the Inspector- in- Charge and the District Traffic Engineer's representative to locate detour signing and identify conflicting signs which must be covered or removed.

Notify the District Traffic Engineer and authorized representative prior to implementing phase change.

TRAFFIC CONTROL/DEVICES REQUIREMENTS

Section 901.2 MATERIAL - Revise by adding the following sentence:

For all barricades, provide barricade rails constructed of non-metallic materials.

The signs and traffic control devices listed or indicated on the Traffic Control Plan or Publication 213 represent the minimum requirements for this item and as such, are for information only.The number and types of traffic control signs and devices for this project will be predicated on the number and location of work sites, the extent of repairs and the planned sequence of operations.

Provide new traffic control signs and devices.Do not use reflective sheeting that is scratched, scarred, dirty or shows evidence of loss of reflectivity.Do not use signs or devices that are cracked, bent, dented or broken.

Replace reflective sheeting should it become damaged where reflectivity becomes impaired. Immediately repair or replace damaged, defaced or dirty signs, devices or barrier.

Mount all construction warning signs (W series) for long-term operations on Type III barricades.Include a Type B light on each W series sign.If it is not possible to mount construction warning or other signing as indicated or specified, submit an alternate method for approval by the District Traffic Engineer or authorized representative.

Provide additional channelizing devices and barricades at intersections, major driveways and ramps to prevent vehicles from turning onto any lane closed for construction.Space channelizing devices at 1.5 m (5-foot) intervals or as directed by the District Traffic Engineer or authorized representative or the Inspector-In-Charge.

Use channelizing devices with Type C steady burn lights for all nighttime lane restrictions.Mount a light on each device used in transition areas and on every third device used in tangent sections.

Space channelizing devices in the tangent sections at one times the normal posted speed limit unless otherwise noted on the Traffic Control Plan or as directed by the District Traffic Engineer’s authorized representative or the Inspector-in-Charge.

For overnight operations, if located within 152 m (500 feet) of any residence or business use arrow panels that are electrically, solar or battery operated.

Erect construction warning signs prior to the limit of work as shown in Publication 213, PATA 24.

Erect "ROAD WORK AHEAD" (W20-1, W30-1-6) signs with Type B lights attached on each intersecting road and major drive as shown in Publication 213, for the appropriate situation.

Post Act 229 signs in accordance with the requirements specified in Publication 213 - 'Act 229 Guidelines'.

Provide a Traffic Control Supervisor or Supervisors and phone numbers where they can be reached on a 24-hour - 7 days a week basis for the duration of the project.The Traffic Control Supervisor must be knowledgeable of work zone traffic control including incident management. The Traffic Control Supervisor must have a thorough understanding of the Manual on Uniform Traffic

Control Devices (MUTCD) and Publications 212 and 213. The Traffic Control Supervisor shall attend the pre-job meeting. The Supervisor's responsibilities are as follows:

Notify District Public Relations Office, affected municipalities and property owners of all traffic restrictions. Prepare News Releases and submit to the Inspector-In-Charge for his concurrence prior to the final submission to the District Office.

Implement and maintain traffic control schemes. Place and maintain all traffic control signs and devices used on the project.

Conduct daily reviews and document the performance of traffic control signs, devices, off-duty uniformed police and temporary pavement markings during the day and night, adverse weather conditions and active and inactive construction operations, as directed. The Traffic Control Supervisor will present all MPT problems and discrepancies in writing to the Department's Inspector-in-Charge by noon of each day.

Prepare and submit the proposed corrective action to the Department's Inspector-in-Charge. Correct any deficiencies or damage discovered during the daily review immediately.

Notify the Traffic Management Center (TMC) 412- 429-6030 or Jason Previte at (412) 475-1862, fifteen (15) minutes prior to imposing any lane restrictions and prior to removing any lane restrictions.

Maintain a daily written record of any crashes, work zone incidents, and maximum queue lengths for each traffic pattern for the life of the project. All feedback received from the public through phone calls, in person, or in writing shall also be captured. This information shall be submitted daily to PENNDOT's Inspector-in-Charge and will be logged and forwarded to the District Traffic Unit when requested.

Maintain ongoing communication with the Inspector-in-Charge regarding operations that will impact transportation operations in the project area. The Contractor shall develop and maintain lists of phone, fax numbers and e-mail addresses for the affected stakeholders within the project area, including but not limited to: Townships, school districts, emergency services, major businesses, transit companies, nearby trucking firms, and other prominent traffic generators in the project vicinity. The Contractor is responsible for notifying these groups of changes in the traffic control phasing at least 48 hours in advance of the phase change or as directed by the Inspector-in-Charge in writing when this notification occurs.

When the work area encroaches on a crosswalk, sidewalk or other pedestrian walkway, submit a detailed plan for satisfactorily closing the walkway to pedestrian traffic to the Inspector-in-Charge. Include the number and type of devices to be used in accordance with the appropriate figure from Publication 213. Do not close any walkway without prior approval of the plan, and at all times adhere to the submitted plan unless otherwise directed.

Use a post mounted "NO GUIDE RAIL" (W21-9A) sign with a Type B light attached when existing guide rail is removed. Erect the first sign at a distance upstream from the removed guide rail section of 2 times the speed limit, in feet. Erect additional signs at intervals not greater than 804 m (1/2 mile).

Provide sufficient number of properly attired flaggers (vest; leggings, hard hat) to adequately control traffic flow through the work zone, which includes any intersecting streets in the work zone, and as directed. At night, flagger stations shall be illuminated, except in emergencies.

Section 901.3(k) Work Area Pavement Markings. Revise the third paragraph by adding the following:

When installing painted standard pavement markings on roadways where traffic is to be maintained, install "WET PAINT DO NOT CROSS LINE" (R16-5) sign as directed.

Do not change any part of the Traffic Control Plan and/or Section 901 without prior written approval of the District Traffic Engineer or authorized representative.This includes but is not limited to:

- Traffic Control Phasing
- Location and hours of operation for all off-duty uniformed police officers.
- Times and/or dates when traffic may not be restricted.
- Any short-term or long-term detours.
- Item 0901-0240 Additional Traffic Control Signs.All locations and messages must be approved by the District Traffic Engineer or authorized representative.

Completely remove all existing conflicting pavement markings prior to installing any temporary markings.Do not paint over existing pavement markings. During inclement weather, where it is not possible to install pavement markings, install "NO PAVEMENT MARKINGS" (W21-16) signs with Type B light attached at intervals of 400 m (1/4 mile) and/or as directed by the Project Manager. In addition, as a minimum, place cones at one times the posted speed limit along the centerline of the travel lanes.

Use Type B lights with red lenses on all required stop sign installations.

Limit any lane closure to the length necessary to safely perform the required work.

Do not allow employees to park their personal vehicles on any traveled roadway, shoulder, median or seeded area along the highway.

Be advised that most of the boroughs and townships have noise ordinances.Obtain the necessary permits prior to construction.

Open the specified roadway and/or ramps by the specified times, dates, and/or calendar day durations, or be assessed Road Users Liquidated Damages as specified in the Special Provisions entitled "Road Users Liquidated Damages."

TRAFFIC/CONSTRUCTION RESTRICTIONS

- INTERIM MILESTONE DATE RESTRICTIONS

  Open SR 2037 to unrestricted traffic by October 16, 2013.

Press Releases are required for all work within Department highway right-of-way. An initial Press Release for construction projects is required to be submitted ten (10) workdays prior to the start of any project. All other press releases are required to be submitted three (3) workdays in advance of the restriction. At least three (3) workdays prior to any work or any change in traffic patterns for ongoingwork on SR 2037, obtain a Roadwork Notification and Approval from the District Traffic Engineer, and notify the following: District Press Officer (412-429-5010) and the District Traffic Management Center (412-429-6030) of any Traffic and/ or Construction restrictions. The Roadwork Notification and Approval (RNA) Form is found in the Department web site through the following link: ftp:// ftp.dot.state.pa.us/ public/ Districts/ District11/ construction/ newforms/ RNA % 20revised % 20 (060110).pdf . The Contractor is responsible for completing all Press Releases and forwarding them to the Inspector- in- Charge. The Contractor is responsible for completing all Roadwork Notification and Approval Forms for the Inspector- in- Charge's signature and date. The Inspector-in-Charge processes the Roadwork Notification and Approval form in accordance with established procedures.

Section 901.3(m) Lateral Lane Restrictions.Revise the third paragraph to read:

> Notify the Inspector-in-Charge by completing and submitting form M-937R (Route/Bridge Restriction) at least twelve (12) workdays before implementing or changing any lateral lane restriction which provides less than 16 feet of pavement and shoulder in each direction for oversized vehicles. Notify the Inspector- in- Charge by completing and submitting form M-937RO (Route/ Bridge Restriction Opening) at least seven (7) workdays before removing the restriction. These forms are found on the Department website through the following link: ftp:// ftp.dot.state.pa.us/ public/ Districts/ District11/ construction/ newforms/ RNA % 20revised % 20 (060110).pdf . Complete all route restriction forms and forward them to the Inspector- in- Charge. The Inspector- in- Charge processes the route requests in accordance with established procedures.

A workday is defined as any day from Monday through Friday except holidays during normal PENNDOT District 11-0 office hours. The form should be submitted to the appropriate Department Unit(s) by 12 Noon on the first day.The following official Department holidays will not be included as workdays:

- New Year's Day
- Dr. Martin Luther King, Jr. Day
- President's Day
- Memorial Day
- Independence Day
- Labor Day
- Columbus Day
- Veteran's Day
- Thanksgiving Day
- Day after Thanksgiving Day
- Christmas Day

Coordinate working schedule with any adjacent Department projects.

Place steel plates over inlet excavations in open travel lanes during non-working hours.

Do not use steel plates to bridge any pavement construction.

When using plates in open travel lanes, provide a metal plate of sufficient thickness and recess the plate so that the top of plate is flush with the roadway surface.

When working above a traveled roadway, provide falsework, netting or other means to prevent construction debris, including water, from falling to the roadway below.

When excavating for accelerated concrete replacement, excavate only that amount that can be replaced and the roadway opened to unrestricted traffic by the time allotted.

Protect blunt ends of existing barrier or bridge parapets that are exposed at any time during the project with a Shadow Vehicle equipped with a truck mounted attenuator. An alternate method of protection can be utilized upon approval of the District Traffic Engineer or authorized representative.

Notify the District Traffic Engineer's authorized representative in the Operations Section at 412-429-4973 two weeks prior to opening any portion of a closed roadway to traffic that has had any changes to the permanent traffic control devices, and has been determined by the Inspector-in-Charge to be opened.

Covering Inappropriate or Conflicting Signs:

Remove, cover, or fold existing and work zone signs that are conflicting, inappropriate, or are not applicable to existing and temporary conditions so that they are not readable by oncoming traffic.

When covering signs, completely cover them with a material that will prevent the sign from being read during all conditions of light and weather.A single layer of burlap or non-opaque materials are not permitted to be used to cover a sign since those materials may let the underlying sign message be seen at night because headlights reflect the message through the material.

Remove or deactivate any warning lights during those periods when signs are covered or folded.

Section 901.3(j)2 - Revise Footnote (2) to read:

Use channelizing devices with Type C steady burn lights attached.Space devices as follows:

1. drop-offs between travel lanes - 7.5 m (25-foot) spacing
2. drop-offs between travel lane and shoulder - 7.5 m (25-foot) spacing
3. drop-offs in or beyond shoulder - two times the normal speed limit.

When the condition is less than 7.5 m (25 feet), place a channelizing device at each end of the drop-off condition.

Section 901.4(a) Maintenance and Protection of Traffic During Construction. Revise by adding the following:

Includes floodlights, shadow vehicles, truck mounted attenuators, and associated maintenance, fuel, relocations, and operating costs for the duration of the project.

Section 901.4(b) Separate Pay Items. Revise by deleting the 6th and 26th bullets.

00 - c02031 Item 4203-0003 - Class 1A Excavation

Addendum:

Associated Item(s): 4203-0003

Header:

Provision Body:

In accordance with Section 203 except as follows:

Section 203.1(b) Class 1A Excavation. Revise to read:

Excavation for the removal of unsuitable material below subgrade having a variable width bottom, as indicated or directed. Sawcut as necessary. Includes backfilling as specified in Section 206, except only use No. 2A aggregate as specified in Section 350.2.

Revise by adding the following:

MATERIAL - Section 350.2 (a) Aggregates. Use No. 2A as specified in Sections 703.2 and 703.5.

Section 203.4 MEASUREMENT AND PAYMENT.Revise by adding the following:

Includes backfilling with No. 2A course aggregate

00 - c02081 Item 4208-0001 - Special Rolling

Addendum:

Associated Item(s): 4208-0001

Header:

Provision Body:

In accordance with the Special Provision entitled, Section 208 - Special Rolling, except as follows:

Section 208.1 DESCRIPTION - Revise to read:

This work is the Special Rolling of subgrade and embankments.

Section 208.3 CONSTRUCTION - Revise the second sentence of the first paragraph to read:

When the special rolling of any layer shows an area unstable or nonuniform, satisfactorily stabilize the area by providing additional compaction or by removing and replacing the unsuitable material with subbase material, and recompacting as specified in Section 350.3 and as directed. Payment for removal and replacement of unstable material will be paid for separately under Item 4203-0003.

00 - c03501 Item 4350-0110 - Subbase 10" Depth (No. 2A)

Addendum:

Associated Item(s): 4350-0110

Header:

Provision Body:

In accordance with Section 350 except as follows:

Section 350.2 MATERIAL - Revise to read:

(a) Aggregate - Provide material with a maximum absorption rate of 3.5% as determined by AASHTO T-85 and as specified in Sections 703.2 and 703.5.

I6011A - c06011 ITEM 4601-7014 - 18" REINFORCED CONCRETE PIPE, TYPE A

Addendum:

Associated Item(s): 4601-7014

Header:

Provision Body:

I. In accordance with Section 601 except as follows:

(a) Section 601.4(a) Pipe Culverts and Relaid Pipe Culverts. Revise the second sentence of first paragraph to read:

Payment includes the excavation, pipe, bedding material and backfill as shown on the Standard Drawings.

00 - c06041 Item 4604-7014 - 18" Reinforced Concrete Pipe, Type A, (Open Joint)

Addendum:

Associated Item(s): 4604-7014

Header:

Provision Body:

In accordance with Section 604 except as follows:

Section 604.4(a) Pipe. Revise by adding the following:

Payment includes the excavation, pipe, bedding material and backfill as shown on the Standard Drawings or detail drawings.

I6091F - c06091 ITEM 0609-0009 - EQUIPMENT PACKAGE

Addendum:

Associated Item(s): 0609-0009

Header:

Provision Body:

Appendix

Table A

EQUIPMENT PACKAGE	
Equipment	**Quantity**
Communications Equipment	
Copier (1)	1
Fax Machine (1)	1
Cellular Phone(s)	5
Electronic Equipment	
Digital Camera	1
Document Scanner (2)	--
Laser Printer (2)	--
Color Printer (2)	--
Specialized Equipment	
Surveyor's Level & Measuring Rod	--
Electronic Digitizer	--
Digital Display Level	1
Infrared Thermometer	1
Laser Range Finder	--
Paper Shredder	--
Miscellaneous Items	
Internet Service Provider	1
Computer Media	Yes
Toners/Cartridges	Yes

(1) Unless otherwise approved, a multifunction machine may not be furnished in lieu of a separate copier and fax.

(2) Unless otherwise approved, a multifunction machine may not be furnished in lieu of a separate scanner, laser printer and color printer.

Microcomputer Systems. A total of three microcomputer systems will be used on the project.

This information is being provided to assist Bidders in meeting the requirements of Section 609.2(f), Internet Service, and Section 609.2(g), Miscellaneous Materials.

Microcomputer systems may be furnished by the Department. If microcomputer systems are to be furnished by the Contractor, as part of the construction Contract, the bid will include applicable, 0688-XXXX bid items. When indicated, furnish microcomputer systems meeting the requirements of Section 688.

00 - c06200 Item 4620-0502 - Remove Existing Guide Rail (Department Property) Modified

Addendum:

Associated Item(s): 4620-0502

Header:

Provision Body:

In accordance with Section 620 except as follows:

Section 620.3(d) Remove Existing Guide Rail. Revise to read:

Contact PennDOT District 11-0 Maintenance Division (412-429-4952) two weeks prior to guide rail removal for inspection and delivery instructions. Remove existing guide rail including end treatments, anchor blocks, and steel posts from locations indicated and as directed, then dismantle into component parts and stockpile inside the right of way for delivery to the Department, as specified or indicated. After removing anchor blocks, backfill the void with embankment material.

Deliver usable guide rail and end treatments, anchor blocks, and steel posts to the Bridgeville Maintenance Area, 1353 Washington Pike at no additional cost to the Department. Dispose of the remaining unusable material outside the right of way. Contact Gina Russell (412-429-4952) at least one day prior to delivery to arrange access into the stockpile area. Deliver materials stacked and banded on skids.

Section 620.4(i) Remove Guide Rail. Revise by adding the following:

The price includes, as applicable, restoration of median pavement to match existing pavement types and depths as shown on the Standard Drawings (Roadway Construction).

00 - c06431 Item 4643-0001 - Temporary Concrete Barrier, Structure Mounted

Addendum:

Associated Item(s): 4643-0001

Header:

Provision Body:

In accordance with Section 643 except as follows:

Section 643.2 MATERIAL - Revise by adding the following:

- Painting Traffic Lines and Markings - Section 962.2
- Barrier Mount Delineation Devices - Section 937.2(a)

Section 643.3 CONSTRUCTION - Revise by adding the following:

Water blast the temporary concrete barrier with a minimum of 3,000 psi before painting. Apply pavement markings on temporary concrete barrier as indicated and as directed.

Install delineators as indicated, as directed, and according to the manufacturer's recommendations.

Maintain alignment, delineation, and condition of barrier as necessary, for the duration of the project.

Section 643.4(a) Temporary Concrete Barrier, Structure Mounted. Revise by adding the following:

Includes water blasting, pavement markings, and delineators.

00 - c08021 D11 Item 4802-0001 - Topsoil Furnished and Placed

Addendum:

Associated Item(s): 4802-0001

Header:

Provision Body:

In accordance with Section 802 except as follows:

Section 802.2 MATERIAL - Revise the fourth paragraph to read:

Obtain topsoil from outside the right of way, where the soil quality has proven to grow crops. Test samples of topsoil at the project site as directed.

00 - c09304 Item 4930-0004 - Post Mounted Signs, Type A

Addendum:

Associated Item(s): 4930-0004

Header:

Provision Body:

In accordance with Section 930, except as follows:

Section 930.1 DESCRIPTION - Revise as follows:

This work is furnishing and installation of fabricated aluminum signs of the type indicated on existing post and breakaway systems.

Section 930.2 MATERIAL - Revise as follows:

- Delete the second bullet in paragraph 930.2(a)
- Delete paragraph 930.2(b) and paragraph 930.2(c)

Section 930.3 CONSTRUCTION - Revise as follows:

Revise 930.3(b) as follows:

Location. Erect sign at existing location indicated on plans.

Delete paragraph 930.3(f) and paragraph 930.3(g).

Section 930.4 MEASUREMENT AND PAYMENT - Revise as follows:

Revise 930.4(a) as follows:

The unit price includes removal of existing signs.

Delete paragraph 930.4(b) and paragraph 930.4(c).

00 - c09311 Item 4931-0001 - Post Mounted Signs, Type B

Addendum:

Associated Item(s): 4931-0001

Header:

Provision Body:

In accordance with Section 931 except as follows:

Section 931.2 MATERIAL - Revise the second bullet to read:

- Breakaway Steel Posts - From a manufacturer listed in Bulletin 15, and as specified in Section 1103.08 except delete Section 1103.08(a).

00 - c10185 Item 1018-0050 - Removal of Portion of Existing Bridge

Addendum:

Associated Item(s): 1018-0050

Header:

Provision Body:

In accordance with Section 1018, except as follows:

Removal includes, but is not limited to the following: The existing concrete deck slabs, all barriers, sidewalks, and deck slab expansion joint components within the concrete deck slab removal limits, all scuppers and scupper supports, all associated downspouting, portions of wingwalls, wingwall barriers, abutment backwalls and portion of abutment stems as indicated, Abutment T NB/SB approach slabs, pier caps and columns as indicated, steel superstructure, steel box girder T-T1, bearings, Pier T1 fabricated steel support brackets, and as indicated on the contract drawings.

Section 1018.3(a) General. Revise by adding the following:

Do not decrease existing vertical clearance over railways less than 23'-0" with any devices to be left in place at the end of the workday.

If required, provide temporary traffic restrictions in accordance with the Special Provisions or Contract Drawings.

Debris from demolition or other operations is not permitted to fall onto the ground below the structure. For all portions of the structure where underdeck shielding or overhang shields are not required, the Contractor is responsible for making the necessary provisions to ensure that no debris falls from the structure. The provisions proposed by the Contractor are subject to approval of the Representative and are incidental to this item of work.

Notify the Representative immediately if any portion of the existing bridge designated for reuse is defective or otherwise unsuitable for reuse.

Use equipment in accordance with Section 1040.3(c) when removing existing substructure concrete within 1' of the boundary for portions of concrete units to remain.

Contractor's demolition plan shall address means to maintain stability of horizontally curved girders throughout the demolition procedure. Provide necessary temporary falsework, jacks, and/or holder crane(s) to maintain stability of the structure throughout the demolition operation. Address the girder rolling effects caused by the horizontal curvature.

Contractor's demolition plan for pier cap removal shall provide sequence, equipment, and load details, and shall show that the structural integrity is maintained for the remaining portion of the existing piers during all stages of the pier cap removal operation.

Patch any holes in concrete units following removal of downspout pipe supports by filling with non-shrink grout in accordance with Section 1001.2(e).

Section 1018.3(b) Structures Retained by the Department. Revise as follows:

Contact PENNDOT District 11-0 Maintenance Division, at (412) 429-4952 to coordinate all aspects of the structures to be retained by the Department.

The existing railing will be retained by the Department. Match- mark the members or parts, and coordinate the storage and transport of the materials, as specified below. Remove the railing from the structure, store onsite, and deliver to the PENNDOT Maintenance Facility located in Bridgeville, Pennsylvania. Load and transport the steel bridge railing to the requested location and coordinate the delivery location, delivery time, and off-loading of the material with the PENNDOT Maintenance personnel.

The existing fabricated steel support brackets and attachment hardware connected to Pier T1 will be retained by the Department. Remove the fabricated steel support brackets and attachment hardware and stockpile on site. Repair any damage done during the removal at the contractor's sole expense. Load and transport the fabricated steel support brackets and attachment hardware to the requested location and coordinate the delivery location, delivery time, and off- loading of the material with the PENNDOT Maintenance personnel.

Section 1018.3(c) Structures Retained by the Contractor. Revise as follows:

The Department will not retain the other portions of the structure indicated for removal. Remove and dispose of those portions of the structure removed in a satisfactory manner.

MEASUREMENT AND PAYMENT - Lump Sum, including removal, storage, delivery, and Department contact.

00 - c10267 Item 5026-0017 - Neoprene Strip Seal Dam, (4" Movement)

Addendum:

Associated Item(s): 5026-0017

Header:

Provision Body:

In accordance with Section 1026, except as follows:

Section 1026.1 DESCRIPTION - Revise to read:

This work is the furnishing and installation of one half of the steel retainer extrusion, a new neoprene strip seal, lubricant adhesive, and any other material or equipment required to complete this work. This work is for the neoprene strip seal expansion dam located at Pier T0 NB and Pier T0 SB.

The half of the steel retainer extrusion indicated to be re- used has been installed under a previous contract. Inspect the steel retainer extrusion for damage prior to the start of work. Provide the Representative with surveyed horizontal and vertical locations

of each steel retainer extrusion end point or bend location prior to the submittal of shop drawings for the new steel retainer extrusion. Develop the shop drawings with the as-surveyed information to provide a constructible and properly functioning joint.

Section 1026.3 CONSTRUCTION - Revise by adding the following:

Remove the existing Ramp T deck slab, one half of the steel retainer extrusion, and the neoprene strip seal with care as to not damage the portion of the steel retainer extrusion, deck slab, steel superstructure, or any portion of the structure indicated to remain.

Repair any damage to the portion of the structure indicated to remain to the satisfaction of the Representative and at no additional cost to the Department.

00 - c10510 Item 5051-0000 - Downspouting

Addendum:

Associated Item(s): 5051-0000

Header:

Provision Body:

DESCRIPTION - This work is the furnishing and installation of 10" steel pipe from the base of pier to storm sewer pipe as indicated. This work includes connections to the vertical downspouting from the above structure (SR 2037, Ramp T-SB and Ramp T-NB) and connections to existing storm sewer pipe.

MATERIAL -

- Fabricated Structural Steel - Section 1105, galvanized as specified in Section 1105.2(s).

CONSTRUCTION - In accordance with Section 601.3.

MEASUREMENT AND PAYMENT - Linear Foot. Includes pipe, elbows, fittings, bedding material and backfill as shown on the Standard Drawings.

00 - c10561 Item 5056-0100 - Fabricated Structural Steel

Addendum:

Associated Item(s): 5056-0100

Header:

Provision Body:

In accordance with Section 1056 and as follows:

Section 1056.1 DESCRIPTION - Revise by adding the following:

This work is also the surface preparation using hand or power tools and the field painting of the existing stub girder for the stub girder bolted web splice connection in accordance with Section 1060.

Section 1056.3 CONSTRUCTION - Revise by adding the following:

Power tool and/or hand tool clean all surfaces of the web of the existing stub girder located within the limits of the proposed bolted web splice connection plates and an area extending 1" beyond the bolted web splice connection plates in all directions. Cleaning

shall remove all rust, paint, mill scale and all other foreign matter. Existing paint that remains on around the periphery of the removal area is considered to be adequately adhered if it cannot be removed by probing with the blade of a dull putty knife in accordance with the procedure detailed within the SP 3 and SP 2 standards. Existing paint around the periphery of the removal area shall be superficially roughened and feather-edged for a distance of approximately 1" to 2" to aid adhesion and provide a uniform transition of the repair coating into the existing paint. The finish coat color shall match the existing finish coat color of the bridge. Submit paint color samples to the Representative for approval prior to ordering any finish coat material.

Section 1056.4 MEASUREMENT AND PAYMENT - Revise by adding the following:

The Department will not pay for bolts, nuts, or washers.

Surface preparation and field painting of the existing stub girder is incidental to this item.

I19992A - c19992 ITEM 1999-9999 - TRAINEES

Addendum:

Associated Item(s): 1999-9999

Header:

Provision Body:

This Special Provision is an implementation of 23 U.S.C. 140 (a).

I. DESCRIPTION - As part of the project equal employment opportunity affirmative action program, provide on the job training aimed at developing candidates toward full journeymen in the type of trade or job classification involved.

The number of trainees to be trained under this contract is (***as found in the Project Specific Details, Detail 1.***)

II. CONSTRUCTION -

(a) In the event a subcontract is given for a portion of the contract work, determine how many, if any, of the trainees are to be trained by the subcontractor. However, retain the primary responsibility for meeting the training requirements imposed by this special provision. Insure that this Special Provision is physically included and is made applicable to any such subcontract. Where feasible, provide 25% of apprentices or trainees in each occupation, in their first year of apprenticeship or training.

(b) Distribute the number of trainees among the work classifications on the basis of the project needs and the availability of journeymen in the various classifications within a reasonable area of recruitment. Within 10 calendar days following the Notice to Proceed, submit to the Department for approval the number of trainees to be trained in each selected classification and training program to be used, specifying the starting time for training in each of the classifications. The Department will give credit for each trainee employed on the contract who is currently enrolled or becomes enrolled in an approved program and payment will be made for such trainees as provided herein.

(c) Training and upgrading of minorities and women toward journeyman status is a primary objective of this Special Provision. Accordingly, make every effort to enroll minority trainees and women (e.g., by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent that such persons are available within a reasonable area of recruitment. Accept responsibility for demonstrating that steps are taken in pursuance thereof, prior to a determination as to whether compliance is made with this Special Provision. This training commitment is not intended, and do not use it, to discriminate against any applicant for training, whether a member of a minority group or not.

(d) Do not employ a person as a trainee in any classification in which he/ she has successfully completed a training program leading toward journeyman status or in which he/ she has been employed as a journeyman. Candidates may be trained a maximum of 3 times as long as the training is not repetitious in the scope of work and is not on the same project. Those candidates having attained journeyman status would be acceptable as trainee candidates only in classifications where they have not attained journeyman status. Satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, provide records documenting the findings in each case.

(e) The minimum length and type of training for each classification will be as established in the training program selected and submitted to and approved by the Department. The Department will approve a program if it is reasonably calculated to meet the project equal employment opportunity obligations and gives meaningful training to move candidates toward journeyman status. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved but not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training will also be considered acceptable provided they are being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Obtain approval or acceptance of a training program and training candidate from the Department prior to commencing work on the classification covered by the program. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Department. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

(f) Furnish the trainee a copy of the program he/she will follow in providing the training.

(g) Provide each trainee with a certification showing the type and length of training satisfactorily completed.

(h) Provide for the maintenance of records and furnish required reports documenting his/her performance under this Special Provision.

(i) Pay no less than the common laborer rate for this project to any trainee performing in a construction craft (percentage payments are no longer in effect). Pay non-construction crafts, such as timekeeper, office manager, and surveyor, the fair market rate for those services or classifications. Trainees in construction crafts may remain at the common laborer rate throughout the training program. Upon completion, pay trainees in accordance with wage rates scale for this contract for work performed. In the case of apprentices, the appropriate rates approved by the Federal Departments of Labor or Transportation in connection with the existing program apply to all trainees being trained for the same classification who are covered by this Special Provision.

III. MEASUREMENT AND PAYMENT - Hour

Will be paid as follows:

(a) Except as otherwise noted below, payment will be made per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, payment will be made for training persons in excess of the number specified herein. Payment for offsite training indicated above may only be made where one or more of the following is done and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

(b) No payment will be made due to failure to provide the training required as stated in the approved training program. Make every good faith effort to retain the trainee upon completion of the training program, if work continues to be available in that classification. It is normally expected that a trainee will begin his/her training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in the work classification or until he/she has completed the training program. It is not required that all trainees be on board for the entire length of the contract. Responsibilities will have been fulfilled under this Special Provision if acceptable training has been provided to the number of trainees specified. Determine the number trained on the basis of the total number enrolled on the contract for a significant period.

Project Specific Details:

1. The number of trainees to be trained under this contract as referred to in para I. is: TWO

00 - c90001 Item 9000-0001 - Sawcut of Existing Pavement

Addendum:

Associated Item(s): 9000-0001

Header:

Provision Body:

DESCRIPTION - This work is sawcutting of the existing pavement as directed.

CONSTRUCTION - As directed.

MEASUREMENT AND PAYMENT - Linear Foot

00 - c90002 Item 9000-0002 - Underdeck Protective Shielding

Addendum: 1

Associated Item(s): 9000-0002

Header:

Provision Body:

DESCRIPTION - This work is the installation of underdeck protective shielding and cantilevered combination work platforms and protection shields (where required) supported by the existing structural steel framing superstructures. Underdeck protective shielding is required over Turtle Creek and all roadways and railways open to traffic during the structure rehabilitation.

The underdeck protective shielding must maintain a minimum 14'-6" vertical clearance over all roadways and must maintain a minimum 23'-0" vertical clearance over all railways.

MATERIAL - Construction materials used may be produced or manufactured from forest products (lumber shapes, hardwood, or plywood) and/or metal shapes of proper size, dimension, and strength.

CONSTRUCTION - The underdeck protective shielding is to be designed to carry a load of 200 pounds per square foot. The Contractor is to submit the design and drawings for the underdeck protective shielding to the District Executive for review and approval. Do not place any of the protective shields until the design and drawings have been accepted. **Allow 21 days for review by the District Executive.** The Contractor's design and drawings for the work must be signed and sealed by a Professional Engineer, registered in the State.

The longitudinal installation of the protective shielding must include the full length from substructure to substructure for the required spans, unless noted otherwise. Install underdeck protective board shielding on the bottom flanges perpendicular to the girder in the interior framing bays. Butt edges of adjacent boards together. Cover with hardwood or plywood sheeting.

Support overhang shields/ work platforms from the fascia beam. Welding of support brackets to the existing fascia beam compressive flange is acceptable.

Place all shielding and support brackets to provide a minimum vertical clearance of 14'-6" to the active roadways underneath and 23'-0" to the active railways underneath. Provide an approved, impervious membrane (Polyethylene Construction Sheeting - minimum of 4 mils) atop the shielding to ensure debris does not fall through any cracks or openings.

Operate all equipment with care to prevent damage to the existing structural steel framing designated to remain. If such damage should occur, the members are to be repaired and/or replaced by the Contractor to the satisfaction of the Representative and at no additional cost to the Department.

All debris is to be removed from the impervious membrane/protective shielding at the end of each workday.

MEASUREMENT AND PAYMENT - Lump Sum

00 - c90011 Item 9001-0001 - Sign Structure, Anchorage

Addendum:

Associated Item(s): 9001-0001

Header:

Provision Body:
In accordance with Section 1001 and as follows:

Section 1001.2 MATERIAL - Revise by adding the following:

(l) Sign Structure Anchorage. Provide as indicated.

- Anchor Bolts, Nuts, and Washers - Section 1105.02(c)3 (metallic coated)
- Steel Angle and Steel Template - Section 1105.02(a)2
- Conduit - Section 1101.09
- PVC Pipe - Section 1101.09

Section 1001.3 CONSTRUCTION - Revise by adding the following:

(w) Placing the Sign Structure Anchorage.

Construct the sign structure anchorage as an integral part of the structure. Where indicated, install anchor bolts, nuts, washers, conduit, drain pipe, steel angles, steel template, and the required fittings. Cap the conduit with a cap or plug to prevent entry of foreign material and moisture.

Section 1001.4 MEASUREMENT AND PAYMENT - Revise by adding the following

(i) Sign Structure, Anchorage. Each

The price includes anchor bolts, nuts, washers, conduit, drain pipe, steel angle, steel template, and required fittings.

00 - c90016 Items 9006-0212/0312 - Drilled Caissons

Addendum: 2

Associated Item(s): 9006-0212, 9006-0312

Header:

Provision Body:
In accordance with Section 1006, except as follows:

Section 1006.2(b) Class A Cement Concrete. Revise to read

Self-Consolidating Concrete. Section 704 except as follows:

Use Class A Cement Concrete in drilled shaft construction. Use Type A, No. 8 coarse aggregate in accordance with Section 703.2. Use only natural sand. The sand/total aggregate ratio shall not exceed 0.5. The Proportions Coarse Aggregate Solid Volume as specified in Table A of Section 704.1(a) shall be no less than 9.0 cubit feet/cubic yard. Use viscosity modifiers.

The mix designs are to meet the following at the point of replacement.

- Slump Flow, in accordance with ASTM C1611, of 21" + 3" measured horizontally. The Visual Stability Index (VSI) of the concrete is to be 1.5 or less.
- J-Ring, in accordance with ASTM C1621, within 2" of the Slump Flow result.
- A maximum water-cementitious materials ratio of 0.43.
- No segregation of the mixture will be permitted.
- **Plastic Air Content, in accordance with AASHTO T196 or T152, 6.0% ± 1.5%.**

Mold 1 cylinder for each design to be evaluated by MTD for hardened air content in accordance with PTM 623. The percentage of entrapped air content cannot exceed 1.5% for mix design approval.

No field adjustments of any chemical admixtures will be permitted.

In addition to the Testing and Acceptance requirements of Section 704.1(d), except the Slump limits in Section 704.1(d)4.a, include the above criteria, action points and corrective actions in the Field Operations QC plan.

In addition to the Acceptance Testing requirements of Section 704.1(d)5, perform a slump flow test in accordance with ASTM C1611. Perform a j-ring test in accordance with ASTM C1621. Perform a plastic air content in accordance with AASHTO T196 or T152. Determine the water to cementitious materials ratio. In addition, obtain separate samples in accordance with PTM No. 601 from the first truck and every 2 hours thereafter for slump testing. Perform a slump test in accordance with AASHTO T119 every hour on each sample obtained for slump testing. Reject all concrete not meeting the specification requirements.

Section 1006.3 CONSTRUCTION - Replace the first sentence of 1006.3(a) with the following:

Excavate to the dimensions and elevations indicated, unless the Representative determines that the foundation material encountered during excavation is unsuitable or differs from that anticipated in the design of the drilled shaft, in which case the bottom elevation of drilled shafts and rock sockets shown on the plans may be adjusted during construction.

Add the following to Sections 1006.3(a) and delete all references to belled footings and bentonite slurry usage:

Ensure that the excavation and drilling equipment have adequate capacity including power, torque, and down thrust (crowd) to excavate a hole of the maximum diameter shown on the plans and to a depth of 120 percent of the drilled shaft length, but not less than 15' beyond the rock socket tip depths shown in the contract documents. Submit the minimum output of the drill rig torque and crowd to the Representative.

Extend all shafts into rock sockets to bear into the rock, as indicated on the plans. The estimated lengths shown on the plans and in the geotechnical report are considered to be approximate. Actual lengths and embedment will be verified by inspection of the Representative. Additional shaft lengths might be required depending on actual subsurface conditions. Shaft lengths other than those indicated on the plans or in the geotechnical report may only be constructed with the written approval of the Representative.

Clean the bottoms of shafts and rock sockets. Remove all loose or soft material. Dispose of excavated material in accordance with Federal, State, and Local Regulations.

Use the temporary casing construction method. This method consists of drilling, pushing, or twisting a casing to a prescribed depth before excavation begins. If full penetration cannot be attained, the Representative may require either excavation of material within the embedded portion of the casing or excavation of a pilot hole ahead of the casing until the casing reaches the desired elevation. In some cases, over reaming to the outside diameter of the casing may be required in order to advance the casing.

Drill the smaller diameter rock socket under the temporarily cased drilled shaft.

Promptly remove tools lost in the shaft during drilling without compensation. All costs due to lost tool removal are at no expense to the Department, including but not limited to costs associated with hole degradation due to removal operations or the time the hole remains open.

Do not start construction of any production shaft until the Representative has approved the Drilled Shaft Installation Plan. The Representative has 21 days to review the results of the test hole drilling.

Test hole drilling is required.See Section 1006.3(b).

Delete Sections 1006.3(c) and 1006.3(d).

Add the following to Section 1006.3(e):

1. Provide all labor, equipment, material, and other necessary items to perform inspections of the bottoms of all production shafts using a miniature shaft inspection device (Mini-SID). The Mini-SID consists of a camera sealed inside a watertight jacket that can be used to observe the bottom of the shafts. Also, provide electrical power, cable connections, monitor, recording system and any other necessary electronic devices. Provide a probe inside the Mini-SID to measure the amount of sediment on the bottom of the shaft. Use a Mini-SID manufactured by.

- GPA, Inc; 4509 N.W. 23rd Avenue, Suite 16; Gainesville, Florida; Tel: 888-399-2404 or 352-378-2792
- Applied Foundation Services, Inc.; 1060 Roland Ave; Green Cove Springs, Florida; Tel: 904-2841337
- William Earth Sciences, Inc.; 1900 NW 40th Court; Pompano Beach, Florida; Tel: 954-972-7570
- Or an approved equal

Procure the Mini-SID and provide training for drilled shaft supervisory personnel, as well as the Representative. A qualified technical representative of the Mini-SID manufacturer is required to be present on the work site to supervise the set-up of equipment, train operators, give instructions on proper use of the equipment, provide technical assistance to remedy or repair any malfunction of the equipment and consult with the Representative and the Contractor. Have the technical representative remain on-site for as long as needed, as determined by the Representative, but not less than the period required to complete the inspection of a successful shaft. Have the technical representative be available on short notice at any time during the drilling of production shafts. Do not begin any drilled shaft installation until the Mini-SID is on site and the required training has occurred.

In the event that the Mini-SID becomes inoperable during construction, cease all drilled shaft installation until the Mini-SID becomes operable again.

Use the Mini-SID to inspect the bottom of each shaft prior to placing the rebar cage in the shaft. Use the probe on the Mini-SID to determine the amount of sediment on the bottom of each shaft.

Shaft cleanliness will be determined by the Representative. The maximum depth of sediment or any other debris at any place on the bottom of the shaft is 0.5". Do not begin concrete placement if more than 50% of the shaft base is covered by 0.5" or more of sediment. The Representative may require a different bottom cleaning procedure at the Contractor's expense.

Submit preliminary results of the Mini-SID inspection to the Representative as soon as practical after the inspection has occurred. Submit a final Mini-SID inspection report for each drilled shaft to the Representative within three days of the completion of the inspection.

Record the Mini-SID inspections on videotape. At a minimum, record the date, shaft number, and camera position on the videotape.

2. Non-Destructive Testing. Non-destructive testing, consisting of Crosshole Sonic Logging (CSL), is required for all production drilled shafts. Have the CSL tests performed by an experienced independent testing agency retained by the Contractor and approved by the Representative prior to testing. CSL Testing shall be performed in a fashion that is consistent with ASTM International D 6760-02.

Equip all drilled shafts with 2" inside diameter, flush jointed, schedule 40 steel access pipes for CSL testing. Ensure that the access pipes have a round, regular internal diameter free of defects or obstructions, including at any pipe joints, in order to permit the free, unobstructed passage of source and receiver probes. Ensure that the access pipes are watertight and free from corrosion with clean internal and external faces to ensure passage of the probes and to ensure a good bond between the concrete and the pipes. Fit each pipe with a watertight shoe on the bottom and a removable cap on the top. Access pipes will be used to ensure there is a minimum of one access pipe for every 0.3 meter (0.98') of shaft diameter, with a minimum of 3 access pipes equally spaced around the circumference. The number and position of pipes in each shaft is indicated on the drawings.

Tie or otherwise secure the pipes to the interior of the reinforcing cage at equal intervals so that the pipes stay in position during insertion of the reinforcing steel cage and concrete placement. Keep the pipes as near to vertical and parallel to each other as possible. Position 3" above the rock socket bottom and at least three feet above the shaft top, or ground or water surface, whichever is greater. Do not permit the pipes to rest on the bottom of the drilled excavation. Make any joints required to achieve full length pipes watertight. Take care not to damage the pipes and to maintain pipe alignment during reinforcement installation operations in the drilled shaft hole. Identify each CSL pipe with a unique number for verification during testing.

After placement of the reinforcement cage, immediately fill the CSL pipes with clean water (before concrete placement) and cap or seal the pipe tops to keep debris out of the pipes. Before the placement of concrete, plumb a minimum of one pipe per drilled shaft, and record the length of pipe, including a notation of the stickup of the pipes above the shaft top. Provide the information, along with information on the shaft bottom and top elevations and/or length, and the construction date, to the Representative before the CSL tests. Maintain the access pipes full of water after concrete placement until the CSL testing.

Test completed drilled shaft foundations with Crosshole Sonic Logging no sooner than three days and no more than seven days after casting. The Representative may specify longer than seven days if special retarders, mix designs, or other factors result in slower-setting concrete. Complete all CSL testing on a drilled shaft by an experienced and approved independent testing agency within 30 calendar days of concrete placement.

Provide all necessary equipment to conduct the CSL testing. The CSL equipment typically consists of the following: a microprocessor-based CSL system for display of individual CSL records, analog-digital conversion and recording of CSL data, analysis of receiver responses, and printing of CSL logs; ultrasonic source and receiver probes for 2.0" ID pipe; an ultrasonic voltage pulsar to excite the source with a synchronized triggering system to start the recording system; a depth measurement device to determine and record depths; and appropriate filter/amplification and cable systems for CSL testing.

CSL testing shall be conducted in each drilled shaft between adjacent pipes on the shaft perimeter and between all diagonal pipe pairs, unless otherwise modified by the Representative. Additional logs may be required at no additional cost in the event any anomalies are detected in the specified logs. Use the full depth of all pipes for conducting CSL test unless otherwise approved by the Representative. If an access pipe is blocked, the Representative will determine what action should be taken in response. Exercise care in the removal of caps or plugs from the after installation so as not to apply excess torque, hammering, or other stresses which could break the bond between the pipes and the concrete.

Carry out the CSL tests in accordance with ASTM D6760, with the source and receiver probes in the same horizontal plane unless test results indicate potential anomalies/defects in which case the questionable zone may be further evaluated with angled tests (source and receiver vertically offset in the tubes). Make CSL measurements at depth intervals of 6" or less, performed from the bottom to the top of each shaft. Pull the probes simultaneously, starting from the bottoms of the pipes, over the depth-measuring device. Remove any stack from the cables prior to pulling to provide accurate depth measurements in the CSL records,

CSL testing will be evaluated to identify potential shaft flaws in accordance with the following criteria:

- Satisfactory areas on the CSL records will be identified by first arrival times (FAT) consistent within 10%, and energy reductions less than 6 decibel (dB).
- Anomalous areas will be identified with a FAT increase of 10 to 20% and an energy reduction of less than 6 dB.
- Flawed areas will be identified with a FAT increase of 20 to 30% or an energy reduction of 6 to 10 dB.
- Defect areas will exhibit a FAT greater than 30% and/or an energy reduction greater than 1 dB.

Defects must be addressed if they affect more than one CSL record. Flaws must be addressed if they affect more than 50% of the CSL records. Defects or flaws covering the entire cross section define a full layer defect and may be cause for rejection of the shaft or require repair.

Report any flaws or defects to the Representative on site. If a flaw is not across the full cross section, the flawed area including 1 meter (3.28') above and 1 meter (3.28') below will be further assessed by tomographic CSL testing. Otherwise perform any further tests as required to evaluate the extent of such flaws or defects. Supplemental non-destructive test methods, which could be used if flaws or defects are identified, include Angled Crosshole Sonic Logging, Crosshole Tomography, Single hole Sonic Logging, Gamma- Gamma Nuclear Density Logging, and/ or Sonic Echo and Impulse Response test. Flaws and defects will require immediate assessment and integration with design considerations relative to the location and volume affected.

Present the CSL results to the Representative in a written report within 7 days after completion of the testing at each drilled shaft. Ensure that the test results include CSL logs with analyses first arrival time or compression wave velocity versus depth, and pulse energy/amplitude versus depth. Present a CSL log for each pipe pair tested with any anomaly, flaw, or defect zones indicated in the logs and discussed in the report as appropriate.

The Representative will evaluate the CSL test results and determine whether or not the drilled shaft construction is acceptable. The Representative has 14 days after receiving the written CSL test report to evaluate the CSL test results and approve or disapprove the drilled shaft construction.

The acceptance of each drilled shaft will be the decision of the Representative, based on the results of the CSL testing and other information on the shaft placement. Rejection of a shaft will require conclusive evidence that a defect exists in the shaft which will result in inadequate or unsafe performance under service loads. If the non-destructive test records are complex or inconclusive, the Representative may require coring or excavation of the shaft to verify shaft conditions. If a defect is confirmed, all coring or excavation costs will be at no additional cost to the Department. If no defect is encountered, the Department will pay for all coring or excavation costs, including grouting of all core holes.

In the event testing discloses voids or discontinuities in the concrete that indicate the drilled shaft is not structurally adequate as determined by the Representative, the shaft will be rejected. Submit a plan for remedial action to the Representative for approval. Any modifications to the foundation shafts and load transfer mechanisms caused by the remedial action requires calculations and working drawings stamped by a Professional Engineer registered in the State for all foundation elements affected. Suspend construction of additional drilled shafts until the Contractor repairs, replaces or supplements the defective work, and the Representative approves the remedial work. Provide all labor and materials required to perform remedial action at no cost to the Department and with no extension of the contract time.

Upon completion of the CSL testing of production shafts and acceptance of the CSL results by the Representative, remove all water from the pipes and any other drilled holes, and then completely grout the pipes and holes with mortar.

3. Core Drilling of Drilled Shaft Concrete. When directed by the Representative, core production drilled shafts that are determined to be unacceptable based on non-destructive tests. Take one core sample from each defective shaft for the full depth of the irregularity and for three feet above and below the irregularity.

Drilling firms must be prequalified in accordance with PENNDOT's Standard Specification for Subsurface Borings, Sampling, and Testing, Publication No. 222, to perform core drilling. Obtain cores using a core barrel of size HQ, or larger. Set the core drill machine so that the drill force will be exactly vertical and so there will not be more than 5' of laterally unsupported drill rod between the bottom of the drill spindle (chuck) and the top of the shaft concrete when the hydraulic feed is in the up position. If longer laterally unsupported sections of drill stem are necessary, use braced casing or rigidly braced guides to prevent lateral whip. Drill, log, and store the core in accordance with the PENNDOT's Standard Specification for Subsurface Borings, Sampling, and Testing, Publication No. 222.

Provide the Representative with the cores along with two copies of the coring log for inspection and testing. Do not proceed with construction above the drilled shaft until the quality of the concrete in the shaft, as represented by the core samples, is determined to be acceptable and notification to continue construction is given by the Representative.

If the quality of the concrete in the drilled shaft is determined to be acceptable, grout the entire core hole in the shaft starting from the bottom with mortar.

Replace the first paragraph of Section 1006.3(f) with the following:

Immediately after inspection and approval of the drilled shaft excavation by the Representative, place the reinforcing steel cage into the shaft as one unit. Support the steel cage a minimum of 3" above the bottom elevation of the rock socket. Support from the tops so that racking and distortion are prevented. Use non-corrosive, roller-type spacers, or other spacer devices approved by the Representative, along the steel cage length and around the steel cage perimeter to align and maintain clearance from reinforcing cage to edge of casing during concrete placement. Begin placing the drilled shaft concrete immediately after the Representative has inspected and approved the cage for location and alignment within the drilled shaft.

Replace the fourth sentence of Section 1006.3(h), which start with "Place concrete within ...", with the following:

Perform excavation of each drilled shaft so that concrete placement, following the completion of the drilling operations, is started within 48 hours after final approval of the excavation by the Representative.

Add the following to Section 1006.3(h)

After the reinforcing steel cage has been installed in the drilled shaft and rock socket and is approved by the Representative, the concrete placement may begin. Place concrete by the tremie method in accordance with Section 1006.3(h)2, unless otherwise approved by the Representative.

Bring concrete to a level surface inside the shaft and construct a formed full-width cross key, or install dowels if it becomes necessary to interrupt placing concrete in any drilled shaft. Prior to placing additional concrete, clean surfaces of laitance and coat with a neat Portland cement paste.

The minimum concrete placing rate is 25 cubic yards of concrete per each one-hour period to meet the workable concrete limit. Ensure that the concrete mix is of such design that the concrete remains in workable plastic state throughout the placement of the concrete for the entire drilled shaft.

Delete Section 1006.3(h)1.

Add the following to Section 1006.3(h)2.

If water enters the pipe after placement is started, withdraw the tremie pipe, reseal all joints, and restart the placement.

Delete Sections 1006.3(h)4 and 1006.3(h)5.

Add the following to Section 1006.3(j):

Document minimum Record Information, in accordance with FHWA Publication No. GEC-010 "Drilled Shafts" or ADSC: The International Association of Foundation Drilling, "Drilled Shaft Inspector's Manual" (1989). Submit a copy of the inspection report planned for use to the Representative for approval. Submit records on a weekly basis, or more frequently if requested.

Upon completion of drilled shaft work, provide a record of centerline of the drilled shaft locations based on the survey of the registered surveyor provided. In addition, record corrective measures, if used. Deliver a complete tabulation of all records pertaining to approved drilled shafts and rock sockets to the Representative at the completion of all drilled shaft installations for this project. Submit draft record information for each completed shaft to the Representative within twenty-four hours of completion. Submit final record drawings of each drilled shaft installed no more than three weeks after completion of the work.

Add the following to Section 1006.3(k):

Work performed must be conducted by a contractor/subcontractor specializing in drilled shaft foundation systems and installing drilled shafts of diameters similar to the specified diameters of the drilled shaft foundation system for this project and under soil conditions similar to the subsurface conditions indicated in the soil borings logs for this project using the cased method. Experience in the drilling of rock sockets is also required. Installation of two large diameter (minimum of 5.5') rock sockets within the last eight years is acceptable experience.

1. Ensure that the Contractor/Subcontractor's equipment has the capacity to undertake the work and is sufficient to complete the work within the specified contract time.
2. Experience in crosshole sonic logging (CSL) testing. The minimum previous experience of the crosshole sonic logging subcontractor is conducting at least five crosshole sonic logging tests on drilled shafts of similar large size in the past eight years.

Add Section 1006.3(l) Tolerances

The following construction tolerances shall be maintained:

1. After all the shaft concrete is placed, ensure that the top of the reinforcing steel cage is no more than 6.0" above or 3.0" below the elevation shown on the plans.
2. Ensure that the inside diameter of the temporary casing is not less than the shaft diameter shown on the plans.
3. Ensure that the top elevation of the shaft is within plus 1" or minus 3" from the top of shaft elevation shown on the plans.
4. Ensure that the bottom of the shaft excavation is normal to the axis of the shaft within 3/8" per foot of shaft diameter.

Drilled shaft excavations constructed in such a manner that the concrete shaft cannot be completed within the required tolerances are unacceptable. Submit correction methods for the Representative's approval. Obtain this approval before continuing with the drilled shaft construction. Furnish materials, engineering and work necessary to correct for out-of-tolerance drilled shafts at no additional cost to the Department.

Add Section 1006.3(m) Drilled Shaft Installation Plan

Submit to the Representative for examination, a Drilled Shaft Installation Plan for the construction of all drilled shafts and rock sockets not less than thirty days before the start of work. The construction of any drilled shaft will not be permitted to start until the complete installation plan submittal as described above has been received, reviewed and written approval to begin drilled shaft construction has been issued by the Representative.

Include the following in this Drilled Shaft Installation Plan:

1. A list of proposed equipment to be used including the size of cranes, drills, augers, bailing buckets, final cleaning equipment, de-sanding equipment, sampling equipment, tremie equipment, concrete pumps and other appurtenances.
2. Details of overall construction operation sequence and the sequence of drilled shaft and rock socket construction, including scaled plan and profile showing the location, size and movements of equipment setup and operations, including a detailed access plan for each substructure unit. Note when the completion of any required integrity tests are required in the construction operation sequence.
3. Submit project experience and resumes in accordance with requirements added to Section 1006.3(k) that is titled, "Qualifications".
4. Details of drilled shaft and rock socket excavation and proposed stabilization methods.
5. Method of monitoring verticality of the drilled shaft during excavation and details of proposed corrective measures to be implemented as necessary.
6. Specific details of methods to clean the shaft and rock socket excavation. Include details of method for identifying type of bearing material for consistency with design assumptions prior to placement of concrete.
7. Details of reinforcing steel bar placement including support and centralization methods.
8. The concrete mix design, including admixtures and the type and percentage of pozzolan proposed. Also include details of concrete placement, curing, and protection.

9. Record of cylinder breaks of the proposed concrete mix design, including slump test, sieve analysis, set time for mix, temperature records for a demonstration pour of a size of three or more cubic yards with a minimum dimension of 4' in all directions.
10. A copy of the proposed report format for planned shaft and rock socket inspections. Record information for each shaft and rock socket and details of any required integrity tests.

Add Section 1006.3(n) Site Operations

Conduct operations in a neat and orderly manner. Do not place or store equipment and materials beyond limits approved by the Representative and promptly remove said equipment and materials when no longer needed. Confine all materials, water, and auger cuttings to the specified work area to prevent migration from the specified work area.

Add Section 1006.3(o) Welding

Conduct detailing and field welding in accordance with AASHTO/ AWS D1.1/ D1.1M-2008. Provide qualification of welding procedures, welders and welding operators in accordance with AWS D1.1, Clause 4. Have records of test results of welding procedures not pre-qualified and copies of records for each qualified welding operator, containing records on positions of welding and types of electrode qualifications, available for examination by the Representative.

Add Section 1006.3(p) Drilled Shaft Pre-Construction Meeting

Attend a pre-construction meeting to discuss drilled shaft construction. The meeting will be held after all drilled shaft submittals have been received and reviewed by the Department and at least 20 days prior to the beginning of drilled shaft construction. The purpose of the meeting is to discuss construction procedures, personnel and equipment to be used. The following are required to attend:

Project Superintendent, Drilled Shaft Superintendent, and other individuals designated by the Department. If the Contractor's key personnel change or if the Contractor proposes a significant revision to Drilled Shaft Installation Plan, an additional drilled shaft pre-construction meeting may be required at the discretion of the Representative.

For any required fill earth retention structures(s), submit the design and drawings for the structure(s) to the District Executive for review and approval. Do not construct any portion of the structure until the design and drawings have been accepted. Allow 21 days for review by the District Executive. The Contractor's design and drawings for the work must be signed and sealed by a Professional Engineer, registered in the State.

Section 1006.4 MEASUREMENT AND PAYMENT - Revise by adding the following

Mobilization, Reinforcement bars, Class A Cement Concrete, and Temporary Shaft Casings are incidental to the shafts and rock sockets for all production shafts.

Any grading, fill earth retention structure(s) required for access to construct the drilled shafts, and restoration of the slope to the original contours is incidental to the shafts and rock sockets for all production shafts.

Any fence required to be removed for access is to be removed and reinstalled is incidental to the shafts and rock sockets for all production shafts.

Add Section 1006.4(i) Crosshole Sonic Logging (CSL) Tubes - Incidental to 72" Diameter Drilled Caissons, Shaft Section

Add Section 1006.4(j) Crosshole Sonic Logging (CSL) Testing - Incidental to 72" Diameter Drilled Caissons, Shaft Section

00 - c90192 Item 9019-0020 - Protective Coating for Reinforced Concrete Surfaces

Addendum:

Associated Item(s): 9019-0020

Header:

Provision Body:

In accordance with Section 1019 and as follows:

Section 1019.1 DESCRIPTION - Revise by adding the following:

Use a protective coating from a manufacturer listed in Bulletin 15, Section 1019.2 (b). Provide the PENNDOT approved color "Concrete Grey".

Apply the protective coating to all exposed surfaces of Pier T1 SB in accordance with the manufacturer's requirements.

00 - c90260 Item 9026-0018 - Neoprene Strip Seal Dam, (5" Movement)

Addendum:

Associated Item(s): 9026-0018

Header:

Provision Body:

In accordance with Section 1026.

00 - c90441 Item 9044-0001 - Texturizing Concrete Bridge Deck Surface

Addendum:

Associated Item(s): 9044-0001

Header:

Provision Body:

DESCRIPTION - This work is sawing transverse grooves in new concrete bridge deck surfaces, including new Class AAA Cement Concrete bridge decks and new latex modified concrete wearing surfaces, to provide a textured surface as indicated and directed.

CONSTRUCTION - For Class AAA Cement Concrete, do not begin grooving operations until directed by the Engineer, the concrete has reached a compressive strength of 4000 psi as per PTM No. 604, and the grooving equipment live loads can be applied in accordance with Section 1001.3(q)2.2c.

For latex modified concrete, do not begin grooving operations as required in 1042.3(c), the concrete has reached a compressive strength of 3000 psi as per PTM No. 604, and the grooving equipment live loads can be applied in accordance with Section 1042.3 (g).

Texturize the deck surface with uniformly pronounced grooves sawed perpendicular to the centerline. Saw the grooves approximately 0.125" wide with a tolerance of 0.015" and 0.188" deep with a tolerance of 0.062". Use a random groove pattern of 1.5", 1.75" and 2" center-to-center spacing with a tolerance of 0.125".

Terminate grooves 12" from curb lines.

Do not saw grooves closer than 2" or further than 3" from the edge of any joint.

If areas of the deck surface exist where a single pass of the grooving machine cannot be made across the entire width of the deck surface, do not leave more than 2" of the surface without sawed grooves or overlap sawed grooves.

Remove and collect all debris and slurry resulting from the grooving operations concurrently with the grooving operations. Surfaces are to be immediately left in a washed and clean condition, free from all debris and slipperiness from slurry. Remove collected material from the grooving operations from the project in a satisfactory manner.

MEASUREMENT AND PAYMENT - Square Yard. Measured as the finished grooved area.

00 - c90500 Item 9050-0085 - Laminated Neoprene Bearing (Stub Girder)

Addendum:

Associated Item(s): 9050-0085

Header:

Provision Body:

DESCRIPTION - This work is the fabrication and installation of the laminated neoprene bearing pads with steel hardware and PTFE sliding surface for the stub girders at Pier T0 NB and Pier T0 SB as indicated.

This work also includes the removal of the existing sole plate on bottom flange of the existing stub girder and the cleaning and field painting of the removal area in accordance with Section 1060 using a three coat system including an organic zinc-rich primer.

MATERIAL -

- PTFE Sliding Surface - Section 1111.02(c)5. Bonded to steel substrate in accordance with Section 1111.02(c)12.a.1 with an approved adhesive in accordance with Section 1111.02(c)4
- Structural Steel - AASHTO M 270/M 270M (ASTM A 709/A 709M), Grade 50 in accordance with Section 1111.02(a)
- Stainless Steel - ASTM A240, Grade 30, Type 304 with an ANSI 0.02 mil surface finish or less in accordance with Section 1111.02(c)11
- Coating System - Section 1060.02(a)
- Bedding Material - Section 1113.03(h), Type II

CONSTRUCTION - Prior to construction of Pier T0 NB and Pier T0 SB pedestals, survey the bottom of each existing stub girder at the stub girder bolted web splice connection location and verify the stub girder concrete pedestal elevation at Pier T0 NB and Pier T0 SB as shown on the contract plans. Submit survey data and required pedestal elevations to the Representative for review and approval.

Remove the existing sole plate on bottom flange of the existing stub girder and grind welds flush. Paint the removal area using a three coat system. Power tool and/or hand tool clean all surfaces located in the removal area. Cleaning shall remove all loose rust, loose paint, loose mill scale and all other foreign matter. Existing paint that remains on around the periphery of the removal area is considered to be adequately adhered if it cannot be removed by probing with the blade of a dull putty knife in accordance with the procedure detailed within the SSPC-SP 3 and SSPC-SP 2 standards. Existing paint around the periphery of the removal area shall be superficially roughened and feather-edged for a distance of approximately 1" to 2" to aid adhesion and provide a uniform transition of the repair coating into the existing paint. The finish coat color shall match the existing finish coat color. Submit paint color samples to the Representative for approval prior to ordering any finish coat material.

Set stub girder on the stub girder bearing before marking or drilling holes for the stub girder bolted web splice connection with the existing stub girder.

Do not make the field welded connection between the stub girder bottom flange and the stub girder bearing before the stub girder bolted web splice connection is complete.

Provide shim plates or grout pad of the required thickness to correct any vertical gaps between the stub girder bottom flange and the stub girder bearing. Submit means of correction to the Representative for review and approval. Weld any additional shim plates to both the bottom flange and the 1" shim plate detailed on the contract plans using minimum size fillet welds all around.

Provide full contact between stainless steel plate and PTFE sliding surface after web splice connection is complete.

MEASUREMENT AND PAYMENT - Each

Anchor bolts will paid for under Item 1056-0110.

00 - c90565 Items 9056-0552/0553 - Supper, Type B Modified (Type 1)/(Type 2)

Addendum:

Associated Item(s): 9056-0552, 9056-0553

Header:

Provision Body:

In accordance with Section 1056 except as follows:

Section 1056.1 DESCRIPTION - Revise to read:

This work is the furnishing and installation of Type B Modified scuppers as indicated.

Section 1056.4 MEASUREMENT AND PAYMENT - Revise to read:

Each

00 - c91091 Item 9100-9001 - Repair Deteriorated Concrete

Addendum:

Associated Item(s): 9100-9001

Header:

Provision Body:

DESCRIPTION - This work is repairing deteriorated areas of concrete as indicated and directed.

MATERIAL -

- Class AA Cement Concrete - Section 704 except use Number 8 coarse aggregate
- Forms - Section 1001.2 (h)
- Reinforcement Bars (Epoxy Coated) - Section 709.1
- Dowel Holes - Section 1003
- Epoxy Anchoring System - Bulletin 15 and manufacturer's recommendations
- Welded Wire Fabric (WWF) (Epoxy Coated or Galvanized) - From a manufacturer listed in Bulletin 15 with the following requirements: ASTM A-185, 3x3, 4x4, or 6x6 WWF made of 8, 10 or 11 gauge wire.
- Annealed Iron Wire - ASTM-A684
- Epoxy Bonding Compound - ASTM C881 Type II, Grade 2 from a manufacturer listed in Bulletin 15. Certify as specified in Section 106.03(b)3.

CONSTRUCTION - Provide satisfactory protective shielding below all repair areas.

The Representative will determine the extent of the repair areas.

Outline the edge of the designated repair areas with a 1" maximum depth sawcut.

Within the outlined repair areas, remove the deteriorated concrete to a depth of ¾" behind the first mat of reinforcement bars to sound concrete. Allow uncovered or exposed reinforcement bars to have a ¾" clearance all around. If concrete is unsound at a depth of ¾" behind the reinforcement bars, do not remove any additional concrete without the approval of the Engineer. Square-out/bevel the edge of the repair areas to key in construction. Use hand tools for removing deteriorated concrete. Use pneumatic hammers, if required, not exceeding an impact rating of 25 foot pounds. If deteriorated concrete extends beyond the initially outlined repair area, enlarge area as directed by the Representative.

After the removal operations are complete, clean all remaining debris and loose materials from the repair areas by sandblasting. Sandblast exposed reinforcement bars to clean white metal. Epoxy coat the exposed reinforcement bars. Splice any damaged or heavily corroded reinforcement bars in accordance with Standard Drawing BC-736M. If enough splice length is not available, drill new dowel holes and place dowel bars as directed.

Place epoxy coated #4 bent "L" reinforcement bars in a 1'-0" center-to-center maximum spaced grid. Anchor into sound concrete with epoxy anchoring system.

Attach WWF to the bent "L" reinforcement bars with annealed iron wire at a maximum spacing of 1'-0" in each direction. If using 6x6 WWF, place a second layer of 6x6 WWF and stagger to achieve a 3x3 grid spacing.

Set forms to provide minimum concrete cover as required. Maintain all chamfers. Air-blast all repair areas with oil-free compressed air to protect against any contaminant detrimental to the bond of the new concrete. Apply epoxy bonding compound to the repair area. While the epoxy bonding compound is still tacky, place Class AA Cement Concrete with Number 8 coarse aggregate. Do not place concrete if the compound is no longer tacky or if the compound has hardened. Recoat any compound that is no longer tacky. Wire brush or sandblast any compound that has hardened and recoat repair area.

Provide a minimum cover of 2" on reinforcement bars. If enough concrete cover on the existing reinforcement bars is not available, haunch the repair outward.

Repair any concrete damaged during the operations to the satisfaction of the Representative at no additional cost to the Department.

MEASUREMENT AND PAYMENT - Cubic Foot. Measured prior to placing forms. Additional reinforcement bars and protective shielding are incidental to this item.

00 - c92021 Item 9202-0001 - Asbestos Abatement

Addendum:

Associated Item(s): 9202-0001

Header:

Provision Body:

Section 9202.1 DESCRIPTION -

a. General

1. This work is removal and disposal of all regulated asbestos-containing material (RACM) located on the bridge surfaces in conjunction with planned demolition and renovations.
2. RACM is present in the caulk at the base of the light poles on the parapets on SR 2037 (Ramp T). No other known RACM is present on the structure.
3. Comply with all applicable regulations, including but not limited to: OSHA, EPA, NESHAP, NIOSH, ASTM, ANSI, PADEP, and PA Department of Labor and Industry.
4. Obtain all necessary permits and notifications in accordance with all federal, state and local regulations and authorities for the removal, containerization, transport, and disposal of RACM.
5. Inform employees who are not engaged in asbestos abatement and disposal, including other employers on site, of the nature of the RACM and the asbestos abatement to be performed.

b. Reference Standards

1. Occupational Safety and Health Administration (OSHA) Standards: Title 29 Code of Federal Regulations (CFR) Sections 1910.1001 and 1926.1101 (as amended), 1910.134, 1910.20 and 1910.1200.
2. U.S Environmental Protection Agency (EPA) Standards; Title 40 CFR, Part 61, Subpart M; Title 40 CFR, Part 763, Subpart E; Title 40 CFR Part 763, Subpart G.
3. Worker and Community Right-to-Know Act of Pennsylvania (P.L. 734, No. 159; 35 P.S. 7317).

4. Pennsylvania Department of Environmental Resources (PA DER), Guidance for Asbestos Waste Management.
5. Pennsylvania Department of Labor & Industry Asbestos Accreditation and Certification Act 194.
6. All other applicable Federal, State, and local laws, regulations, and guidelines.

c. Submittals

1. Asbestos Abatement -

Provide a written program that addresses the removal and disposal of all RACM. Include the following information in the program: worker protection practices/ procedures that will be followed; controls that will be used, including any alternative control methods; respirator program; protective clothing; the name of the Competent Person who will be overseeing the work; documentation of training of the Competent Person and the personnel who will be engaged in asbestos abatement and disposal; the name of the laboratory that will be used for analysis of air samples (for the initial exposure assessment and, if necessary, daily air samples); signs; labels to be used on asbestos disposal bags; and the name and address of the disposal facility(s) to be used for disposal of RACM.

Section 9202.2 MATERIAL -

a. Waste Containerization and Disposal

1. Provide labeled asbestos disposal bags for the disposal of all RACM. Collect, containerize, and dispose of all RACM in double 6- mil asbestos disposal bags labeled in accordance with the requirements of 29 CFR 1010.1200 (f) of the OSHA Hazard Communication Standard, as follows:

DANGER

CONTAINS ASBESTOS FIBERS

AVOID CREATING DUST

CANCER AND LUNG DISEASE HAZARD

Labels shall include a warning statement against breathing asbestos fibers.

2. Dispose of all waste in accordance with PA DEP and other applicable guidelines. Contact the selected disposal facility prior to transport in order to address their requirements for the anticipated quantity of ACM to be disposed.

b. HEPA Vacuum

Use only vacuum cleaners equipped with a high efficiency particulate air (HEPA) filter for clean up of asbestos dust and debris. Do not use dry sweeping or a vacuum that is not equipped with a HEPA filter.

Section 9202.3 CONSTRUCTION -

a. Compliance with Regulations

1. OSHA 29 CFR 1926.1101, Asbestos Standard for the Construction Industry

- Comply with all worker protection requirements of 29 CFR 1926.1101, the OSHA Asbestos Standard for the Construction Industry.
- Note that because the quantity of RACM is less than 25 linear feet or 10 square feet, the Certified Industrial Hygienist or licensed Professional Engineer work area evaluation required by paragraph (g)(6) of the standard may be performed by the Competent Person, and perimeter and clearance air monitoring may be omitted.

2. Comply with all requirements regarding the removal, containerization, labeling, transportation, and disposal of all RACM.

3. Note that the quantity of known RACM on the bridge is below the threshold limits triggering the requirements of the EPA NESHAP regulation.

b. Competent Person

Employ a Competent Person on site to oversee all asbestos abatement activities. A Competent Person for asbestos abatement means, in addition to the definition in 29 CFR 1926.32 (f), one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f). In addition, for Class I and Class II asbestos work, the Competent Person must have attended a training course which meets the criteria of EPA's Model Accreditation Plan (40 CFR 763) for supervisor, or its equivalent and, for Class III and Class IV asbestos work, who is trained in a manner consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92 (a)(2).

c. Initial Exposure Assessment

1. The Contractor shall conduct an 'Initial Exposure Assessment' in accordance with 29 CFR 1926.1101(f)(2) in order to evaluate the level of airborne asbestos present during the abatement activities. The Contractor's Initial Exposure Assessment must include both 8-hour full shift samples and 30-minute Excursion Limit samples, in accordance with the following.

2. 8-Hour TWA Air Samples--

Collect breathing zone air samples to evaluate full shift time weighted average (TWA) exposures. The OSHA Permissible Exposure Limit (PEL) for full shift personnel exposures is 0.1 fibers per cubic centimeter of air (fibers/cc), as an 8-hour TWA.

3. 30-Minute Excursion Limit Air Samples--

Conduct breathing zone air samples to evaluate 30 minute short term employee 'Excursion Limit' exposures. The OSHA Excursion Limit is 1.0 fiber/cc as averaged over a period of 30 minutes.

4. The results of the Initial Exposure Assessment may be used to establish the worker protection levels to be used in conjunction with the asbestos abatement. If the airborne asbestos levels are below the PEL and Excursion Limit, the exposure assessment can be used as a Negative Exposure Assessment.

5. Negative Exposure Assessment--

- The employer may demonstrate that employee exposures will be below the PEL and Excursion Limit for any one specific asbestos job which will be performed by employees who have been trained in compliance with 29 CFR 1926.1101, by using objective data demonstrating that the activity cannot release airborne fibers in concentrations exceeding the TWA and excursion limit under those work conditions.
- If the air monitoring demonstrates that employee exposures are below the permissible exposure limit and excursion limit the employer may discontinue monitoring for those employees whose exposures are represented by such monitoring.
- The employer shall resume periodic exposure monitoring whenever there has been a change in process, control equipment, personnel or work practices that may result in new or additional exposures above the permissible exposure limit and/or excursion limit or when the employer has any reason to suspect that a change may result in new or additional exposures above the permissible exposure limit and/or excursion limit. Such additional monitoring is required regardless of whether a "negative exposure assessment" was previously produced for a specific job.

d. Final Visual Clearance Inspection

1. After the asbestos abatement has been completed, the Contractor, accompanied by the Department's representative, shall complete a visual inspection of the work area. If visual accumulations of asbestos or asbestos contaminated debris are present, the Contractor shall reclean the work area and repeat the cleaning process until compliance is achieved. All recleaning shall be at the Contractor's expense.
2. Upon completion of a satisfactory final visual clearance inspection, the Contractor shall complete and sign the 'Certificate of Final Clearance Inspection' form following this section, certifying that the asbestos has been removed. Submit the signed form to the Department's representative.

Section 9202.4 MEASUREMENT AND PAYMENT - Lump Sum. Includes full compensation for all activities related to asbestos abatement, in order to complete the removal and disposal of all RACM located on the bridge surfaces.

Payment will be made only after the Department receives all properly executed waste disposal documentation, including waste manifests from the waste disposal facility. If there are discrepancies in quantities or in any of the documentation requirements, payment will be withheld until the discrepancies are resolved.

I2032C - c92032 ITEM 9203-0101 - TEMPORARY EXCAVATION SUPPORT AND PROTECTION SYSTEM

Addendum:

Associated Item(s): 9203-0101

Header:

Provision Body:

I. DESCRIPTION - This work is the design and construction of a temporary excavation support and protection system or appropriately designed open cut excavation, as indicated, with a service life of less than or equal to 36 months.

II. MATERIAL - Provide certification or laboratory test results verifying material properties. For used steel, the salvage design values from AASHTO Guide Design Specification for Bridge Temporary Works (AASHTO Guide Spec) may be used as an alternate to testing to determine grade of steel. Materials need not be new but must be in serviceable condition as determined by the Engineer. Temporary material used does not have to be from a Bulletin 15 source, but must meet the following:

- Structural Steel.....….....AASHTO M 270M/270 (ASTM A709M/A709) Grade 250(Grade 36), Grade 345(Grade 50) or Grade 345W(Grade 50W)
- Steel Sheet Piling.....….. .....ASTM A328M/A328, ASTM A572M/A572
- Steel H-Piles.....….. .....AASHTO M 270M/270 (ASTM A709M/A709), Grade 250(Grade 36)
- Wood Lagging.....…..... ...Rough Cut Species in AASHTO Guide Spec Appendix A and AASHTO Construction Handbook for Bridge Temporary Works Appendix C
- Cement.....…….....AASHTO M85 and AASHTO M240
- Pre-Stressing Steel..…... .ASTM A416 Grade 270
- Welded Wire Fabric..... ..AASHTO A55 (ASTM A185)
- Reinforcement Bars..... ....AASHTO M 31M/31 (ASTM A615M/A615), AASHTO M42M/M42 (ASTMA616M/A616),Grade420(Grade 60)
- Other Material.....….....In accordance with applicable Sections of Publication 408

III. DESIGN - Design the temporary excavation support and protection system in accordance with current AASHTO LRFD Bridge Design Specifications and Design Manual, Part 4 (Metric) Specifications, current FHWA guidelines and AASHTO Guide Spec. Design temporary excavation support and protection system for final condition and all construction conditions, including surcharge loads due to vehicle traffic and construction equipment. Submit 4 sets of design calculations and 4 sets of completed detailed drawings, signed and sealed by a Professional Engineer, registered in the Commonwealth of Pennsylvania to the District Executive for review. Include in the design calculations all material properties, design loads, and design assumptions. Include on the completed detailed drawings all design dimensions, limits of work, elevations, material, member sizes and construction sequence. Provide cutoff elevation of steel and wooden components for work in streambed. Include specific installation procedures and testing requirements as part of the submittal. Allow 14 days for the review by the Department.

Ensure that temporary excavation support and protection system design and construction conforms to the following:

a) Open cut excavations are allowed, provided they meet OSHA requirements, the safety of the traveling public, the approved traffic control plan and existing structure is assured, and they stay within the legal right-of-way lines. Cuts can extend beyond legal right- of- way lines only with the written approval of the Department and written permission of the property owners. Ensure environmental compliance if cut extends beyond area cleared by the Department. Submit slope stability analysis in accordance with Publication 293.

b) The temporary excavation support and protection system will be selected by the Contractor. Examples include anchored walls, mechanically stabilized earth walls, prefabricated modular walls, cantilever walls, cofferdams, and soil nailing walls. These systems may be comprised of one or more of the following: Soldier Piles, Timber Lagging, Steel Sheet Piling, Caissons, Slurry

Walls, Tiebacks, Soil Nails, Shotcrete, Deadman Anchors, Wales, Cross lot Bracing, Raker Braces, Precast Concrete, Precast Lagging, Soil Cement Lagging, Cement Bentonite, Gabions, Minipiles, Concrete Reaction Blocks, Mechanically Stabilized Earth Walls or other methods.

c) Design temporary excavation support and protection system based on the following parameters:

1. Soil parameters (***see Project Specific Details for following parameters***):

1.a Effective angle of friction _____

1.b Moist unit weight of soil _____

1.c Saturated unit weight of soil _____

1.d Effective cohesion _____

1.e Static groundwater level at elevation _____

1.f Undrained shear strength of cohesive soil_____

1.g Shear strength for rock mass_____

Provide other soil/rock properties with test data, needed in the design of the temporary excavation support and protection system.

2. Ensure that all components stay within the legal right-of-way unless an easement is obtained by the Contractor.

IV. CONSTRUCTION - Install temporary excavation support and protection system in accordance with applicable sections of Publication 408. Be responsible for adequacy, safety and compliance with Traffic Control Plan. If the design is not compliant with the approved Traffic Control Plan, furnish any additional traffic control devices at no additional cost to the Department. All steel and wooden components may remain in place to pavement subgrade or 0.6 meters(2 feet) below finish grade,whichever is higher elevation. Treated wood is not required unless it is within 2 meters(6 feet) of finish grade and is to remain in place. Pressure treat with chromate copper arsenate (CCA) to refusal. Finish grade is defined as top of pavement when a roadway is behind the temporary excavation support and protection system. Have a Professional Engineer, registered in the Commonwealth of Pennsylvania, certify that the temporary excavation support system or open cut excavation has been installed as shown on the Professional Engineer's signed and sealed drawings. Submit the certification to the Representative within 3 working days of completion of the system.

V. QUALIFICATIONS - The work must be supervised by a superintendent or foreman who is experienced, in the construction of temporary excavation support and protection system proposed. If the design height of the temporary excavation support and protection system exceeds 6 meters(20 feet), provide the following with the design submission:

- For the superintendent or foreman who will supervise the work, submit a list containing at least 5 projects which demonstrate a minimum of 3 years experience in the construction of the temporary excavation support and protection system proposed. Include a brief description of each project and the name and phone number of the owner's representative knowledgeable in each project listed.
- The name of the Professional Engineer, registered in the Commonwealth of Pennsylvania and having at least 3 years experience in the design and construction of temporary excavation support and protection systems, who will design and specify the sequence of construction of the temporary excavation support and protection of system.

VI. MEASUREMENT AND PAYMENT - Lump Sum.

This item will be measured and paid for in a proportionate manner, designated by the Department.

If an acceptable open cut excavation is provided in lieu of the temporary excavation support indicated, payment will be made for the as-bid lump sum temporary excavation support item, but no additional payment will be made for any class of excavation, structure backfill or additional shoring as a result of the open cut excavation or to restore the facilities to their original condition.

Project Specific Details:

The Soil Parameters as indicated in III. (c) 1. are:

. . . . . Fill . . . . . Residual . . . Bedrock . . Sandstone/Redbeds Siltstone

1.a Moist unit weight of soil: . . . . . 120 pcf . . . 130 pcf . . . . 145 pcf . . . . 145 pcf
1.b Saturated unit weight of soil: . . . . . 125 pcf. . . .135 pcf . . . . 145 pcf . . . .145 pcf
1.c Effective cohesion: . . . . . 0 tsf . . . . . 0 tsf . . . . . 0 tsf . . . . . 0 tsf
1.d Static groundwater level at elevation: . . . . . Elev 720 +/- to Elv 737 +/-
1.e Undrained shear strength of cohesive soil: . . . 0 tsf . . . . . 0 tsf . . . . . 0 tsf . . . . . 0 tsf
1.f Shear strength of rock mass: . . . . . ----- . . . . . ----- . . . . . 5 ksf . . . . . 12 ksf

00 - c98052 Item 9805-0024 - Mulching-Wood Fiber

Addendum:

Associated Item(s): 9805-0024

Header:

Provision Body:
In accordance with Section 805 except as follows:

Section 805.4(a) Seeded Areas. Revise to read:

Pound. For the type indicated. Measured by the number of pounds of mulch actually incorporated into the work, at the specified rates.

00 - c98491 Item 9849-0001 - Rock Construction Entrance

Addendum:

Associated Item(s): 9849-0001

Header:

Provision Body:
DESCRIPTION - This work is construction, maintenance, and removal of a temporary rock construction entrance.

MATERIAL - In accordance with Section 849.2 and as indicated.

CONSTRUCTION - In accordance with Section 849.3 and as indicated.

MEASUREMENT AND PAYMENT - Each. Includes construction, maintenance, and removal of rock construction entrance.

00 - c99481 Item 9948-0001 - Remove and Reset Steel Sign Structure

Addendum: 1

Associated Item(s): 9948-0001

Header:

Provision Body:
In accordance with Section 948, except as follows:

DESCRIPTION - This work is the removal, transportation, storage, and resetting of the existing cantilever steel sign structure.

MATERIAL - Any portion (s) of the existing steel sign structure disassembled during the completion of this work shall be reconnected with new fasteners in accordance with Section 948.2, at no additional cost to the Department. High Strength Bolts are required for all connections and must be the same size as the original connections.

CONSTRUCTION - Submit a plan to the District Executive showing or describing the dismantling, transportation, storage, and erection methods to be used for the removal, transportation, storage, and resetting of the existing steel sign structure, as indicated. Submit four sets of the plan, signed and sealed by a Professional Engineer registered in the State, to the District Executive for review. Submit a method of blocking and supporting the existing steel sign structure as required for proper support of the structure throughout the duration of this work. **Allow 21 days for the review by the Department.** Do not proceed with this work until the plan has been reviewed and approved. Within the plan, provide methods for the protection and safety of the general public and public utilities.

Do not damage any portion of the existing sign structure during this operation. Repair any structural damage due to removal, transportation, storage, or resetting of the steel sign structure at no additional cost to the Department and to the satisfaction of the Representative.

Reset the structure in accordance with Section 948.3.

Structures Retained by the Department. The existing steel sign structure will be retained and reused on this project. Match-mark the members or parts, and place them within the right-of-way at an indicated or directed location within (1000') of the existing structure. Submit an alternate storage location due to the volume of material to be stored on this project. Submit a written request detailing the location and the transportation method to be utilized to transport the steel sign structure.

Structures Retained by the Contractor. The Department will not retain the existing signs mounted on the existing sign structure. Remove and dispose of the signs in a satisfactory manner.

MEASUREMENT AND PAYMENT - Lump Sum

The price includes the removal, transportation, storage, and resetting of the existing steel sign structure. The price also includes the removal and disposal of the existing signs.

The new sign will be paid for separately under Item 0936-0001.

The new sign structure anchorage system will be paid for separately under Item 9001-0001.

Performance Bonds

Surety Company:	Liberty Mutual Insurance Company	**Status:**	Accepted
Bonding Agency:	Marsh USA, Inc.	**Bond Number:**	387005085
Producer:	Wendy A Bright/PennDOT BP-002573	**Bond Amount:**	$13,439,954.91
Co-Insurer:	No	**NAIC:**	23043

KNOW ALL MEN BY THESE PRESENTS, That we, *Joseph B. Fay Co.* of *P.O. Box 66 , Russellton, PA 15076-0066* as PRINCIPAL,and Liberty Mutual Insurance Company a corporation,as SURETY, are held and firmly bound unto the *Commonwealth of Pennsylvania* in the full and just sum of *$13,439,954.91*, lawful moneyof the United States of America, to be paid to the said Commonwealth of Pennsylvania, or it assigns, to which payment well and truly tobe made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

Sealed with our respective seals and dated this 3 day of April A.D. 2012.

Whereas, the above bounden PRINCIPAL has undertaken to contract with the said Commonwealth of Pennsylvania, by and through the Secretary of Transportation covering the workidentified below for approximately the sum of the bond amount defined above.

The description and location of the project is as follows:For the steel multi-girder bridge rehabilitation including replacement of steel beams, concrete deck, concrete barrier, bearings, expansion dams, and one pier, substructure repairs, approach slabs, drainage, signing and pavement marking, and other miscellaneous construction, all within a length of 1103.38 linear feet (0.209 miles) as indicated on the approved drawings included in the bid package for STATE ROUTE 2037 SECTION A07 (Ramp T), in ALLEGHENY COUNTY, EAST PITTSBURGH BOROUGH, NORTH VERSAILLES TOWNSHIP, Commonwealth of Pennsylvania.This project being situated as follows:From a point approximately 2140 feet north of SR 2026 (Versailles Avenue) at Segment 0090/0091 Offset 0860/0890 (Station 184+70.71) to a point approximately 2583 feet south of SR 2122 (Electric Avenue) at Segment 0080/0081 Offset 1968/1904 (Station 197+00.00).

and

WHEREAS, it was one of the conditions of the award of the Secretary of Transportation, acting for and on behalf ofthe Commonwealth of Pennsylvania, pursuant to which said contract was undertaken by the PRINCIPAL that these presentsshould be executed, to become binding upon the date the said contract is approved for the office of Budget, by the Comptroller.

NOW, THEREFORE, The conditions of this obligation is such that if the above bounden PRINCIPAL, as Contractor, shall in allrespects comply with and faithfully perform the terms and conditions of said contract, and his, their, or its obligationsthereunder, including the plans, specifications, and conditions therein referred to and made a partthereof, and such alterations as may be made in said specifications as therein provided for, and shall well and truly, and in a manner satisfactory to the Commonwealth of Pennsylvania, complete the work contracted for, and shall save harmless the Commonwealth of Pennsylvania fromany expense incurred through the failure of said contractor to complete the work as specified, or for any damages growing outof the carelessness and/or negligence of said contractor or his, their, or its servants.

And shall save and keep harmless the said Commonwealth of Pennsylvania against and from all losses to it from any causewhatsoever, including patent, trademark, and copyright infringements, in the manner of constructing said section of roadway;then this obligation to be void or otherwise to be and remain in full force and virtue.

It is further provided that any alteration which may be made in the terms of the contract or in the work to be done under itor the giving by the Commonwealth of any extension of time for the performance of the contract or any other forbearance on thepart of either the Commonwealth or the PRINCIPAL to the other shall not in any way release the PRINCIPAL and the SURETY orSURETIES or either or any of them, their heirs, executors, administrators, successors or assigns, from their liability hereunder,notice to the SURETY or SURETIES of any such alteration, extension, or forbearance being hereby waived.

IN WITNESS WHEREOF, the said PRINCIPAL and SURETY have duly executed this Bond under seal the day and year firstabove written.

Attorney-in-Fact Certification

*The undersigned attorney-in-fact by executing this Performance Bond certifies that he/she is licensed with the company namedas surety for this bond and that to the best of his/ her knowledge the said surety islicensed with the Pennsylvania Insurance Department.

Bond Workflow Status

Status	Name	Disposition	Date/Time
Draft	Tom Westrom/PennDOT BP-001279	Submit	04/03/2012 08:21:15 AM
Producer Review	Wendy A Bright/PennDOT BP-002573	Sign	04/03/2012 09:07:35 AM
Contractor Review	Tom Westrom/PennDOT BP-001279	Sign	04/08/2012 07:22:26 PM
BOD CMD Review	John C Grigalonis/ PennDOT	Accept	04/09/2012 09:45:10 AM

Payment Bonds

Surety Company:	Liberty Mutual Insurance Company	**Status:**	Accepted
Bonding Agency:	Marsh USA, Inc.	**Bond Number:**	387005085
Producer:	Wendy A Bright/PennDOT BP-002573	**Bond Amount:**	$13,439,954.91
Co-Insurer:	No	**NAIC:**	23043

KNOW ALL MEN BY THESE PRESENTS, That we, *Joseph B. Fay Co.* of *P.O. Box 66 , Russellton, PA 15076-0066* as PRINCIPAL,and Liberty Mutual Insurance Company a corporation,as SURETY, are held and firmly bound unto the *Commonwealth of Pennsylvania* in the full and just sum of *$13,439,954.91*, lawful moneyof the United States of America, to be paid to the said Commonwealth of Pennsylvania, or it assigns, to which payment well and truly tobe made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

Sealed with our respective seals and dated this 3 day of April A.D. 2012.

Whereas, the above bounden PRINCIPAL has undertaken to contract with the said Commonwealth of Pennsylvania, by and through the Secretary of Transportation covering the workidentified below for approximately the sum of the bond amount defined above.

The description and location of the project is as follows:For the steel multi-girder bridge rehabilitation including replacement of steel beams, concrete deck, concrete barrier, bearings, expansion dams, and one pier, substructure repairs, approach slabs, drainage, signing and pavement marking, and other miscellaneous construction, all within a length of 1103.38 linear feet (0.209 miles) as indicated on the approved drawings included in the bid package for STATE ROUTE 2037 SECTION A07 (Ramp T), in ALLEGHENY COUNTY, EAST PITTSBURGH BOROUGH, NORTH VERSAILLES TOWNSHIP, Commonwealth of Pennsylvania.This project being situated as follows:From a point approximately 2140 feet north of SR 2026 (Versailles Avenue) at Segment 0090/0091 Offset 0860/0890 (Station 184+70.71) to a point approximately 2583 feet south of SR 2122 (Electric Avenue) at Segment 0080/0081 Offset 1968/1904 (Station 197+00.00).

and

WHEREAS, it was one of the conditions of the award of the Secretary of Transportation, acting for and on behalf ofthe Commonwealth of Pennsylvania, pursuant to which said contract was undertaken by the PRINCIPAL that these presentsshould be executed, to become binding upon the date the said contract is approved for the office of Budget, by the Comptroller.

NOW, THEREFORE, The conditions of this obligation is such that if the above bounden PRINCIPAL shall and willpromptly or cause to be paid in full all sums of money which may be due by contractor or corporation, for all materials furnishedor labor supplied or performed in the prosecution of the work, whether or not the said material or labor entered into and becamecomponent parts of the work or improvement contemplated, and for rental of the equipment used and services rendered by public utilitiesin, or in connection with, the prosecution of such work, then this obligation to be void, otherwise to remain in full force andeffect.

The PRINCIPAL and SURETY hereby, jointly and severally, agree with the obligee herein that any individual, firm,partnership, association or corporation, which has performed labor or furnished material in the prosecution of the work as provided,and any public utility which has rendered services in, or in connection with, the prosecution of such work, and which has not been paidin full therefor, may sue assumpsit on this Payment Bond in his, their, or its own name and may prosecute the same to final judgementfor such sum or sums as may be justly due to him, them, or it, and have execution thereon. Provided, however, that theCommonwealth shall not be liable for the payment of any costs or expenses of such suit.

Recovery by any individual, firm, partnership, association or corporation hereunder shall be subject to theprovisions of the "Public Works Contractors' Bond Law of 1967", Act No. 385, approved December 20, 1967, P.L. 869, which Act shallbe incorporated herein and made a part hereof, as fully and completely as though its provisions were fully and at length herein recited.

It is further provided that any alteration which may be made in the terms of the contract or in the work to be done or materialsto be furnished or labor to be supplied or performed under it or the giving by the Commonwealth of any extension of time for theperformance of the contract or any other forbearance on the part of either the Commonwealth or the Principal to the other shallnot in any way release the PRINCIPAL and the SURETY or SURETIES or either or any of them, their heirs, executors, administrators,successors or assigns, from their liability hereunder, notice to the SURETY or SURETIES of any such alteration, extension, orforbearance being hereby waived.

IN WITNESS WHEREOF, the said PRINCIPAL and SURETY have duly executed this Bond under seal the day and year firstabove written.

Attorney-in-Fact Certification

*The undersigned attorney-in-fact by executing this Payment Bond certifies that he/she is licensed with the company namedas surety for this bond and that to the best of his/her knowledge the said surety islicensed with the Pennsylvania Insurance Department.

Bond Workflow Status

Status	Name	Disposition	Date/Time
Draft	Tom Westrom/PennDOT BP-001279	Submit	04/03/2012 08:20:21 AM
Producer Review	Wendy A Bright/PennDOT BP-002573	Sign	04/03/2012 09:08:47 AM
Contractor Review	Tom Westrom/PennDOT BP-001279	Sign	04/08/2012 07:21:50 PM
BOD CMD Review	John C Grigalonis/ PennDOT	Accept	04/09/2012 09:44:53 AM

Insurance

willis of Pa inc

444 liberty ave
four gateway center
suite 505
pittsburgh, PA 15222

Company: travelers property casualty company of america
Policy: vtc2jc09948k1996til11
Expiration: 12/31/2012

Railroad Insurance -- Norfolk Southern

Willis of PA, Inc.
444 Liberty AVe
Four Gateway Center, Sutie 505
Pittsburgh, PA 15222

Company: The Travelers Indemnity Co
Policy: DTSPS7B300647IND12
Expiration: 04/27/2013

Railway insurance -- Union Pacific

900 Thompson Run Road
Monroeville, PA 15146

Company: The Travelers Indemnity Co.
Policy: DTSPS7B300635IND12
Expiration: 04/27/2013

DBE Commitments

DBE: 6%
Approved: 6.05%

Perform Less Than 50% of Work Items: No
Good Faith Effort Evaluation: No

Status	Business Partner	Business	% of Bid	Submitted	Acknowledged
Approved	Beth's Barricades	Subcontractor	0.13%	04/03/2012	04/03/2012
Approved	Steel Core Construction Inc.	Subcontractor	5.65%	04/04/2012	04/04/2012
Approved	Vantage Corporation	Subcontractor	0.27%	04/03/2012	04/03/2012

Beth's Barricades

Prime

Contact: Larry Dananay
Phone: 724-265-4600
DBE: 6%
Status: Approved
Revision Number:

DBE

Business Partner: Beth's Barricades
Type: DBE
Contact: Beth Neury
Phone: 412-559-1396
DBE JVT%:
Certification: 12455
Cert. Expiration: 09/30/2012

Agreement Amount: $17,100.00
% of Bid: 0.13
Mobilization: $0.00
Starting: 05/14/2012
Completion: 10/02/2013
Business Type: Subcontractor

Items

Item	Description	Unit of Measure	Quantity
0901-0240	ADDITIONAL TRAFFIC CONTROL SIGNS	SF	200.000
0901-0240	ADDITIONAL TRAFFIC CONTROL SIGNS	SF	200.000
0901-0231	ADDITIONAL WARNING LIGHTS, TYPE B	DAY	1,000.000

Partial Items

Item	Description	Unit of Measure	Quantity
0901-0001	MAINTENANCE AND PROTECTION OF TRAFFIC DURING CONSTRUCTION	LS	1.000

Comment

None

Workflow

Status	Name	Disposition	Date/Time
Draft	Larry Dananay/PennDOT BP-001279	Submit	04/02/2012 04:40:16 PM
Awaiting Acknowledgement	David J Nury/PennDOT BP-003313	Acknowledge	04/03/2012 11:12:15 AM
Acknowledged	Tom Westrom/PennDOT BP-001279	Submit	04/03/2012 02:53:34 PM
PennDOT Review	Delores A Ritzman/PennDOT	Approve	04/04/2012 09:44:35 AM

Steel Core Construction Inc.

Prime

Contact: Larry Dananay
Phone: 724-265-4600
DBE: 6%
Status: Approved
Revision Number:

DBE

Business Partner: Steel Core Construction Inc.
Type: DBE
Contact: Amber McQuade
Phone: 724-374-5709
DBE JVT%:
Certification: 13412
Cert. Expiration: 07/31/2013

Agreement Amount: $758,838.00
% of Bid: 5.65
Mobilization: $0.00
Starting: 07/02/2012
Completion: 09/30/2013
Business Type: Subcontractor

Items

None

Partial Items

Item	Description	Unit of Measure	Quantity
1002-0053	REINFORCEMENT BARS, EPOXY COATED	LB	880,924.000
1002-0053	REINFORCEMENT BARS, EPOXY COATED	LB	880,924.000
1002-0001	REINFORCEMENT BARS	LB	66,180.000
1002-0001	REINFORCEMENT BARS	LB	66,180.000

Comment

None

Workflow

Status	Name	Disposition	Date/Time
Draft	Larry Dananay/PennDOT BP-001279	Submit	04/03/2012 02:48:06 PM
Awaiting Acknowledgement	Amber McQuaide/PennDOT BP-005572	Acknowledge	04/03/2012 02:51:12 PM
Acknowledged	Tom Westrom/PennDOT BP-001279	Submit	04/03/2012 02:53:34 PM
PennDOT Review	Delores A Ritzman/PennDOT	Conditionally Approve	04/04/2012 09:46:34 AM
Conditionally Approved	Becki G Mescher-Vuxta/ PennDOT	Disapprove	04/04/2012 01:11:09 PM
Disapproved	Becki G Mescher-Vuxta/ PennDOT	Correct	04/04/2012 01:11:29 PM

Draft	Larry Dananay/PennDOT BP-001279	Submit	04/04/2012 01:19:17 PM
Awaiting Acknowledgement	Amber McQuaide/PennDOT BP-005572	Acknowledge	04/04/2012 01:22:22 PM
Acknowledged	Tom Westrom/PennDOT BP-001279	Submit	04/04/2012 01:42:51 PM
PennDOT Review	Delores A Ritzman/PennDOT	Approve	04/04/2012 02:12:15 PM

Vantage Corporation

Prime

Contact: Larry Dananay
Phone: 724-265-4600
DBE: 6%
Status: Approved
Revision Number:

DBE

Business Partner: Vantage Corporation
Type: DBE
Contact: Leanne Pomponio
Phone: 412-429-4750
DBE JVT%:
Certification: 10472
Cert. Expiration: 09/30/2012

Agreement Amount: $35,902.00
% of Bid: 0.27
Mobilization: $1,104.00
Starting: 06/04/2012
Completion: 09/27/2013
Business Type: Subcontractor

Items

Item	Description	Unit of Measure	Quantity
9948-0001	REMOVE AND RESET STEEL SIGN STRUCTURE	LS	1.000
4931-0001	POST MOUNTED SIGNS, TYPE B	SF	23.000
4930-0004	POST MOUNTED SIGNS, TYPE A	SF	143.000
0971-0001	REMOVE POST MOUNTED SIGNS, TYPE B	EACH	1.000
0936-0001	STRUCTURE MOUNTED EXTRUDED ALUMINUM CHANNEL SIGNS	SF	156.000
0935-0001	POST MOUNTED SIGNS, TYPE F	SF	18.000
0910-5255	2" CONDUIT IN STRUCTURE	LF	1,751.000
0910-0006	JUNCTION BOXES J.B.-25	EACH	10.000
0910-0006	JUNCTION BOXES J.B.-25	EACH	10.000

Partial Items

Item	Description	Unit of Measure	Quantity
9001-0001	SIGN STRUCTURE, ANCHORAGE	EACH	1.000
0608-0001	MOBILIZATION	LS	1.000

Comment

None

Workflow

Status	Name	Disposition	Date/Time
Draft	Larry Dananay/PennDOT BP-001279	Submit	04/02/2012 04:47:02 PM
Awaiting Acknowledgement	Leanne Pomponio/PennDOT BP-002621	Acknowledge	04/03/2012 10:22:44 AM

Acknowledged	Tom Westrom/PennDOT BP-001279	Submit	04/03/2012 02:53:34 PM
PennDOT Review	Delores A Ritzman/PennDOT	Approve	04/04/2012 09:44:01 AM

Plans

Plans	Addendum
Roadway Plan	
Supplemental Plans	
Cross Section	
Erosion and Sediment Pollution Control Plan	
Existing Structure Plan	
Signing and Pavement Marking Plan	
Structure Plan - S-31828	1
Traffic Control Plan	

Attachments

Project-Specific Checklist Items	Addendum
Project Specific - Location of Temporary and Existing Railroad Crossing	1
Project Specific - NS Temp Private Grade Crossing Agreement a.k.a. Exhibit "E"	1
Project Specific - Roadway Plan 01-2	1
Project Specific - Roadway Plan 01	1
Project Specific - URR Insurance	
Project Specific - NS - Insurance Requirements and Procedures	
Project Specific - Special Provisions for Protection of Railway Interests - Norfolk	
Project Specific - Environmental Commitments and Mitigation Tracking System (ECMTS) Report and Sign-Off	
Project Specific - Certification of Final Clearance Inspection for Asbestos-Containing Material	
Project Specific - Steel Escalation Option Form	
Project Specific - PENNDOT Waste/Borrow Area (29 sheets)	
Reviews	
None	
Contract Award Items	
Disclosure of Lobbying Activities - a.k.a. Standard Form LLL	
F.A.R. REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS	1
Federal Wage Rate - Modification No. 3	1
Local Agreements and Coordination	
None	
Environmental Clearances	
Environmental Clearance Re-eval. (CEES link)	
Permits	
DEP Water Obstruction and Encroachment Permit 105/404	
Environmental Due Diligence (EDD) - Contractor	
Environmental Due Diligence (EDD) - PennDOT	
Right of Way	
None	
Survey	
None	
Utilities Clearance	
None	
Utility Engineering	
None	
Construction Items	
Pre-Bid Construction Schedule	1
Structures and Geotechnical	

Foundation Report 2

Structure Policy Letter

Railroad Coordination

D4279A Railroad Crossing Data for Contractor - Norfolk Southern Railway Company

D4279A Railroad Crossing Data for Contractor - Union Railroad Company

Railroad Property Access Permit

Traffic

None

Construction Coordination

None

Maintenance Items

None

Estimates

None

Comments: