

**STATE OF MISSOURI  
HIGHWAYS and TRANSPORTATION COMMISSION**

JEFFERSON CITY, MISSOURI

**CONSTRUCTING OR IMPROVING**  
**Contract I.D.** 181019-F03

THIS JOB SHALL BE CONSTRUCTED UNDER  
FEDERAL PROJECT NUMBER(S): FAF 141-1(52), FAF 141-1(53)

J6P3180, J6P3200 - ROUTE 141 - ST. LOUIS COUNTY

BIDDER CHECKLIST  
FINAL CHECKLIST BEFORE SUBMITTING BID

1. Submit completed Contractor Questionnaire and/or Contractor Prequalification Questionnaire with attachments not later than seven (7) days prior to the date and hour of the bid opening. See Secs 101-103 of the Missouri Standard Specifications for Highway Construction, and Rule 7 CSR 10-15.010, "Prequalifications to Bid of Certain Contractors". Questionnaire and Contact information are provided on MoDOT's website.
2. All bids shall be submitted electronically using "Bid Express Secure Internet Bidding" at [www.bidx.com](http://www.bidx.com). Any paper bid submitted will be considered irregular per section 102.8 of the Missouri Standard Specifications for Highway Construction.
3. Please read all items in the bidding document carefully. The EBSX files from MoDOT's website may be used for the itemized bid.
4. If submitted in the name of a firm or corporation, the legal name of the firm or corporation should appear in the space designated, and be signed for by one or more persons legally qualified to execute papers in the name of said firm or corporation.
5. The bidder shall submit a Bid Guaranty meeting the requirements of Sec 102 of the Missouri Standard Specifications for Highway Construction. If submitting a project specific or annual bid bond, bidders must use the MoDOT provided bid bond forms. The project specific bond form is included in the request for bid. The project specific and annual bid bond forms are also available on MoDOT's website. Annual bid bonds shall be executed by June 15th of each year.
6. Submit the Subcontractor Disclosure Form in accordance with the bidding documents. For bids of more than \$2,000,000, each bidder shall submit with each bid a disclosure of the subcontracts that have a subcontract value that is equal or greater than twenty percent of the total project bid or subcontracts that are greater than or equal to \$2,000,000. If that information is not available at the time of bid the bidder shall submit the "Subcontractor Disclosure Form" pages with MoDOT on or before 4:00 p.m. of the third business day after the bid opening date.
7. Submit the DBE Identification Submittal in accordance with the bidding documents for Federal Projects Only.
8. Alternate Pavements; to exercise this option, separate pay items, descriptions and quantities are included in the itemized proposal for each of the two alternates. The bidder shall bid only one of the two alternates and leave the contract unit price column blank for any pay item listed for the other alternate.
9. When submitting a bid, your bid will still come through with "red" folders. You should make sure that it is not the Schedule of Items folder or the Signature and Identity of Bidder folder. Click on the yellow checkmark (Check

Bid)at the top and it will list any errors in the bid. To view itemized folders, click the Tree View. This will show the status of the individual folders.

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Below is a list of common mistakes made by bidders leading to non-responsive bids. Please refer to the Standard Specifications for the appropriate procedures for completing and submitting a bid.

- a) Submitting a paper bid for a project
- b) Using a different bid bond form than the one provided
- c) Improper use of the Maximum Monetary Value Award Provision
  - only used if bidding more than one project and should be in only one bid proposal
- d) Not obtaining a digital ID in advance of the letting
  - (obtaining a digital ID may take 5 business days)

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All questions concerning the bid document preparation shall be directed to the Central Office - Design Division at (573) 751-2876. Project specific questions shall be directed to the project contact listed in the Job Special Provisions.

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\*These forms are also available on MoDOT's Website, [www.modot.org](http://www.modot.org) under Information on the Bid Opening Info page of the Contractor Resources site.

**NOTICE TO CONTRACTORS**

Electronic bids submitted through the Bid Express website for the proposed work will be received by the Missouri Highways and Transportation Commission until 11:00 o'clock a.m. (prevailing local time) on 10/19/2018.

Bid bonds will be received at the office of the Secretary to the Commission in the Missouri Department of Transportation Central Office Building, 105 West Capitol Avenue, Jefferson City, Missouri; delivered by US Mail should be mailed to: Missouri Highways and Transportation Commission, Attention: State Design Engineer/Bid Bond, P.O. Box 270, Jefferson City, MO 65102 or delivered by parcel delivery services, (such as UPS, Fed Ex, DHL, etc.) should be shipped to Missouri Highways and Transportation Commission, Attention: State Design Engineer/Bid Bond, 105 West Capitol Avenue, Jefferson City, MO 65102.

(1) PROPOSED WORK: The proposed work, hereinafter called the work, includes:

\*\*\*\*(1): Job J6P3180 Route 141 ST LOUIS County. Coldmill and resurface from I-64 to n/o MO 30, the total length of improvement being 10.955 miles.\*\*\*\*(2): Job J6P3200 Route 141 ST LOUIS County. Bridge rehabilitation off-ramp over Woods Mill Road and 141 over Rte 100, Grand Glaize Creek, BNSF RR, and Meramec River, the total length of improvement being 0.491 miles.

If more than one Job Number is listed for this call, then combination bids will be required on the Jobs listed above.

(2) COMPLIANCE WITH CONTRACT PROVISIONS: The bidder, having examined and being familiar with the local conditions affecting the work, and with the contract, contract documents, including the Missouri Highways and Transportation Commission's "Missouri Standard Specifications for Highway Construction, 2018," and "Missouri Standard Plans for Highway Construction, 2018", their revisions, and the request for bid, including appendices, the special provisions and plans, hereby proposes to furnish all labor, materials, equipment, services, etc., required for the performance and completion of the work. All references are to the Missouri Standard Specifications for Highway Construction, as revised, unless otherwise noted. All questions concerning the bid document preparation shall be directed to the Central Office - Design Division at (573) 751-2876.

(3) PERIOD OF PERFORMANCE: If the bid is accepted, the bidder shall continuously and diligently prosecute the work in such order and manner as will ensure the completion of the work within the time specified in the Job Special Provisions in accordance with Sec 108.

(4) LIQUIDATED DAMAGES: The bidder agrees that, should the bidder fail to complete the work in the time specified or such additional time as may be allowed by the engineer under the contract, the amount of liquidated damages as specified in the Job Special Provisions to be recovered in accordance with Sec 108.

(5) ITEMIZED BID: The bidder should complete the following section in

accordance with Sec 102.7. The bidder proposes to furnish all labor, materials, equipment, services, etc. required for the performance and completion of the work, as follows:

Line Number	Item Number	Quantity	Unit	Unit Price	Extension Price
Section 0001					
Roadway Items - J6P3180					
0010	2022010	1	LS		
	REMOVAL OF IMPROVEMENTS				
0020	2031000	128.000	CUYD		
	CLASS A EXCAVATION				
0030	2101006A	1.000	100F		
	SUBGRADE COMPACTION (6-INCH DEPTH)				
0040	2159903	6300.000	LF		
	MISC. MODIFIED SHAPING SLOPES, CLASS III				
0050	3040504	576.000	SQYD		
	TYPE 5 AGGREGATE FOR BASE (4 IN. THICK)				
0060	3040506	53.000	SQYD		
	TYPE 5 AGGREGATE FOR BASE (6 IN. THICK)				
0070	4011211	5338.400	TONS		
	BITUMINOUS PAVEMENT MIXTURE PG64-22, (BP-2)				
0080	4030009	14958.900	TONS		
	ASPHALTIC CONCRETE MIXTURE PG 76-22 (SP095BSM MIX)				
0090	4079912	36444.000	GAL		
	MISC. POLYMER MODIFIED EMULSION MEMBRANE				
0100	5021308	53.200	SQYD		
	CONCRETE PAVEMENT (8 IN. NON-REINFORCED, 15 FT. JOINTS)				
0110	5021309	417.800	SQYD		
	CONCRETE PAVEMENT (9 IN. NON-REINFORCED 15 FT. JOINTS)				
0120	6042010	6.000	EA		
	ADJUSTING MANHOLE				
0130	6049902	4.000	EA		
	MISC. UTILITY ADJUSTMENT				
0140	6081012	164.000	SQFT		
	TRUNCATED DOMES				
0150	6083003	16.100	SQYD		
	3 IN. CONCRETE MEDIAN STRIP				
0160	6083006	47.000	SQYD		
	6 IN. CONCRETE MEDIAN STRIP				
0170	6085008	302.300	SQYD		
	PAVED APPROACH, 8 IN.				
0180	6086004	158.100	SQYD		
	CONCRETE SIDEWALK, 4 IN.				
0190	6089902	4.000	EA		
	MISC. ADA CONCRETE CURB RAMP				
0200	6089902	3.000	EA		
	MISC. ISLAND TUBULAR MARKER - 18 INCH WHITE				
0210	6089902	9.000	EA		
	MISC. ISLAND TUBULAR MARKER - 36 INCH YELLOW				
0220	6091041	55.000	LF		
	CONCRETE GUTTER TYPE A				
0230	6091052	101.000	LF		
	CURB AND GUTTER TYPE B				
0240	6099902	3.000	EA		

MISC. MODIFIED CONCRETE GUTTER TYPE A			
0250	6099903	7268.000	LF
MISC. 4 IN. TYPE A INTEGRAL CURB ON CONCRETE			
0260	6099903	205.000	LF
MISC. 6 IN. TYPE A INTEGRAL CURB ON CONCRETE			
0270	6099903	126.000	LF
MISC. CURB AND GUTTER TYPE B, 4 IN. HEIGHT			
0280	6131010	719.500	SQYD
FURNISHING AND PLACING CONCRETE MATERIAL FOR FULL DEPTH PAVEMENT REPAIR			
0290	6131012	72.000	SQYD
SUBGRADE COMPACTION (6 IN. DEPTH) (PAVEMENT REPAIR)			
0300	6131013	72.000	SQYD
TYPE 1 OR 5 AGGREGATE FOR BASE (4 IN. THICK) (PAVEMENT REPAIR)			
0310	6131014	2883.000	LF
FULL DEPTH PAVEMENT REPAIR SAW CUT (FOR PERIMETER AND INTERNAL SAW CUTS)			
0320	6131015	891.000	EA
DOWEL BAR (DRILLING, FURNISHING AND INSTALLATION) FOR FULL DEPTH PAVEMENT REPAIR			
0330	6131017	28.000	EA
DOWEL BAR (FURNISHING AND INSTALLATION WITH BASKETS) FOR FULL DEPTH PAVEMENT REPAIR			
0340	6131018	352.000	EA
TIE BAR (DRILLING, FURNISHING AND INSTALLATION) FOR FULL DEPTH PAVEMENT REPAIR (TYPE L JOINTS)			
0350	6132018	3.300	CUYD
FURNISHING AND PLACING CONCRETE MATERIAL FOR CLASS A PARTIAL DEPTH PAVEMENT REPAIR			
0360	6132019	29.300	SQYD
REMOVAL FOR CLASS A PARTIAL DEPTH PAVEMENT REPAIR			
0370	6133018	29.700	TONS
FURNISHING AND PLACING BITUMINOUS MATERIAL FOR CLASS B PARTIAL DEPTH PAVEMENT REPAIR			
0380	6133019	270.200	SQYD
REMOVAL FOR CLASS B PARTIAL DEPTH PAVEMENT REPAIR			
0390	6169901	1	LS
MISC. TEMPORARY TRAFFIC CONTROL			
0400	6169902	2.000	EA
MISC. NTCIP COMPLIANT CHANGEABLE MESSAGE SIGN (CONTRACTOR FURNISHED AND RETAINED)			
0410	6173000	48.000	LF
CONCRETE TRAFFIC BARRIER, TYPE C			
0420	6181000	1	LS
MOBILIZATION			
0430	6191000	300.000	LF
PAVEMENT EDGE TREATMENT			
0440	6200009	4744.000	LF
PREFORMED THERMOPLASTIC PAVEMENT MARKING, 6 IN. WHITE			
0450	6200015	3519.000	LF
PREFORMED THERMOPLASTIC PAVEMENT MARKING, 24 IN. WHITE			
0460	6200021	252.000	EA
PREFORMED THERMOPLASTIC PAVEMENT MARKING, LEFT/RIGHT ARROW			
0470	6200027	18.000	EA
PREFORMED THERMOPLASTIC PAVEMENT MARKING, COMBINATION STR/LT/RT			
0480	6200030	1.000	EA
PREFORMED THERMOPLASTIC PAVEMENT MARKING, WORD (ONLY)			
0490	6200042	564.000	EA
PREFORMED THERMOPLASTIC PAVEMENT MARKING, 12 IN WHITE, YIELD LINE TRIANGLES			



0500	6205901A	9935.000	LF
	4 IN. YELLOW HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS		
0510	6205902A	251714.000	LF
	6 IN. WHITE HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS		
0520	6205903A	128553.000	LF
	6 IN. YELLOW HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS		
0530	6205906A	13563.000	LF
	12 IN. WHITE HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS		
0540	6207001	22223.000	LF
	PAVEMENT MARKING REMOVAL		
0550	6207002	220.000	EA
	PAVEMENT MARKING REMOVAL (SYMBOLS)		
0560	6209902	5.000	EA
	MISC. PREFORMED THERMOPLASTIC PAVEMENT MARKING, U-TURN ARROW		
0570	6209903	1001.000	LF
	MISC. 24 IN. WHITE HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS		
0580	6209903	258.000	LF
	MISC. 24 IN. YELLOW HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS		
0590	6209903	186.000	LF
	MISC. PREFORMED THERMOPLASTIC PAVEMENT MARKING, 6 IN. YELLOW		
0600	6221001	31741.000	SQYD
	COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. THICK OR LESS)		
0610	6221011	921.000	SQYD
	COLDMILLING CONCRETE PAVEMENT FOR REMOVAL OF SURFACE		
0620	6224010	37501.000	SQYD
	MODIFIED COLDMILLING (DEPTH TRANSITIONS)		
0630	6274000	1	LS
	CONTRACTOR FURNISHED SURVEYING AND STAKING		
0640	7319902	36.000	EA
	MISC. INLET TOP REPLACEMENT (IN-KIND)		
0650	8031000A	104.000	SQYD
	TURF TYPE TALL FESCUE SODDING		
0660	8061005	10.000	LF
	ROCK DITCH CHECK		
0670	8061016	6.000	CUYD
	SEDIMENT REMOVAL		
0680	8061019	408.000	LF
	SILT FENCE		
Section 0001 Total			

## Section 0002

## Guardrail/Guard Cable Items - J6P3180

0690	6061060	4225.000	LF
	MGS GUARDRAIL		
0700	6061061	6188.000	LF
	MGS GUARDRAIL, 8 FT. POSTS, 6 FT. - 3 IN. SPACING		
0710	6061063	163.000	LF
	MGS GUARDRAIL, 6 FT. POSTS, 3 FT. - 1.5 IN. SPACING		
0720	6061065	38.000	LF
	MGS GUARDRAIL, 6 FT. POSTS, 1 FT. - 6.75 IN. SPACING		

0730	6061068	20.000	EA
MGS BRIDGE APPROACH TRANSITION SECTION (EXTENDED CURB)			
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0740	6061069	25.000	EA
MGS BRIDGE APPROACH TRANSITION SECTION (REGULAR/NO CURB)			
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0750	6061074	3.000	EA
MGS HEIGHT AND BLOCK TRANSITION			
-----			
0760	6061080	29.000	EA
MGS END ANCHOR			
-----			
0770	6063014	51.000	EA
TYPE A CRASHWORTHY END TERMINAL (MASH)			
-----			
0780	6063019	1.000	EA
TYPE E CRASHWORTHY END TERMINAL			
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0790	6069902	5.000	EA
MISC. REMOVE AND REINSTALL TYPE C CRASHWORTHY END TERMINAL			
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Section 0002 Total

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Section 0003

Signal Items - J6P3180

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0800	9028500	6470.000	LF
CABLE, LOOP DETECTOR, IN DUCT			
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Section 0003 Total

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Section 0004

Signing Items - J6P3180

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0810	9031010	4.700	CUYD
CONCRETE FOOTINGS, EMBEDDED			
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0820	9031220	2500.000	LB
PIPE POSTS			
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0830	9035004A	141.000	SQFT
SH-FLAT SHEET			
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Section 0004 Total

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Section 0005

ITS Items - J6P3180

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0840	9109902	20.000	EA
MISC. REMOVE AND REINSTALL IN-PAVEMENT WIRELESS DETECTION SYSTEM			
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Section 0005 Total

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Section 0006

Roadway Items - J6P3200

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0850	6113020	1955.000	CUYD
FURNISHING TYPE 2 ROCK BLANKET			
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0860	6113040	1955.000	CUYD
PLACING TYPE 2 ROCK BLANKET			
-----			
0870	6169901	1	LS
MISC. TEMPORARY TRAFFIC CONTROL			
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0880	6169902	2.000	EA
	MISC. CHANGEABLE MESSAGE SIGN NTCIP COMPLIANT, CONTRACTOR FURNISHED/RETAINED		

0890	6172000	6.000	LF
	CONCRETE TRAFFIC BARRIER, TYPE B		

0900	6173000	6.000	LF
	CONCRETE TRAFFIC BARRIER, TYPE C		

0910	6173600D	450.000	LF
	TEMPORARY TRAFFIC BARRIER, CONTRACTOR FURNISHED / RETAINED		

0920	6175010A	450.000	LF
	RELOCATING TEMPORARY TRAFFIC BARRIER		

0930	6181000	1	LS
	MOBILIZATION		

0940	6240103A	2934.000	SQYD
	PERMANENT EROSION CONTROL GEOTEXTILE		

0950	6252003	69000.000	LB
	SLAB JACKING MATERIAL HIGH DENSITY POLYURETHANE		

0960	6259901	1	LS
	MISC. CEMENTITIOUS GROUT FOR MUDJACKING		

0970	6274000	1	LS
	CONTRACTOR FURNISHED SURVEYING AND STAKING		

Section 0006 Total

Section 0007

ITS Items - J6P3200

0980	9109901	1	LS
	MISC. MODOT ITS FACILITY RELOCATION		

Section 0007 Total

Section 0008

Bridge A39983 Items - J6P3200

0990	2164500	160.000	LF
	REMOVAL OF EXISTING EXPANSION JOINTS & ADJACENT CONCRETE		

1000	2169901	1	LS
	MISC. REMOVAL OF EXISTING DEBRIS SWEEPER		

1010	2169903	36.000	LF
	MISC. REMOVE AND REPLACE BARRIER CURB		

1020	6233000	6427.000	SQYD
	EPOXY POLYMER CONCRETE OVERLAY		

1030	7034214	28.000	CUYD
	CLASS B-2 CONCRETE		

1040	7040101	180.000	SQFT
	SUBSTRUCTURE REPAIR (FORMED)		

1050	7040102	10.000	SQFT
	SUBSTRUCTURE REPAIR (UNFORMED)		

1060	7040104	100.000	SQFT
	REPAIRING CONCRETE DECK (HALF-SOLING)		

1070	7049903	3.000	LF
	MISC. BARRIER CURB REPAIR (UNFORMED)		

1080	7101000	3930.000	LB
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REINFORCING STEEL (EPOXY COATED)			
1090	7110200	1	LS
PROTECTIVE COATING - CONCRETE BENTS AND PIERS (EPOXY)			
1100	7121000	200.000	LB
FABRICATED STRUCTURAL CARBON STEEL (MISC)			
1110	7125200	57700.000	SQFT
SURFACE PREPARATION FOR RECOATING STRUCTURAL STEEL			
1120	7125210	57700.000	SQFT
FIELD APPLICATION OF INORGANIC ZINC PRIMER			
1130	7125365A	8600.000	SQFT
INTERMEDIATE FIELD COAT (SYSTEM G)			
1140	7125370A	8600.000	SQFT
FINISH FIELD COAT (SYSTEM G)			
1150	7129902	24.000	EA
MISC. ANCHOR ROD INSTALLATION			
1160	7129902	120.000	EA
MISC. SLAB DRAIN EXTENSION			
1170	7172001	164.000	LF
STRIP SEAL EXPANSION JOINT SYSTEM			
Section 0008 Total			

Section 0009  
Bridge A40651 Items - J6P3200

1180	6233000	1434.000	SQYD
EPOXY POLYMER CONCRETE OVERLAY			
1190	7040113	10.000	SQFT
CLEAN AND EPOXY SEAL			
1200	7049902	14.000	EA
MISC. PILE ENCASEMENT			
1210	7174002	130.000	LF
PREFORMED SILICONE OR EPDM EXPANSION JOINT SEAL			
Section 0009 Total			

Section 0010  
Bridge A41041 Items - J6P3200

1220	6233000	2436.000	SQYD
EPOXY POLYMER CONCRETE OVERLAY			
1230	7040104	30.000	SQFT
REPAIRING CONCRETE DECK (HALF-SOLING)			
1240	7174002	114.000	LF
PREFORMED SILICONE OR EPDM EXPANSION JOINT SEAL			
Section 0010 Total			

Section 0011  
Bridge A41051 Items - J6P3200

1250	6233000	2170.000	SQYD
EPOXY POLYMER CONCRETE OVERLAY			

1260	7040104	20.000	SQFT
REPAIRING CONCRETE DECK (HALF-SOLING)			

1270	7174002	116.000	LF
PREFORMED SILICONE OR EPDM EXPANSION JOINT SEAL			

Section 0011 Total

Section 0012

Bridge A58181 Items - J6P3200

1280	6233000	4042.000	SQYD
EPOXY POLYMER CONCRETE OVERLAY			

1290	7040104	10.000	SQFT
REPAIRING CONCRETE DECK (HALF-SOLING)			

1300	7040113	100.000	SQFT
CLEAN AND EPOXY SEAL			

1310	7173002	281.000	LF
SILICONE EXPANSION JOINT SEALANT			

Section 0012 Total

Section 0013

Bridge A58191 Items - J6P3200

1320	6233000	2287.000	SQYD
EPOXY POLYMER CONCRETE OVERLAY			

1330	7040104	10.000	SQFT
REPAIRING CONCRETE DECK (HALF-SOLING)			

1340	7173002	149.000	LF
SILICONE EXPANSION JOINT SEALANT			

Section 0013 Total

Section 0014

Bridge A58771 Items - J6P3200

1350	6233000	2113.000	SQYD
EPOXY POLYMER CONCRETE OVERLAY			

1360	7040104	30.000	SQFT
REPAIRING CONCRETE DECK (HALF-SOLING)			

1370	7173002	137.000	LF
SILICONE EXPANSION JOINT SEALANT			

Section 0014 Total

Item Total

\$0.00

**DBE CERTIFICATION**

(6) Trainees: (Applies to Federal Projects only) The number of trainee hours provided under this contract will be 0 slots at 1000 hours per slot or 0 hours.

(7) Bidder's Certificaton for DBE Program and Contract Goal

(Applies to Federal Projects only.)

(A) DBE Contract Goal: By submitting this bid, the bidder certifies that the bidder is familiar with the DBE Program Requirements in the General Provisions. The contract goal for the amount of work to be awarded is 13.00 % of the total federal project price. The bidder shall also complete the DBE Identification Submittal form in accordance with the General Provisions. This form is available on MoDOT's Website, [www.modot.org](http://www.modot.org) on the Bid Opening Info page of the Contractor Resources site.

(B) DBE Participation: The bidder certifies that it will utilize DBE's as follows:

% OF TOTAL FEDERAL CONTRACT

NOTE: Bidder must fill in the above blank. If no percentage is specified, the bidder certifies that it agrees to and will comply with the contract goal. If a percentage below the contract goal is specified, then the bidder must submit complete documentation of good faith efforts to meet the DBE contract goal, immediately below.

The DBE Identification Submittal form will be submitted via

(C) Certification of Good Faith Efforts to Obtain DBE Participation: By submitting its signed bid, the bidder certifies under penalty of perjury and other provisions of law, that the bidder took each of the following steps to try to obtain sufficient DBE participation to achieve the Commission's proposed DBE Contract Goal:

**CONTRACT PROVISIONS**

(8a) ACCEPTANCE OF PROVISION FOR PRICE ADJUSTMENT FOR FUEL: Bidders have the option to accept the provision for Price Adjustment for Fuel in accordance with Sec. 109.14. The bidder must select "Yes" for those items of work in which they choose to accept the provision. No price adjustments will be made, due to fuel price changes, for bidders who do not accept this provision. This provision does not apply to Seal Coat.

EXCAVATION PRODUCTION

ASPHALT PAVING PRODUCTION AND HAULING

CONCRETE PAVING PRODUCTION AND HAULING

AGGREGATE BASE HAULING

(8b) ACCEPTANCE FOR PROVISION FOR ASPHALT CEMENT PRICE INDEX, SEAL COAT PRICE INDEX, ASPHALT UNDERSEAL PRICE INDEX, OR POLYMER MODIFIED EMULSION MEMBRANE PRICE INDEX: Bidders have the option to accept the provision for Asphalt Cement Price Index, Seal Coat Price Index, Asphalt Underseal Price Index, and/or Polymer Modified Emulsion Membrane Price Index (when used in conjunction with an Ultrathin Bonded Asphalt Wearing Surface treatment) in accordance with the General Provisions. The bidder must mark each box below if they choose to accept the provision. No price adjustments will be made, due to asphalt price changes, for bidders who do not accept this provision.

ASPHALT CEMENT

SEAL COAT

ASPHALT UNDERSEAL

POLYMER MODIFIED EMULSION MEMBRANE (UBAWS)

(9) MAXIMUM MONETARY VALUE OF AWARDS ACCEPTED THIS BID OPENING: Bidders have the option to specify the maximum monetary value of awards that they will accept for the total of all bids they have submitted in the bid opening, Sec 102.7.2. If the bidder is submitting only one bid, or if the bidder does not want to specify a maximum monetary value for submitted bids, this section should not be completed. If a submitted bid upon correction exceeds the indicated maximum monetary amount, the bid may be declared non-responsive. If a bidder's submitted bids show different values for the maximum monetary value, the lowest value will govern.

MAXIMUM MONETARY VALUE OF AWARDS ACCEPTED THIS BID OPENING

\$

(Note: this amount should be entered in only one of the bids for this bid opening)

(10) COMBINATION BIDS: (Applies only if combination bids are specified. See cover and/or notice to contractor(s).) Combination bids will be in accordance with Sec 102.12. By selecting "All or None" the bidder desires to combine all projects in accordance with Sec 102.12.2.1.

(11a) CERTIFICATIONS FOR FEDERAL JOBS: (Applies to Federal Projects only.) By signing and submitting this bid, the bidder makes the certifications appearing in Sec. 102.18.1 (regarding affirmative action and equal opportunity), Sec. 102.18.2 (regarding disbarment, eligibility, indictments, convictions, or civil judgments), Sec. 102.18.3 (regarding anti-collusion), and Sec. 102.18.4 (regarding lobbying activities). Any necessary documentation is to accompany the bid submission, as required by these sections. As provided in Sec. 108.13, the Commission may terminate the contract for acts of misconduct, which includes but is not limited to fraud, dishonesty and material misrepresentation or omission of fact within the bid submission.

(11b) CERTIFICATIONS FOR STATE JOBS: (Applies to State Projects only.) By signing and submitting this bid, the bidder makes the certifications appearing in Sec. 102.18.2 (regarding diseligibility, indictments, convictions, or civil judgments), Sec. 102.18.3 (regarding anti-collusion), and Sec. 102.18.5 (regarding Missouri Domestic Products Procurement Act).

Any necessary documentation is to accompany the bid submission, as required by these sections. As provided in Sec. 108.13, the Commission may terminate the contract for acts of misconduct, which includes but is not limited to fraud, dishonesty, and material misrepresentation or omission of fact within the bid submission.

Does the bidder make certification for the above items listed in 11(a) or 11(b)? **Yes** ☐ **No** ☐

By selecting "No" the bidder REFUSES to make one or more certifications for the above items 11a or 11b. The bidder shall provide a statement of explanation for the refusal in the space below or by fax to the Design Division @ Fax no. 573-522-2281.

(12) ANTIDISCRIMINATION: The Commission hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, businesses owned and controlled by socially and economically disadvantaged individuals will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, religion, creed, sex, age, ancestry, or national



origin in consideration for an award.

(13) PREFERENCE TO MISSOURI FIRMS IN AWARDING OF CONTRACTS: (Applies to State Projects only.) The bidder's attention is directed to Section 34.355 RSMo Supp 2000, et seq, which requires that preference be given in awarding contracts to firms, corporations, or individuals doing business as Missouri firms, corporations, or individuals, or which maintain Missouri offices or places of business, when the quality of performance promised is equal, or better, and the price quoted is the same, or less.

The law also requires that a contractor or bidder domiciled outside the State of Missouri shall be required, in order to be the successful bidder, to submit a bid which is the same percent less than the lowest bid submitted by a responsible contractor or bidder domiciled in Missouri as would be required for the Missouri domiciled contractor or bidder to succeed over the bidding contractor or bidder domiciled outside Missouri in a like contract or bid being let in his domiciliary state. A contractor or bidder domiciled outside Missouri shall also be required to submit an audited financial statement as would be required of a Missouri domiciled contractor or bidder on a like contract or bid being let in the domiciliary state of that contractor or bidder.

For firms, corporations or individuals domiciled outside the State of Missouri, it is requested they submit the following information:

List the state of domicile

List address of all Missouri offices or places of business

I acknowledge that I have read, understand and completed the above Contract Provisions.

**SUBCONTRACTOR DISCLOSURE**

(14) SUBCONTRACTOR DISCLOSURE The bidder shall submit with this bid any subcontracts that meet the requirements of Sec 102. List below the name of each subcontractor that will be furnishing labor, labor and materials, the category of work that the subcontractor will be performing (e.g. asphalt, concrete, earthwork, bridges...), and the dollar value of the subcontract. Select "NONE" if there are no subcontractors that need to be disclosed.

If the information is not available at the time of bid, the bidder shall submit the "Subcontractor Disclosure Form", located on MoDOT's website, on or before 4:00 p.m. of the third business day after the bid opening date, directly to the Design Division, Missouri Department of Transportation, 105 W. Capitol Avenue, P.O. Box 270, Jefferson City, Missouri 65102-0270. Telefax transmittal to MoDOT will be permitted at fax no. 573-522-2281 or emailed to [subcontractor.disclosure@modot.mo.gov](mailto:subcontractor.disclosure@modot.mo.gov). The complete signed original documents do not need to be mailed to MoDOT, but the bidder shall have it available if requested by the Design Division or the engineer.

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

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CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

Submitted:

**SIGNATURE AND IDENTITY OF BIDDER**

## (15) SIGNATURE AND IDENTITY OF BIDDER

BY SUBMITTING THIS BID ELECTRONICALLY, I HEREBY ACKNOWLEDGE THAT ALL REQUIREMENTS INCLUDED IN THE HARD COPY REQUEST FOR BID, AND AMENDMENTS ARE A PART OF THIS BID AND CONTRACT.

\*\*\* AN ELECTRONIC PROPOSAL SUBMITTED AND SIGNED WITH A DIGITAL ID, UNDER THE PROVISION OF THE MISSOURI DEPARTMENT OF TRANSPORTATION, WILL BE CONSIDERED VALID AND BINDING. \*\*\*

THE BIDDER CERTIFIES THAT THE BIDDER AND ITS OFFICIALS, AGENTS, AND EMPLOYEES HAVE NEITHER DIRECTLY NOR INDIRECTLY ENTERED INTO ANY AGREEMENT, PARTICIPATED IN ANY COLLUSION, OR OTHERWISE TAKEN ANY ACTION IN RESTRAINT OF FREE COMPETITIVE BIDDING IN CONNECTION WITH THIS BID, AND THAT THE BIDDER INTENDS TO PERFORM THE WORK WITH ITS OWN BONAFIDE EMPLOYEES AND SUBCONTRACTORS, AND DID NOT BID FOR THE BENEFIT OF ANOTHER CONTRACTOR.

THE BIDDER CERTIFIES THAT THE BIDDER'S COMPANY KNOWINGLY EMPLOYS ONLY INDIVIDUALS WHO ARE AUTHORIZED TO WORK IN THE UNITED STATES IN ACCORDANCE WITH APPLICABLE FEDERAL AND STATE LAWS AND ALL PROVISIONS OF MISSOURI EXECUTIVE ORDER NO. 07-13 FOR CONTRACTS WITH THE MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION, ACTING THROUGH THE MISSOURI DEPARTMENT OF TRANSPORTATION.

THE BIDDER ACKNOWLEDGES THAT THIS IS AN UNSWORN DECLARATION, EXECUTED UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE UNITED STATES AND/OR FALSE DECLARATION UNDER THE LAWS OF MISSOURI, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS. THE FAILURE TO PROVIDE THIS CERTIFICATION IN THIS BID MAY MAKE THIS BID NON-RESPONSIVE, AND CAUSE IT TO BE REJECTED.

☐ Yes ☐ No

Select "No" ONLY if the bidder REFUSES to make this certification. The bidder may provide an explanation for the refusal with this submittal in the space below or by fax to the Design Division @ fax no. 573-522-2281.

USE OF ANOTHER PERSON'S DIGITAL ID IN THIS BIDDING PROCESS VIOLATES THE LAWS OF MISSOURI.

I acknowledge that I have read, understood and completed the above Electronic Bid Submission Certification.

**BID BOND**

(16) BID GUARANTY: The bidder shall submit a Bid Guaranty meeting the requirements of Section 102 of the Missouri Standard Specifications for Highway Construction. MoDOT's bid bond forms are available on MoDOT's website.

Annual bid bonds shall be submitted to MoDOT by June 15th of each year. If utilizing a paper annual or project specific bid bond as a Bid Guaranty

for this project the bidder shall mark the box below.

\*\*Pay by: ☐ Paper Annual or Project Specific Bid Bond.

If submitting a cashier's/certified check, the Bid Bond folder will not turn green.

**ELECTRONIC BID BOND**

The bidder shall complete the following bond verification process if utilizing an electronic project bid bond or electronic annual bid bond as a Bid Guaranty for this project.

\*\*Bond ID:

\*\*Surety Registry Agency:

\*\*Bond Pct:

Surety State:

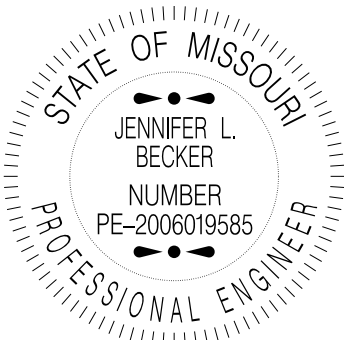
FIELDS WITH THE \*\* INDICATOR ARE REQUIRED FIELDS IF SUBMITTING YOUR BID VIA BID EXPRESS

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Job No. J6P3180  
Route 141  
St. Louis County

 <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	<b>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</b> 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636
	If a seal is present on this sheet, JSP's have been electronically sealed and dated.
	JOB NUMBER: J6P3180 COUNTY: St. Louis, MO DATE PREPARED: 09/10/18
	ADDENDUM DATE:
Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All	

JOB  
SPECIAL PROVISION

A. General - Federal JSP-09-02D

**1.0 Description.** The Federal Government is participating in the cost of construction of this project. All applicable Federal laws, and the regulations made pursuant to such laws, shall be observed by the contractor, and the work will be subject to the inspection of the appropriate Federal Agency in the same manner as provided in Sec 105.10 of the Missouri Standard Specifications for Highway Construction with all revisions applicable to this bid and contract.

**1.1** This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations, and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, Information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at [www.modot.org](http://www.modot.org) under "Bidding". Effective Wage Rates will be posted 10 days prior to the applicable bid opening. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

**1.2** The following documents are available on the Missouri Department of Transportation web page at [www.modot.org](http://www.modot.org) under "Business"; "Standards and Specifications". The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to July 2018 Missouri Standard Plans  
For Highway Construction

These supplemental bidding documents contain all current revisions to the published versions and have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

B. Contract Liquidated Damages

**1.0 Description.** Liquidated Damages for failure or delay in completing the work on time for this contract shall be in accordance with Sec 108.8. The liquidated damages include separate amounts for road user costs and contract administrative costs incurred by the Commission.

**2.0 Period of Performance.** Prosecution of work is expected to begin on the date specified below in accordance with Sec 108.2. Regardless of when the work is begun on this contract, all work shall be completed on or before the date specified below. Completion by this date shall be in accordance with the requirements of Sec 108.7.1.



Notice to Proceed: December 3, 2018  
Completion Date: December 1, 2019

**2.1 Calendar Days.** The count of calendar days will begin on the date the contractor starts any construction operations on the project.

Job Number	Calendar Days	Daily Road User Cost
J6P3180	N/A	\$9,800
J6P3200	N/A	\$9,800

**3.0 Liquidated Damages for Contract Administrative Costs.** Should the contractor fail to complete the work on or before the completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **\$1,500** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified completion date or calendar days.

**4.0 Liquidated Damages for Road User Costs.** Should the contractor fail to complete the work on or before the completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged road user costs in accordance with Sec 108.8 in the amount specified in Section 2.1 for each calendar day, or partial day thereof, that the work is not fully completed. These damages are in addition to the contract administrative damages and any other damages as specified elsewhere in this contract.

C. Work Zone Traffic Management

**1.0 Description.** Work zone traffic management shall be in accordance with applicable portions of Division 100 and Division 600 of the Standard Specifications, and specifically as follows.

**1.1 Maintaining Work Zones and Work Zone Reviews.** The Work Zone Specialist (WZS) shall maintain work zones in accordance with Sec 616.3.3 and as further stated herein. The WZS shall coordinate and implement any changes approved by the engineer. The WZS shall ensure all traffic control devices are maintained in accordance with Sec 616, the work zone is operated within the hours specified by the engineer, and will not deviate from the specified hours without prior approval of the engineer. The WZS is responsible to manage work zone delay in accordance with these project provisions. When requested by the engineer, the WZS shall submit a weekly report that includes a review of work zone operations for the week. The report shall identify any problems encountered and corrective actions taken. Work zones are subject to unannounced inspections by the engineer and other departmental staff to corroborate the validity of the WZS's review and may require immediate corrective measures and/or additional work zone monitoring.

**1.2 Work Zone Conflict Resolution.** Any conflict resolution shall be in accordance with Sec 616.4. Failure to make corrections on time may result in the engineer suspending work. The suspension will be non-excusable and non-compensable regardless if road user costs are being charged for closures.

**2.0 Traffic Management Schedule.**

**2.1** Traffic management schedules shall be submitted to the engineer for review prior to the start of work and prior to any revisions to the traffic management schedule. The traffic management schedule shall include the proposed traffic control measures, the hours traffic control will be in place, and work hours.

**2.2** The traffic management schedule shall conform to the limitations specified in Sec 616 regarding lane closures, traffic shifts, road closures and other width, height and weight restrictions.

**2.3** The engineer shall be notified as soon as practical of any postponement due to weather, material or other circumstances.

**2.4** In order to ensure minimal traffic interference, the contractor shall schedule lane closures for the absolute minimum amount of time required to complete the work. Lanes shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane is opened to traffic.

**2.5 Traffic Congestion.** The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of **10 minutes** to prevent congestion from escalating beyond this delay threshold. If disruption of the traffic flow occurs and traffic is backed up in queues equal to or greater than the delay time threshold listed above then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable. When a Work Zone Analysis Spreadsheet is provided, the contractor will find it in the electronic deliverables on MoDOT's Online Plans Room. The contractor may refer to the Work Zone Analysis Spreadsheet for detailed information on traffic delays.

#### **2.5.1 Traffic Safety.**

**2.5.1.1** Where traffic queues routinely extend to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway, the contractor shall extend the advance warning area, as approved by the engineer.

**2.5.1.2** When a traffic queue extends to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway due to non-recurring congestion, the contractor shall deploy a means of providing advance warning of the traffic congestion, as approved by the engineer. The warning location shall be no less than 1000 feet and no more than 0.5 mile in advance of the end of the traffic queue on divided highways and no less than 500 feet and no more than 0.5 mile in advance of the end of the traffic queue on undivided highways.

#### **3.0 Work Hour Restrictions.**

**3.1** There are six major holiday periods shown below. All lanes shall be scheduled to be open to traffic during these holiday periods, from 12:00 noon on the last working day preceding the holiday until 6:00 a.m. on the first working day subsequent to the holiday unless approved by the Engineer.

Memorial Day  
Independence Day and July 5  
Labor Day  
Thanksgiving  
Christmas  
New Year's Day

**3.2** The contractor shall not perform any construction operation on the roadway, including the hauling of material within the project limits, during restricted periods, holiday periods or other special events specified in the contract documents.

**3.3** The contractor shall be aware that traffic volume data indicates construction operations on the roadbed between the following hours will likely result in traffic queues greater than 10 minutes. Based on this, the contractors operations will be restricted accordingly unless it can be successfully demonstrated the operations can be performed without a 10 minute queue in traffic. It shall be the responsibility of the engineer to determine if the above work hours may be modified. Working hours for evenings, weekends and holidays will be determined by the engineer.

Route 141 (NB and SB):

Single Lane Closure:

Monday – Thursday: 7:00PM to 5:00 AM  
Friday: 7:00PM to 5:00 AM on Monday  
Saturday: 24 Hours  
Sunday: 24 Hours

Double Lane Closure:

Every day: 10:00 PM to 5:00 AM

**3.4** Any work requiring a reduction in the number of through lanes of traffic during weekdays shall be completed during nighttime hours. Refer to section 3.3 for nighttime hours.

**3.5** The contractor shall not alter the start time, ending time, or a reduction in the number of through lanes of traffic or ramp closures without advance notification and approval by the engineer. The only work zone operation approved to begin 30 minutes prior to a reduction in through traffic lanes or ramp closures is the installation of traffic control signs. Should lane closures be placed or remain in place, prior to the approved starting time or after the approved ending time, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delays, with a resulting cost to the traveling public. These damages are not easily computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of **\$1000 per 15 minute increment** for each 15 minutes that the temporary lane closures are in place and not open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of unapproved closure time.

**3.5.1** The said liquidated damages specified will be assessed regardless if it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction, as amended elsewhere in this contract.

#### **4.0 Detours and Lane Closures.**

**4.1** When a changeable message sign (CMS) is provided, the contractor shall use the CMS to notify motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The CMS shall be installed at a location as approved or directed by the engineer. The CMS shall be capable of communication with the Transportation Management Center (TMC), if applicable, prior to installation on right of way. All messages planned for use in the work zone shall be approved and authorized by the engineer or its designee prior to deployment. When permanent dynamic message signs (DMS) owned and operated by MoDOT are located near the project, they may also be used to provide warning and information for the work zone. Permanent DMS shall be operated by the TMC, and any messages planned for use on DMS shall be approved and authorized by the TMC at least 72 hours in advance of the work.

**4.2** At least one lane of traffic in each direction shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder the safe movement of traffic. Periods during which the contractor will be allowed to interrupt traffic will be designated by the engineer.

**4.3** The Contractor shall be responsible for notifying the Engineer two weeks in advance prior to closing Forest Avenue for reconstruction.

#### **5.0 Work Zone Coordination with other Projects.**

**5.1** The contractor shall coordinate traffic management between this project and any other projects on 141, and projects which affect 141, including all future projects. The contractor shall be aware of the following jobs:

J6P3184 – Rehabilitation of pavement from Rte 30 to US 61/67

**5.2** This list of projects is not all inclusive. The contractor shall be aware that there may be other projects including, but not limited to, utility, private, MoDOT maintenance, permit, or other projects that may impact project construction or traffic control in the vicinity of this project. It shall be the responsibility of the contractor to determine what, if any, projects other than the ones listed above may impact this project and work to coordinate construction and traffic management efforts between this project and any other project involved.

**6.0 Basis of Payment.** No direct payment will be made to the contractor to recover the cost of equipment, labor, materials or time required to fulfill the above provisions, unless specified elsewhere in the contract document. All authorized changes in the traffic control plan shall be provided for as specified in Sec 616.

D. Emergency Provisions and Incident Management

**1.0** The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from the police or other emergency agencies for incident management. In case of traffic accidents or the need for police to direct or restore traffic flow through the job site, the contractor shall notify police or other emergency agencies immediately as needed. The area engineer's office shall also be notified when the contractor requests emergency assistance.

**2.0** In addition to the 911 emergency telephone number for ambulance, fire or police services, the following agencies may also be notified for accident or emergency situation within the project limits.

**Transportation Management Center**

14301 So. Outer 40 Rd.  
Chesterfield, MO 63017  
Hrs. of Operation: 24/7/365  
Dispatch: (314) 275-1500

**Missouri State Highway Patrol**

Troop C  
891 Technology Dr.  
(636) 537-3000

**Manchester Police Department**

200 Highlands Blvd. Dr.  
Manchester, MO 63011  
(636) 227-1410

**West County EMS & Fire Protection**

**District, Station 1**

223 Henry Ave.  
Manchester, MO 63011  
(636) 227-9350

**Valley Park Police Department**

320 Benton St.  
Valley Park, MO 63088  
(636) 225-5252

**Valley Park Fire District, Station 2**

55 Crescent Ave.  
Valley Park, MO 63088  
(636) 225-4288

**Fenton Police Department**

625 New Smizer Mill Rd.  
Fenton, MO 63026  
(636) 349-8120

**Fenton Fire District**

845 Gregory Lane  
Fenton, MO 63026  
(636) 343-4188

**Town and Country Police Department**

1011 Municipal Center Dr.  
St. Louis, MO 63131  
(314) 432-4696

**2.1** This list is not all inclusive. Notification of the need for wrecker or tow truck services will remain the responsibility of the appropriate police agency.

**2.2** The contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.

**3.0** No direct pay will be made to the contractor to recover the cost of the communication equipment, labor, materials or time required to fulfill the above provisions.

E. Project Contact for Contractor/Bidder Questions

All questions concerning this project during the bidding process shall be forwarded to the project contact listed below.

Jennifer Becker, Project Contact  
St. Louis District  
1590 Woodlake Drive  
Chesterfield, MO 63017

Telephone Number 314-453-5099  
Email [Jennifer.Becker@modot.mo.gov](mailto:Jennifer.Becker@modot.mo.gov)

All questions concerning the bid document preparation can be directed to the Central Office – Design at (573) 751-2876.

F. Supplemental Revisions JSP-18-01D

***Delete Sec 106.9 and substitute the following:***

**106.9 Buy America Requirement** On all federal-aid projects, the contractor's attention is directed to Title 23 CFR 635.410 Buy America Requirements. Where steel or iron products are to be permanently incorporated into the contract work, steel and iron material shall be manufactured in the USA except for "minor usage" as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. The use of pig iron and processed, pelletized and reduced iron ore manufactured outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

***Delete Sec 106.9.3 and substitute the following:***

**106.9.3** Buy America requirements include a step certification for all fabrication processes of all steel or iron materials that are accepted per Sec 1000.

**106.9.3.1** Items designated as Category 1 will consist of steel girders, piling, and reinforcing steel installed on site. Category 1 items require supporting documentation prior to incorporation into the project showing all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements. This includes the Mill Test Report from the original producing steel mill and certifications documenting the manufacturing process for all subsequent fabrication, including coatings. The certification shall include language that certifies the following. That all steel and iron materials permanently incorporated in this project was procured and processed domestically and all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410.

**106.9.3.2** Items designated as Category 2 will include all other steel or iron products not in Category 1 and permanently incorporated in the project. Category 2 items shall consist of, but not be limited to items such as fencing, guardrail, signing, lighting and signal supports. The prime contractor is required to submit a material of origin form certification prior to incorporation into the project from the fabricator for each item that the product is domestic. The Certificate of Materials Origin form ([link to certificate form](#)) from the fabricator must show all steps of manufacturing, including coating, as being completed in the United States and in accordance

with CFR Title 23 Section 635.410 Buy America Requirements and be signed by a fabricator representative. The Engineer reserves the right to request additional information and documentation to verify that all Buy America requirements have been satisfied. These documents shall be submitted upon request by the Engineer and retained for a period of 3 years after the last reimbursement of the material.

**106.9.3.3** Any minor miscellaneous steel or iron items that are not included in the materials specifications shall be certified by the prime contractor as being procured domestically. Examples of these items would be bolts for sign posts, anchorage inserts, etc. The certification shall read "I certify that all steel and iron materials permanently incorporated in this project during all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements procured and processed domestically in accordance with CFR Title 23 Section 635.410 Buy America Requirements. Any foreign steel used was submitted and accepted under minor usage". The certification shall be signed by an authorized representative of the prime contractor.

***Delete Sec 106.9.4 and Renumber subsequent sections accordingly:***

***Delete Sec 616.5.1 and substitute the following:***

**616.5.1 Amber or Amber and White Warning Lights.** All on-road construction-related vehicles and equipment shall operate with amber or amber and white warning lights having 360 degrees of total coverage and as follows:

- (1) For daytime operations, SAE Class 1 or 2 lights shall be used.
- (2) For dusk to dawn operations, SAE Class 2 lights shall be used, or SAE Class 1 lights with dimming capabilities to minimize glare experienced by travelers.

**616.5.1.1 Red or Red and Blue Warning Lights.** The contractor may elect to use red or red and blue warning lights in accordance with Missouri law and the following requirements:

- (1) Use of red or red and blue lights shall be limited to use on a total of two vehicles per work zone and/or project.
- (2) Use of red or red and blue warning lights shall be limited to areas in advance of tapers or lane shifts and at the active work location.
- (3) Lights shall be SAE Class 2 or SAE Class 1 with dimming capabilities to minimize glare experienced by travelers.

The awarded contract will serve as a permit by the Commission, granting the prime contractor and approved sub-contractors to utilize red or red and blue lights as required by Missouri law.

## G. Utilities

**1.1** The existence and approximate location of utility facilities known to exist, as shown on the plans, are based upon the best information available to the Commission at this time. This information is provided by the Commission "as-is" and the Commission expressly disclaims any representation or warranty as to the completeness, accuracy, or suitability of the information for any use. Reliance upon this information is done at the risk and peril of the user, and the

Commission shall not be liable for any damages that may arise from any error in the information. It is, therefore, the responsibility of the contractor to verify the above listing information indicating existence, location and status of any facility. Such verification includes direct contact with the listed utilities.

**2.0 AT&T Manhole.** AT&T has an existing manhole located in the WB I-44 Ramp to SB Route 141 as shown on plan sheet no. 20. This manhole shall be surfaced over as directed by the engineer.

**3.0 Valves.** The contractor is advised that Spire Gas Company and Missouri American Water Company, but not limited to, have valves in the pavement and sidewalk that will require adjustments. The Contractor shall coordinate with the respective utility owners for scheduling and providing the necessary grade requirements for each adjustment of these facilities. The Contractor shall contact the respective utility regarding any questions regarding the adjustment of these facilities. Payment for all necessary work required for the coordination for the scheduling, grade requirements and adjustments of these facilities shall be at no direct pay.

**3.1** As directed by the engineer the contractor may be required to adjust the valves. All work in adjusting the valves shall be in accordance to the utility owner's standards.

**3.2 Basis of Payment.** All costs associated with compliance with the special provision for adjusting the valves including all material, equipment and labor shall be completely covered by the contract unit price for:

Item No.	Unit	Description
604-99.02	Each	Adjusting Utility (Water and Gas Valves)

**4.0** The contractor shall be aware there are numerous utilities present along the route in this contract. Utility locates were not performed during the design phase of the project; therefore, the extent of conflicts with utilities are unknown.

There may be underground utilities that run parallel or cross the route that are in close proximity to guardrail work locations. The contractor shall take necessary precautions and measures to verify locations and depths of utilities by any necessary means to determine exact impacts to their work.

If utility facilities are found and discovered, the engineer will determine whether relocation of the utility is necessary to accommodate construction or if the work can be installed in accordance with Missouri Standard Plans for Highway Construction for the item of work specified.

**5.0 Basis of Payment.** There is no direct pay for complying with this provision.

#### H. Liquidated Damages Specified

**1.0 Description.** If the Forest Avenue pavement replacement is not complete and open to traffic **14 days** after construction begins at the location, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of



**\$2,300** per day for each full day that the Forest Avenue pavement replacement is not complete and open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

**1.1** The said liquidated damages specified will be assessed regardless of whether it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction, as amended elsewhere in this contract.

**I. Contractor Retained Guardrail**

**1.0 Description.** All guardrail removed from this project shall become the property of the Contractor and shall be disposed of in accordance with Sec. 202.

**2.0 Basis of Payment.** All costs incurred for complying with this provision shall be considered completely covered by the contract unit price bid for:

Item No.	Unit	Description
202-20.10	L.S.	Removal of Improvements

**J. Modified Shaping Slopes, Class III**

**1.0 Description.** Modified Shaping Slopes, Class III shall consist of providing fill material and shaping slopes to construct additional shoulder width for the installation of guardrail and Type A crashworthy end terminals in accordance with the standard plans. Material used shall be 4-inch minus aggregate, or other granular material approved by the engineer. Any excess material shall be disposed of outside the limits of the right of way.

**1.1** In lieu of 4-inch minus aggregate, earth material may be used for Modified Shaping Slopes, Class III. When earth material is used, an approved seed mixture shall be applied in accordance with Sec 805, mulch shall be applied in accordance with Sec 802 and erosion and sediment control shall be utilized in accordance with Sec 806. All cost for seeding, mulching, and erosion control shall be incidental to the cost of Modified Shaping Slopes, Class III.

**2.0 Construction Requirements.** Slope areas to be shaped by the addition of material shall be scarified to allow bonding with the added material. Density shall be obtained by reasonable compaction efforts consisting of no less than three passes with a roller or other methods approved by the engineer. The contractor will not be required to excavate any classified rock excavation under this item.

**2.1** Benching of the existing slope may be necessary to provide stability to the additional shoulder width constructed by Modified Shaping Slopes, Class III. All costs for benching shall be included in the cost of Modified Shaping Slopes, Class III.

**2.2** Modified Shaping Slopes, Class III will apply only to those sections that have been specifically designated as such on the plans.

**3.0 Method of Measurement.** Final measurement will not be made except where appreciable errors are found in the contract quantity. Where required, measurement will be made in accordance with Sec 215.3.

**4.0 Basis of Payment.** The accepted quantity of Modified Shaping Slopes, Class III shall be paid for at the contract unit price bid for:

Item No.	Unit	Description
215-99.03	LF	Modified Shaping Slopes, Class III

No direct payment will be made for any additional material required for Modified Shaping Slopes, Class III.

K. Bonded Asphaltic Concrete Pavement NJSP-15-11

**1.0 Description.** This work shall consist of the placement a Polymer Modified Emulsion Membrane prior to a bituminous overlay of hot asphaltic concrete pavement. The Polymer Modified Emulsion Membrane shall be spray applied immediately prior to the application of the hot asphaltic concrete pavement so as to produce a homogeneous surface in accordance with Secs 401, 402, or 403.

**2.0 Materials.** The Polymer Modified Emulsion Membrane shall be in accordance with Sec 1015.20.6.2.

**3.0 Construction Requirements.** The asphaltic concrete pavement shall be placed in accordance with Secs 401, 402, or 403, except as modified herein.

**3.1 Equipment.** No wheel, track or other part of the paving machine or any hauling equipment shall come in contact with the Polymer Modified Emulsion Membrane before the asphaltic concrete pavement mixture is applied.

**3.2 Application of Polymer Modified Emulsion Membrane.**

**3.2.1** The Polymer Modified Emulsion Membrane shall be sprayed at a temperature of 120 - 180°. The sprayer shall accurately and continuously monitor the application rate and provide a uniform coverage across the entire width to be overlaid. The target application rate of the asphalt emulsion membrane shall be 0.20 gallons per square yard. The Engineer may make adjustments to the application rate based upon the existing pavement surface conditions and the recommendations of the Polymer Modified Emulsion Membrane supplier; however, the application rate shall be within +/- 0.07 gallon per square yard of the target application rate.

**3.2.2** The application rate of the Polymer Modified Emulsion Membrane shall be verified by dividing the volume (of Polymer Modified Emulsion Membrane used) by the area of paving for that day.

**3.2.3** No water shall be added to the Polymer Modified Emulsion Membrane.

**4.0 Method of Measurement.** Measurement of the Polymer Modified Emulsion Membrane shall be based on the volume in gallons in accordance with Sec 1015.

**5.0 Basis of Payment.** The accepted quantity of Polymer Modified Emulsion Membrane shall be paid for at the contract unit price bid for:

Item No.	Unit	Description
407-99.12	Gal	Misc. Polymer Modified Emulsion Membrane

L. Remove and Reinstall Type C Crashworthy End Terminals

**1.0 Description.** This work shall include the removal and reinstallation of the Type C Crashworthy End Terminals at the various locations specified in the contract plans.

**2.0 Construction Requirements.** The contractor shall reinstall each Type C crashworthy end terminal as shown in the plan per the manufacturer's requirements.

**2.1** The Contractor shall schedule this work accordingly so that Type C Crashworthy End Terminals are in place whenever the driving lanes adjacent to them are open.

**3.0 Method of Measurement.** Measurement of Removing and Reinstalling Type C Crashworthy End Terminals shall be made per each.

**4.0 Basis of Payment.** Payment for all labor, equipment, materials and incidental work for Removing and Reinstalling Type C Crashworthy End Terminals shall be considered completely covered by contract unit price bid for:

Item No.	Unit	Description
606-99.02	Each	Remove and Reinstall Type C Crashworthy End Terminal

No direct pay will be made to recoup costs associated with replacing any missing or damaged hardware due to contractor negligence in the process of removing and relocating the Type C Crashworthy End Terminals.

M. ADA Compliance and Final Acceptance of Constructed Facilities JSP-10-01A

**1.0 Description.** The contractor shall comply with all laws pertaining to the Americans with Disabilities Act (ADA) during construction of pedestrian facilities on public rights of way for this project. An ADA Checklist is provided herein to be utilized by the contractor for verifying compliance with the ADA law. The contractor is expected to familiarize himself with the plans involving pedestrian facilities and the ADA Post Construction Checklist prior to performing the work.

**2.0 ADA Checklist.** The contractor can locate the ADA Checklist form on the Missouri Department of Transportation website:

[http://www.modot.mo.gov/business/contractor\\_resources/forms.htm](http://www.modot.mo.gov/business/contractor_resources/forms.htm)

**2.1** The ADA Checklist is intended to be a helpful tool for the contractor to use during the construction of the pedestrian facilities and a basis for the commission's acceptance of work. Prior to work being performed, the contractor shall bring to the engineer's attention any planned work that is in conflict with the design or with the requirement shown in the checklist. Situations may arise where the checklist may not fully address all requirements needed to construct a facility to the full requirements of current ADA law. In those situations, the contractor shall propose a solution to the engineer that is compliant with current ADA law using the following hierarchy of resources: 2010 ADA Standards for Accessible Design, Draft Public Rights of Way Accessibility Guidelines (PROWAG) dated November 23, 2005, MoDOT's Engineering Policy Guidelines (EPG), or a solution approved by the U.S. Access Board.

**2.2** It is encouraged that the contractor monitor the completed sections of the newly constructed pedestrian facilities in attempts to minimize negative impacts that his equipment, subcontractors or general public may have on the work. Completed facilities must comply with the requirements of ADA and the ADA Checklist or have documented reasons for the non-complaint items to remain.

### **3.0 Coordination of Construction.**

**3.1** Prior to construction and/or closure on an existing pedestrian path of travel, the contractor shall submit a schedule of work to be constructed, which includes location of work performed, the duration of time the contractor expects to impact the facility and an accessible signed pedestrian detour compliant with MUTCD Section 6D that will be used during each stage of construction. This plan shall be submitted to the engineer for review and approval at or prior to the pre-construction conference. Accessible signed detours shall be in place prior to any work being performed that has the effect of closing an existing pedestrian travel way.

**3.2** When consultant survey is included in the contract, the contractor shall use their survey crews to verify that the intended design can be constructed to the full requirements as established in the 2010 ADA Standards. When 2010 ADA Standards do not give sufficient information to construct the contract work, the contractor shall refer to the PROWAG.

**3.3** When consultant survey is not included in the contract, the contractor shall coordinate with the engineer, prior to construction, to determine if additional survey will be required to confirm the designs constructability.

**4.0 Final Acceptance of Work.** The contractor shall provide the completed ADA Checklist to the engineer at the semi-final inspection. ADA improvements require final inspection and compliance with the ADA requirements and the ADA Checklist. Each item listed in the checklist must receive either a "YES" or an "N/A" score. Any item receiving a "NO" will be deemed non-compliant and shall be corrected at the contractor's expense unless deemed otherwise by the engineer. Documentation must be provided about the location of any non-complaint items that are allowed to remain at the end of the construction project. Specific details of the non-complaint items, the ADA requirement that the work was not able to comply with, and the specific reasons that justify the exception are to be included with the completed ADA Checklist provided to the engineer.

**4.1** Slope and grade measurements shall be made using a properly calibrated, 2 foot long, electronic digital level approved by the engineer.

**5.0 Basis of Payment.** The contractor will receive full pay of the contract unit cost for all sidewalk, ramp, curb ramp, median, island, approach work, cross walk striping, APS buttons, pedestrian heads, detectible warning systems and temporary traffic control measures that are completed during the current estimate period as approved by the engineer. Based upon completion of the ADA Checklist, the contractor shall complete any necessary adjustments to items deemed non-compliant as directed by the engineer.

**5.1** No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required to fulfill the above provisions, unless specified elsewhere in the contract documents.

N. Concrete Sidewalk

**1.0 Description.** This work shall consist of removing the existing sidewalks, Class A Excavation and compaction to prepare the grade for new aggregate base and concrete sidewalk, and installing sod. A minimum of 4-inches of compacted Type 5 Aggregate Base shall be placed and the construction of 4-inch minimum thickness concrete sidewalk as indicated on the plans or as directed by the Engineer.

**1.1** Concrete sidewalk shall include the removal or trimming of trees, tree roots, landscaping, shrubs, and other obstructions as well as the replacement or relocation of existing mailboxes as necessary for installation of the sidewalk as directed by the Engineer.

**2.0 Construction Requirements.**

**2.1** The placement of Type 5 Aggregate for Base shall be in accordance with Section 304.

**2.2** The placement of concrete shall be in accordance with Section 608.

**2.3** Where indicated on the plans, the curbing shall be transitioned to accept curb ramps. Tapers shall be formed at locations as shown on the plans.

**2.4** All existing joints and exposed concrete surfaces shall be thoroughly cleaned prior to the placing of any concrete. Expansion material shall be installed where sidewalk is adjacent to existing structures or located at the back of curb.

**2.5** The contractor shall have all necessary personnel, equipment, and materials at hand for all work before the work begins so that work may proceed without delay. Any work on existing or proposed sidewalk shall be completed and open to pedestrian traffic 84 hours after work begins, including adjusting pull boxes, placing sod or seed, placing curb, or any other incidental work associated with the installation of the new sidewalk. The contractor shall limit the construction of new sidewalks to one side of the roadway at a time.

**2.6** Concrete sidewalk shall be placed on the Type 5 Aggregate Base in a manner to avoid segregation and contamination. Concrete vibrators of an internal type shall be used in compacting and consolidating all concrete mixtures.

**2.7** Cross-slopes of concrete sidewalk shall be 1.5% with a tolerance of  $\pm 0.5\%$ .

**2.8** All joints shall be placed at right angles to or radial to the centerline of the sidewalk unless directed otherwise. Joints shall be provided at the locations indicated on the plans and in conformance with the standard details. Joint material shall extend the full width of the joint. All work necessary to complete this work shall be considered incidental to the concrete pavement.

**2.9** Backfilling shall follow form removal as soon as possible and in no case more than 5 calendar days after concrete placement.

**2.10** The contractor shall take care not to damage existing signs or mailboxes during this operation. Any damage to signs, mailboxes, posts or hardware shall be repaired by the contractor at their sole expense.

**2.11** The contractor shall trim or remove tree branches, bushes, or shrubs as necessary to ensure that they do not protrude horizontally or vertically within the sidewalk pathway. A minimum vertical clearance of 80 inches above the sidewalk is required.

**2.12** Utility structures that will not be relocated outside of the horizontal limits of the new sidewalk shall be adjusted to the finished sidewalk elevation. Any holes or gaps shall be plugged.

**2.13** Lighting cable-conduit under the existing shoulders may be exceptionally shallow. The contractor shall exercise caution to prevent breakage of the cable-conduit. In the event that the cable-conduit is broken, the cable-conduit shall be replaced in kind. The contractor shall use exiting slack and flexibility to reset the shallow cable-conduit below the sidewalk and aggregate base elevation.

**3.0 Method of Measurement.** Measurement for concrete sidewalk shall be in accordance with Section 304 and Section 608.

**4.0 Basis of Payment.** Payment for all labor, equipment materials and incidental work, including saw-cuts, shall be considered completely covered by the contract unit price bid for:

Item No.	Unit	Description
203-10.00	C.Y.	Class A Excavation
304-05.04	S.Y.	Type 5 Aggregate for Base (4 in. Thick)
608-60.04	S.Y.	Concrete Sidewalk, 4 in.

No direct payment will be made for adjusting or replacing lighting cable-conduit.

O. ADA Concrete Curb Ramp

**1.0 Description.** This work shall consist of removing non-compliant curb ramps and constructing new concrete curb ramps and island cut-throughs that are compliant with current Americans with Disabilities Act (ADA) and MoDOT guidelines at locations shown on the plans and as directed by the engineer. Providing work zone protections for pedestrians will be a primary component of this project. Specifically, this work shall consist of providing pedestrian detours, including all necessary designing of specific detour routes, placing of signing, barricades, and channelizing. Nothing in this provision shall be construed to limit contractor innovation in mitigating pedestrian traffic impacts. All revisions shall be submitted to the engineer in writing 3 days prior to approval.

**1.1** The contractor shall assure that the persons establishing the grades of the ADA facilities have a copy of ADA related provisions at hand for reference. If it is found that written provisions for ADA facilities are not at hand, the engineer may cause ADA work to be ceased until a copy arrives.

**2.0 Construction Requirements.** Except as noted herein, all applicable provisions in Sec 608 for construction of curb ramps shall apply. Items and materials used for pedestrian traffic control shall be in accordance with Section 616 of the Missouri Standard Specifications for Highway Construction of the version current at the time of the bid opening, as applicable. Materials used to provide access over or around obstacles shall be in accordance with the Section applicable.

**2.1** The area to be removed and/or constructed under this provision includes the entire curb ramp, flares, landing pads, truncated domes, sidewalk, and any curbs, including variable height curbs.

**2.1.1 Gutter Correction.** The contractor shall establish the grade of the flow line of the gutter before establishing the grades of ADA facilities. The gutter line shall be free flowing with no ponding and next to the curb. Under performing gutters shall be replaced with a concrete curb and gutter or a minimum 1.75 inch thick asphalt mill and fill. Running or standing storm water shall not be pushed out into the roadway where it may be splashed on pedestrians by passing vehicles or cause a hydroplaning hazard. An asphalt mill and fill shall be a minimum of 1.75 inches thick and the edges shall be at a smooth milled butt joint. The contractor shall use an approved BP-1 mix for all corner asphalt mill and fill work unless another surface asphalt mix is specified elsewhere in the contract. Asphalt mill and fill is included in the work of ADA Curb Ramps. If asphalt mill and fill is needed at a corner without any other ADA work, it will be found as a separate line item in this contract.

**2.2** Recommendations for the design type of each curb ramp to be built on this project are shown on the plans. These curb ramps may vary from the original design in size, shape, and location as necessary to comply with ADA laws. It is the contractor's responsibility to inspect locations in the field before bidding to verify quantities needed to satisfy this provision.

**2.2.1** ADA provides some exceptions to ramp slope where space limitations exist. The apparent construction limits shown on the plans are not considered a space limitation. The use of these exceptions will not be considered by the engineer unless the length needed for compliance goes beyond 10 additional feet as shown as the plans are interpreted by the engineer. The contractor shall not place any ADA exceptions without consulting the engineer on a case by case basis.

**2.3 Work Area Safety.** The contractor shall maintain a work area that is safe for pedestrians. The areas adjacent to the contractor's physical work site shall also be maintained as needed to provide access to adjoining properties, regardless of whether a detour route is in place. All holes shall be covered with secured plywood or steel plates, and the work area walkways shall be free of trip hazards, loose debris, vehicles, materials, and equipment when the contractor is not in the work area. A 3 foot minimum path shall be maintained on any used-in-place walkway needed for access. The contractor shall not be permitted to park on any walkway solely to avoid the need for a lane closure. Items for lane closures are provided in the plans and quantities. The contractor shall fence in his work area to provide no access to the general public during the construction of the project.

**2.4 Prosecution of Work.** The contractor shall have all necessary personnel, equipment, and materials at hand for all work at each location before the work begins so that work may proceed without delay. Curb ramp work on each street corner shall be completed 84 hours after work begins on that corner, including adjusting pull boxes, placing sod or seed, placing curb, or any other incidental work associated with the installation of the new sidewalk. The contractor shall be allowed to work at no more than two corners of an intersection at any time, regardless of the amount of work at each intersection.

**2.4.1 Pedestrian Detours.** The contractor may exempt themselves from the above 84 hour provision by providing and maintaining a signed pedestrian detour at their own cost on a route with equal or better ADA accessibility than the closed pathway, if such routes exist. Since MoDOT may not own the right-of-way of the detour path, the contractor shall ascertain that the detour route will remain open during its planned use as a detour. The contractor shall inform the engineer of plans to use a detour not less than three weeks before it is set up.

**2.4.2 Detour Locations.** Pedestrian detours are to cross the street or go around the block where facilities exist. It may be possible to provide one detour for more than one corner/work location; the quantity for pedestrian detours will be based on the number of work locations needing detours and not on the number of detours actually used. The detour routes shall have equal or better accessibility than existing in the construction location and shall be approved by the engineer. Detours may also use roadway shoulders with sufficient width to provide for pedestrians, and the traffic control to protect them, and where parking is not allowed, provided drainage structures are not a hazard.

At locations where an pedestrian detour is not feasible, the contractor has the option of staging work to maintain a 3' minimum pathway, providing a temporary pathway (3' minimum width) that does not reduce the number of through lanes of the roadway, or providing a full closure with signs for a maximum of 84 hours to reopen the walkway to pedestrian traffic in its final configuration. Locations for full closure shall be submitted to the engineer in writing 2 weeks prior to beginning work and signs shall be placed announcing the closure 1 week before work begins.

**2.5 Aggregate for Base.** A minimum of 4-inches of compacted Type 1 Aggregate for Base shall be placed under all ADA Concrete Curb Ramps. This work shall include any linear grading and compaction required to prepare the grade for new aggregate base and concrete curb ramps. The placement of Type 1 Aggregate for Base shall be in accordance with Section 304 as directed by the Engineer.

**2.6 Liquidated Damages.** If work associated with curb ramp modification begins, but is not complete and open to pedestrian traffic within 84 hours of commencement, the Commission, the traveling public, and state and local police, and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, and pedestrian delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified.

Therefore, the contractor will be charged with liquidated damages specified in the amount of \$250.00 per hour of delay that closes a walkway in excess of 84 hours. The contractor's superintendent and the engineer shall be on site at the time of any closures and shall both record an agreed time when the walkway was closed. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

**2.6.1** The said liquidated damages specified will be assessed regardless of whether it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction. There shall be no permitted excuse for delay of the work, including weather.

**3.0 Method of Measurement.** Final measurement will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity. The curb ramps to be modified per this provision vary in size. It is the contractor's responsibility to verify actual quantities needed to satisfy this provision.



**4.0 Basis of Payment.** Payment for ADA Curb Ramp shall include excavating or preparing of the subgrade, furnishing or installing reinforcement, any incidental work required for furnishing and installing tie bars, tinting of concrete surface as required in the plans, truncated domes, sod or seeding, or asphalt mill and fill required to transition the new ramp to existing pavement or to drain the sidewalk, warping sidewalk to meet existing sidewalk sections, relocating or resetting granite curb, relocating existing pedestrian push buttons on signal poles, the removal and replacement of existing curb/curb and gutter, the removal of existing concrete slabs, compacted 4-inch Type 1 Aggregate Base, saw cuts, or other work necessary in the satisfactory completion of this provision. Payment for ADA Concrete Curb ramps shall be considered completely covered by the contract unit price bid for:

Item No.	Unit	Description
608-99.02	Each	ADA Concrete Curb Ramp

P. Curb Removals at Guardrail Locations

**1.0 Description.** This work shall consist of removing any existing monolithic or doweled on curb around new guardrail installations and replacing it with 4-inch Type A Curb at the locations specified in the contract plans.

**2.0 Construction Requirements.** The contractor shall be aware that various types of curb other than the 6-inch Type M Curb specified in the contract plans may be encountered for removal. It is the contractor's responsibility to field verify each location to determine the best course action for removal.

**3.0 Basis of Payment.** Payment for all labor, equipment and materials necessary to remove the monolithic or doweled on curb around the new guardrail installations shall be made and considered completely covered by the contract unit price bid for:

Item No.	Unit	Description
202-20.10	L.S.	Removal of Improvements

No direct payment shall be made for the replacement of any pavement or base that is damaged or disturbed in the process of removing the monolithic or doweled on curb. The contractor shall be responsible for installing a 4-inch Type S Curb in lieu of a 4-inch Type A Curb in the event that such damage occurs.

Q. Island Tubular Marker, 18 inch White

**1.0 Description.** This work shall consist of mounting 18 inch white island tubular markers on raised islands at the locations indicated in the plans.

**2.0 Requirements.** The markers shall have a height of 18 inches, 2 reflective bands with super high intensity prismatic sheeting in accordance to Sec 1042, and be constructed from thermoplastic polyurethane. The color of the island tubular marker and reflective bands shall match the pavement marking in which it is placed. The post shall be in the shape of a "T" with a width of 3 inches and depth of 2 inches. The post shall be capable of recovering from repeated vehicle impacts. The post shall insert and be secured into the plastic base with horizontal locking pins. When the post is no longer serviceable, it shall be able to be removed so a new post can be manually inserted and locked into the existing base.

**3.0 Construction Requirements.** The 18 inch white island tubular markers shall be surface mounted on the radius points of the island noses. The surface shall be cleaned of dirt and gravel before installation. The 18 inch white island tubular markers shall be mounted using proper sized anchor bolts according to manufacturer's instructions.

**4.0 Method of Measurement.** Measurement for installation of tubular marker with base will be made per each.

**5.0 Basis of Payment.** Payment for all labor, equipment and materials necessary to install these markers shall be made and considered completely covered by the contract unit price bid for:

Item No.	Unit	Description
608-99.02	Each	Island Tubular Marker, 18 inch White

R. Island Tubular Marker, 36 inch Yellow

**1.0 Description.** This work shall consist of mounting 36 inch yellow island tubular markers on pavement and raised medians at the locations indicated in the plans.

**2.0 Requirements.** The markers shall have a height of 36 inches, 3 reflective bands with super high intensity prismatic sheeting in accordance to Sec 1042, and be constructed from thermoplastic polyurethane. The color of the island tubular marker and reflective bands shall match the pavement marking in which it is placed. The post shall be in the shape of a "T" with a width of 3 inches and depth of 2 inches. The post shall be capable of recovering from repeated vehicle impacts. The post shall insert and be secured into the plastic base with horizontal locking pins. When the post is no longer serviceable, it shall be able to be removed so a new post can be manually inserted and locked into the existing base.

**3.0 Construction Requirements.** The markers shall be surface mounted on the pavement and medians at the locations indicated on the plans. The surface shall be cleaned of dirt and gravel before installation. The markers shall be mounted using proper sized anchor bolts according to manufacturer's instructions.

**4.0 Method of Measurement.** Measurement for installation of tubular marker with base will be made per each.

**5.0 Basis of Payment.** Payment for all labor, equipment and materials necessary to install these markers shall be made and considered completely covered by the contract unit price bid for:

Item No.	Unit	Description
608-99.02	Each	Island Tubular Marker, 36 inch Yellow

S. Modified Concrete Gutter, Type A

**1.0 Description.** At the north and south bridge approaches for Br. A4065 and north approach for Br. A3998 there are existing open concrete gutters along the outside of the pavement which minimize erosion by collecting runoff from the structure and transferring it to a drainage system. The bridge anchor sections for this structure will be replaced to conform to the MASH Standards and will require these existing gutters to be removed and replaced.

**2.0 Construction Requirements.** The existing gutter shall be removed in accordance with Section 202 of the Standard Specifications, and the new gutter shall be placed in accordance with Section 609 of the Standard Specifications. Care shall be taken not to disturb the existing CMP that drains the gutter. Should the CMP become damaged by the contractor's operations to remove and reconstruct the new gutter, the CMP shall be replaced at the contractor's cost.

**2.1** The proposed MGS Bridge Anchor Transition Sections will need to be placed with the posts within the limits of the new gutter and MGS Guardrail installation through concrete requires block-outs at each post. A detail of the gutter, including the location and size of the block-outs, has been provided in the Special Sheets in the contract plans. The block-outs shall be backfilled with sand and then capped with a ½ inch hot-poured elastic type material in accordance with Section 1057 of the Standard Specifications.

**3.0 Basis of Payment.** Payment for all labor, equipment, materials and time required to fulfill the above provision shall be considered completely covered by the contract unit price bid for:

Item No.	Unit	Description
609-99.02	Each	Modified Concrete Gutter, Type A

T. Temporary Traffic Control

**1.0 Description.** All work necessary to maintain safe and efficient traffic flow through the work areas shall be provided by the contractor. This will include furnishing, relocating, and removing temporary traffic control devices, truck mounted attenuators and equipment, and the removal and relocation or covering and uncovering of existing signs and other traffic control devices in accordance with the contract documents or as directed by the engineer.

**2.0 Work requirements.** Work shall be in accordance with Sec 616, Sec 612, and the contract plans.

**3.0 Method of Measurement.** The quantities shown on the plans shall be considered an estimate and may be subject to change based on field conditions. This work will not be measured for payment, but will be considered a lump sum unit. Any Value Engineering proposals to the temporary traffic control will not be paid for through value engineering but will be covered under Temporary Traffic Control, lump sum.

**4.0 Basis of Payment.**

**4.1** Partial payments will be made as follows:

- a) The first partial payment will be made when five percent of the original contract amount is earned. This payment will be the lesser of 50 percent of the contract price for the item of temporary traffic control or 5 percent of the original contract price.

- b) The second partial payment will be made when 50 percent of the original contract amount is earned. This payment will be the lesser of 25 percent of the original contract price for the item of temporary traffic control or 2.5 percent of the original contract price.
- c) The third partial payment will be made when 75 percent of the original contract amount is earned. This payment will be the lesser of 20 percent of the original contract price for the item of temporary traffic control or 2 percent of the original contract price.
- d) When the engineer has accepted the contract for maintenance in accordance with Sec 105, the remaining contract price for the item of temporary traffic control will be paid.
- e) The above partial payment schedule may be adjusted by the engineer if proof of invoices submitted by the contractor demonstrate additional temporary traffic control costs were incurred earlier than the above proposed schedule. The total payment for temporary traffic control will not exceed the bid amount for Temporary Traffic Control, lump sum, unless covered by a cost change order as referenced in the following Section 4.3.

**4.1.1** For the purposes of this provision, the term “original contract price” will be construed as the total dollar value of the construction items (excluding temporary traffic control) of the original contract.

**4.2** Payment for Temporary Traffic Control shall be made and considered completely covered by the contract unit price bid for:

Item No.	Unit	Description
616-99.01	L.S.	Temporary Traffic Control

No direct payment will be made for the following:

- a) Incidental items necessary to complete the work, unless specifically provided as a pay item in the contract.
- b) Installing, operating, maintaining, cleaning, repairing, removing or replacing traffic control devices.
- c) Covering and uncovering existing signs and other traffic control devices.
- d) Relocating temporary traffic control devices, including permanent traffic control devices temporarily relocated, unless specifically included as a pay item in the contract.
- e) Providing channelizers.
- f) Worker apparel.
- g) Flaggers, pilot vehicles, and appurtenances at flagging stations.
- h) Furnishing, installing, operating, maintaining, and removing construction-related vehicle and equipment lighting.
- i) Construction and removal of temporary equipment crossovers, including restoring pre-existing crossovers.

- j) Removing existing pavement markings, installing temporary pavement markings, and removing and relocating temporary pavement markings as necessary for staging operations.
- k) Installing “Drive Smart” and “Point of Presence” signs.

**4.3** Any additional work deemed necessary by the engineer that requires temporary traffic control and is not covered by the contract plans will be included in the cost change order for the additional work. However, if the added work is required in a stage where temporary traffic control is already in place, no additional traffic control pay will be allowed in this case.

**U. NTCIP Compliant Changeable Message Sign (Contractor Furnished and Retained)**

**1.0 Description.** All solar powered changeable message signs, hereinafter referred to as a CMS, shall be in accordance with these specifications.

**2.0 Material.** Each CMS shall consist of an all LED (light emitting diode) matrix message board, solar/battery power supply and a user-operated interface, as specified, all mounted on a heavy duty, towable trailer.

**2.1** Each CMS shall be either Full Matrix or Character Matrix, and have the following minimum characteristics:

- (a) Full Matrix - Each CMS shall be the Full Matrix type with the capability of providing one, two, and three lines of individual changeable characters with minimum heights of 52 (1300), 28 (700), and 18 (450) inches (mm), respectively. Full Matrix signs shall be capable of both static and dynamic graphics, and full display sized messages.
- (b) Character Matrix (Three Line) – Each CMS shall consist of a minimum of three lines containing eight individual changeable characters per line. Each character shall be a minimum of 12 inches wide and 18 inches (450 mm) high.
- (c) Sign firmware shall comply with the current FHWA and DOT (Department of Transportation) NTCIP standards and support all NTCIP mandatory objects.
- (d) The sign controller shall be remotely accessible by the MoDOT St Louis District Transportation Management Center (TMC) through the Commission’s ATMS (Advanced Traffic Management System) software, currently TransSuite provided by TransCore. The contractor will be responsible for ensuring the CMS is added to the ATMS software.
- (e) The CMS shall have a cellular data modem compatible with the district’s current cellular IP (packet data) service provider and be capable of allowing the MoDOT St Louis District TMC ATMS software to have full control of the NTCIP compliant CMS controller remotely. Modem shall be capable of being programmed with a static IP.
- (f) The sign shall have a GPS unit that can assist in locating the sign’s position when polled by the TMC. The GPS unit must be remotely accessible by the TMC and be part of or work with the provided communication modem.

- (g) Physical access to the onboard computer shall be protected by a padlock or other locking handle mechanism. Electronic access to the onboard computer shall be protected by a username and password.

**2.2 Full matrix CMS and character matrix CMS shall meet the following:**

- (a) The overall sign dimensions shall not be less than 72 inches (1800 mm) high x 126 inches (3150 mm) wide.
- (b) The CMS shall be legible up to a distance of 650 feet (200 m) for both day and night operations and shall be visible for ½-mile (800 m) with 18 inch (450 mm) characters.
- (c) When fully raised in the display position, the bottom of the CMS board shall be at least a height of 7 feet (2100 mm) from the ground and shall be able to rotate a complete 360 degrees atop the lift mechanism. A sight tube, used to aim the CMS board to oncoming traffic, shall be installed on the CMS board or mast. The CMS shall have an electrical-hydraulic lifting mechanism that includes a manual lifting and lowering relief mechanism as a backup. It also must be able to be locked into various viewing angles as determined best for the motorists by the CMS operator.
- (d) All LED displays and control circuitry shall be operational from -20 F (-29 C) to 120 F (50 C). The LED's shall have a rated life of 100,000 hours. The LED's shall be ITE amber in color on a flat black background.
- (e) The CMS face shall be constructed that if an individual panel or pixel fails the rest of the face shall continue to display the message.
- (f) All costs and coordination needed for testing to verify modem communication, sign NTCIP compliance, remote GPS status polling, ability to control the sign via the St Louis District's ATMS software provided by TransCore shall be the sole responsibility of the Contractor. Full integration into TransCore's ATMS shall be completed at least 5 business days prior to use of the CMS in the project. TransCore contact information will be provided to the contractor by contacting MoDOT's Gateway Guide staff at 314-275-1526 or via email at ggtech@modot.mo.gov with details of the request. No other support shall be provided by MoDOT other than TransCore contact information. Information provided shall include, at a minimum, CMS make and model, IP address, and proposed locations and messages.
- (g) The Contractor shall be responsible for all monthly cellular service fees for the duration of the project.
- (h) The unit shall be able to withstand a 65-mph (105-kmph) maximum road wind speed. The trailer shall be able to support the fully extended CMS board in an 80-mph (130-kmph) wind load.
- (i) Solar charging system shall allow for total autonomy of 24/7/365 continuous operation.
- (j) All exterior surfaces except the sign face shall be cleaned, primed, and finished with two coats of Highway Safety Orange and the sign interior itself shall be cleaned and finished with one coat of corrosion inhibiting primer and two coats of flat black. The sign face shall be covered with a rigid translucent material to prevent damage to the sign face caused by the environment.

**3.0 Construction Requirements.** Prior to placing a CMS on a project, the engineer shall verify proposed CMS location is void of conflict with another DMS or CMS locations presently established. If a conflict is present, the engineer shall contact the Traffic Management Center (TMC) at 314-275-1526 to mitigate. If no conflict is present, engineer shall provide Traffic Management Center (TMC) with the Job Number, Route, County, specific CMS location, and a CMS identification number that is permanently affixed to the CMS. The engineer and contractor shall verify the message displayed on board is compliant with CMS messaging policies. The contractor shall place the CMS 6 feet [2 meters] off of the right edge of shoulder at the location shown on the plans or as directed by the engineer. The CMS shall be placed so that the right side of the unit is advanced approximately 3 degrees ahead with the direction of traffic. CMS shall not be located in medians. CMS shall be delineated with a minimum of five non-metallic channelizing devices. Installation, including location and placement, shall be approved by the engineer. If needed, the contractor shall relocate the CMS as directed by the engineer.

**3.1** When not in use, the CMS shall be stored no closer than 30 feet [10 meters] to the edge of pavement carrying traffic, unless it is in a properly protected area or an off-site storage area or as otherwise directed by the engineer.

**4.0 Basis of Payment.** All expenses incurred by the contractor in integrating, maintaining, relocating, operating and protecting the changeable message signs as outlined above shall be paid for at the contract unit price for Item 616-99.02 Changeable Message Sign, Contractor Furnished and Retained, per Each.

**4.1** Cost for channelizers shall be included in the contract unit price for CMS.

**4.2** Cost for cellular phone hookup and monthly usage fee for the duration of the project shall be included in the contract unit price for CMS.

Item No.	Unit	Description
616-99.02	Each	NTCIP Compliant Changeable Message Sign (Contractor Furnished and Retained)

V. Utility Adjustments

**1.0 Description.** Various utility adjustments are required on this project. Several are to be adjusted by others, and the remaining adjustments are to be performed by the contractor. Locations of these adjustments are noted in the contract plans.

**2.0 Construction Requirements.**

**2.1 Adjust MoDOT metal signal pull box at Station 489+66.8 (NB inside shoulder) and Station 512+90.8 (SB inside shoulder).** The contractor shall adjust the elevation of each existing MoDOT metal signal pull box to match the post-overlay grade of the pavement. The contractor shall notify the engineer a minimum of three weeks prior to the work and the adjustment shall be in accordance with Section 604 of the Standard Specifications.

**3.0 Basis of Payment.** The accepted quantity of Utility Adjustments will be paid for at the contract unit price for the pay item number 604-99.02 Utility Adjustment, paid for per Each, and shall be considered full compensation to recover the cost of equipment, labor, materials or time required to fulfill the above provision.

W. Inlet Top Replacement

**1.0 Description.** This work will consist of removing and replacing (in kind) the existing inlet tops, grates, and bearing plates at Route 141 between I-64 and Route 30 (Gravois Rd.) as shown on the plans.

**2.0 Construction Requirements.** The contractor shall field verify the size of the inlet and required grate opening area prior to ordering the corresponding curved vane grate covers, drop inlet tops and grate and bearing plates. The contractor shall saw-cut the existing pavement or shoulder around the inlet to provide the concrete pad around the inlet top in accordance with the dimension shown in the plans. If needed, the inlet shall be adjusted to the proper elevation. The contractor shall also repair any damaged to the inlet, inlet invert, or pipe connection to the inlet.

**3.0 Method of Measurement.** Measurement for replacing drop inlet tops will be per each and will include, but not limited to, saw-cutting, removing pavement, removing curb, removals of the existing inlet tops and grate and bearing plates, and furnishing and installing the new inlet tops, grates, bearing plates, and concrete curb.

**4.0 Basis of Payment.** Payment for furnishing the labor, materials, equipment, and excavation necessary to install the new inlet top and grate and bearing plates shall be considered completely covered by the contract unit price bid for:

Item No.	Unit	Description
731-99.02	Each	Inlet Top Replacement (In Kind)

X. Remove and Reinstall In-Pavement Wireless Detection System

**1.0 Description.** Work under this item shall consist of removal, temporary storage, installation, and testing of in-pavement wireless detection systems at the locations shown in the plans.

**2.0 Materials.**

**2.1 Wireless In-Pavement Detector.** The existing in-pavement detectors are SENSYS Networks Wireless Sensors with the ability to detect vehicles for use in signal operation, travel time, or count and classification purposes.

**3.0 Construction Requirements.**

**3.1** The contractor shall present to the Engineer prior to the pre-construction conference written documentation of the order of work related to the disruption of the existing in-pavement detector devices. Consideration will be made to minimize the anticipated down time of the existing devices. A member of the SLITS Group ([SLITS@modot.mo.gov](mailto:SLITS@modot.mo.gov)) will review and approve the schedule if the devices are used for either travel time or count and classification purposes.

**3.2** Before any of the construction operations disrupt the existing operation of the detectors, the Contractor shall present to the Engineer certification from the manufacturer for the removal and installation of the devices in this Section.

**3.3** The contractor shall exercise reasonable care in the handling of the equipment during removal, temporary storage, and installation. Should any of the equipment be damaged by the contractor's negligence, it shall be replaced at the contractor's expense.



**3.4** The sensors to be removed are noted in the plans, and shall be removed from the pavement according to manufacturer's specifications. The pavement holes and surrounding disturbed areas shall be filled in and repaired with an appropriate material as approved by the engineer.

**3.5** The contractor will be responsible for the proper temporary storage of the removed units in a manner to prevent damage as per the manufacturer's recommendation. The units shall be labeled or marked appropriately to indicate the location and configuration in which the units shall be reinstalled.

**3.6** The contractor shall install detector units in the pavement at the exact locations and in the exact configuration as the units were prior to removal unless otherwise indicated on the plans or by the Engineer. Contractor will be responsible to install detector units in the pavement following the manufacturer recommended procedures for installation. The detector units shall not extend above the top of the pavement.

**3.7** A factory certified representative from the supplier shall be available for on-site assistance during installation and verification with the existing AP (Access Points) and proper operations.

#### **4.0 Acceptance Testing.**

**4.1** Develop a proposed test procedure for the installed in-pavement detectors and submit it to the Engineer for approval. Each detector shall be tested separately. Revise the proposed test procedure until it is acceptable to the Engineer.

**4.2** The Contractor shall confirm to the satisfaction of the Engineer that each detector's live status is viewable through the Commission's communication network before acceptance.

**4.3** The Contractor shall provide all equipment and personnel needed to safely conduct the tests. Arrange for the Engineer's representative to witness the tests. Provide the Engineer a report documenting the result of the tests.

#### **5.0 Measurement and Payment.**

**5.1** Measurement and payment for items covered by this specification include the training, documentation, and acceptance testing, in addition to all materials and equipment necessary to restore the system to be fully operational. No direct pay for installation of any device or any epoxy required by the manufacturer to construct a fully functional system.

Item Number	Type	Description
910-99.02	Each	Remove and Reinstall In-Pavement Wireless Detection System

#### **Y. Coordination with ITS Staff and Utility Locates**

**1.0 Description.** Any work that will impact the existing communications network must be coordinated with the Commission's St. Louis District ITS staff. This includes but not limited to removal and replacement of any existing communications equipment, adding new devices and changes to power sources or disconnects. Minor modifications to the existing communications network can have significant impacts on the system and operation of other ITS and traffic signal systems.

**1.1** If the scope of work contains modification, addition and/or expansion of existing underground MoDOT ITS, lighting, or signal facilities, the contractor must notify the MoDOT Utilities Locate staff prior to any work, in order for MoDOT to update MoDOT utility location records with Missouri One Call.

**2.0 Contact.** Initial contact must be made at least seven calendar days before work that may impact the existing communications network commences. Contact the ITS staff via an email at [SLITS@modot.mo.gov](mailto:SLITS@modot.mo.gov). The engineer shall be notified prior to making contact with ITS staff. For MoDOT Utility location updates, the contractor must contact MoDOT TMC at 314-275-1500 and ask for Utility Locate Section at least seven calendar days before performing any work.

**3.0** The ITS and network devices located within the project limits are a crucial part of the traffic operation system for this area. It is imperative that the downtime be kept to a minimum when adding, removing, or modifying any existing ITS and network devices. This may require the contractor to perform work that will affect existing network devices during nighttime and/or weekend hours, at the discretion of the Engineer. Allowable timeframes for this work will be subject to the need for ITS devices in the area to be used to manage other traffic impacting workzones.

**4.0 Basis of Payment.** No direct payment shall be made for compliance with this provision.

## **Z. Union Pacific Railroad Requirements**

### **1.0 Introduction.**

**1.1** These Railroad Requirements set forth terms and conditions agreed between the Union Pacific Railroad Company (Railroad) and the Missouri Highways and Transportation Commission (Commission), under which the Railroad will allow the Commission's contractors to enter in and upon the Railroad's real property, right of way, tracks and other facilities (Railroad's Property) to perform the contractor's work relating to this project.

**1.2** To report an emergency on the Railroad, call: (888) 877-7267.

**1.3** The project location is Railroad Milepost 19.05 on Railroads Jefferson City Subdivision, designated as Grade Separated USDOT Crossing # 442 713D. Current FRA data estimates 14 daytime freight trains and 14 nighttime trains per day for a total estimate of 28 trains per day.

**1.4** Definitions of terms set forth in the current edition of the Missouri Standard Specifications for Highway Construction shall be applicable to those terms as used in these Railroad Requirements.

### **2.0 Authority of Railroad Representative and Engineer.**

**2.1** The authorized representative of the Railroad, herein called "Railroad Representative", shall have final authority in all matters affecting the safe maintenance and operation of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks.

**2.1.1** The Railroad designates the following individual as the Railroad Representative for this project. Except as otherwise provided in these Railroad Requirements, the contractor shall address all notices concerning this project to the Railroad Representative, as follows:

Mr. Jordon Albers,  
Manager of Industry and Public Projects  
Union Pacific Railroad Company  
100 North Broadway  
St. Louis, MO 63102  
Telephone: (314) 331-0682  
E-mail: jralbers@up.com

**2.1.2** The Railroad, or the individual identified above, may designate a different individual to act as the Railroad Representative for this project, and may change the address information stated above, by giving written notice of the changes to the contractor and to the Engineer, as provided in these Railroad Requirements.

**2.2** The authorized representative of the Commission (Engineer) shall have authority over all other matters as prescribed herein and in the project specifications.

### **3.0 Contractor's Indemnity Obligations to the Railroad.**

**3.1** The contractor agrees to indemnify, defend and hold harmless the Railroad from and against any injury or death of persons whomsoever, or from any loss or damage to the Railroad's Property, caused by acts or omissions of the contractor in performing work on this project, whether on, over, under or in the vicinity of the Railroad's Property. In the event the contractor shall fail to restore the Railroad's Property immediately to a condition acceptable to the Railroad when any such loss or damage to the Railroad's Property is called to the contractor's attention by the Railroad, then the Railroad may perform such corrective work at the cost of the contractor. The Railroad shall have the right to bring an action directly against the contractor to recover any loss or damage sustained by the Railroad by reason of the contractor's breach of agreements contained in these Railroad Requirements. In addition to such remedies of the Railroad, the Commission will withhold from final payment due to the contractor the amount reasonably necessary to reimburse the Railroad for such loss or damage or for performing such work. The term "loss or damage" as used herein shall include, but not be limited to, the erosion and silting of, water damage to, and the accidental or intentional placing or dropping of objects on the Railroad's Property.

### **4.0 Notice of Starting Work.**

**4.1** The contractor shall not commence any work on the Railroad's right of way until contractor has complied with the following conditions:

**4.1.1** At least ten (10) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor has given written notice of the contractor's proposed start date and time to the Railroad Representative, and Railroad's Manager of Track Maintenance (see paragraph 12.2.3 below), with a copy to the Engineer.

**4.1.2** The Commission has obtained written approval from the Railroad's Representative for the contractor's insurance coverage as required by Section 17 of these Railroad Requirements, and authorization for the contractor to begin work on the Railroad's Property.

**4.1.3** The contractor has determined whether fiber optic cable systems are buried on the Railroad's Property. If fiber optic cable systems are buried on the Railroad's Property, then the contractor has contacted the Railroad at the 24 hour number, 800-336-9193, has contacted the telecommunications company involved, has arranged for a cable locator, and has made arrangements for relocation or other protection of the fiber optic cable system on the Railroad's Property.

**4.1.4** The contractor's employees, representatives or agents who are regularly assigned to perform work on the Railroad's Property have been certified as having completed the Internet Safety Orientation available at [www.contractororientation.com](http://www.contractororientation.com). This certification shall be renewed annually. In addition the contractor shall require that every employee, representative or agent who is not regularly assigned to perform work on the Railroad's Property has received appropriate safety training before performing any work on the Railroad's property. The cost of the Internet Safety Orientation, which is subject to change, is currently \$11 per person per year.

**4.2 Right of Entry.** At least thirty (30) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor shall enter into a Contractor's Right of Entry Agreement (CROE) with Railroad prior to working on Railroad property. Submit the following information to the Railroad Representative:

- a. MoDOT manager contact information
- b. Contractor contact information
- c. Site location (include address, DOT#)
- d. Site map
- e. Brief description of scope of work
- f. Proposed schedule for work on UP right of way

**4.2.1** After reviewing the information, the Railroad Representative will send all of the information to UP Real Estate for processing. UP Real Estate will draft the CROE agreement and send it to the contractor for signature. The signed contract and administrative fee must then be returned to UP Real Estate.

**4.2.2 Administrative Fee.** Upon the execution and delivery of this CROE agreement, Contractor shall pay the Railroad Five Hundred Dollars (\$545) as reimbursement for clerical, administrative and handling expenses in connection with the processing of this CROE agreement.

**4.2.3** The contractor must submit a demolition and falsework plan to the Railroad for review and approval. These plans can be submitted along with the Right of Entry application, however the Right of Entry will not be approved until the demolition and falsework plan is approved by the Railroad.

## **5.0 Interference with Railroad's Operations.**

**5.1** The Railroad's right of way is located within the limits of this project. The contractor shall take care to insure that it will not drop any debris or material on the Railroad's Property.

**5.2** The contractor shall arrange and conduct all of the contractor's work so that it causes no interference with the Railroad's operations, including train, signal, telephone, telegraphic services, damage to the Railroad's Property, poles, wires and other facilities of tenants on the Railroad's Property. Whenever the contractor's work may directly affect the operations or safety of trains, the contractor shall submit a written description of the method of doing such work to

the Railroad Representative for approval, but such approval shall not relieve the contractor from liability resulting from the contractor's work. Any work to be performed by the contractor that requires flagging service shall be deferred by the contractor until the flagging services are available at the job site.

**5.3** Whenever the contractor's work upon the Railroad's Property will unavoidably cause an impediment to the Railroad's operations, such as requiring the use of runaround tracks or reduced train speed, the contractor should schedule and conduct these operations so that this impediment is reduced to the absolute minimum.

**5.4** If conditions arising from, or in connection with the work require immediate and unusual provisions to protect the Railroad's operations and property, the contractor shall make such provisions. If in the judgment of the Railroad Representative, or the Engineer if the Railroad Representative is absent, such provision is insufficient, then the Railroad Representative or Engineer may require or provide such provisions as he/she deems necessary. In any event, the contractor shall make such provisions at the contractor's expense, and without cost to the Railroad or the Commission.

**5.5** The contractor must verify the vertical clearance under the bridge prior to and after milling and surfacing to ensure a minimum **16' 8.5"** vertical clearance has not been decreased before allowing traffic.

## **6.0 Track Clearances.**

**6.1** During construction, the contractor shall maintain not less than the minimum track clearances as shown on the project plans. However, before undertaking any work within the Railroad's Property and before placing any obstruction over any track, the contractor shall:

**6.1.1** Notify the Railroad Representative and the Railroad's Manager of Track Maintenance at least ten (10) days in advance of the proposed work.

**6.1.2** Receive assurance from the Railroad's Manager of Track Maintenance that arrangements have been made for flagging service as may be necessary.

**6.1.3.** Receive permission from the Railroad Representative to proceed with the work, as provided in section 4.0.

**6.1.4.** Confirm that the Engineer has received copies of the contractor's notice to the Railroad, and of the Railroad's response.

## **7.0 Construction Procedures.**

**7.1. General.** The contractor's work on the Railroad's property shall be:

**7.1.1** Subject to the Railroad's inspection and review.

**7.1.2** Performed in accordance with these Railroad Requirements.

**8.0 Maintenance of Railroad Facilities.** Within the project limits, the contractor shall maintain Railroad's Property, including all ditches and drainage structures, free of silt or other obstructions that may result from contractor's operations. The contractor shall promptly repair eroded areas within the Railroad's Property and repair any other damage to the Railroad's Property or the Railroad's tenants. The contractor shall perform all such maintenance and repair of damages due to the contractor's operations at the contractor's expense.

## **9.0 Storage of Materials and Equipment.**

**9.1** The contractor shall obtain permission from the Railroad Representative before storing any materials or equipment anywhere on Railroad's Property. The Railroad will not be liable for damage to such material and equipment from any cause, and the Railroad Representative may move such material and equipment or require the contractor to move it, at the contractor's expense.

**9.2** The contractor shall not leave unattended any grading or construction machinery parked upon Railroad's Property, unless it is effectively immobilized so that unauthorized persons cannot move such machinery.

**10.0 Cleanup.** Upon completion of the work, the contractor shall remove from within the limits of the Railroad's Property all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the contractor's and shall leave Railroad's Property in a neat condition satisfactory to the Railroad Representative.

**11.0 Damages.** The Railroad shall not assume liability for any damages to the contractor, contractor's work, employees, servants, equipment and materials caused by the Railroad's traffic. However, the preceding sentence shall not exempt the Railroad from liability for any loss, damage or injury proximately caused by the Railroad's intentional misconduct or sole or gross negligence. The contractor shall directly reimburse the Railroad for any cost the Railroad reasonably incurs for repairing damages to the Railroad's Property or to property of the Railroad's tenants, caused by or resulting from the operations of the contractor relating to this project.

## **12.0 Flagging Services.**

**12.1 When Flagging is Required.** The Railroad has sole authority to determine the need for flagging to protect the Railroad's operations. Whenever the Railroad requires flagging services with reference to any of the contractor's work on this project, the contractor shall not perform any such work until all required flaggers are present at the job site.

**12.1.1** In general, the Railroad may require flagging services whenever the contractor's personnel or equipment are, or are likely to be, working on the Railroad's Property, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging, to prevent unreasonable risks of accidental hazard to the Railroad's operations or personnel.

**12.1.2** Normally, the Railroad will assign one flagger to a project; but in some cases, more than one may be necessary, such as yard limits where the Railroad may assign up to three flaggers. However, if the contractor works within distances that violate instructions given by the Railroad Representative, or performs work upon or adjacent to Railroad's Property that has not been scheduled with the Railroad Representative, the Railroad may require flagging services full time until the project is completed.

**12.1.3** If flagging is determined to be required by the Manager of Track Maintenance (MTM), and the MTM advises that third party flagging is to be used, then third party flagging must be used. If flagging is determined to be required by the MTM and the MTM advises that an agreement employee flagging is to be used, then an agreement flagger will be put up for bid (and scheduled accordingly).

## **12.2 Scheduling and Notification of Flagging Services.**

**12.2.1** The contractor shall arrange with the Railroad all flagging services required by the Railroad to accomplish the contractor's work on this project.

**12.2.2** Before the contractor begins work on the Railroad's Property, the contractor shall furnish to the Railroad Representative and the Engineer a schedule for all work required to complete the contractor's portion of the project within the Railroad's Property, and shall arrange for a job site meeting between the contractor, the Engineer, and the Railroad Representative. Until the contractor has provided its work schedule and met on-site with the Railroad Representative and the Engineer, the Railroad may withhold all flagging services from the contractor's proposed job site.

**12.2.3** Before the contractor first begins any work upon or adjacent to the Railroad's Property, the contractor shall give not less than thirty (30) days advance notice to the Railroad, and to the Engineer, of its intent to begin such work. The contractor shall address all notices relating to flagging as instructed in the fully executed CROE agreement.

Jacob Meyer - Manager of Track Maintenance  
Cell: 402-651-5709  
[jrmeyer@up.com](mailto:jrmeyer@up.com)

**12.2.4** The Railroad usually assigns one flagger to work at the job site on a continuous basis until the contractor no longer needs flagging services. The contractor shall not call for flagging services on a spot basis. The Railroad's assigned flagger shall notify the Engineer when flagging services have begun and ended. The flagger shall give these notices immediately upon arrival at the job site on the first day, and before departing from the job site on the last day of each separate period when the Railroad provides flagging services, or as soon as possible thereafter. The Engineer shall document these notifications in the project records.

**12.2.5** After the contractor has begun work that requires flagging services, the contractor shall give not less than ten (10) day's advance written notice to the Railroad before discontinuing flagging services and terminating the obligation to pay for flagging services. The contractor shall simultaneously provide a copy of this notice to the Engineer. If the contractor's work on or adjacent to the Railroad's Property is suspended at any time, or for any reason, then before the contractor resumes any work on or adjacent to the Railroad's Property, the contractor shall give advance, written notice to the Railroad and to the Engineer of its intent to resume such work. This notice shall provide sufficient details of the contractor's proposed work to enable the Railroad Representative to determine whether flagging services will be required before the

contractor resumes its work on or adjacent to the Railroad's Property. The contractor shall give this required notice at least three (3) working days' before it intends to resume such work; however. The Railroad may take up to thirty (30) days after the contractor has given this notice before resuming flagging services at the job site. The requirements of this paragraph 12.2.5 shall not apply if the suspension and resumption of the contractor's work were previously scheduled with the Railroad pursuant to paragraph 12.2.2 of these Railroad Requirements, or the suspension was caused by an emergency as provided in paragraph 12.2.6 of these Railroad Requirements.

**12.2.6** If, after the Railroad has assigned a flagger to the project site in accordance with section 12.0, any emergency requires the flagger's presence elsewhere, then the contractor shall suspend work on the Railroad's Property until the flagger is again available. Any additional costs to the contractor resulting from such delay shall be borne by the contractor and not by the Railroad.

### **12.3 Payment for Flagging Services.**

**12.3.1** The Commission will pay the Railroad directly for the cost of flagging services associated with this project by deducting the amount from the Commission's payments to the contractor.

**12.3.2** The estimated cost of flagging services is approximately \$1300 per day, based on an 8-hour work day and a 40-hour work week. The Railroad shall charge not more than its actual cost of providing these flagging services, which includes the base pay for the flagger or flaggers who actually performed the required flagging services, the Railroad's reasonable overhead costs, and the reasonable costs actually incurred for the flagger's travel expenses, meals and lodging if required. The Railroad may charge a maximum of one hour of travel time each way per day per flagger, for travel to and from the job site. A flagger's work in excess of 8 hours per day or 40 hours per week, but not more than 12 hours per day, will result in overtime pay at 1.5 times that employee's regular hourly rate. A flagger's work in excess of 12 hours per day will result in overtime pay at 2.0 times that employee's regular hourly rate. If a flagger performs required flagging services on a holiday, then the overtime pay rate shall be 2.5 times that employee's regular hourly rate. The Commission also shall reimburse the Railroad for its actual expenses reasonably incurred in preparing and handling invoices to the Commission for the cost of these flagging services. The Railroad's charges to the Commission shall comply with applicable provisions of the current Federal Aid Policy Guide issued by the Federal Highway Administration.

**12.3.3** The Railroad shall submit progress invoices to the Engineer during the time the Railroad requires flagging services. The Railroad shall submit its final invoice for flagging services to the Engineer within one hundred eighty (180) days after the contractor has notified the Railroad and the Commission that all its work over the Railroad's Property is complete, in accordance with section 18.0 below. If the Commission does not receive the Railroad's final flagging invoice within this time period, then the Railroad shall obtain payment directly from the contractor.

**12.3.4** If a dispute arises between the Railroad, the Commission and the contractor concerning the amount charged for flagging service, then the Commission may deduct the full amount of the Railroad's invoice from the contractor's payment until the dispute is resolved.



**12.4 Flagging Complaints.** The contractor and the Railroad shall attempt to resolve any complaints concerning flagging services in a timely manner. If the contractor disputes the need for a flagger, the contractor shall notify the Railroad Representative and the Engineer. The contractor shall confirm any verbal complaints in writing within five (5) working days, by sending a copy to the Railroad Representative and to the Engineer.

### **13.0 Haul Across Railroads.**

**13.1** Where the plans show or imply that the contractor must haul materials of any nature across a Railroad, unless the plans clearly show that the Commission has included arrangements for such haul in the agreement with the Railroad, the contractor shall make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad. The Railroad need not construct a haul road for the contractor unless no other alternate means is available to the contractor. The contractor shall bear all costs incidental to such crossings, including flagging, whether services are performed by contractor's own forces or by the Railroad's personnel. The contractor shall execute the Railroad's standard Road Crossing Agreement covering terms and conditions for the temporary crossing.

**13.2** Neither the contractor nor the Railroad shall construct any crossing for use by the contractor for transporting materials or equipment across the tracks of the Railroad until the Railroad Representative specifically authorizes the installation, maintenance, necessary watching and flagging thereof and removal, which shall be done at the contractor's expense.

**14.0 Work for the Benefit of the Contractors.** The project plans show all temporary or permanent changes in wire lines or other facilities that are necessary to complete the project, or these changes will be covered by appropriate plan revisions approved by the Commission and the Railroad. If the contractor desires any further changes, the contractor shall make separate arrangements with the Railroad for those changes, at the contractor's expense.

**15.0 Cooperation and Delays.** The contractor shall arrange a schedule with the Railroad for accomplishing staged construction involving work by the Railroad or tenants of the Railroad. In arranging a schedule, the contractor shall request information from the Railroad, and the Railroad shall promptly provide information, concerning the minimum lead time required for assembling crews and materials. The contractor shall schedule adequate time for those activities. The contractor shall not make any claim against the Railroad for hindrance or delay on account of railway traffic for:

**15.1** Any work the Railroad performs.

**15.2** Other delay incident to or necessary for the safe maintenance of railway traffic.

**15.3** Any delays due to compliance with these Railroad Requirements.

**16.0 Trainman's Walkways.** The contractor shall maintain along the outer side of each exterior track of multiple operated tracks, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 12 feet from the centerline of the track. Before the close of each work day, the contractor shall remove all temporary impediments to walkways and track drainage encroachments or obstructions that were allowed during work hours when flagging services were available. Whenever the contractor excavates or maintains any excavation near the walkway, the contractor shall install a handrail with 12 feet minimum clearance from the centerline of the track.

## **17.0 Insurance.**

**17.1 General Insurance Provisions.** The contractor shall, at its sole cost and expense, procure and continuously maintain in force during this project, the insurance coverage required under this section 17 until the contractor has completed all project work on the Railroad's Property, has removed all equipment and materials from the Railroad's Property, and has cleaned and restored the Railroad's Property to the satisfaction of the Engineer and the Railroad Representative. The amount of work to be performed upon, over or under the Railroad's Property is estimated to be **two percent (2%)** of the contractor's total bid for the project.

**17.2 Commercial General Liability Insurance.** The contractor shall maintain commercial general liability ("CGL") insurance with a limit of not less than \$5,000,000 for each occurrence and an aggregate limit of not less than \$10,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage). The policy must contain the following endorsement, which must be stated on the certificate of insurance: "Contractual Liability Railroad's" ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Railroad Company Property" as the Designated Job Site.

**17.3 Business Automobile Coverage Insurance.** The contractor shall maintain business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less than \$5,000,000 for each accident. The policy must contain the following endorsements, which must be stated on the certificate of insurance: "Coverage For Certain Operations In Connection With Railroad's" ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Union Pacific Property" as the Designated Job Site; and Motor Carrier Act Endorsement - Hazardous Materials Clean Up (MCS-90) if required by law.

**17.4 Alternate Liability Insurance Limits.** Instead of the minimum limits of insurance coverage described above in subsections 17.2 and 17.3, Railroad will accept CGL insurance limits of at least \$2,000,000 for each occurrence or claim and an aggregate limit of at least \$2,000,000, and will accept Business Automobile Insurance containing a combined single limit of at least \$2,000,000 per occurrence or claim, if the contractor will secure Railroad Protective Liability Insurance coverage with a combined single limit of \$5,000,000 per occurrence and an aggregate limit of \$10,000,000. The contractor's election to maintain these alternate liability insurance limits shall not affect the applicability of any other terms and conditions set forth in these Railroad Requirements.

**17.5 Workers' Compensation and Employers' Liability Insurance.** The contractor shall maintain workers' compensation insurance coverage, with not less than the minimum statutory liability required under the workers' compensation laws of the State of Missouri. The contractor shall maintain Employers' Liability (Part B) insurance coverage with limits of at least \$500,000 for each accident, a \$500,000 disease policy limit, and \$500,000 for each employee. If the contractor is self-insured, then the contractor shall provide evidence of state approval and excess workers' compensation coverage, which must include coverage for liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable. The policy must contain the following endorsement, which must be stated on the certificate of insurance: "Alternate Employer Endorsement" ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing the Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

**17.6 Railroad Protective Liability Insurance.** The contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of the Railroad as named insured, with a limit of not less than \$2,000,000 per occurrence and an aggregate limit of \$6,000,000. Before commencing any work on the Railroad's Property, the contractor shall submit the original insurance policy to the Railroad, or may submit a binder stating that the required Railroad Protective Liability policy is in place until the contractor delivers the original policy to the Railroad. The contractor shall cause the Railroad Protective Liability Insurance policy to include a description of the named insured, the work, and the job site, as follows:

**17.6.1** Named Insured: Union Pacific Railroad Company.

**17.6.2** Description and Designation:

Pavement overlay and sidewalk replacement under UPRR bridge  
Route 141, St. Louis County  
Job No. J6P3180  
USDOT# 442 713D  
Milepost 19.05 on the Jefferson City Subdivision

**17.7 Umbrella or Excess Insurance.** If the contractor utilizes umbrella or excess insurance policies, these policies must "follow form" and afford no less coverage than the primary policy.

**17.8 Pollution Liability Insurance.** The contractor shall maintain pollution liability insurance coverage, which must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least \$5,000,000 per occurrence and an aggregate limit of \$10,000,000. If the scope of work as defined in this Project includes the disposal of any hazardous or non-hazardous materials from the job site, the contractor must furnish to the Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of \$1,000,000 per loss, and an annual aggregate of \$2,000,000.

**17.9 Other Insurance Requirements.**

**17.9.1** Each policy required above (except workers' compensation and employers' liability) must include the Railroad as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to the Railroad as an additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26 and CA 20 48, provide coverage for the Railroad's negligence whether sole or partial, active or passive.

**17.9.2** Where allowable by law, the punitive damage exclusion shall be deleted, and the deletion shall be indicated on the certificate of insurance.

**17.9.3** The contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against the Railroad and its agents, officers, directors and employees, except that these waivers shall not apply to punitive damages, nor to any loss, damage or injury proximately caused by the Railroad's intentional misconduct or sole or gross negligence. The certificate of insurance shall acknowledge these waivers.

**17.9.4** Prior to commencing any work on the Railroad's Property, the contractor shall furnish the Railroad with one or more certificates of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth in this Section 17.

**17.9.5** The contractor shall only obtain insurance policies written by a reputable insurance company acceptable to the Railroad, or which currently has a Best's Insurance Guide Rating of A- and Class VII or better, and which is authorized to do business in the State of Missouri.

**17.9.6** The fact that insurance is obtained by the contractor or by the Railroad on behalf of the contractor will not be deemed to release or diminish the liability of the contractor, including, without limitation, liability under the indemnity provisions contained in Section 1.4 of these Railroad Requirements. Damages recoverable by the Railroad from the contractor or any third party will not be limited by the amount of the required insurance coverage, except to the extent of any payments the Railroad has received pursuant to that insurance coverage.

**17.10 Evidence of Insurance.** The contractor shall provide evidence of insurance as required above to the addresses shown below, for review by the Commission and transmittal to the Railroad.

Railroad

Mr. Daniel Peters  
Senior Manager, Real Estate  
Union Pacific Railroad Company  
1400 Douglas St., MS 1690  
Omaha, NE 68179-1690

Commission

Mr. Dave Ahlvers  
State Construction and Materials Engineer  
Missouri Department of Transportation  
P.O. Box 270  
Jefferson City, MO 65102

**17.11** Except as otherwise specifically provided in these Railroad Requirements, the Railroad will not accept binders as evidence of insurance, and the contractor shall provide the Railroad with the original insurance policy.

**17.12 Insurance Required of Subcontractors.** If any part of the work is sublet, the contractor shall maintain and provide evidence of similar insurance, in the same amounts as required of the prime contractor, to cover the subcontractor's operations. The Railroad will accept endorsements to the prime contractor's policies specifically naming subcontractors and describing the subcontractor's operations, for this purpose.

**17.13 Cancellation of Insurance.** The contractor and its insurers shall not cancel any of the required insurance coverage, except by permission of the Commission and the Railroad, or after thirty (30) days' written notice to the Commission and the Railroad at the addresses shown in subsection 17.10.

**18.0 Completion of Work on Railroad's Property.** The contractor shall notify Engineer and Railroad's Representative when the contractor has completed its work on Railroad's Property.

**19.0 Failure to Comply.** If the contractor violates or fails to comply with any of the requirements of these Railroad Requirements, then the Railroad Engineer may require that the contractor vacate the Railroad's property and the Engineer may withhold all monies due to the contractor until the contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

**20.0 Payment for Cost of Compliance.** The contractor is not entitled to any separate payment for any extra cost it may incur on account of compliance with these Railroad Requirements. The contractor shall include all such costs in the contract unit price for items properly authorized in the contract.

AA. Stormwater Compliance Requirements NJSP-15-38

**1.0** The land disturbance necessary to complete this project is not anticipated to exceed one (1) acre. Should the contractor disturb more than one (1) acre to complete the work, or for any other reason, all terms of this Job Special Provision will apply.

**1.1 Description.** The Contractor shall comply with the terms of the United States of America v. Missouri Highways and Transportation Commission Consent Decree (Consent Decree) that are identified as the responsibility of the Contractor or subcontractor, and with the terms of this provision. Viewing of the Consent Decree is available on the MoDOT Land Disturbance webpage under Contractor Resources, or by going to the web address [www.modot.org/LD](http://www.modot.org/LD).

**1.2 Applicability.** The Consent Decree and this provision apply to any project that includes land disturbance of areas totaling greater than one (1) acre on the project site. The project site consists of all areas designated on the plans, including temporary and permanent easements. The Consent Decree and this provision do not apply to Contractor staging, plant, or borrow areas that are not located on MoDOT right of way (Off-site). The Contractor is responsible for obtaining its own separate land disturbance permit for Off-site areas. This provision is in addition to any other stormwater, environmental, and land disturbance requirements specified elsewhere in the contract.

**2.0 Stormwater Training for Contractor Employees.** The Contractor's on-site project manager, designated Water Pollution Control Manager (WPCM), as defined in Section 3.0, and WPCM delegate, shall complete MoDOT Stormwater Training prior to serving in those roles. If someone other than the Contractor's project manager is given the authority to manage the grading or erosion control operations, the project manager(s) for those operations shall also complete MoDOT Stormwater Training. MoDOT Stormwater Training is also required for any other person who the Contractor gives authority to take measures to prevent or minimize the consequences of non-compliance with the Stormwater requirements, as defined in Section 3.1(a) of this provision.

**2.1** The Commission will provide MoDOT Stormwater Training to the Contractor employees specified in Section 2.0 at a location and time determined by MoDOT. There will be no fee for attending the training; however, the Contractor shall be responsible for all other cost related to the training, such as travel expenses, if necessary, and wages for its employees. The time to complete the training is anticipated to be no more than 6 hours. As long as the Consent Decree is in effect, MoDOT will provide periodic trainings at various locations around the state, as needed, to ensure contractors and bidders have the opportunity to maintain the number of WPCMs they need to comply with this provision.

**2.2** Those who require MoDOT Stormwater Training per Section 2.0 shall complete the training prior to beginning any land disturbance work. Thereafter, training shall occur at least once every two (2) years. The training is not project-specific. Any Contractor employee who receives the training will be qualified to perform the WPCM duties on any MoDOT project for a period of two (2) years.

**2.3** MoDOT will document the names and dates that contractor employees attend MoDOT Stormwater Training and will retain those records for the period of time specified in the Consent Decree. Duplicate record keeping by the contractor is not required.

**3.0 Water Pollution Control Manager (WPCM).** Prior to the Pre-Activity meeting for Grading/ Land Disturbance, the Contractor shall designate a Water Pollution Control Manager (WPCM) to fulfill the duties and responsibilities listed in Section 3.1 until final stabilization occurs. The Contractor's on-site project manager may also serve as the WPCM or that role may be assigned to another manager employed by the contractor or a subcontractor. The Contractor shall also maintain a WPCM delegate to temporarily fulfill the WPCM duties in the absence of the primary WPCM (e.g. illness, vacation, other leave).

**3.1 Duties of the WPCM:**

- (a) Be familiar with Stormwater Requirements including the National Pollutant Discharge Elimination System (NPDES), the current MoDOT State Operating Permit for construction stormwater discharges/ land disturbance activities, the Project-specific Stormwater Pollution Prevention Plan (Project SWPPP), the Corps of Engineers Section 404 Permit, when applicable, the Consent Decree, and this provision. The Project SWPPP includes: a title page with project-specific information, the general SWPPP posted on the MoDOT land disturbance website, the Project Erosion & Sediment Control Plan, all applicable special provisions, and all applicable specifications and standard drawings;
- (b) Complete the stormwater training set forth in Section 2.0;
- (c) Attend the Pre-Activity for Grading/ Land Disturbance Meeting or, if hired after the meeting has occurred, be familiar with the conference decisions;
- (d) Review and sign the Project-specific SWPPP and all updates thereto within time periods set out in the Consent Decree;
- (e) Visit and review the project site for compliance with Stormwater Requirements at least once per week from the start of any grading operations until final stabilization is achieved and permit is closed;
- (f) Be authorized by the Contractor to supervise all work performed by the Contractor and subcontractors that involves compliance with Stormwater Requirements, including the authority to order work be stopped on a Project, implement MoDOT-directed changes in work related to Stormwater Requirements, and order the taking of, measures to cease, correct, prevent, or minimize the consequences of non-compliance with Stormwater Requirements;
- (g) Review and certify electronically each MoDOT inspection report for the Project within three (3) days of receiving each report to ensure it conforms with report requirements in the National Pollutant Discharge Elimination System Stormwater (NPDES SW) Permit, Project SWPPP and the Consent Decree and ensure that all Stormwater Deficiencies noted on the report are corrected within the time required;
- (h) Recommend in writing within three (3) days of discovering any changes in site conditions and Best Management Practices (BMPs) that require an update to the Project-specific SWPPP; and

- (i) Be the point of contact relating to Stormwater Requirements and the Consent Decree between the Contractor, Subcontractors and MoDOT.

**4.0 Pre-Activity Meeting for Grading/Land Disturbance and Required Hold Point.** At each Project, a Pre-Activity Meeting for Grading/Land Disturbance shall be held prior to the start of any land disturbance and shall include a physical visit and review of the project site. Discussion items at the pre-activity meeting shall include a review of the project SWPPP, the planned order of grading operations, proposed areas of initial disturbance, identification of all necessary BMPs that shall be installed prior to commencement of grading operations, and any issues relating to compliance with the Stormwater requirements that could arise in the course of construction activity at the project.

**4.1** Contractor employees who shall attend the Pre-Activity Meeting for Grading/Land Disturbance include the WPCM for the Project and the person(s) designated the authority to manage the grading and erosion control operations.

**4.2** Following the pre-activity meeting for Grading/land disturbance, and subsequent installation of the initial BMPs identified at the pre-activity meeting, a Hold Point shall occur prior to the start of any land disturbance operations to allow the engineer and WPCM the time needed to perform an on-site review of the installation of the BMPs to ensure compliance with the SWPPP is met. Land disturbance operations shall not begin until authorization is given by the engineer.

**5.0 Compliance with the NPDES SW Permit and Project SWPPP.** On all projects, the Contractor shall comply with all applicable Stormwater Requirements which are defined as, but are not limited to:

- (a) Consulting with the engineer on recommended design revisions to the Project SWPPP to accommodate the Contractor's staging plan, implementation, managing, and maintaining BMPs or other control measures to prevent or minimize sediment and other pollutants in stormwater runoff in accordance with contract specifications or any relevant manufacturer specifications and good engineering practices, including but not limited to the manuals (*Note: two manuals cited in the MoDOT permit are "Developing your stormwater pollution prevention plan: A guide for construction activities" and "Protecting Water Quality: A Field Guide to erosion, sediment and stormwater best management practices for development sites in Missouri"*) and any other applicable standards for sedimentation basins, stabilization, rock dams, brush checks, construction entrances, and other BMPs;
- (b) Installing all BMPs at the locations and relative times specified in the Project SWPPP; and
- (c) Complying with the Missouri Water Quality Standards and with effluent limitations in Section E.1 of the NPDES SW Permit. Measurement of effluent is not required except as specified in E.2.

**5.1 Stormwater Deficiency Corrections.** Per terms of the Consent Decree, Stormwater Deficiencies identified on the MoDOT Land Disturbance Inspection Report shall be corrected within 7 days of the inspection date to avoid stipulated penalties, except that more time might be granted by the engineer when weather or field conditions prohibit the corrective work. If the Contractor does not initiate corrective measures within 5 calendar days of the inspection date or any extended period granted by the engineer, all work shall cease on the project except for work

to correct these deficiencies, unless otherwise allowed by the engineer. All impact costs related to this halting of work, including, but not limited to stand-by time for equipment, shall be borne by the Contractor. Work shall not resume until the engineer approves the corrective work.

**6.0 Inspection Protocol.** The Contractor and all subcontractors shall review and adhere to MoDOT's written Stormwater Inspection Protocol, found on the MoDOT Land Disturbance webpage ([www.modot.org/LD](http://www.modot.org/LD)). The Inspection Protocol is applicable to all Projects under the consent decree. The MoDOT Resident Engineer will serve the role of Stormwater Resident Engineer, or a delegate will be named in their absence.

**6.1 Inspection Reports.** MoDOT will provide one or more Environmental Construction Inspectors (ECI) to perform the weekly and post run-off inspections and other duties described in paragraph 17 of the Consent Decree. The ECI will enter the inspection reports into a web-based Stormwater Compliance database. The WPCM will have access to this database to view all report information, including any noted deficiencies, and to certify the report as required in Section 3.1 (g.). Automated email reminders of pending reports that need to be certified and for deficiencies that need to be corrected will be sent to the WPCM. The Contractor may designate other employees or subcontractor employees to have viewing access to this database and to receive the email reminders. Completion of MoDOT Stormwater Training is necessary in order to receive the email reminders. The WPCM and other users shall be equipped with an electronic device (desktop computer, laptop, tablet, smartphone, etc.) with a browser and internet access to connect to the database. The contractor shall be responsible for providing the electronic devices.

**7.0 Stipulated Penalties.** If the Contractor fails to comply fully and timely with the requirements of the Consent Decree, stipulated penalties will be assessed to the Commission. For matters under the Contractor's responsibility and control the following stipulated penalties will be assessed to the Contractor and MoDOT will withhold payment pursuant to the following:

Violation	Stipulated Penalty Amount
Failure to Designate or Maintain WPCM at each Project in Accordance with Section 3.0.	\$750 for the initial violation (each person not designated) and then \$750 for each fourteen (14) day period that person is not designated.
Failure to complete MoDOT Stormwater Training by an Individual Required to be Trained in Accordance with Section 2.0, such as the WPCM or Project Manager.	\$750 per person for each missed training. This \$750.00 per person violation shall continue to accrue for each fourteen (14) day period that the person fails to timely receive the applicable training
Failure of WPCM to Review and Certify an Inspection Report in Accordance with Inspection Protocol as set forth in Section 6.	\$250 per inspection report not reviewed or signed.
Failure to Comply with Any NPDES SW Permit or SWPPP Requirement.	\$1000 per violation for the first ten (10) days of the violation; \$2500 per violation for days 11-20; \$3500 per violation for days 21 and beyond.
Failure to Correct a Stormwater Deficiency Identified in a MoDOT Inspection Report, or Otherwise Discovered by the WPCM, within the Time Required by the NPDES SW Permit or SWPPP.	\$1000 per deficiency for the first ten (10) days after correction was required; \$2500 per deficiency for days 11-20 after correction was required; \$3500 per deficiency for days 21 and beyond after correction was required.



**8.0 Information Collection and Retention.** The EPA, its representatives and its agents shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon presentation of credential, to:

- (a) monitor the progress of activities required under the Consent Decree;
- (b) verify any data or information submitted to the United States in accordance with the terms of the Consent Decree;
- (c) obtain samples and, upon request, splits of any samples taken by MoDOT or its representatives, contractors, or consultants;
- (d) obtain documentary evidence, including photographs and similar data; and
- (e) assess MoDOT's compliance with the Consent Decree.

**8.1** Until three (3) years after the termination of the Consent Decree, Contractors and the agents of the Contractors shall preserve all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its Contractors' or agents' possession or control, or that come into the Contractor's or agent's possession or control, and that relate to MoDOT's performance of its obligations under the Consent Decree or to the Contractor's performance of its obligations under the Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures.

**9.0 Basis of Payment.** Should the contractor disturb more than one (1) acre due to its method of operations, or for any other reason, no direct payment will be made for compliance with this provision, including the cost to provide a WPCM. Should the engineer direct the contractor to exceed one (1) acre of land disturbance, payment will be made only for the actual cost of the weekly duties of the WPCM. Separate payment will be made for erosion and sediment control devices, and for permanent and temporary seeding and mulching, when payment for those items are provided elsewhere in the contract.

**BB. Site Restoration**

**1.0 Description.** The contractor shall restore, to its original condition, any disturbed areas at sites including, but not limited to, pavement markings, guardrail, sidewalk, ramp, bus stop pad, sprinklers, pull box, conduit, and pole base installations. Restoration shall be accomplished by placing material equivalent to that of the adjacent undisturbed area. Disturbed unpaved areas shall be fertilized and seeded as directed by the engineer. The engineer will have the final authority in determining the acceptability of the restoration work.

**2.0 Materials.** Any areas of concrete paved ditch, pavement and shoulders as well as any similar improvements shall be replaced with improvements of similar composition and thickness. Removals shall be achieved by means of full depth saw cut, the resulting subgrade compacted to minimum density requirements and topped with 4 inches of compacted aggregate base course prior to replacement of surface materials. Concrete materials used in replacement shall be approved by the engineer. A commercial asphalt mix may be used for replacement of asphaltic surfacing upon approval of the engineer.

**2.1** Unless quantities and pay items for removal and subsequent replacement of improvements are contained in the plans for a specific location of removal work, no direct payment will be made for full depth saw cutting and the removal and subsequent replacement of asphalt, pavement, shoulders etc. This work will be considered as included in the various unit bid prices established in the contract, and no additional payment will be made.

**2.2** Sidewalks and sidewalk ramps that are disturbed as described in this provision shall be replaced to meet current ADA standards.

**2.3** If the contractor elects and receives approval from the engineer for alternate trench and/or pull box locations, any areas of concrete slope protection, sidewalk, pavement, shoulders, islands and medians – as well as any similar improvements consisting of asphaltic concrete materials – removed in conjunction with their construction shall be replaced with improvements of similar composition and thickness. Removals shall be achieved by means of full depth saw cuts, the resulting subgrade compacted to minimum density requirements and topped with 4 inches of compacted aggregate base course prior to replacement of surface materials. Concrete materials used in replacement, shall be approved by the engineer. A commercial asphalt mix may be used for replacement of asphaltic surfacing upon approval of the Engineer.

**2.4** All guardrail post holes remaining from the removal of existing guardrail posts in existing concrete or asphalt pavement or ditch shall be backfilled with a granular material and sealed with a ½ inch hot-poured elastic type material in accordance with Section 1057 or as approved by the Engineer. Any concrete or asphalt pavement or ditch damaged in the process of fulfilling this provision shall be replaced in kind and considered incidental to the installation of the new guardrail at the disturbed location.

**3.0 Basis of Payment.** No direct payment will be made for any materials or labor, which is performed under this provision.

CC. Disposition of Existing Signing Equipment

**1.0 Description.** The existing sheet and/or extruded aluminum sign panels to be removed by the contractor shall be delivered to the Missouri Department of Transportation's District Sign Shop located at 2309a Barrett Station Road in west St. Louis County. The contractor shall assist with the storage of these signs as directed by the engineer.

**1.1** Any hardware (brackets, u-bolts, aluminum I-beams, etc) associated with removals involving overhead sign supports shall also be salvaged and delivered to the Sign Shop.

**1.2** The contractor shall notify the sign shop at least 24 hours in advance of delivering any signing materials to this maintenance lot. Contact information is below:

James (Dusty) Henson, Signing / Striping Supervisor  
Office: (314) 205-7310  
Cell: (618) 340-5666

**1.3** All sign supports, footings and other signing equipment to be removed shall become the property of the contractor and disposed of off the right of way.

**1.4** The contractor shall exercise reasonable care in the handling of the signs. Should any sign be damaged due to the contractor's negligence during removal, transportation and/or reinstallation, it shall be replaced in kind at the contractor's expense. The engineer shall have the final determination on whether the said signs should be replaced or repaired.

**2.0 Basis of Payment.** All costs incurred for complying with this provision shall be considered completely covered by the contract unit price for Item 202-20.10, Removal of Improvements, Lump sum. Unless otherwise shown, no direct payment will be made for attaching existing signs onto existing or new posts as indicated in the plans.

DD. Contractor Quality Control NJSP-15-42

**1.0** The contractor shall perform Quality Control (QC) testing in accordance with the specifications and as specified herein. The contractor shall submit a Quality Control Plan (QC Plan) to the engineer for approval that includes all items listed in Section 2.0, prior to beginning work.

**2.0 Quality Control Plan.**

- (a) The name and contact information of the person in responsible charge of the QC testing.
- (b) A list of the QC technicians who will perform testing on the project, including the fields in which they are certified to perform testing.
- (c) A proposed independent third party testing firm for dispute resolution, including all contact information.
- (d) A list of Hold Points, when specified by the engineer.
- (e) The MoDOT Standard Inspection and Testing Plan (ITP). This shall be the version that is posted at the time of bid on the MoDOT website ([www.modot.org/quality](http://www.modot.org/quality)).

**3.0 Quality Control Testing and Reporting.** Testing shall be performed per the test method and frequency specified in the ITP. All personnel who perform sampling or testing shall be certified in the MoDOT Technician Certification Program for each test that they perform.

**3.1 Reporting of Test Results.** All QC test reports shall be submitted as soon as practical, but no later than the day following the test. Test data shall be immediately provided to the engineer upon request at any time, including prior to the submission of the test report. No payment will be made for the work performed until acceptable QC test results have been received by the engineer and confirmed by QA test results.

**3.1.1** Test results shall be reported on electronic forms provided by MoDOT. Forms and Contractor Reporting Excel2Oracle Reports (CRE2O) can be found on the MoDOT website. All required forms, reports and material certifications shall be uploaded to a Microsoft SharePoint® site provided by MoDOT, and organized in the file structure established by MoDOT.

**3.2 Non-Conformance Reporting.** A Non-Conformance Report (NCR) shall be submitted by the contractor when the contractor proposes to incorporate material into the work that does not meet the testing requirements or for any work that does not comply with the contract terms or specifications.

**3.2.1** Non-Conformance Reporting shall be submitted electronically on the Non-Conformance Report form provided on the MoDOT Website. The NCR shall be uploaded to the MoDOT SharePoint® site and an email notification sent to the engineer.

**3.2.2** The contractor shall propose a resolution to the non-conforming material or work. Acceptance of a resolution by the engineer is required before closure of the non-conformance report.

#### **4.0 Work Planning and Scheduling.**

**4.1 Two-week Schedule.** Each week, the contractor shall submit to the engineer a schedule that outlines the planned project activities for the following two-week period. The two-week schedule shall detail all work and traffic control events planned for that period and any Hold Points specified by the engineer.

**4.2 Weekly Meeting.** When work is active, the contractor shall hold a weekly project meeting with the engineer to review the planned activities for the following week and to resolve any outstanding issues. Attendees shall include the engineer, the contractor superintendent or project manager and any foreman leading major activities. This meeting may be waived when, in the opinion of the engineer, a meeting is not necessary. Attendees may join the meeting in person, by phone or video conference.

**4.3 Pre-Activity Meeting.** A pre-activity meeting is required in advance of the start of each new activity, except when waived by the engineer. The purpose of this meeting is to review construction details of the new activity. At a minimum, the discussion topics shall include: safety precautions, QC testing, traffic impacts, and any required Hold Points. Attendees shall include the engineer, the contractor superintendent and the foreman who will be leading the new activity. Pre-activity meetings may be held in conjunction with the weekly project meeting.

**4.4 Hold Points.** Hold Points are events that require approval by the engineer prior to continuation of work. Hold Points occur at definable stages of work when, in the opinion of the engineer, a review of the preceding work is necessary before continuation to the next stage.

**4.4.1** A list of typical Hold Point events is available on the MoDOT website. Use of the Hold Point process will only be required for the project-specific list of Hold Points, if any, that the engineer submits to the contractor in advance of the work. The engineer may make changes to the Hold Point list at any time.

**4.4.2** Prior to all Hold Point inspections, the contractor shall verify the work has been completed in accordance with the contract and specifications. If the engineer identifies any corrective actions needed during a Hold Point inspection, the corrections shall be completed prior to continuing work. The engineer may require a new Hold Point to be scheduled if the corrections require a follow-up inspection. Re-scheduling of Hold Points require a minimum 24-hour advance notification from the contractor unless otherwise allowed by the engineer.

**5.0 Quality Assurance Testing and Inspection.** MoDOT will perform quality assurance testing and inspection of the work, except as specified herein. The contractor shall utilize the inspection checklists provided in the ITP as a guide to minimize findings by MoDOT inspection staff. Submittal of completed checklists is not required, except as specified in 5.1.

**5.1** Inspection and testing required in the production of concrete for the project shall be the responsibility of the contractor. Submittal of the 501 Concrete Plant Checklist is required.

**6.0 Basis of Payment.** No direct payment will be made for compliance with this provision.

EE. MoDOT's Construction Workforce Program NJSP-15-17A

**1.0 Description.**

**1.1** Projects utilizing federal funds include contract provisions for minority and female workforce utilization in the various trade crafts used to complete construction contracts. These federal contract workforce goals are described in the section labeled "Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity". These goals are included in all MoDOT federal aid contracts and are under the authorization and enforcement of the U.S. Department of Labor (US DOL).

**1.2** The Federal workforce requirement (Goals – TABLE 1) is authorized in 41 CFR Part 60-4 and Executive Order 11246 which set Equal Employment Opportunity goals with Affirmative Action requirements.

**1.3** The required federal aid workforce provisions noted above, coupled with the following additional contract provisions, constitute MoDOT's Construction Workforce Program herein called Program.

**1.4** This provision does not require pre-qualification nor is it a condition of award.

**1.5** The Program does not eliminate or limit any actions the US DOL may take in relation to this contract's federal provisions.

**1.6** The Program goals included in the contract are separate from any Disadvantaged Business Enterprise (DBE) or On-The-Job (OJT) training provision that may be included as contract provisions. DBE and OJT goals may or may not be included in a contract based on the individual size of contracts, type of contract work, anticipated length of contract, available and willing resources or other reasons.

**1.7** Contractor, for the purpose of this provision, means the prime contractor and any and all subcontractors.

**1.8** It is expected that the contractor recognizes the construction workforce goals for both minority and female workers in the project's county and make efforts to attain those goals, if possible, through the existing workforce makeup of the prime (including subcontractors) that will be on the project and/or through hiring opportunities that may arise for the project. However, it is not the intent of this provision to compel any contractor to displace existing workforce or move workers around to just meet the workforce goals.

**1.9** If the contractor's existing Missouri construction workforce meets or exceeds the federal workforce goals established in Table 1, then the OJT goal (Training Provision) if included in the contract, does not be apply.

**1.10 Contractor's Workforce Plan.** The Contractor shall submit its Workforce Plan a minimum of 1 week before construction starts. One plan shall be submitted for the project that shall include the cumulative planned workforce of the prime and subcontractor(s). The contractor shall prepare the plan, for total minority and female utilization, regardless of the craft. The Engineer will provide the Contractor with comments regarding their Workforce Plan prior to the start of construction. Once work starts, all monthly reporting shall include the craft of each worker reported. If the contractor's plan includes project manager, direct project support roles,

project testers or other project professionals, these designations should also be included in addition to the workers designated by craft such as laborer, operator, carpenter, ironworker and others.

**1.11** The plan accepted by the engineer before the start of construction will be the effort expected of the prime contractor to maintain during the life of the project.

**1.12** If the contractors planned project workforce plan (including OJT hours if included in the contract) is short of the goals included in Table 1, there is opportunity for the contractor to receive a reimbursement of \$10.00 / hour for any new project minority and female hires needed through the remainder of the project. The reimbursement is applicable to work that qualifies for prevailing wage under the federal Davis-Bacon Act, [40 U.S.C. §§ 3141–3148](#), in accordance with an approved workforce plan. Any reimbursement must be pre-approved by the Engineer. The reimbursement is provided as a remedy to the contractor and as an aid in the long-term growth of experienced persons in the building of roads and bridges in Missouri. The contractor shall manage the plan through the life of the project as described in the plan or as modified, in coordination with the Engineer. The total amount available per project is not capped.

**1.13** The Contractor's workforce plan may include existing construction support and professional services staff.

**2.0 Forms and Documentation.** The bidder must submit the following documents if awarded the contract:

**Cumulative Workforce Utilization Reports.** This report is contract specific. One report shall be submitted to the Engineer by the 15<sup>th</sup> of each month. The report will be used to report the total workforce compliance data for the prime contractor and all subcontractors retained by the contractor on the Commission's construction contract. The reporting shall include the workforce hours per each craft broken down by gender and ethnicity. Construction Support, testing and other professional services hours shall be included as these hours are part of the overall plan. The report will include the previous month's hours worked for the project. For projects less than 60 days in length, only one report with total hours worked by classification is required at substantial completion of construction.

### **3.0 Methods for Securing Workforce Participation and Good Faith Efforts.**

**3.1** By submitting a bid, the Bidder agrees, as a material term of the contract, to carry out MoDOT's Construction Workforce Program by making good-faith efforts to utilize minority and female workers on the contractor's job sites to the fullest extent consistent with submitting the lowest bid to MoDOT. The Bidder shall agree that the Program is incorporated into this document and agree to follow the Program. If a bidder is unable to meet the workforce goals at the time of bid, it shall be required to objectively demonstrate to MoDOT that the goals have been met or demonstrate a good faith effort has been made with the level of effort submitted prior to the start of construction.

**3.2** The Engineer, through consultation with MoDOT's External Civil Rights (ECR's) Division, may determine that the contractor has demonstrated that good-faith efforts to secure minority and female participation have been made.

**3.3** In evaluating good-faith efforts, the ECR's Division will take into consideration the affirmative actions listed in the Federal Provisions (including provisions of Executive Order 11246).

**3.4** MoDOT's Program allows the contractor flexibility to implement a project specific workforce and improve the diversity of their existing workforce that can be utilized across various areas of the state to meet future MoDOT Program goals and Federal Provisions.

**3.5** If the contractor's approved plan changes during the project and/or the available workforce changes from what is approved at any time, it is the contractor's responsibility to remedy, in coordination with MoDOT's ECR Division, the conditions as outlined and made available through this provision.

**4.0 Compliance Determination. (Required with project closeout)** All documentation and on-site information will be reviewed by MoDOT's ECR Division in making a determination of whether the contractor made sufficient good faith efforts to meet the compliance with MoDOT's Construction Workforce Program.

**5.0 Liquidated Damages.** If the contractor elects to not submit a workforce plan prior to work starting or fails to fulfill their workforce plan committed to prior to the start of construction, the contractor will be required to establish a good-faith effort determination, as to why either of these events occurred. MoDOT may sustain damages, the exact extent of which would be difficult or impossible to ascertain, as this impacts the cost of future road and bridge construction. Therefore, in order to liquidate those damages, MoDOT shall be entitled, at its sole discretion, to deduct and withhold the following amounts: **The sum of one thousand five hundred (\$1,500)**

**6.0 Administrative Reconsideration.** The contractor shall be offered the opportunity for administrative reconsideration upon written request related to findings and/or actions determined by MoDOT's ECR's Division. The Administrative Reconsideration Committee shall be composed of individuals not involved in the original MoDOT determination(s).

**7.0 Available Pre-Apprentice Training Programs.** The Commission has established a labor force recruiting program intended to assist contractors in identifying, interviewing and hiring qualified job applicants. MoDOT strongly encourages the hiring of individuals from the MoDOT funded pre-apprentice training programs.

**8.0 Independent Third-Party Compliance Monitor (Monitor).** MoDOT may utilize a monitor that will be responsible for tracking the project's workforce utilization for the information the contractor submits. The contractor and its subcontractors shall allow the monitor access to their reports, be available to answer the monitor's questions and allow the monitor to access to the site and to contractor and subcontractor employees. The monitor shall abide by the contractor's project site protocols.

**9.0 Regional Diversity Council (Council).** (Applicable to the Kansas City and St. Louis District regions only) The Council shall consist of local community leaders, leadership of local construction trades, MoDOT staff, Industry representation, and a representative(s) from the Federal Highway Administration. The Council will meet quarterly and evaluate the workforce activity per each project according to the following criteria:

- a. Review monthly workforce reports.
- b. Review progress toward the stated project workforce program.
- c. Review findings of Administrative Reconsideration hearings.
- d. Recommend *other* workforce actions to MoDOT.

**10.0 Federal Workforce Goals.**

Female Participation for Each Trade is 6.9% Statewide for Missouri.

Minority Participation for Each Trade is shown below in Table 1.

**TABLE 1:**

County	Goal (Percent)	County	Goal (Percent)
Adair	4	Linn	4
Andrew	3.2	Livingston	10
Atchison	10	McDonald	2.3
Audrain	4	Macon	4
Barry	2.3	Madison	11.4
Barton	2.3	Maries	11.4
Bates	10	Marion	3.1
Benton	10	Mercer	10
Bollinger	11.4	Miller	4
Boone	6.3	Mississippi	11.4
Buchanan	3.2	Moniteau	4
Butler	11.4	Monroe	4
Caldwell	10	Montgomery	11.4
Callaway	4	Morgan	4
Camden	4	New Madrid	26.5
Cape Girardeau	11.4	Newton	2.3
Carroll	10	Nodaway	10
Carter	11.4	Oregon	2.3
Cass	12.7	Osage	4
Cedar	2.3	Ozark	2.3
Chariton	4	Pemiscot	26.5
Christian	2	Perry	11.4
Clark	3.4	Pettis	10
Clay	12.7	Phelps	11.4
Clinton	10	Pike	3.1
Cole	4	Platte	12.7
Cooper	4	Polk	2.3
Crawford	11.4	Pulaski	2.3
Dade	2.3	Putnam	4
Dallas	2.3	Ralls	3.1
Daviess	10	Randolph	4
DeKalb	10	Ray	12.7
Dent	11.4	Reynolds	11.4
Douglas	2.3	Ripley	11.4
Dunklin	26.5	St. Charles	14.7



Franklin	14.7	St. Clair	2.3
Gasconade	11.4	St. Francois	11.4
Gentry	10	Ste. Genevieve	11.4
Greene	2	St. Louis City	14.7
Grundy	10	St. Louis County	14.7
Harrison	10	Saline	10
Henry	10	Schuyler	4
Hickory	2.3	Scotland	4
Holt	10	Scott	11.4
Howard	4	Shannon	2.3
Howell	2.3	Shelby	4
Iron	11.4	Stoddard	11.4
Jackson	12.7	Stone	2.3
Jasper	2.3	Sullivan	4
Jefferson	14.7	Taney	2.3
Johnson	10	Texas	2.3
Knox	4	Vernon	2.3
Laclede	2.3	Warren	11.4
Lafayette	10	Washington	11.4
Lawrence	2.3	Wayne	11.4
Lewis	3.1	Webster	2.3
Lincoln	11.4	Worth	10
		Wright	2.3

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION  
CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)**

This contractor and subcontractor shall abide by the requirements of 41 CFR 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability or veteran status.

As used in these specifications:

"Minority" includes;

- (i) Black (all person having origins in any of the Black African racial groups not of Hispanic origin);
- (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);

- (iii) Asian and pacific islander (all persons having origins in any of the original peoples of the Far East, southeast Asia, the Indian Subcontinent, or the Pacific Islands; and
- (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North American and maintaining identifiable tribal affiliations through membership and participation or community identification).

FF. Liquidated Damages for Winter Months JSP-04-17

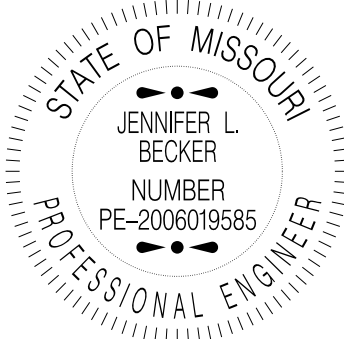
**1.0 Description.** Revise Sec 108.8.1.3 (a) and (b) and substitute the following for the project:

- (a) Liquidated damages will be assessed from December 15 to March 15
- (b) Liquidated damages will be assessed for Saturdays, Sundays and Holidays.

**JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)**

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 <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	<b>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</b> 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636
	If a seal is present on this sheet, JSP's have been electronically sealed and dated.
	JOB NUMBER: J6P3200 COUNTY: St. Louis, MO DATE PREPARED: 09/10/18
	ADDENDUM DATE:

Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All

JOB  
SPECIAL PROVISION

A. General - Federal JSP-09-02D

**1.0 Description.** The Federal Government is participating in the cost of construction of this project. All applicable Federal laws, and the regulations made pursuant to such laws, shall be observed by the contractor, and the work will be subject to the inspection of the appropriate Federal Agency in the same manner as provided in Sec 105.10 of the Missouri Standard Specifications for Highway Construction with all revisions applicable to this bid and contract.

**1.1** This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations, and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, Information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at [www.modot.org](http://www.modot.org) under "Bidding". Effective Wage Rates will be posted 10 days prior to the applicable bid opening. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

**1.2** The following documents are available on the Missouri Department of Transportation web page at [www.modot.org](http://www.modot.org) under "Business"; "Standards and Specifications". The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to July 2018 Missouri Standard Plans  
For Highway Construction

These supplemental bidding documents contain all current revisions to the published versions and have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

B. Contract Liquidated Damages

**1.0 Description.** Liquidated Damages for failure or delay in completing the work on time for this contract shall be in accordance with Sec 108.8. The liquidated damages include separate amounts for road user costs and contract administrative costs incurred by the Commission.

**2.0 Period of Performance.** Prosecution of work is expected to begin on the date specified below in accordance with Sec 108.2. Regardless of when the work is begun on this contract, all work shall be completed on or before the date specified below. Completion by this date shall be in accordance with the requirements of Sec 108.7.1.

Notice to Proceed: December 3, 2018  
Completion Date: December 1, 2019

**2.1 Calendar Days.** The count of calendar days will begin on the date the contractor starts any construction operations on the project.

Job Number	Calendar Days	Daily Road User Cost
J6P3180	N/A	\$9,800
J6P3200	N/A	\$9,800

**3.0 Liquidated Damages for Contract Administrative Costs.** Should the contractor fail to complete the work on or before the completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **\$1500** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified completion date or calendar days.

**4.0 Liquidated Damages for Road User Costs.** Should the contractor fail to complete the work on or before the completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged road user costs in accordance with Sec 108.8 in the amount specified in Section 2.1 for each calendar day, or partial day thereof, that the work is not fully completed. These damages are in addition to the contract administrative damages and any other damages as specified elsewhere in this contract.

C. Work Zone Traffic Management

**1.0 Description.** Work zone traffic management shall be in accordance with applicable portions of Division 100 and Division 600 of the Standard Specifications, and specifically as follows.

**1.1 Maintaining Work Zones and Work Zone Reviews.** The Work Zone Specialist (WZS) shall maintain work zones in accordance with Sec 616.3.3 and as further stated herein. The WZS shall coordinate and implement any changes approved by the engineer. The WZS shall ensure all traffic control devices are maintained in accordance with Sec 616, the work zone is operated within the hours specified by the engineer, and will not deviate from the specified hours without prior approval of the engineer. The WZS is responsible to manage work zone delay in accordance with these project provisions. When requested by the engineer, the WZS shall submit a weekly report that includes a review of work zone operations for the week. The report shall identify any problems encountered and corrective actions taken. Work zones are subject to unannounced inspections by the engineer and other departmental staff to corroborate the validity of the WZS's review and may require immediate corrective measures and/or additional work zone monitoring.

**1.2 Work Zone Conflict Resolution.** Any conflict resolution shall be in accordance with Sec 616.4. Failure to make corrections on time may result in the engineer suspending work. The suspension will be non-excusable and non-compensable regardless if road user costs are being charged for closures.

## **2.0 Traffic Management Schedule.**

**2.1** Traffic management schedules shall be submitted to the engineer for review prior to the start of work and prior to any revisions to the traffic management schedule. The traffic management schedule shall include the proposed traffic control measures, the hours traffic control will be in place, and work hours.

**2.2** The traffic management schedule shall conform to the limitations specified in Sec 616 regarding lane closures, traffic shifts, road closures and other width, height and weight restrictions.

**2.3** The engineer shall be notified as soon as practical of any postponement due to weather, material or other circumstances.

**2.4** In order to ensure minimal traffic interference, the contractor shall schedule lane closures for the absolute minimum amount of time required to complete the work. Lanes shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane is opened to traffic.

**2.5 Traffic Congestion.** The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of **10 minutes** to prevent congestion from escalating beyond this delay threshold. If disruption of the traffic flow occurs and traffic is backed up in queues equal to or greater than the delay time threshold listed above then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable. When a Work Zone Analysis Spreadsheet is provided, the contractor will find it in the electronic deliverables on MoDOT's Online Plans Room. The contractor may refer to the Work Zone Analysis Spreadsheet for detailed information on traffic delays.

### **2.5.1 Traffic Safety.**

**2.5.1.1** Where traffic queues routinely extend to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway, the contractor shall extend the advance warning area, as approved by the engineer.

**2.5.1.2** When a traffic queue extends to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway due to non-recurring congestion, the contractor shall deploy a means of providing advance warning of the traffic congestion, as approved by the engineer. The warning location shall be no less than 1000 feet and no more than 0.5 mile in advance of the end of the traffic queue on divided highways and no less than 500 feet and no more than 0.5 mile in advance of the end of the traffic queue on undivided highways.

## **3.0 Work Hour Restrictions.**

**3.1** There are six major holiday periods shown below. All lanes shall be scheduled to be open to traffic during these holiday periods, from 12:00 noon on the last working day preceding the holiday until 6:00 a.m. on the first working day subsequent to the holiday unless approved by the Engineer.

Memorial Day  
Independence Day and July 5  
Labor Day  
Thanksgiving  
Christmas  
New Year's Day

**3.2** The contractor shall not perform any construction operation on the roadway, including the hauling of material within the project limits, during restricted periods, holiday periods or other special events specified in the contract documents.

**3.3** The contractor shall be aware that traffic volume data indicates construction operations on the roadbed between the following hours will likely result in traffic queues greater than 10 minutes. Based on this, the contractors operations will be restricted accordingly unless it can be successfully demonstrated the operations can be performed without a 10 minute queue in traffic. It shall be the responsibility of the engineer to determine if the above work hours may be modified. Working hours for evenings, weekends and holidays will be determined by the engineer.

Bridges A3998, A4104, & A4105 (BNSF Railroad and Meramec River):

Double Lane Closure (weekend only):

Friday:	7:00PM to 5:00 AM on Monday
Saturday:	24 Hours
Sunday:	24 Hours

Bridges A5818, A5819, & A5877 (Grand Glaze Creek and MO 100):

Single Lane Closure:

Monday – Thursday:	7:00PM to 5:00 AM
Friday:	7:00PM to 5:00 AM on Monday
Saturday:	24 Hours
Sunday:	24 Hours

Bridge A4065 (South Outer Woods Mill Road):

Full Closure (one weekend):

Friday:	7:00PM to 5:00 AM on Monday
Saturday:	24 Hours
Sunday:	24 Hours

**3.4** Any work requiring a reduction in the number of through lanes of traffic during weekdays shall be completed during nighttime hours. Refer to section 3.3 for nighttime hours.

**3.5** The contractor shall not alter the start time, ending time, or a reduction in the number of through lanes of traffic or ramp closures without advance notification and approval by the engineer. The only work zone operation approved to begin 30 minutes prior to a reduction in through traffic lanes or ramp closures is the installation of traffic control signs. Should lane closures be placed or remain in place, prior to the approved starting time or after the approved ending time, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delays, with a resulting cost to the traveling public. These damages are not easily computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of **\$1000 per 15 minute increment** for each 15 minutes that the temporary lane closures are in place and not open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of unapproved closure time.

**3.5.1** The said liquidated damages specified will be assessed regardless if it would otherwise be charged as liquidated damages under the Missouri Standard Specification for Highway Construction, as amended elsewhere in this contract.

#### **4.0 Detours and Lane Closures.**

**4.1** When a changeable message sign (CMS) is provided, the contractor shall use the CMS to notify motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The CMS shall be installed at a location as approved or directed by the engineer. The CMS shall be capable of communication with the Transportation Management Center (TMC), if applicable, prior to installation on right of way. All messages planned for use in the work zone shall be approved and authorized by the engineer or its designee prior to deployment. When permanent dynamic message signs (DMS) owned and operated by MoDOT are located near the project, they may also be used to provide warning and information for the work zone. Permanent DMS shall be operated by the TMC, and any messages planned for use on DMS shall be approved and authorized by the TMC at least 72 hours in advance of the work.

**4.2** At least one lane of traffic in each direction shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder the safe movement of traffic. Periods during which the contractor will be allowed to interrupt traffic will be designated by the engineer.

#### **5.0 Work Zone Coordination with other Projects.**

**5.1** The contractor shall coordinate traffic management between this project and any other projects on 141, and projects which affect 141, including all future projects. The contractor shall be aware of the following jobs:

J6P3184 – Rehabilitation of pavement from Route 30 to US 61/67



**5.2** This list of projects is not all inclusive. The contractor shall be aware that there may be other projects including, but not limited to, utility, private, MoDOT maintenance, permit, or other projects that may impact project construction or traffic control in the vicinity of this project. It shall be the responsibility of the contractor to determine what, if any, projects other than the ones listed above may impact this project and work to coordinate construction and traffic management efforts between this project and any other project involved.

**6.0 Basis of Payment.** No direct payment will be made to the contractor to recover the cost of equipment, labor, materials or time required to fulfill the above provisions, unless specified elsewhere in the contract document. All authorized changes in the traffic control plan shall be provided for as specified in Sec 616.

D. Emergency Provisions and Incident Management

**1.0** The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from the police or other emergency agencies for incident management. In case of traffic accidents or the need for police to direct or restore traffic flow through the job site, the contractor shall notify police or other emergency agencies immediately as needed. The area engineer's office shall also be notified when the contractor requests emergency assistance.

**2.0** In addition to the 911 emergency telephone number for ambulance, fire or police services, the following agencies may also be notified for accident or emergency situation within the project limits.

**Transportation Management Center**

14301 So. Outer 40 Rd.  
Chesterfield, MO 63017  
Hrs. of Operation: 24/7/365  
Dispatch: (314) 275-1500

**Missouri State Highway Patrol**

Troop C  
891 Technology Dr.  
(636) 537-3000

**Manchester Police Department**

200 Highlands Blvd. Dr.  
Manchester, MO 63011  
(636) 227-1410

**West County EMS & Fire Protection**

**District, Station 1**

223 Henry Ave.  
Manchester, MO 63011  
(636) 227-9350

**Valley Park Police Department**

320 Benton St.  
Valley Park, MO 63088  
(636) 225-5252

**Valley Park Fire District, Station 2**

55 Crescent Ave.  
Valley Park, MO 63088  
(636) 225-4288

**Fenton Police Department**

625 New Smizer Mill Rd.  
Fenton, MO 63026  
(636) 349-8120

**Fenton Fire District**

845 Gregory Lane  
Fenton, MO 63026  
(636) 343-4188

**Town and Country Police Department**

1011 Municipal Center Dr.  
St. Louis, MO 63131  
(314) 432-4696

**2.1** This list is not all inclusive. Notification of the need for wrecker or tow truck services will remain the responsibility of the appropriate police agency.

**2.2** The contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.

**3.0** No direct pay will be made to the contractor to recover the cost of the communication equipment, labor, materials or time required to fulfill the above provisions.

**E. Project Contact for Contractor/Bidder Questions**

All questions concerning this project during the bidding process shall be forwarded to the project contact listed below.

Jennifer Becker, Project Contact  
St. Louis District  
1590 Woodlake Drive  
Chesterfield, MO 63017

Telephone Number 314-453-5099  
Email [Jennifer.Becker@modot.mo.gov](mailto:Jennifer.Becker@modot.mo.gov)

All questions concerning the bid document preparation can be directed to the Central Office – Design at (573) 751-2876.

**F. Supplemental Revisions JSP-18-01D**

***Delete Sec 106.9 and substitute the following:***

**106.9 Buy America Requirement** On all federal-aid projects, the contractor's attention is directed to Title 23 CFR 635.410 Buy America Requirements. Where steel or iron products are to be permanently incorporated into the contract work, steel and iron material shall be manufactured in the USA except for "minor usage" as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. The use of pig iron and processed, pelletized and reduced iron ore manufactured outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

***Delete Sec 106.9.3 and substitute the following:***

**106.9.3** Buy America requirements include a step certification for all fabrication processes of all steel or iron materials that are accepted per Sec 1000.

**106.9.3.1** Items designated as Category 1 will consist of steel girders, piling, and reinforcing steel installed on site. Category 1 items require supporting documentation prior to incorporation into the project showing all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements. This includes the Mill Test Report from the original producing steel mill and certifications documenting the manufacturing process for all subsequent fabrication, including coatings. The certification shall include language that certifies the following. That all steel and iron materials permanently incorporated in this project was procured and processed domestically and all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410.

**106.9.3.2** Items designated as Category 2 will include all other steel or iron products not in Category 1 and permanently incorporated in the project. Category 2 items shall consist of, but not be limited to items such as fencing, guardrail, signing, lighting and signal supports. The prime contractor is required to submit a material of origin form certification prior to incorporation into the project from the fabricator for each item that the product is domestic. The Certificate of Materials Origin form ([link to certificate form](#)) from the fabricator must show all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements and be signed by a fabricator representative. The Engineer reserves the right to request additional information and documentation to verify that all Buy America requirements have been satisfied. These documents shall be submitted upon request by the Engineer and retained for a period of 3 years after the last reimbursement of the material.

**106.9.3.3** Any minor miscellaneous steel or iron items that are not included in the materials specifications shall be certified by the prime contractor as being procured domestically. Examples of these items would be bolts for sign posts, anchorage inserts, etc. The certification shall read "I certify that all steel and iron materials permanently incorporated in this project during all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements procured and processed domestically in accordance with CFR Title 23 Section 635.410 Buy America Requirements. Any foreign steel used was submitted and accepted under minor usage". The certification shall be signed by an authorized representative of the prime contractor.

***Delete Sec 106.9.4 and Renumber subsequent sections accordingly:***

***Delete Sec 616.5.1 and substitute the following:***

**616.5.1 Amber or Amber and White Warning Lights.** All on-road construction-related vehicles and equipment shall operate with amber or amber and white warning lights having 360 degrees of total coverage and as follows:

- (1) For daytime operations, SAE Class 1 or 2 lights shall be used.
- (2) For dusk to dawn operations, SAE Class 2 lights shall be used, or SAE Class 1 lights with dimming capabilities to minimize glare experienced by travelers.

**616.5.1.1 Red or Red and Blue Warning Lights.** The contractor may elect to use red or red and blue warning lights in accordance with Missouri law and the following requirements:

- (1) Use of red or red and blue lights shall be limited to use on a total of two vehicles per work zone and/or project.
- (2) Use of red or red and blue warning lights shall be limited to areas in advance of tapers or lane shifts and at the active work location.
- (3) Lights shall be SAE Class 2 or SAE Class 1 with dimming capabilities to minimize glare experienced by travelers.

The awarded contract will serve as a permit by the Commission, granting the prime contractor and approved sub-contractors to utilize red or red and blue lights as required by Missouri law.

G. Temporary Traffic Control

**1.0 Description.** All work necessary to maintain safe and efficient traffic flow through the work areas shall be provided by the contractor. This will include furnishing, relocating, and removing temporary traffic control devices, truck mounted attenuators and equipment, and the removal and relocation or covering and uncovering of existing signs and other traffic control devices in accordance with the contract documents or as directed by the engineer.

**2.0 Work requirements.** Work shall be in accordance with Sec 616, Sec 612, and the contract plans.

**3.0 Method of Measurement.** The quantities shown on the plans shall be considered an estimate and may be subject to change based on field conditions. This work will not be measured for payment, but will be considered a lump sum unit. Any Value Engineering proposals to the temporary traffic control will not be paid for through value engineering but will be covered under Temporary Traffic Control, lump sum.

**4.0 Basis of Payment.**

**4.1** Partial payments will be made as follows:

- a) The first partial payment will be made when five percent of the original contract amount is earned. This payment will be the lesser of 50 percent of the contract price for the item of temporary traffic control or 5 percent of the original contract price.
- b) The second partial payment will be made when 50 percent of the original contract amount is earned. This payment will be the lesser of 25 percent of the original contract price for the item of temporary traffic control or 2.5 percent of the original contract price.
- c) The third partial payment will be made when 75 percent of the original contract amount is earned. This payment will be the lesser of 20 percent of the original contract price for the item of temporary traffic control or 2 percent of the original contract price.
- d) When the engineer has accepted the contract for maintenance in accordance with Sec 105, the remaining contract price for the item of temporary traffic control will be paid.

- e) The above partial payment schedule may be adjusted by the engineer if proof of invoices submitted by the contractor demonstrate additional temporary traffic control costs were incurred earlier than the above proposed schedule. The total payment for temporary traffic control will not exceed the bid amount for Temporary Traffic Control, lump sum, unless covered by a cost change order as referenced in the following Section 4.3.

**4.1.1** For the purposes of this provision, the term “original contract price” will be construed as the total dollar value of the construction items (excluding temporary traffic control) of the original contract.

**4.2** Payment for Temporary Traffic Control shall be made and considered completely covered by the contract unit price bid for:

Item No.	Unit	Description
616-99.01	L.S.	Temporary Traffic Control

No direct payment will be made for the following:

- a) Incidental items necessary to complete the work, unless specifically provided as a pay item in the contract.
- b) Installing, operating, maintaining, cleaning, repairing, removing or replacing traffic control devices.
- c) Covering and uncovering existing signs and other traffic control devices.
- d) Relocating temporary traffic control devices, including permanent traffic control devices temporarily relocated, unless specifically included as a pay item in the contract.
- e) Providing channelizers.
- f) Worker apparel.
- g) Flaggers, pilot vehicles, and appurtenances at flagging stations.
- h) Furnishing, installing, operating, maintaining, and removing construction-related vehicle and equipment lighting.
- i) Construction and removal of temporary equipment crossovers, including restoring pre-existing crossovers.
- j) Removing existing pavement markings, installing temporary pavement markings, and removing and relocating temporary pavement markings as necessary for staging operations.
- k) Installing “Drive Smart” and “Point of Presence” signs.

**4.3** Any additional work deemed necessary by the engineer that requires temporary traffic control and is not covered by the contract plans will be included in the cost change order for the additional work. However, if the added work is required in a stage where temporary traffic control is already in place, no additional traffic control pay will be allowed in this case.

H. NTCIP Compliant Changeable Message Sign (Contractor Furnished and Retained)

**1.0 Description.** All solar powered changeable message signs, hereinafter referred to as a CMS, shall be in accordance with these specifications.

**2.0 Material.** Each CMS shall consist of an all LED (light emitting diode) matrix message board, solar/battery power supply and a user-operated interface, as specified, all mounted on a heavy duty, towable trailer.

**2.1** Each CMS shall be either Full Matrix or Character Matrix, and have the following minimum characteristics:

- (a) Full Matrix - Each CMS shall be the Full Matrix type with the capability of providing one, two, and three lines of individual changeable characters with minimum heights of 52 (1300), 28 (700), and 18 (450) inches (mm), respectively. Full Matrix signs shall be capable of both static and dynamic graphics, and full display sized messages.
- (b) Character Matrix (Three Line) – Each CMS shall consist of a minimum of three lines containing eight individual changeable characters per line. Each character shall be a minimum of 12 inches wide and 18 inches (450 mm) high.
- (c) Sign firmware shall comply with the current FHWA and DOT (Department of Transportation) NTCIP standards and support all NTCIP mandatory objects.
- (d) The sign controller shall be remotely accessible by the MoDOT St Louis District Transportation Management Center (TMC) through the Commission's ATMS (Advanced Traffic Management System) software, currently TransSuite provided by TransCore. The contractor will be responsible for ensuring the CMS is added to the ATMS software.
- (e) The CMS shall have a cellular data modem compatible with the district's current cellular IP (packet data) service provider and be capable of allowing the MoDOT St Louis District TMC ATMS software to have full control of the NTCIP compliant CMS controller remotely. Modem shall be capable of being programmed with a static IP.
- (f) The sign shall have a GPS unit that can assist in locating the sign's position when polled by the TMC. The GPS unit must be remotely accessible by the TMC and be part of or work with the provided communication modem.
- (g) Physical access to the onboard computer shall be protected by a padlock or other locking handle mechanism. Electronic access to the onboard computer shall be protected by a username and password.

**2.2** Full matrix CMS and character matrix CMS shall meet the following:

- (a) The overall sign dimensions shall not be less than 72 inches (1800 mm) high x 126 inches (3150 mm) wide.
- (b) The CMS shall be legible up to a distance of 650 feet (200 m) for both day and night operations and shall be visible for ½-mile (800 m) with 18 inch (450 mm) characters.

- (c) When fully raised in the display position, the bottom of the CMS board shall be at least a height of 7 feet (2100 mm) from the ground and shall be able to rotate a complete 360 degrees atop the lift mechanism. A sight tube, used to aim the CMS board to oncoming traffic, shall be installed on the CMS board or mast. The CMS shall have an electrical-hydraulic lifting mechanism that includes a manual lifting and lowering relief mechanism as a backup. It also must be able to be locked into various viewing angles as determined best for the motorists by the CMS operator.
- (d) All LED displays and control circuitry shall be operational from -20 F (-29 C) to 120 F (50 C). The LED's shall have a rated life of 100,000 hours. The LED's shall be ITE amber in color on a flat black background.
- (e) The CMS face shall be constructed that if an individual panel or pixel fails the rest of the face shall continue to display the message.
- (f) All costs and coordination needed for testing to verify modem communication, sign NTCIP compliance, remote GPS status polling, ability to control the sign via the St Louis District's ATMS software provided by TransCore shall be the sole responsibility of the Contractor. Full integration into TransCore's ATMS shall be completed at least 5 business days prior to use of the CMS in the project. TransCore contact information will be provided to the contractor by contacting MoDOT's Gateway Guide staff at 314-275-1526 or via email at [ggtech@modot.mo.gov](mailto:ggtech@modot.mo.gov) with details of the request. No other support shall be provided by MoDOT other than TransCore contact information. Information provided shall include, at a minimum, CMS make and model, IP address, and proposed locations and messages.
- (g) The Contractor shall be responsible for all monthly cellular service fees for the duration of the project.
- (h) The unit shall be able to withstand a 65-mph (105-kmph) maximum road wind speed. The trailer shall be able to support the fully extended CMS board in an 80-mph (130-kmph) wind load.
- (i) Solar charging system shall allow for total autonomy of 24/7/365 continuous operation.
- (j) All exterior surfaces except the sign face shall be cleaned, primed, and finished with two coats of Highway Safety Orange and the sign interior itself shall be cleaned and finished with one coat of corrosion inhibiting primer and two coats of flat black. The sign face shall be covered with a rigid translucent material to prevent damage to the sign face caused by the environment.

**3.0 Construction Requirements.** Prior to placing a CMS on a project, the engineer shall verify proposed CMS location is void of conflict with another DMS or CMS locations presently established. If a conflict is present, the engineer shall contact the Traffic Management Center (TMC) at 314-275-1526 to mitigate. If no conflict is present, engineer shall provide Traffic Management Center (TMC) with the Job Number, Route, County, specific CMS location, and a CMS identification number that is permanently affixed to the CMS. The engineer and contractor shall verify the message displayed on board is compliant with CMS messaging policies. The contractor shall place the CMS 6 feet [2 meters] off of the right edge of shoulder at the location shown on the plans or as directed by the engineer. The CMS shall be placed so that the right side of the unit is advanced approximately 3 degrees ahead with the direction of traffic. CMS

shall not be located in medians. CMS shall be delineated with a minimum of five non-metallic channelizing devices. Installation, including location and placement, shall be approved by the engineer. If needed, the contractor shall relocate the CMS as directed by the engineer.

**3.1** When not in use, the CMS shall be stored no closer than 30 feet [10 meters] to the edge of pavement carrying traffic, unless it is in a properly protected area or an off-site storage area or as otherwise directed by the engineer.

**4.0 Basis of Payment.** All expenses incurred by the contractor in integrating, maintaining, relocating, operating and protecting the changeable message signs as outlined above shall be paid for at the contract unit price for Item 616-99.02 Changeable Message Sign, Contractor Furnished and Retained, per Each.

**4.1** Cost for channelizers shall be included in the contract unit price for CMS.

**4.2** Cost for cellular phone hookup and monthly usage fee for the duration of the project shall be included in the contract unit price for CMS.

Item No.	Unit	Description
616-99.02	Each	NTCIP Compliant Changeable Message Sign (Contractor Furnished and Retained)

I. Cementitious Grout for Mudjacking

**1.0 Description.** This work shall consist of mudjacking with cementitious grout to fill voids under concrete slope protection and end bent locations as directed by the engineer. Existing voided holes shall be utilized by the contractor to fill these voids.

**2.0 Material.** All material for the cementitious grout shall be in accordance with Division 1000, Material Details, and specifically as follows:

Item	Section
Fly Ash	1018
Cement, Type I, II or III	1019
Water	1070

**3.0 Construction Requirements.** All work to fill voids shall be performed in accordance with Specification Section 625.20.

**4.0 Basis of Payment.** The accepted quantity of cementitious grout for void mudjacking will be paid at the contract unit price for the pay item included in the contract. Payment for all labor, equipment and materials required to fulfill this provision shall be included in the contract unit price bid for:

Item No.	Unit	Description
625-99.01	L.S.	Cementitious Grout for Mudjacking



J. MoDOT ITS Facility Relocation

**1.0 Description.** The work consist of relocating existing MoDOT Intelligent Transportation System (ITS) facilities (conduit, cable, and/or pull boxes) that may be in conflict with this project construction phases as noted in the plans.

**2.0 Materials.** The materials used for relocating MoDOT ITS facilities shall be per MoDOT Approved Product List (APL) and meet all MoDOT Specifications. If the material is not in the APL, the contractor shall submit material specification documents to the Engineer and the MoDOT ITS group (via an email in advance to [SLITS@modot.mo.gov](mailto:SLITS@modot.mo.gov)) for review and approval.

**3.0 Construction Requirements.** The Contractor shall submit a proposal to MoDOT ITS staff for review and approval on how they are planning to temporarily detach the existing ITS conduit and fiber optic cables off of Route 141 bridge (Bridge #A-4105) over BNSF Railroad just north of I-44. The contractor shall be aware there are numerous utilities present along the route in this contract. Utility locates were not performed during the design phase of the project; therefore, the extent of conflicts with utilities are unknown.

**3.1** The contractor shall exercise reasonable care relocating MoDOT ITS In-Ground Facilities. Damage to any MoDOT facilities within the area of work caused by the contractor will be deemed by the Engineer as either “non-emergency” or “emergency” upon notification of the damages. Repair to damages will be performed as follows:

- a) Non-Emergency: Contractor will have 4 hours to propose a repair plan to the Engineer for a complete repair within 3 business days.
- b) Emergency: Upon notification of the damage, Contractor must immediately submit a repair plan to the Engineer which will take no more than 4 hours to respond on-site and complete repairs within 48 hours of notification of damage.
- c) In either case, if the proposed plan is unacceptable for any reason to MoDOT, repairs will be made by MoDOT with all costs billed to the Contractor.

**3.2** The ITS facilities located within the project limits are a crucial part of the traffic operation system for this area. It is imperative that the downtime be kept to a minimum when replacing, removing, or modifying any existing ITS facilities.

**3.3** Prior to any in-ground work, the Contractor shall request for utility locates by contacting Missouri One Call (1-800 DIG-RITE or [mo1call.com](http://mo1call.com)) for any in-ground installation locations as per plans. If there are any conflicts with MoDOT ITS In-Ground Facilities, the Contractor is responsible for relocation to the satisfaction of the Engineer prior to any in-ground work.

**3.4** The Contractor shall coordinate this work with the MoDOT ITS group and have the Engineer’s approval prior to performing this task.

**3.5** In the case of a conduit conflict, the Contractor shall trench an area beyond the in-ground work limits, install one or two conduits (must be the same quality as the existing conduit) using Split Duct Method, relocate the existing cables into the new conduit, and seal the conduit joints per manufacturer specifications.

**3.6** In the case of a fiber optic cable conflict, the Contractor shall provide the Engineer and the MoDOT ITS group an OTDR fiber testing report both before and after relocation per MoDOT Fiber Specifications.

**3.7** Upon completion of this work, the Contractor shall contact the MoDOT ITS group (via email at [SLITS@modot.mo.gov](mailto:SLITS@modot.mo.gov) or by calling 314-275-1526) to verify that all existing MoDOT ITS devices are online and request inspection of this work. Acceptance of this work shall be the sole judgment of the Engineer and the MoDOT ITS group's engineer.

**3.8** The contractor shall restore those areas disturbed by this work or installation according to specifications herein.

**4.0 Basis of Payment.** Measurement and payment for "MoDOT ITS In-Ground Facility Relocation" shall be paid as Linear Feet of conduit use which includes the trenching, conduit installation, conduit coupling, pull boxes, sealing materials, cable relocation, needed fiber testing, restoration of all disturbed area, all labor and miscellaneous hardware to complete this task. Payment will be made as follows:

Item No.	Unit	Description
910-99.01	L.S.	MoDOT ITS Facility Relocation

K. Special Provisions for Protection of BNSF Railway Company Interests

To Report an Emergency on the railroad call: (800) 832-5452  
BNSF Cuba Subdivision, St. Louis County, DOT# 664 315M (MP 18.59) in Valley Park, MO.

**1.0 Authority of Railroad Engineer and Commission's Representative.**

**1.1** The authorized representative of BNSF Railway Company, herein called "Railroad Engineer", shall have final authority in all matters affecting the safe maintenance and operation of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks.

**1.2** The authorized representative of the Missouri Highways and Transportation Commission, herein called "Engineer", shall have authority over all other matters as prescribed herein and in the project specifications.

**2.0 Contractor's Indemnity Obligations to the Railroad.**

**2.1** The term "contractor" as used in this special provision includes any and all subcontractors. The contractor shall indemnify, defend and hold harmless the Railroad from and against any and all loss, damage, claims, demands, causes of action, costs and expenses of whatsoever nature arising out of injury to or death of persons whomsoever, or out of damage to or destruction of property whatsoever, including, without limitation, damage to fiber optic, communication and other cable lines and systems, where such injury, death, damage or destruction results from any cause arising out of work performed by the contractor pursuant to the agreement between Railroad and the Commission for the project, and shall also release the Railroad from and shall waive any claims for injury or damage to equipment or other property, which may result from the construction, maintenance and operation of railroad tracks, wire lines, fiber optic cable, pipe lines and other facilities on said right of way of the Railroad by the contractor. The liability assumed by the contractor will not be affected by the fact, if it is a fact, that the damage, destruction, injury, death, cause of action or claim was occasioned by or contributed to by the negligence of the railroad, the railroad's agents, servants, employees or otherwise, except to the extent that such claims are proven by any claimant to have been

proximately caused by the intentional misconduct or sole or gross negligence of the railroad. The contractor's indemnity shall include loss of profits or revenue arising from damage or destruction to fiber optic, communication and other cable lines and systems.

**2.2** In addition to the indemnity obligations contained in the preceding paragraph, the contractor shall indemnify, defend and hold harmless the Railroad from any claims, expenses, costs, actions, demands, losses, fines, penalties, and fees, of whatsoever nature arising from, related to or connected, in whole or in part, with the following:

- (a) The removal of the contractor's agents, servants, employees or invitees from the Railroad's property for safety reasons.
- (b) Contractor's compliance or failure to comply with the provision of applicable law in connection with the performance of contractor's work.

### **3.0 Notice of Starting Work.**

**3.1** The contractor shall not commence any work on Railroad's right of way until the contractor has complied with the following conditions:

- (a) At least 30 days in advance of the date the contractor proposes to begin work on Railroad's right of way, the contractor shall give the Railroad written notice to the address below with copy to the Engineer who has been designated to be in charge of the work.

Mr. John Caufield, P.E.  
Manager of Public Projects  
BNSF Railway  
4515 Kansas Ave. Building 4B, 3<sup>rd</sup> Floor  
Kansas City, KS 66106

- (b) Obtain written or electronic authorization from the Railroad to begin work on the Railroad's right of way, such authorization to include an outline of specific conditions with which contractor shall comply.
- (c) Obtain the insurance coverage required in Section 13.0 of this job special provision. Contractor shall submit written evidence of such coverage to Railroad prior to commencing any work.
- (d) Prior to performing any work on Railroad's property, right-of way or in an area that may impact Railroad's operations, the contractor's employees, representatives or agents who are regularly assigned to perform work on the project shall complete the safety orientation training available on the internet at [www.BNSFContractor.com](http://www.BNSFContractor.com), hereinafter called, "Internet Safety Orientation". If the contractor's employee, representative or agent is not regularly assigned to perform work on the project, hereinafter called "Flexible Worker(s)", the contractor shall ensure that any Flexible Worker receives appropriate safety training prior to performing any work on the Railroad's property, right-of way or in an area that may impact the Railroad's operations. The content of safety training for Flexible Workers shall include the information covered in the Internet Safety Orientation. The approximate cost of the Internet Safety Orientation is \$11 per person, subject to annual escalation.

**3.2** The Railroad's written authorization to proceed with the work, with a copy to the Engineer, will include the names, addresses and telephone numbers of the Railroad's representatives who are to be notified as hereinafter required. Where more than one representative is designated, the area of responsibility of each representative shall be specified.

#### **4.0 Interference with Railroad Operations.**

**4.1** The contractor shall arrange and conduct all work so that there shall be no interference with the Railroad's operations, including train, signal, telephone and telegraphic services; or damage to the Railroad's property; poles, wires and other facilities of tenants, licensees, easement grantees and invitees on the Railroad's right of way. Whenever work may affect the operations or safety of trains, the method of doing such work shall first be submitted to the Railroad Engineer for approval, but such approval shall not relieve the contractor from liability. Any work to be performed by the contractor that requires flagging service or inspection service shall be deferred by the contractor until the flagging service required by the Railroad is available at the job site.

**4.2** Whenever work within the Railroad's right of way is of such a nature that impediment to the Railroad's operations is unavoidable, such as use of runaround tracks or necessity for reduced speed, the contractor shall schedule and conduct these operations so that such impediment is reduced to the absolute minimum.

**4.3** Should conditions arising from, or in connection with the work require that immediate and unusual provisions be made to protect the Railroad's operations and property, the contractor shall make such provisions. If in the judgment of the Railroad Engineer, or the Engineer if the Railroad Engineer is absent, such provision is insufficient, the Railroad Engineer or Engineer may require or provide such provisions as deem necessary. In any event, such provisions shall be at the contractor's expense and without cost to the Railroad or the Commission.

**4.4** The contractor shall be responsible for any damage to the Railroad as a result of work on the project, which shall include but not be limited to interference with the normal movement of trains caused exclusively by the work performed by the contractor. The contractor shall be responsible for damages for the Railroad's train delays that are caused exclusively by the contractor. The Railroad agrees not to perform any act to unnecessarily cause any train delay. The damages for train delays per freight hour will be billed at an average rate per hour as determined from the Railroad's records. These records shall be provided by the Railroad, upon request, to the Commission or the Commission's contractor.

#### **5.0 Track Clearances.**

**5.1** The minimum track clearances to be maintained by the contractor during construction are shown on the project plans. However, before undertaking any work within Railroad's right of way, or before placing any obstruction over any track, the contractor shall:

- (a) Notify the Railroad Engineer at least 72 hours in advance of the work.
- (b) Receive assurance from the Railroad Engineer that arrangements have been made for flagging service as may be necessary.
- (c) Receive permission from the Railroad Engineer to proceed with the work.

(d) Ascertain that the Engineer has received copies of notice to the Railroad and of the Railroad's response.

**5.2** The contractor shall fully comply with any horizontal and vertical clearance requirements imposed by Missouri state statutes and regulations and Federal statutes and regulations regarding the placement of structures or equipment near or over railroad tracks.

## **6.0 Construction Procedures.**

**6.1 General.** Construction work on the Railroad's property shall be:

- (a) Subject to the inspection and review of the Railroad.
- (b) In accordance with the Railroad's written outline of specific conditions.
- (c) In accordance with this special provision.

**6.2 Excavation.** The subgrade of an operated track shall be maintained with the berm edge at least 12 feet from centerline of track and not more than 26 inches below top of the rail. The contractor will not be required to make existing section meet this specification if substandard, in which case the existing section will be maintained. The contractor shall cease all work and notify the Railroad immediately before continuing excavation in the work area if obstructions are encountered which do not appear on the drawings. If the obstruction is a utility and the owner of the utility can be identified, then the contractor shall also notify the owner immediately. If there is any doubt about the location of underground cables or lines of any kind, no work shall be performed until the exact location has been determined. There will be no exceptions to these instructions. Additionally, all excavations shall be conducted in compliance with applicable Occupational Safety and Health Act regulations and, regardless of depth, shall be shored where there is any danger to tracks, structures or personnel. Any excavations, holes or trenches on the Railroad's property shall be covered, guarded and/or protected when not being worked on. When leaving work site areas at night and over weekends, the areas shall be secured and left in a condition that will ensure that Railroad's employees and other personnel who may be working or passing through the area are protected from all hazards. All excavations shall be back filled as soon as possible.

**6.3 Excavation for Structure.** The contractor shall be required to take special precaution and care in connection with excavating, shoring pits and in driving piles for footings adjacent to tracks to provide adequate lateral support for the tracks and the loads which the tracks carry, without disturbance of track alignment and surface, and to avoid obstructing track clearances with working equipment, tools or other material. The procedure for doing such work, including need of and plans for shoring, shall be approved by the Railroad Engineer before work is performed, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans in accordance with the Missouri Standard Specifications for Highway Construction, hereinafter called "Standard Specifications". The responsibility for the design and construction of the sheeting rests solely with the contractor. The temporary shoring along the railroad tracks shall be designed for the Cooper E80 loading. The design shall insure that the shoring is braced or substantially securely to prevent movement. The contractor shall submit plans for the temporary shoring that shall be signed, sealed, and stamped in accordance with the laws

relating to Architects and Professional Engineers, Chapter 327, RSMo. and then submitted for review by the Engineer.

**6.4 Demolition of Existing Structures.** The contractor shall be required to take special precaution and care in connection with demolition of existing structures. The procedure for doing such work, including need of and plans for temporary falsework, shall first be approved by Railroad Engineer before work is performed, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans.

**6.5 Falsework.** The contractor shall be required to take special precaution and care to prevent any material from falling on the Railroad's right of way. The procedure for preventing material from falling, including need of and plans for temporary falsework, shall first be approved by the Railroad Engineer, but such approval shall not relieve the contractor from liability. Before submission of plans to the Railroad Engineer for approval, the Engineer will first review such plans.

#### **6.6 Blasting.**

**6.6.1** The contractor shall obtain advance approval of the Railroad Engineer and the Engineer for use of explosives on or adjacent to the Railroad's property. If permission for use of explosives is granted, the contractor shall be required to comply with the following:

- (a) Blasting shall be done with light charges under the direct supervision of a responsible officer or employee of the contractor.
- (b) Electric detonating fuses shall not be used because of the possibility of premature explosions resulting from operation of two-way train radios.
- (c) No blasting shall be done without the presence of the Railroad Engineer. At least 72 hours advance notice to the person designated in the Railroad's notice of authorization to proceed as mentioned in Section 2.2 of this job special provision, the contractor shall be required to arrange for the presence of the Railroad Engineer and such flagging as the Railroad may require.
- (d) The contractor shall have at the job site adequate equipment, labor and materials and allow sufficient time to clean up debris resulting from the blasting without delay to trains, as well as correcting, at contractor's expense, any track misalignment or other damage to the Railroad's property resulting from the blasting as directed by the Railroad Engineer. If contractor's actions result in delay of trains, the contractor shall bear the entire cost thereof.

**6.6.2** The Railroad Engineer will:

- (a) Determine the approximate location of trains and advise the contractor the approximate amount of time available for the blasting operation and clean-up.
- (b) Have the authority to order discontinuance of blasting if blasting is too hazardous or is not in accordance with this special provision.

**6.7 Maintenance of Railroad Facilities.** The contractor shall be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from contractor's operations. The contractor shall promptly repair eroded areas within Railroad's right of way and repair any other damage to the Railroad's property, tenants, licensees, easement grantees and invitees. All such maintenance and repair of damages due to the contractor's operations shall be done at the contractor's expense.

**6.8 Storage of Materials and Equipment.**

**6.8.1** The contractor shall not store or stockpile construction materials or equipment closer than 25 feet to the centerline of the nearest railroad track or on the Railroad's property not covered by construction easement, contractor's permit, lease or agreement. Additionally, the contractor shall not store or leave materials or equipment within 250 feet of the edge of any highway/rail at-grade crossings. Further, both sides of a main track shall remain unobstructed for a distance of 10 feet from the exterior edge of the track at all times to allow for stopped train inspection.

**6.8.2** Machines or vehicles shall not be left unattended with the engine running. Parked machines or equipment shall be in gear with brakes set and with blade, pan or bucket lowered to the ground if so equipped. All grading or construction machinery that is left parked near the track unattended shall be effectively immobilized so that unauthorized persons cannot move such equipment.

**6.9 Cleanup.** Upon completion of the work, the contractor shall remove from within the limits of the Railroad's right of way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the contractor, and leave said right of way in a neat condition satisfactory to the Railroad Engineer.

**6.10 Buried Cable and Other Buried Facilities.**

**6.10.1** The contractor is placed on notice that fiber optic, communication and other cable lines and systems, collectively the "Lines", owned by various telecommunications companies may be buried on Railroad's property or right of way. The locations of the buried Lines, pipelines or utility facilities have been included on the plans based on information from the telecommunications companies, pipeline operators, or utilities, as the case may be. The contractor shall be responsible for contacting the Railroad Engineer, the Railroad's 24-hour information number (1-800-533-2891), the telecommunications companies, pipeline operators and utilities and notifying them of any work that may damage the buried Lines, pipelines, utility facilities and/or interfere with their service. The contractor shall verify the location of all buried Lines, pipelines and utility facilities shown on the plans or marked in the field in order to establish their exact locations prior to or while doing work on the Railroad's property or right of way. The contractor shall also use all reasonable methods when working on the Railroad's property or right of way to determine if any other buried Lines, pipelines or utility facilities exist on the Railroad's property or right of way.

**6.10.2** Failure to mark or identify the buried Lines, pipelines or utility facilities will be sufficient cause for the Railroad Engineer to stop construction at no cost to the Commission or Railroad until these items are completed. The contractor shall be responsible for the rearrangement of any buried facilities, Lines, pipelines or utility facilities determined to interfere with the construction. The contractor shall cooperate fully with any telecommunications companies, pipeline operators and utility facility owners in performing such rearrangements.

**7.0 Damages.** The Railroad will not assume liability for any damages to the contractor, contractor's work, employees, servants, equipment and materials caused by railroad traffic. Any cost incurred by the Railroad for repairing damages to Railroad's property or to property of the Railroad's tenants, licensees, easement grantees and invitees caused by or resulting from the contractor's operations shall be paid directly to the Railroad by contractor.

## **8.0 Flagging Services.**

**8.1 When Required.** Under the terms of the agreement between the Commission and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect the Railroad's operations. In general, the requirements of such services will be whenever the contractor's personnel or equipment are, or are likely to be, working on the Railroad's right of way within 25 feet of the centerline of any track, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging, or reasonable probability of accidental hazard to Railroad's operations or personnel. Normally, the Railroad will assign one flagger to a project; but in some cases, more than one may be necessary, such as yard limits where 3 flaggers may be required. However, if the contractor works within distances that violate instructions given by the Railroad Engineer or performs work that has not been scheduled with the Railroad Engineer, flaggers may be required full time until the project has been completed.

## **8.2 Scheduling and Notification.**

**8.2.1** Not later than the time that approval is initially requested to begin work on the Railroad's right of way (30 days), contractor shall furnish to the Railroad and the Commission a schedule for all work required to complete the portion of the project within Railroad's right of way and arrange for a job site meeting between the contractor, the Engineer, and the Railroad Engineer. Flaggers may not be provided until the job site meeting has been conducted and the contractor's work scheduled.

**8.2.2** The contractor shall be required to give the Railroad Engineer at least 30 days of advance written notice of intent to begin work within Railroad's right of way in accordance with this special provision. Once begun, if such work is then suspended at any time, or for any reason, the contractor shall be required to give the Railroad Engineer at least 5 working days of advance notice before resuming work on Railroad's right of way. Such notices shall include sufficient details of the proposed work to enable the Railroad Engineer to determine if flagging will be required. If such notice is in writing, the contractor shall furnish the Engineer a copy; if notice is given verbally, the notice shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagger or flaggers are present at the job site. Obtaining a flagger or flaggers may take up to 30 days to obtain initially from the Railroad. When flagging begins, the flagger is usually assigned by the Railroad to work at the project site on a continual basis until no longer needed and cannot be called for on a spot basis. If flagging becomes unnecessary and is suspended, obtaining a flagger or flaggers may take up to 30 days to again obtain from the Railroad. Due to Railroad labor agreements, 10 working days notice may be necessary before flagging services may be discontinued and responsibility for payment stopped. Notification for flagging should be addressed to:



Mr. Nate Norris  
BNSF Railroad  
636-288-0534  
[Nathaniel.norris@bnsf.com](mailto:Nathaniel.norris@bnsf.com)

**8.2.3** If, after the flagger is assigned to the project site, emergencies arise which require the flagger's presence elsewhere, then the contractor shall delay work on the Railroad's right of way until such time as the flagger is again available. Any additional costs resulting from such delay shall be borne by the contractor and not the Railroad.

### **8.3 Payment.**

**8.3.1** The Commission will pay the Railroad directly for the cost of flagging services associated with the project by deducting the amount from the normal contractor payments.

**8.3.2** The Railroad shall submit progress invoice to the Engineer during the time flagging services are required. A final invoice shall be submitted to the Engineer within 180 days of completion of the project. This is defined as the point in time at which the Commission and the Railroad both accept the project and the contractor is relieved of contractual obligation. Should the invoice not be received within this time period, the Railroad will be responsible for obtaining payment directly from the contractor.

**8.3.3** Should a dispute between the Railroad, the Commission and the contractor develop concerning the cost of flagging service or should the contractor fail to promptly pay the Railroad for flagging services, the full amount of the Railroad's invoice will be deducted from the contractor's payment request. However, The Commission will send only 95 percent of the amount requested to the Railroad. The Commission will make a corrected payment once a settlement is reached between the Railroad, the Commission and the contractor.

**8.3.4** The contractor shall be responsible for arranging needed flagging services as required by the Railroad to accomplish the highway improvement.

**8.3.5** The cost of flagging service is approximately \$1,300 per day based on an 8-hour work day and a 40-hour work week. This cost includes the base pay for the flagger, overhead, and per diem charge for travel expenses, meals and lodging. The charge to the contractor by the Railroad will be the actual cost based on the rate of pay for the Railroad's employees who are available for flagging service at the time the service is required. Work by a flagger in excess of 8 hours per day or 40 hours per week but not more than 12 hours a day will result in overtime pay at 1 1/2 times the appropriate rate. Work by a flagger in excess of 12 hours per day will result in overtime pay at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 1/2 times the normal rate. Railroad expenses incurred preparing and handling invoices will also be charged to the contractor and/or the Commission. Charges to the contractor and/or the Commission by the Railroad shall be in accordance with applicable provisions of Volume 1, Chapter 4, §3 and Volume 6, Chapter 6, §2, Subsection 1 of the Federal-Aid Highway Program Manual issued by the Federal Highway Administration, including all current amendments. Flagging costs are subject to change. The above estimates of flagging cost are provided for information only and are not binding in any way. Each time a flagger is called, the minimum period for billing will be the 8 hour basic day unless the flagger can be assigned to other Railroad work during the work day.

**8.3.6** In addition to the hours of providing flagging at the construction site, the flagger hours will include, but is not limited to, travel time to and from the project, time to complete paperwork for the flagging operations and time for setting warning signs/flags for the train traffic.

#### **8.4 Verification.**

**8.4.1** Any complaints concerning a flagger shall be resolved in a timely manner. If need for a flagger is questioned, please contact the Railroad Engineer and Mr. John Caufield, Manager of Public Projects at (817) 789 0879. All verbal complaints shall be confirmed in writing by the contractor within 5 working days with copy to the Railroad Engineer and Engineer. All written correspondence shall be addressed to Mr. Caufield as shown in Section 2.1 of this job special provision.

**8.4.2** The Railroad flagger assigned to the project will be responsible for notifying the Engineer upon arrival at the job site on the first day, or as soon thereafter as possible, that flagging services begin and on the last day that flagger performs such services for each separate period that services are provided. The Engineer will document such notification in the project records.

#### **9.0 Haul Across Railroads.**

**9.1** Where the plans show or imply that materials of any nature must be hauled across the Railroad's tracks, unless the plans clearly show that the Commission has included arrangements for such haul in the agreement with the Railroad, the contractor shall be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad's tracks. The contractor shall be required to bear all costs incidental to such crossings, including flagging, whether services are performed by contractor's own forces or by Railroad's personnel.

**9.2** No crossing may be established for use of the contractor for transporting materials or equipment across the tracks of the Railroad unless specific authority for the installation, maintenance, necessary watching and flagging thereof and removal, all at the expense of the contractor, is first obtained from the Railroad Engineer.

**10.0 Work for the Benefit of the Contractor.** All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans, and are included in the agreement between the Commission and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the Commission and/or the Railroad. Should the contractor desire any changes in addition to the above, then contractor shall make separate arrangements with the Railroad for same to be accomplished at the contractor's expense.

**11.0 Cooperation and Delays.** The contractor shall arrange a schedule with the Railroad for accomplishing staged construction involving work by the Railroad or tenants, licensees, easement grantees and invitees of the Railroad. In arranging a schedule, the contractor shall ascertain, from the Railroad, the lead time required for assembling crews, materials and make due allowance. No charge of claims of the contractor against the Railroad will be allowed for hindrance or delay on account of railway traffic for any work done by the Railroad, other delay incident to or necessary for safe maintenance of railway traffic, or for any delays due to compliance with this special provision.

**12.0 Trainman's Walkways.** Along the outer side of each exterior track of multiple operated track and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains shall be maintained extending to a line not less than 12 feet from centerline of track. Any temporary impediments to walkways and track drainage encroachments or obstructions allowed during work hours while Railway's protective service is provided shall be removed before the close of each work day. Any excavation near the walkway, the contractor shall install a handrail with a 12 feet minimum clearance from centerline of track.

**13.0 Insurance.** The amount of work to be performed upon, over or under Railroad's right of way is estimated to be seven percent (7.0%) of the contractor's total bid for the project.

**13.1** In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, Contractor must, at its sole cost and expense, procure and maintain during the life of this Agreement the following insurance coverage:

(a) Commercial General Liability insurance. This insurance shall contain broad form contractual liability with a combined single limit of a minimum of \$5,000,000 each occurrence and an aggregate limit of at least \$10,000,000 but in no event less than the amount otherwise carried by the contractor. Coverage must be purchased on a post 2004 ISO occurrence form or equivalent and include coverage for, but not limit to the following:

- Bodily Injury and Property Damage
- Personal Injury and Advertising Injury
- Fire legal liability
- Products and completed operations

This policy must also contain the following endorsements, which must be indicated on the certificate of insurance:

- The definition of insured contract must be amended to remove any exclusion or other limitation for any work being done within 50 feet of railroad property.
- Waiver of subrogation in favor of and acceptable to Railway.
- Additional insured endorsement in favor of and acceptable to Railway.
- Separation of insureds.
- The policy shall be primary and non-contributing with respect to any insurance carried by Railway.

It is agreed that the workers' compensation and employers' liability related exclusions in the Commercial General Liability insurance policy(s) required herein are intended to apply to employees of the policy holder and shall not apply to Railway employees.

No other endorsements limiting coverage as respects obligations under this Agreement may be included on the policy with regard to the work being performed under this agreement.

(b) Business Automobile Insurance. This insurance must contain a combined single limit of at least \$1,000,000 per occurrence, and include coverage for, but not limited to the following:

- Bodily injury and property damage
- Any and all vehicles owned, used or hired

The policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

- Waiver of subrogation in favor of and acceptable to Railway.
- Additional insured endorsement in favor of and acceptable to Railway.
- Separation of insureds.
- The policy shall be primary and non-contributing with respect to any insurance carried by Railway.

(c) Workers Compensation and Employers Liability insurance including coverage for, but not limited to:

- Contractor's statutory liability under the worker's compensation laws of the state(s) in which the work is to be performed. If optional under State law, the insurance must cover all employees anyway.
- Employers' Liability (Part B) with limits of at least \$500,000 each accident, \$500,000 by disease policy limit, \$500,000 by disease each employee.

This policy shall also contain the following endorsements or language, which shall be indicated on the certificate of insurance:

- Waiver of subrogation in favor of and acceptable to Railway.

(d) Railroad Protective Liability insurance naming only the Railway as the Insured with coverage of at least \$5,000,000 per occurrence and \$10,000,000 in the aggregate. The policy Must be issued on a standard ISO form CG 00 35 10 93 and include the following:

- Endorsed to include the Pollution Exclusion Amendment (ISO form CG 28 31 10 93)
- Endorsed to include the Limited Seepage and Pollution Endorsement.
- Endorsed to remove any exclusion for punitive damages.
- No other endorsements restricting coverage may be added.
- The original policy must be provided to the Railway prior to performing any work or services under this Agreement

In lieu of providing a Railroad Protective Liability Policy, Licensee may participate in Licensor's Blanket Railroad Protective Liability Insurance Policy available to contractor.

## **13.2 Other Requirements.**

**13.2.1** All policies (applying to coverage listed above) must not contain an exclusion for punitive damages and certificates of insurance must reflect that no exclusion exists.

**13.2.2** Contractor agrees to waive its right of recovery against Railway for all claims and suits against Railway. In addition, its insurers, through the terms of the policy or policy endorsement, waive their right of subrogation against Railway for all claims and suits. The certificate of insurance must reflect the waiver of subrogation endorsement. Contractor further waives its right of recovery, and its insurers also waive their right of subrogation against Railway for loss of its owned or leased property or property under contractor's care, custody or control.

**13.2.3** Contractor is not allowed to self-insure without the prior written consent of Railway. If granted by Railway, any deductible, self-insured retention or other financial responsibility for claims must be covered directly by contractor in lieu of insurance. Any and all Railway liabilities that would otherwise, in accordance with the provisions of this Agreement, be covered by contractor's insurance will be covered as if contractor elected not to include a deductible, self-insured retention or other financial responsibility for claims.

**13.2.4** Prior to commencing the Work, contractor must furnish to Railway an acceptable certificate(s) of insurance including an original signature of the authorized representative evidencing the required coverage, endorsements, and amendments and referencing the contract audit/folder number if available. Contractor shall notify Railway in writing at least 30 days prior to any cancellation, non-renewal, substitution or material alteration. Upon request from Railway, a certified duplicate original of any required policy must be furnished. Contractor should send the certificate(s) to the following address:

Railroad:

BNSF Railway Company  
P.O. Box 140528  
Kansas City, MO 64114  
Toll Free: 877-576-2378  
Fax number: 817-840-7487  
Email: BNSF@certfocus.com  
www.certfocus.com

Commission:

Mr. Dave Ahlvers  
State Construction and Materials Engineer  
MoDOT  
P.O. Box 270  
Jefferson City, MO 65102

**13.2.5** Any insurance policy must be written by a reputable insurance company acceptable to Railway or with a current Best's Guide Rating of A- and Class VII or better, and authorized to do business in the state(s) in which the service is to be provide.

**13.2.6** Contractor represents that this Agreement has been thoroughly reviewed by contractor's insurance agent(s)/broker(s), who have been instructed by contractor to procure the insurance coverage required by this Agreement. Allocated Loss Expense must be in addition to all policy limits for coverages referenced above. Not more frequently than once every five years, Railway may reasonably modify the required insurance coverage to reflect then-current risk management practices in the railroad industry and underwriting practices in the insurance industry.

**13.2.7** If any portion of the operation is to be subcontracted by contractor, contractor must require that the subcontractor provide and maintain the insurance coverages set forth herein, naming Railway as an additional insured, and requiring that the subcontractor release, defend and indemnify Railway to the same extent and under the same terms and conditions as contractor is required to release, defend and indemnify Railway herein.

**13.2.8** Failure to provide evidence as required by this section will entitle, but not require, Railway to terminate this Agreement immediately. Acceptance of a certificate that does not comply with this section will not operate as a waiver of contractor's obligations hereunder.

**13.2.9** The fact that insurance (including, without limitation, self-insurance) is obtained by contractor will not be deemed to release or diminish the liability of contractor including, without limitation, liability under the indemnity provisions of this Agreement. Damages recoverable by Railway will not be limited by the amount of the required insurance coverage.

**13.2.10** For purposes of this section, Railway means "Burlington Northern Santa Fe LLC", "BNSF RAILWAY COMPANY" and the subsidiaries, successors, assigns and affiliates of each.

**13.2.11** Railroad will not accept binders as evidence of insurance, the original policy shall be provided. The named insured, description of the work and designation of the job site to be shown on the Policy are as follows:

(a) Named Insured: BNSF Railway Company

(b) Description and Designation:

J6P3200 – Route 141 Epoxy polymer overlay, MoDOT bridges A4104 & A4105:  
BNSF Cuba Subdivision, St. Louis County, DOT# 664 315M (MP 18.59) in Valley  
Park, MO.

**13.2.12** The contractor must notify BNSF Manager of Public Projects at [John.Caufield@BNSF.com](mailto:John.Caufield@BNSF.com) when applying for railroad insurance coverage.

**13.3** If any part of the work is sublet, similar insurance and evidence thereof in the same amounts as required of the prime contractor, shall be provided by or in behalf of the subcontractor to cover the subcontractor's operations. Endorsements to the prime contractor's policies specifically naming subcontractors and describing their operations will be acceptable for this purpose.

**13.4** All Insurance hereinbefore specified shall be carried until all work required to be performed under the terms of the contract has been satisfactorily completed within the limits of the Railroad's right of way as evidenced by the formal acceptance by the Commission. Insuring Companies may cancel insurance by permission of the Commission and Railroad or on 30 days written notice to the Railroad and Commission.

**14.0 Hazardous Materials Compliance and Reporting.** Contractor shall be responsible for complying with all applicable federal, state and local governmental laws and regulations, including, but not limited to environmental laws and regulations (including but not limited to the Resource Conservation and Recovery Act, as amended; the Clean Water Act, as amended; the Oil Pollution Act, as amended; the Hazardous Materials Transportation Act, as amended; and the Comprehensive Environmental Response, Compensation and Liability Act, as amended), and health and safety laws and regulations. In addition to the liability provisions contained elsewhere in this job special provision, the contractor hereby indemnifies, defends and holds harmless the Railroad for, from and against all fines or penalties imposed or assessed by federal, state and local governmental agencies against the Railroad which arise out of contractor's work under this special provision. Notwithstanding the preceding sentence, the contractor will not be liable for pre-existing hazardous materials or hazardous substances discovered on Railroad's property or right of way so long as such hazardous materials or

hazardous substances were not caused by (in whole or in part) contractor's work, acts or omissions. If contractor discovers any hazardous waste, hazardous substance, petroleum or other deleterious material, including but not limited to any non-containerized commodity or material, on or adjacent to Railroad's property, in or near any surface water, swamp, wetlands or waterways, while performing any work under this special provision, the contractor shall immediately:

- (a) Notify the Railroad's Resource Operations Center at (800) 832-5452, of such discovery.
- (b) Take safeguards necessary to protect employees, subcontractors, agents and/or third parties.
- (c) Exercise due care with respect to the release, including the taking of any appropriate measure to minimize the impact of such release

**15.0 Personal Injury Reporting.** The Railroad is required to report certain injuries as a part of compliance with Federal Railroad Administration ("FRA") reporting requirements. Any personal injury sustained by any employee of the contractor, subcontractor or contractor's invitees while on the Railroad's property shall be reported immediately, by phone or mail if unable to contact in person, to the Railroad's representative in charge of the project. The Non-Employee Personal Injury Data Collection Form is to be completed and sent by Fax to the Railroad at (817) 352-7595 and to the Railroad's Project Representative no later than the close of shift on the date of the injury.

**16.0 Failure to Comply.** In the event the contractor violates or fails to comply with any of the requirements of this special provision, the below orders will be applied. Any such orders shall remain in effect until the contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

- (a) The Railroad Engineer may require that the contractor to vacate the Railroad's property.
- (b) The Engineer may withhold all monies due to the contractor until contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

**17.0 Payment for Cost of Compliance.** No separate payment will be made for any extra cost incurred on account of compliance with this special provision. All such cost shall be included in the contract unit price for other items included in the contract. Railroad will not be responsible for paying the contractor for any work performed under this special provision.

L. Considerations to Prevent the Spread of Zebra Mussels

**1.0 Description.** Zebra mussels have infested several bodies of water in Missouri, including the Mississippi River and lower Meramec River, and can be transported by vessels (barges, boats, tugs, etc.) and equipment that is used in zebra mussel areas. If equipment is not properly inspected and treated to prevent the spread of zebra mussels, this invasive aquatic species can be introduced into areas not currently known to harbor a population. To assist in the prevention of introduction and spread of this aquatic nuisance species through MoDOT contracts in Missouri streams and lakes, the following precautions shall be followed.

**3.0 Construction Requirements.** Prior to transporting temporary barges, tugs, boats, or other equipment used for work in the lower Meramec or Mississippi River to other streams or lakes, the contractor shall wash and rinse all equipment thoroughly with hard spray (power wash) or HOT (104 degrees Fahrenheit) water, e.g. at a truck wash facility.

**3.1** When possible, the contractor shall dry equipment thoroughly, 5-7 days, in the hot sun before using in or transporting between MO streams and lakes.

**3.2** If complete drying is not possible, the contractor shall treat all bilge water, and reservoirs holding water with a 10% bleach solution to kill any aquatic nuisance species. This solution shall be disposed of at a properly regulated facility.

**3.3** Vessels and equipment shall be inspected upon removal from the lower Meramec or Mississippi River, cleaning hulls, anchors, moorings, trailers, etc. of all mud, vegetation, and any noticeable attached zebra mussels. This practice will assist in preventing the spread of invasive aquatic species between bodies of water. If zebra mussels are found upon inspection, immediate notification must be made to the engineer and the Missouri Department of Conservation Invasive Species Coordinator (573-522-4115).

**4.0 Basis of Payment.** No direct payment will be made to the contractor to recover the cost of equipment, labor, materials or time required to fulfill the above provisions, unless specified elsewhere in the contract document.

M. Water Quality Control Measures in Consideration of Sensitive Species

**1.0 Description.** The Meramec River may serve as habitat for federal and state listed sensitive species near the project area. To avoid negative impacts to these species, water quality shall be protected from construction and impacts. If debris from the contractor's work falls into the water, the project will be required to shut down while biologists determine if there are any threatened or endangered species at the site and while MoDOT's environmental section assesses impacts to those species.

**1.1** The contractor shall prevent any debris and materials associated with sandblasting, painting, and bridge repairs from falling into the Meramec River. If debris or materials do fall into the river, and if deemed necessary by the engineer or MoDOT's environmental personnel, it shall be removed as directed by the engineer at the contractor's expense.

**1.2** The contractor will not be allowed to construct a temporary work pad, causeway, or crossing within the Meramec River for this project.

**1.3** No work will be allowed to take place below the ordinary high water (OHW) mark of the Meramec River between March 15 and June 15.

**1.4** Erosion and sediment controls must be utilized to ensure no runoff or material enters the Meramec River from incidental roadway construction.

**1.5** Vehicles and equipment shall be inspected daily, prior to use, for leaks or other potential water quality hazards. Any leaks or other water quality hazards on equipment shall be repaired and cleaned off of the equipment prior to use.



**1.6** No staging, storage, or refueling of equipment shall be allowed within 300 feet of bridge A3998.

**2.0 Basis of Payment.** No direct payment will be made for any expense incurred by the contractor by reason of compliance with the specific requirements of the provision, including any delay, inconvenience, or extra work except for those items for which payment is included in the contract.

N. Restrictions for Migratory Birds

**1.0 Description.** Swallows or other bird species protected by the Migratory Bird Treaty Act may be nesting under the bridge or bridges that will be repaired under this contract.

**2.0 Restrictions.** To comply with the Migratory Bird Treaty Act, nests of protected species cannot be disturbed when active (eggs or young are present). Generally, nests are active between April 1 and July 31, but active nests can be present outside of these dates.

**3.0 Avoidance Measures.** The contractor shall not disturb active nests or destroy adults, eggs or young. In an effort to comply with the Migratory Bird Treaty Act, the contractor operations will be limited to the options established in the following sections.

**3.1 Inactive or Partially Constructed Nests.** If nests are present and MoDOT determines that the nests are inactive or partially constructed, the contractor may remove the nests provided that the colony's inactive or partially constructed nests are completely removed by March 15 and the contractor maintains a nest free condition until the bridge work is complete. Dry removal methods shall be used when practicable. If dry removal is not practicable, hydro cleaning may be used if approved by the Engineer and only if water is free of blasting grit, chemicals, or detergents, and applied using pressure less than 5,000 PSI. Clean water such as that from municipal water treatment plants or wells shall be used. Use of source water from Waters of the State (i.e., streams or lakes), is allowable, if the appropriate methods to prevent the possible spread of invasive aquatic species are implemented.

**3.2 Water and Water Tanks Used for Hydro Cleaning.** Aquatic invasives such as zebra mussels and some algae species have infested several bodies of water in the United States and can be transported by vessels (barges, boats, tugs, tankers, etc.) and equipment that have been used in areas that contain these invasive species. If equipment is not properly inspected and treated to prevent the spread of invasives, these species can be introduced into areas not currently known to have a population. These invasive species are detrimental to existing ecosystems and can outcompete native species. To assist in preventing the introduction and spread of aquatic invasive species through MoDOT projects in Missouri streams and lakes, the following precautions shall be followed.

**3.2.1 Use of Water from Streams, Lakes or Ponds.** Contractors shall not use water for nest removal from streams, lakes, or ponds, unless they have implemented appropriate methods to prevent the possible spread of invasive aquatic species. Water sources from municipal water treatment plants or wells may be used without following these measures provided the water hauling equipment has not previously contained waters from streams, lakes, or ponds. If the water hauling equipment has previously contained waters from other streams or lakes, the following measures must be implemented prior to use.

**3.2.1.1 Tank Washing.** Prior to the use or re-use of water hauling equipment following any use with water from streams, lakes or ponds, all equipment shall be washed and rinsed thoroughly with hard spray (power wash) or HOT (104° F) water, e.g. at a truck wash facility.

**3.2.1.2 Tank Drying or Treating.** Tanks shall be dried or treated in one of the following manners.

**3.2.1.2.1** The equipment shall be dried thoroughly, 5-7 days, in the sun before using in or transporting between streams, lakes, and ponds.

**3.2.1.2.2** All interior tank surfaces shall be treated with 140° F water for a minimum of 10 seconds contact on all surfaces.

**3.2.3.2.3** All interior tank surfaces shall be treated with a 10% bleach solution to kill any aquatic nuisance species. When chlorine treatment is used, all chlorine runoff from equipment washing must be collected and properly treated and/or disposed of.

**3.2.3** Prior to use of a water holding tank, contractors shall provide the MoDOT inspector written documentation of the tank's geographic origin (including the water body it was last used in), as well as defining the specified treatment method used to adequately ensure protection against invasive species. The written documentation will include a statement indicating that the contractor is aware of these provisions and will also treat the equipment appropriately after completion of the project.

**3.3 Active Nests.** The contractor may work on the bridge if active nests are present, as long as the work does not impact or disturb the birds and nests. At a minimum, work shall not be performed within 10 feet of an active nest; however, the contractor is responsible for ensuring that their activities do not impact the nests, eggs, or young.

**4.0 Additional Responsibilities.** If active bird nests remain after all reasonable avoidance measures have been taken, or if bird nests are observed during project construction, the contractor shall notify the Resident Engineer and contact MoDOT Environmental (573-526-4778) to determine if there are other allowable options.

O. Stormwater Compliance Requirements NJSP-15-38

**1.0** The land disturbance necessary to complete this project is not anticipated to exceed one (1) acre. Should the contractor disturb more than one (1) acre to complete the work, or for any other reason, all terms of this Job Special Provision will apply.

**1.1 Description.** The Contractor shall comply with the terms of the United States of America v. Missouri Highways and Transportation Commission Consent Decree (Consent Decree) that are identified as the responsibility of the Contractor or subcontractor, and with the terms of this provision. Viewing of the Consent Decree is available on the MoDOT Land Disturbance webpage under Contractor Resources, or by going to the web address [www.modot.org/LD](http://www.modot.org/LD).

**1.2 Applicability.** The Consent Decree and this provision apply to any project that includes land disturbance of areas totaling greater than one (1) acre on the project site. The project site consists of all areas designated on the plans, including temporary and permanent easements. The Consent Decree and this provision do not apply to Contractor staging, plant, or borrow

areas that are not located on MoDOT right of way (Off-site). The Contractor is responsible for obtaining its own separate land disturbance permit for Off-site areas. This provision is in addition to any other stormwater, environmental, and land disturbance requirements specified elsewhere in the contract.

**2.0 Stormwater Training for Contractor Employees.** The Contractor's on-site project manager, designated Water Pollution Control Manager (WPCM), as defined in Section 3.0, and WPCM delegate, shall complete MoDOT Stormwater Training prior to serving in those roles. If someone other than the Contractor's project manager is given the authority to manage the grading or erosion control operations, the project manager(s) for those operations shall also complete MoDOT Stormwater Training. MoDOT Stormwater Training is also required for any other person who the Contractor gives authority to take measures to prevent or minimize the consequences of non-compliance with the Stormwater requirements, as defined in Section 3.1(a) of this provision.

**2.1** The Commission will provide MoDOT Stormwater Training to the Contractor employees specified in Section 2.0 at a location and time determined by MoDOT. There will be no fee for attending the training; however, the Contractor shall be responsible for all other cost related to the training, such as travel expenses, if necessary, and wages for its employees. The time to complete the training is anticipated to be no more than 6 hours. As long as the Consent Decree is in effect, MoDOT will provide periodic trainings at various locations around the state, as needed, to ensure contractors and bidders have the opportunity to maintain the number of WPCMs they need to comply with this provision.

**2.2** Those who require MoDOT Stormwater Training per Section 2.0 shall complete the training prior to beginning any land disturbance work. Thereafter, training shall occur at least once every two (2) years. The training is not project-specific. Any Contractor employee who receives the training will be qualified to perform the WPCM duties on any MoDOT project for a period of two (2) years.

**2.3** MoDOT will document the names and dates that contractor employees attend MoDOT Stormwater Training and will retain those records for the period of time specified in the Consent Decree. Duplicate record keeping by the contractor is not required.

**3.0 Water Pollution Control Manager (WPCM).** Prior to the Pre-Activity meeting for Grading/Land Disturbance, the Contractor shall designate a Water Pollution Control Manager (WPCM) to fulfill the duties and responsibilities listed in Section 3.1 until final stabilization occurs. The Contractor's on-site project manager may also serve as the WPCM or that role may be assigned to another manager employed by the contractor or a subcontractor. The Contractor shall also maintain a WPCM delegate to temporarily fulfill the WPCM duties in the absence of the primary WPCM (e.g. illness, vacation, other leave).

**3.1 Duties of the WPCM:**

- (a) Be familiar with Stormwater Requirements including the National Pollutant Discharge Elimination System (NPDES), the current MoDOT State Operating Permit for construction stormwater discharges/ land disturbance activities, the Project-specific Stormwater Pollution Prevention Plan (Project SWPPP), the Corps of Engineers Section 404 Permit, when applicable, the Consent Decree, and this provision. The Project SWPPP includes: a title page with project-specific information, the general SWPPP posted on the MoDOT land disturbance website, the Project Erosion & Sediment Control

Plan, all applicable special provisions, and all applicable specifications and standard drawings;

- (b) Complete the stormwater training set forth in Section 2.0;
- (c) Attend the Pre-Activity for Grading/ Land Disturbance Meeting or, if hired after the meeting has occurred, be familiar with the conference decisions;
- (d) Review and sign the Project-specific SWPPP and all updates thereto within time periods set out in the Consent Decree;
- (e) Visit and review the project site for compliance with Stormwater Requirements at least once per week from the start of any grading operations until final stabilization is achieved and permit is closed;
- (f) Be authorized by the Contractor to supervise all work performed by the Contractor and subcontractors that involves compliance with Stormwater Requirements, including the authority to order work be stopped on a Project, implement MoDOT-directed changes in work related to Stormwater Requirements, and order the taking of, measures to cease, correct, prevent, or minimize the consequences of non-compliance with Stormwater Requirements;
- (g) Review and certify electronically each MoDOT inspection report for the Project within three (3) days of receiving each report to ensure it conforms with report requirements in the National Pollution Discharge Elimination System Stormwater (NPDES SW) Permit, Project SWPPP and the Consent Decree and ensure that all Stormwater Deficiencies noted on the report are corrected within the time required;
- (h) Recommend in writing within three (3) days of discovering any changes in site conditions and Best Management Practices (BMPs) that require an update to the Project-specific SWPPP; and
- (i) Be the point of contact relating to Stormwater Requirements and the Consent Decree between the Contractor, Subcontractors and MoDOT.

**4.0 Pre-Activity Meeting for Grading/Land Disturbance and Required Hold Point.** At each Project, a Pre-Activity Meeting for Grading/Land Disturbance shall be held prior to the start of any land disturbance and shall include a physical visit and review of the project site. Discussion items at the pre-activity meeting shall include a review of the project SWPPP, the planned order of grading operations, proposed areas of initial disturbance, identification of all necessary BMPs that shall be installed prior to commencement of grading operations, and any issues relating to compliance with the Stormwater requirements that could arise in the course of construction activity at the project.

**4.1** Contractor employees who shall attend the Pre-Activity Meeting for Grading/Land Disturbance include the WPCM for the Project and the person(s) designated the authority to manage the grading and erosion control operations.

**4.2** Following the pre-activity meeting for Grading/land disturbance, and subsequent installation of the initial BMPs identified at the pre-activity meeting, a Hold Point shall occur prior to the start of any land disturbance operations to allow the engineer and WPCM the time needed to perform an on-site review of the installation of the BMPs to ensure compliance with the SWPPP is met. Land disturbance operations shall not begin until authorization is given by the engineer.

**5.0 Compliance with the NPDES SW Permit and Project SWPPP.** On all projects, the Contractor shall comply with all applicable Stormwater Requirements which are defined as, but are not limited to:

- (a) Consulting with the engineer on recommended design revisions to the Project SWPPP to accommodate the Contractor's staging plan, implementation, managing, and maintaining BMPs or other control measures to prevent or minimize sediment and other pollutants in stormwater runoff in accordance with contract specifications or any relevant manufacturer specifications and good engineering practices, including but not limited to the manuals (*Note: two manuals cited in the MoDOT permit are "Developing your stormwater pollution prevention plan: A guide for construction activities" and "Protecting Water Quality: A Field Guide to erosion, sediment and stormwater best management practices for development sites in Missouri"*) and any other applicable standards for sedimentation basins, stabilization, rock dams, brush checks, construction entrances, and other BMPs;
- (b) Installing all BMPs at the locations and relative times specified in the Project SWPPP; and
- (c) Complying with the Missouri Water Quality Standards and with effluent limitations in Section E.1 of the NPDES SW Permit. Measurement of effluent is not required except as specified in E.2.

**5.1 Stormwater Deficiency Corrections.** Per terms of the Consent Decree, Stormwater Deficiencies identified on the MoDOT Land Disturbance Inspection Report shall be corrected within 7 days of the inspection date to avoid stipulated penalties, except that more time might be granted by the engineer when weather or field conditions prohibit the corrective work. If the Contractor does not initiate corrective measures within 5 calendar days of the inspection date or any extended period granted by the engineer, all work shall cease on the project except for work to correct these deficiencies, unless otherwise allowed by the engineer. All impact costs related to this halting of work, including, but not limited to stand-by time for equipment, shall be borne by the Contractor. Work shall not resume until the engineer approves the corrective work.

**6.0 Inspection Protocol.** The Contractor and all subcontractors shall review and adhere to MoDOT's written Stormwater Inspection Protocol, found on the MoDOT Land Disturbance webpage ([www.modot.org/LD](http://www.modot.org/LD)). The Inspection Protocol is applicable to all Projects under the consent decree. The MoDOT Resident Engineer will serve the role of Stormwater Resident Engineer, or a delegate will be named in their absence.

**6.1 Inspection Reports.** MoDOT will provide one or more Environmental Construction Inspectors (ECI) to perform the weekly and post run-off inspections and other duties described in paragraph 17 of the Consent Decree. The ECI will enter the inspection reports into a web-based Stormwater Compliance database. The WPCM will have access to this database to view all report information, including any noted deficiencies, and to certify the report as required in Section 3.1 (g.). Automated email reminders of pending reports that need to be certified and for

deficiencies that need to be corrected will be sent to the WPCM. The Contractor may designate other employees or subcontractor employees to have viewing access to this database and to receive the email reminders. Completion of MoDOT Stormwater Training is necessary in order to receive the email reminders. The WPCM and other users shall be equipped with an electronic device (desktop computer, laptop, tablet, smartphone, etc.) with a browser and internet access to connect to the database. The contractor shall be responsible for providing the electronic devices.

**7.0 Stipulated Penalties.** If the Contractor fails to comply fully and timely with the requirements of the Consent Decree, stipulated penalties will be assessed to the Commission. For matters under the Contractor's responsibility and control the following stipulated penalties will be assessed to the Contractor and MoDOT will withhold payment pursuant to the following:

<b>Violation</b>	<b>Stipulated Penalty Amount</b>
Failure to Designate or Maintain WPCM at each Project in Accordance with Section 3.0.	\$750 for the initial violation (each person not designated) and then \$750 for each fourteen (14) day period that person is not designated.
Failure to complete MoDOT Stormwater Training by an Individual Required to be Trained in Accordance with Section 2.0, such as the WPCM or Project Manager.	\$750 per person for each missed training. This \$750.00 per person violation shall continue to accrue for each fourteen (14) day period that the person fails to timely receive the applicable training
Failure of WPCM to Review and Certify an Inspection Report in Accordance with Inspection Protocol as set forth in Section 6.	\$250 per inspection report not reviewed or signed.
Failure to Comply with Any NPDES SW Permit or SWPPP Requirement.	\$1000 per violation for the first ten (10) days of the violation; \$2500 per violation for days 11-20; \$3500 per violation for days 21 and beyond.
Failure to Correct a Stormwater Deficiency Identified in a MoDOT Inspection Report, or Otherwise Discovered by the WPCM, within the Time Required by the NPDES SW Permit or SWPPP.	\$1000 per deficiency for the first ten (10) days after correction was required; \$2500 per deficiency for days 11-20 after correction was required; \$3500 per deficiency for days 21 and beyond after correction was required.

**8.0 Information Collection and Retention.** The EPA, its representatives and its agents shall have the right of entry into any facility covered by this Consent Decree, at all reasonable times, upon presentation of credential, to:

- (a) monitor the progress of activities required under the Consent Decree;
- (b) verify any data or information submitted to the United States in accordance with the terms of the Consent Decree;
- (c) obtain samples and, upon request, splits of any samples taken by MoDOT or its representatives, contractors, or consultants;
- (d) obtain documentary evidence, including photographs and similar data; and
- (e) assess MoDOT's compliance with the Consent Decree.

**8.1** Until three (3) years after the termination of the Consent Decree, Contractors and the agents of the Contractors shall preserve all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its Contractors' or agents' possession or control, or that come into the Contractor's or agent's possession or control, and that relate to MoDOT's performance of its obligations under the Consent Decree or to the Contractor's performance of its obligations under the Consent Decree. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures.

**9.0 Basis of Payment.** Should the contractor disturb more than one (1) acre due to its method of operations, or for any other reason, no direct payment will be made for compliance with this provision, including the cost to provide a WPCM. Should the engineer direct the contractor to exceed one (1) acre of land disturbance, payment will be made only for the actual cost of the weekly duties of the WPCM. Separate payment will be made for erosion and sediment control devices, and for permanent and temporary seeding and mulching, when payment for those items are provided elsewhere in the contract.

P. Contractor Quality Control NJSP-15-42

**1.0** The contractor shall perform Quality Control (QC) testing in accordance with the specifications and as specified herein. The contractor shall submit a Quality Control Plan (QC Plan) to the engineer for approval that includes all items listed in Section 2.0, prior to beginning work.

**2.0 Quality Control Plan.**

- (a) The name and contact information of the person in responsible charge of the QC testing.
- (b) A list of the QC technicians who will perform testing on the project, including the fields in which they are certified to perform testing.
- (c) A proposed independent third party testing firm for dispute resolution, including all contact information.
- (d) A list of Hold Points, when specified by the engineer.
- (e) The MoDOT Standard Inspection and Testing Plan (ITP). This shall be the version that is posted at the time of bid on the MoDOT website ([www.modot.org/quality](http://www.modot.org/quality)).

**3.0 Quality Control Testing and Reporting.** Testing shall be performed per the test method and frequency specified in the ITP. All personnel who perform sampling or testing shall be certified in the MoDOT Technician Certification Program for each test that they perform.

**3.1 Reporting of Test Results.** All QC test reports shall be submitted as soon as practical, but no later than the day following the test. Test data shall be immediately provided to the engineer upon request at any time, including prior to the submission of the test report. No payment will be made for the work performed until acceptable QC test results have been received by the engineer and confirmed by QA test results.

**3.1.1** Test results shall be reported on electronic forms provided by MoDOT. Forms and Contractor Reporting Excel2Oracle Reports (CRE2O) can be found on the MoDOT website. All required forms, reports and material certifications shall be uploaded to a Microsoft SharePoint® site provided by MoDOT, and organized in the file structure established by MoDOT.

**3.2 Non-Conformance Reporting.** A Non-Conformance Report (NCR) shall be submitted by the contractor when the contractor proposes to incorporate material into the work that does not meet the testing requirements or for any work that does not comply with the contract terms or specifications.

**3.2.1** Non-Conformance Reporting shall be submitted electronically on the Non-Conformance Report form provided on the MoDOT Website. The NCR shall be uploaded to the MoDOT SharePoint® site and an email notification sent to the engineer.

**3.2.2** The contractor shall propose a resolution to the non-conforming material or work. Acceptance of a resolution by the engineer is required before closure of the non-conformance report.

#### **4.0 Work Planning and Scheduling.**

**4.1 Two-week Schedule.** Each week, the contractor shall submit to the engineer a schedule that outlines the planned project activities for the following two-week period. The two-week schedule shall detail all work and traffic control events planned for that period and any Hold Points specified by the engineer.

**4.2 Weekly Meeting.** When work is active, the contractor shall hold a weekly project meeting with the engineer to review the planned activities for the following week and to resolve any outstanding issues. Attendees shall include the engineer, the contractor superintendent or project manager and any foreman leading major activities. This meeting may be waived when, in the opinion of the engineer, a meeting is not necessary. Attendees may join the meeting in person, by phone or video conference.

**4.3 Pre-Activity Meeting.** A pre-activity meeting is required in advance of the start of each new activity, except when waived by the engineer. The purpose of this meeting is to review construction details of the new activity. At a minimum, the discussion topics shall include: safety precautions, QC testing, traffic impacts, and any required Hold Points. Attendees shall include the engineer, the contractor superintendent and the foreman who will be leading the new activity. Pre-activity meetings may be held in conjunction with the weekly project meeting.

**4.4 Hold Points.** Hold Points are events that require approval by the engineer prior to continuation of work. Hold Points occur at definable stages of work when, in the opinion of the engineer, a review of the preceding work is necessary before continuation to the next stage.

**4.4.1** A list of typical Hold Point events is available on the MoDOT website. Use of the Hold Point process will only be required for the project-specific list of Hold Points, if any, that the engineer submits to the contractor in advance of the work. The engineer may make changes to the Hold Point list at any time.

**4.4.2** Prior to all Hold Point inspections, the contractor shall verify the work has been completed in accordance with the contract and specifications. If the engineer identifies any corrective actions needed during a Hold Point inspection, the corrections shall be completed prior to continuing work. The engineer may require a new Hold Point to be scheduled if the corrections require a follow-up inspection. Re-scheduling of Hold Points require a minimum 24-hour advance notification from the contractor unless otherwise allowed by the engineer.



**5.0 Quality Assurance Testing and Inspection.** MoDOT will perform quality assurance testing and inspection of the work, except as specified herein. The contractor shall utilize the inspection checklists provided in the ITP as a guide to minimize findings by MoDOT inspection staff. Submittal of completed checklists is not required, except as specified in 5.1.

**5.1** Inspection and testing required in the production of concrete for the project shall be the responsibility of the contractor. Submittal of the 501 Concrete Plant Checklist is required.

**6.0 Basis of Payment.** No direct payment will be made for compliance with this provision.

Q. MoDOT's Construction Workforce Program NJSP-15-17A

**1.0 Description.**

**1.1** Projects utilizing federal funds include contract provisions for minority and female workforce utilization in the various trade crafts used to complete construction contracts. These federal contract workforce goals are described in the section labeled "Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity". These goals are included in all MoDOT federal aid contracts and are under the authorization and enforcement of the U.S. Department of Labor (US DOL).

**1.2** The Federal workforce requirement (Goals – TABLE 1) is authorized in 41 CFR Part 60-4 and Executive Order 11246 which set Equal Employment Opportunity goals with Affirmative Action requirements.

**1.3** The required federal aid workforce provisions noted above, coupled with the following additional contract provisions, constitute MoDOT's Construction Workforce Program herein called Program.

**1.4** This provision does not require pre-qualification nor is it a condition of award.

**1.5** The Program does not eliminate or limit any actions the US DOL may take in relation to this contract's federal provisions.

**1.6** The Program goals included in the contract are separate from any Disadvantaged Business Enterprise (DBE) or On-The-Job (OJT) training provision that may be included as contract provisions. DBE and OJT goals may or may not be included in a contract based on the individual size of contracts, type of contract work, anticipated length of contract, available and willing resources or other reasons.

**1.7** Contractor, for the purpose of this provision, means the prime contractor and any and all subcontractors.

**1.8** It is expected that the contractor recognizes the construction workforce goals for both minority and female workers in the project's county and make efforts to attain those goals, if possible, through the existing workforce makeup of the prime (including subcontractors) that will be on the project and/or through hiring opportunities that may arise for the project. However, it is not the intent of this provision to compel any contractor to displace existing workforce or move workers around to just meet the workforce goals.

**1.9** If the contractor's existing Missouri construction workforce meets or exceeds the federal workforce goals established in Table 1, then the OJT goal (Training Provision) if included in the contract, does not be apply.

**1.10 Contractor's Workforce Plan.** The Contractor shall submit its Workforce Plan a minimum of 1 week before construction starts. One plan shall be submitted for the project that shall include the cumulative planned workforce of the prime and subcontractor(s). The contractor shall prepare the plan, for total minority and female utilization, regardless of the craft. The Engineer will provide the Contractor with comments regarding their Workforce Plan prior to the start of construction. Once work starts, all monthly reporting shall include the craft of each worker reported. If the contractor's plan includes project manager, direct project support roles, project testers or other project professionals, these designations should also be included in addition to the workers designated by craft such as laborer, operator, carpenter, ironworker and others.

**1.11** The plan accepted by the engineer before the start of construction will be the effort expected of the prime contractor to maintain during the life of the project.

**1.12** If the contractors planned project workforce plan (including OJT hours if included in the contract) is short of the goals included in Table 1, there is opportunity for the contractor to receive a reimbursement of \$10.00 / hour for any new project minority and female hires needed through the remainder of the project. The reimbursement is applicable to work that qualifies for prevailing wage under the federal Davis-Bacon Act, [40 U.S.C. §§ 3141–3148](#), in accordance with an approved workforce plan. Any reimbursement must be pre-approved by the Engineer. The reimbursement is provided as a remedy to the contractor and as an aid in the long-term growth of experienced persons in the building of roads and bridges in Missouri. The contractor shall manage the plan through the life of the project as described in the plan or as modified, in coordination with the Engineer. The total amount available per project is not capped.

**1.13** The Contractor's workforce plan may include existing construction support and professional services staff.

**2.0 Forms and Documentation.** The bidder must submit the following documents if awarded the contract:

**Cumulative Workforce Utilization Reports.** This report is contract specific. One report shall be submitted to the Engineer by the 15<sup>th</sup> of each month. The report will be used to report the total workforce compliance data for the prime contractor and all subcontractors retained by the contractor on the Commission's construction contract. The reporting shall include the workforce hours per each craft broken down by gender and ethnicity. Construction Support, testing and other professional services hours shall be included as these hours are part of the overall plan. The report will include the previous month's hours worked for the project. For projects less than 60 days in length, only one report with total hours worked by classification is required at substantial completion of construction.

**3.0 Methods for Securing Workforce Participation and Good Faith Efforts.**

**3.1** By submitting a bid, the Bidder agrees, as a material term of the contract, to carry out MoDOT's Construction Workforce Program by making good-faith efforts to utilize minority and female workers on the contractor's job sites to the fullest extent consistent with submitting the lowest bid to MoDOT. The Bidder shall agree that the Program is incorporated into this document and agree to follow the Program. If a bidder is unable to meet the workforce goals at the time of bid, it shall be required to objectively demonstrate to MoDOT that the goals have been met or demonstrate a good faith effort has been made with the level of effort submitted prior to the start of construction.

**3.2** The Engineer, through consultation with MoDOT's External Civil Rights (ECR's) Division, may determine that the contractor has demonstrated that good-faith efforts to secure minority and female participation have been made.

**3.3** In evaluating good-faith efforts, the ECR's Division will take into consideration the affirmative actions listed in the Federal Provisions (including provisions of Executive Order 11246).

**3.4** MoDOT's Program allows the contractor flexibility to implement a project specific workforce and improve the diversity of their existing workforce that can be utilized across various areas of the state to meet future MoDOT Program goals and Federal Provisions.

**3.5** If the contractor's approved plan changes during the project and/or the available workforce changes from what is approved at any time, it is the contractor's responsibility to remedy, in coordination with MoDOT's ECR Division, the conditions as outlined and made available through this provision.

**4.0 Compliance Determination. (Required with project closeout)** All documentation and on-site information will be reviewed by MoDOT's ECR Division in making a determination of whether the contractor made sufficient good faith efforts to meet the compliance with MoDOT's Construction Workforce Program.

**5.0 Liquidated Damages.** If the contractor elects to not submit a workforce plan prior to work starting or fails to fulfill their workforce plan committed to prior to the start of construction, the contractor will be required to establish a good-faith effort determination, as to why either of these events occurred. MoDOT may sustain damages, the exact extent of which would be difficult or impossible to ascertain, as this impacts the cost of future road and bridge construction. Therefore, in order to liquidate those damages, MoDOT shall be entitled, at its sole discretion, to deduct and withhold the following amounts: **The sum of one thousand five hundred (\$1,500)**

**6.0 Administrative Reconsideration.** The contractor shall be offered the opportunity for administrative reconsideration upon written request related to findings and/or actions determined by MoDOT's ECR's Division. The Administrative Reconsideration Committee shall be composed of individuals not involved in the original MoDOT determination(s).

**7.0 Available Pre-Apprentice Training Programs.** The Commission has established a labor force recruiting program intended to assist contractors in identifying, interviewing and hiring qualified job applicants. MoDOT strongly encourages the hiring of individuals from the MoDOT funded pre-apprentice training programs.

**8.0 Independent Third-Party Compliance Monitor (Monitor).** MoDOT may utilize a monitor that will be responsible for tracking the project's workforce utilization for the information the contractor submits. The contractor and its subcontractors shall allow the monitor access to their reports, be available to answer the monitor's questions and allow the monitor to access to the site and to contractor and subcontractor employees. The monitor shall abide by the contractor's project site protocols.

**9.0 Regional Diversity Council (Council).** (Applicable to the Kansas City and St. Louis District regions only) The Council shall consist of local community leaders, leadership of local construction trades, MoDOT staff, Industry representation, and a representative(s) from the Federal Highway Administration. The Council will meet quarterly and evaluate the workforce activity per each project according to the following criteria:

- a. Review monthly workforce reports.
- b. Review progress toward the stated project workforce program.
- c. Review findings of Administrative Reconsideration hearings.
- d. Recommend *other* workforce actions to MoDOT.

## 10.0 Federal Workforce Goals.

Female Participation for Each Trade is 6.9% Statewide for Missouri.

Minority Participation for Each Trade is shown below in Table 1.

**TABLE 1:**

County	Goal (Percent)	County	Goal (Percent)
Adair	4	Linn	4
Andrew	3.2	Livingston	10
Atchison	10	McDonald	2.3
Audrain	4	Macon	4
Barry	2.3	Madison	11.4
Barton	2.3	Maries	11.4
Bates	10	Marion	3.1
Benton	10	Mercer	10
Bollinger	11.4	Miller	4
Boone	6.3	Mississippi	11.4
Buchanan	3.2	Moniteau	4
Butler	11.4	Monroe	4
Caldwell	10	Montgomery	11.4
Callaway	4	Morgan	4
Camden	4	New Madrid	26.5
Cape Girardeau	11.4	Newton	2.3
Carroll	10	Nodaway	10
Carter	11.4	Oregon	2.3
Cass	12.7	Osage	4
Cedar	2.3	Ozark	2.3

Chariton	4	Pemiscot	26.5
Christian	2	Perry	11.4
Clark	3.4	Pettis	10
Clay	12.7	Phelps	11.4
Clinton	10	Pike	3.1
Cole	4	Platte	12.7
Cooper	4	Polk	2.3
Crawford	11.4	Pulaski	2.3
Dade	2.3	Putnam	4
Dallas	2.3	Ralls	3.1
Daviess	10	Randolph	4
DeKalb	10	Ray	12.7
Dent	11.4	Reynolds	11.4
Douglas	2.3	Ripley	11.4
Dunklin	26.5	St. Charles	14.7
Franklin	14.7	St. Clair	2.3
Gasconade	11.4	St. Francois	11.4
Gentry	10	Ste. Genevieve	11.4
Greene	2	St. Louis City	14.7
Grundy	10	St. Louis County	14.7
Harrison	10	Saline	10
Henry	10	Schuyler	4
Hickory	2.3	Scotland	4
Holt	10	Scott	11.4
Howard	4	Shannon	2.3
Howell	2.3	Shelby	4
Iron	11.4	Stoddard	11.4
Jackson	12.7	Stone	2.3
Jasper	2.3	Sullivan	4
Jefferson	14.7	Taney	2.3
Johnson	10	Texas	2.3
Knox	4	Vernon	2.3
Laclede	2.3	Warren	11.4
Lafayette	10	Washington	11.4
Lawrence	2.3	Wayne	11.4
Lewis	3.1	Webster	2.3
Lincoln	11.4	Worth	10
		Wright	2.3

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION  
CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)**

This contractor and subcontractor shall abide by the requirements of 41 CFR 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability or veteran status.

As used in these specifications:

"Minority" includes;

- (i) Black (all person having origins in any of the Black African racial groups not of Hispanic origin);
- (ii) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish Culture or origin, regardless of race);
- (iii) Asian and pacific islander (all persons having origins in any of the original peoples of the Far East, southeast Asia, the Indian Subcontinent, or the Pacific Islands; and
- (iv) American Indian or Alaskan Native (all persons having origins in any of the original peoples of North American and maintaining identifiable tribal affiliations through membership and participation or community identification).

R. Liquidated Damages for Winter Months JSP-04-17

**1.0 Description.** Revise Sec 108.8.1.3 (a) and (b) and substitute the following for the project:

- (a) Liquidated damages will be assessed from December 15 to March 15
- (b) Liquidated damages will be assessed for Saturdays, Sundays and Holidays.

S. Slurry and Residue Produced During Surface Treatment of PCCP and Bridge Decks  
JSP-06-05

**1.1 Description.** This work covers the requirements for controlling residue or slurry produced by milling, grinding, planing, grooving or other methods of surface treatments on new or existing PCCP and bridge decks in addition to Section 622.

**2.0 Construction Requirements.** The following shall be considered the minimum requirements for performing this work within the project limits.

**2.1** The contractor shall submit to the Engineer for approval in writing prior to the pre-construction meeting, the best management practices (BMP's) to be used to protect the environment, including the method of disposal of the residue whether on right of way or off-site.

**2.2** Prior to starting work, slurry or residue "no discharge zones" will be identified by the Engineer with respect to the contractor's approved BMP and residue disposal plan.

**2.3** Operations may be suspended by the Engineer during periods of rainfall or during freezing temperatures.

**2.4** When slurry is dispersed on the right of way, BMP's shall be installed to keep slurry residue from entering drainage structures, from entering any waterways and from leaving the right of way.

**3.0 Basis of Payment.** No direct payment for slurry or residue control requirements for BMP's will be made. Compliance with this specification along with the cost of all materials, labor and equipment necessary for the surface treatment work shall be included in and completely covered by the unit price bid for each of the items of work for surface treatment included in contract.

T. Site Restoration

**1.0 Description.** The contractor shall restore, to its original condition, any disturbed areas at sites including, but not limited to, pavement markings, guardrail, sidewalk, ramp, bus stop pad, sprinklers, pull box, conduit, pole base installations, and the Valley Park Levee Trail. Restoration shall be accomplished by placing material equivalent to that of the adjacent undisturbed area. Disturbed unpaved areas shall be fertilized and seeded as directed by the engineer. The engineer will have the final authority in determining the acceptability of the restoration work.

**2.0 Materials.** Any areas of concrete paved ditch, pavement and shoulders as well as any similar improvements shall be replaced with improvements of similar composition and thickness. Removals shall be achieved by means of full depth saw cut, the resulting subgrade compacted to minimum density requirements and topped with 4 inches of compacted aggregate base course prior to replacement of surface materials. Concrete materials used in replacement shall be approved by the engineer. A commercial asphalt mix may be used for replacement of asphaltic surfacing upon approval of the engineer.

**2.1** Unless quantities and pay items for removal and subsequent replacement of improvements are contained in the plans for a specific location of removal work, no direct payment will be made for full depth saw cutting and the removal and subsequent replacement of asphalt, pavement, shoulders, etc. This work will be considered as included in the various unit bid prices established in the contract, and no additional payment will be made.

**2.2** Sidewalks and sidewalk ramps that are disturbed as described in this provision shall be replaced to meet current ADA standards.


**2.3** If the contractor elects and receives approval from the engineer for alternate trench and/or pull box locations, any areas of concrete slope protection, sidewalk, pavement, shoulders, islands and medians – as well as any similar improvements consisting of asphaltic concrete materials – removed in conjunction with their construction shall be replaced with improvements of similar composition and thickness. Removals shall be achieved by means of full depth saw cuts, the resulting subgrade compacted to minimum density requirements and topped with 4 inches of compacted aggregate base course prior to replacement of surface materials. Concrete materials used in replacement, shall be approved by the engineer. A commercial asphalt mix may be used for replacement of asphaltic surfacing upon approval of the Engineer.

**3.0 Basis of Payment.** No direct payment will be made for any materials or labor, which is performed under this provision.



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- G. Rapid Set Concrete Patching Material – Horizontal Repairs

 <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	<p><b>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</b> 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65101 Phone (888) 275-6636</p>
	<p>If a seal is present on this sheet, JSP's has been electronically sealed and dated.</p>
	<p>JOB NO. J6P3200 St. Louis County, MO Date Prepared: 9/10/2018</p>

**A. CONSTRUCTION REQUIREMENTS**

**1.0 Description.** This provision contains general construction requirements for this project.

**2.0 Construction Requirements.** Plans for the existing structure(s) are included in the contract in the bridge electronic deliverables zip file for informational purposes only.

**2.1** In order to assure the least traffic interference, the work shall be scheduled so that a lane closure is for the absolute minimum amount of time required to complete the work. A lane shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane is opened to traffic.

**2.2** Bridge work by contractor forces, including erection, rehabilitation, or demolition, shall not be allowed over traffic unless a bridge platform protection system is installed below the work area except for work performed above a deck that is intact. The protection system shall be capable of catching all falling objects such as tools, overhang brackets or materials. Lifting of objects that are heavier than the capacity of the bridge protection system shall not be allowed.

**2.3** Qualified special mortar shall be a qualified rapid set concrete patching material in accordance with [Sec 704](#). A qualified rapid set concrete patching material will not be permitted for repairing concrete deck (half-soling), deck repair with void tube replacement, full depth repair, modified deck repair and substructure repair (formed) unless a note on the bridge plans specifies that a qualified special mortar may be used.

**2.4** Provisions shall be made to prevent any debris and materials from falling into the stream, lake or onto the roadway. Any debris and materials that falls below the bridge outside the limits mentioned previously and if determined necessary by the engineer, the debris shall be removed as approved by the engineer at the contractor's expense. Traffic under the bridge shall be maintained in accordance with the contract documents.

**2.5** Any damage sustained to the remaining structure as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

**2.6** Provisions shall be made to prevent damage to any existing utilities. Any damage sustained to the utilities as a result of the contractor's operations shall be the responsibility of the contractor. All costs of repair and disruption of service shall be as determined by the utility owners and as approved by the engineer.

**2.7** The contractor shall provide steel plates over any unprotected open excavation/area in the bridge deck during non-working hours and in areas where work is not active. The plates shall be 3/4 inch (20 mm) thick. The plates shall extend 12 to 18 inches (300 to 460 mm) each side of the opening and cover the full width of work. The contractor shall bevel all edges to a slope no steeper than 3H:1V. The driving surface shall be treated for skid resistance, either by surface deformation or direct application of a friction course, and delineated as shown in the plans. The plates shall be securely affixed to the deck using concrete anchors or through bolts. The contractor may also secure the plate by attaching it to the superstructure or substructure. However, nothing shall be welded or bolted to these elements. The method of attachment shall be approved by the engineer. Any damage to the deck, superstructure, or substructure as a result of this work shall be repaired, as approved by the engineer, at the contractor's expense.

**2.8** A washer shall be required under head and nut when any reaming is performed for bolt installation.

**2.9** SSPC-SP2 and SSPC-SP-3 surface preparation shall be in accordance with the environmental regulations in [Sec 1081](#) and collection of residue shall be in accordance with [Sec 1081](#) for collection of blast residue. SSPC-SP6, SSPC-SP10 and SSPC-SP-11 surface preparation shall be in accordance with the approved blast media and environmental regulations in [Sec 1081](#) and collection of blast residue shall be in accordance with [Sec 1081](#).

**2.10** The contractor shall schedule the substructure repairs as one of the first order of work so that the fiber reinforced polymer wrap (FRP) for shear strengthening can be installed as required by job special provision for this work.

### **3.0 Coating Information.**

**3.1 Straps Removal.** Exposed portions of straps for stay-in-place forms shall be removed prior to surface preparation. Straps need not be removed in areas that are not being painted. Flame cutting will not be permitted. The contractor shall exercise care not to damage the existing structure during removal. Any damage sustained to the remaining structure as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

**3.2 Slab Drains and Stay-In-Place Forms.** The stay-in-place forms, the slab drains and slab drain brackets shall not be recoated or overcoated or damaged during the painting operation. Any portion of the slab drain bracket that is blast cleaned shall be recoated with System G. Any damage sustained as a result of the contractor's operations shall be repaired or the material replaced as approved by the engineer at the contractor's expense.

**3.3 Existing Bridge Information.** The informational plans may be used by bidders in determining the amount of steel to be cleaned and painted/coated with the full understanding that the State accepts no responsibility for accuracy of the estimated tons of existing steel shown in the table below. The bidder's acceptance and use of the estimate shown below shall be no cause for claim for any final adjustment in the contract unit price for the work involved in repainting. Each bidder is expected to carefully examine the structure(s), investigate the condition of existing paint and to prepare their own estimate of quantities involved before submitting a bid. Surface preparation and applying field coatings to the structural steel will be based on the contract plan quantities. No final measurements will be made.

Bridge No.	Estimated Tons			Existing Paint System	Lead Based
	Coating System		Total		
	System G	Calcium Sulfonate			
A39983	451	0	451	C & H	Yes

**3.4 Environmental Contact.** Environmental Section may be contacted at the below address or phone number. The Missouri Department of Health may be contacted at 573-751-6102.

(a) MoDOT - Design Division - Environmental Section  
PO Box 270  
105 W Capitol Ave, Jefferson City, MO 65102  
Telephone (573) 526-4778

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**3.5 Approved Smelter and Hazardous Waste Treatment, Storage and Disposal Facility.**

The following is the approved smelter and hazardous waste treatment, storage and disposal facility:

Doe Run Company-Resource Recycling Division-Buick Facility  
Highway KK  
Boss, MO 65440  
Telephone 573-626-4813

**4.0 Navigation Requirements.**

**4.1** All work shall be performed so that the free flow of navigation is not unreasonably interfered with, the navigable depths are not impaired and navigation lighting is visible at all times. Any floating equipment or vessels working in the channel shall display lights and signals as required by the current "Handbook of Missouri Boating Laws and responsibilities" available on the Missouri Water Patrol web site. If scaffolding or nets are suspended below low steel in the navigation span, the engineer shall be advised so that the temporary reductions in clearance for river traffic can be checked for reasonableness and appropriate notices can be published. Positive precautions shall be taken to prevent the accidental dropping spark producing, flame producing, lighted or damaging objects from falling onto barges or vessels passing beneath the bridge. All flame cutting, welding or other similar spark producing operations shall be ceased over the channel when vessels are passing beneath the bridge.

**4.2** The contractor shall be responsible for submitting a work plan to the engineer for review. When the engineer is in concurrence with the work plan, the engineer will forward the material to the appropriate agency or agencies for approval.

**5.0 Method of Measurement.** No measurement will be made.

**6.0 Basis of Payment.** Payment for the above described work will be considered completely covered by the contract unit price for other items included in the contract.

**B. CLEAN AND EPOXY SEAL**

**1.0 Description.** In order to protect the bridge concrete from deicing chemicals and other contaminates, loose and delaminated concrete shall be removed and an epoxy seal shall be applied to the concrete in the areas as shown on the bridge plans.

**2.0 Construction Requirements.** All loose and delaminated concrete in the areas as required by this job special provision shall be removed in the cleaning process with hand tools. Hand tools may include chipping chisels, wire brushes, dust brushes, etc. After the loose and delaminated concrete has been removed to the satisfaction of the engineer, the epoxy sealing preparation and applying the epoxy to these areas shall be in accordance with [Sec 704](#). The areas to be cleaned and epoxy sealed shall be as shown on the bridge plans:

**3.0 Method of Measurement.** The area to be cleaned and epoxy sealed will be computed to the nearest square foot. Final measurement will not be made except for authorized changes during construction or if appreciable errors are found in the contract quantity.

**4.0 Basis of Payment.** Payment for the above described work, including all material, equipment, labor and any other incidental work necessary to complete this item, will be based

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on the contract plan quantities and will be considered completely covered by the contract unit price for "Clean and Epoxy Seal". Any change in the contract plan quantities, based on approved change orders, will be paid for at the contract unit price.

C. EPOXY POLYMER CONCRETE OVERLAY

**1.0 Additional Job Specific Requirements.**

**1.1 Aggregate.** Only light-colored cover aggregate (i.e. flint rock or similar) that meets the requirements of MO Standard Spec 1039 shall be used on this job. No dark cover aggregate (i.e. coal slag) will be allowed.

**1.2 Deck Preparation.** The method of deck preparation chosen by the contractor must be submitted in writing to the engineer for approval. It shall be noted that there may be cracks in the deck surfaces that have been treated prior with a bituminous based crack sealer (Pavon Indeck). There is potential for residual sealer on the deck surfaces near these cracks. The chosen approved deck preparation method must be able to remove this material and any debris from the entire deck including: within tining grooves, deck grooves, gutter lines or any other areas that have trapped this material. Removal shall be to the satisfaction of the engineer. It is the responsibility of the contractor to make note of the deck conditions prior to bidding.

D. STRUCTURAL STEEL REQUIREMENTS

**1.0 Description.** This provision contains general structural steel requirements for this project.

**2.0 Material.** All material shall be in accordance with Division 1000, Material Details, and specifically as shown below. The gray epoxy-mastic primer (non-aluminum) shall be compatible with concrete and produce a dry film thickness of no less than 3 mils (75 µm).

Item	Section
Structural Steel Construction	<a href="#">712</a>
Gray Epoxy-Mastic Primer (non-aluminum)	<a href="#">1045</a>
Structural Steel Fabrication	<a href="#">1080</a>
Coating of Structural Steel	<a href="#">1081</a>

**3.0 Construction Requirements.**

**3.1** Before fabrication of new metalwork, the contractor shall make the necessary measurements in the field to verify dimensions of the existing structure where new members are affected. Any deviation of the dimensions shown on the plans shall be called to the engineer's attention. The contractor shall be responsible for developing all required dimensional adjustments and coordinating the implementation of the dimensional adjustments with all involved fabricators and subcontractors.

**3.2** Prior to erection of the new structural steel, the steel that is to remain shall be carefully inspected for irregularities. If such irregularities are found, the irregularities shall be brought to the attention of the engineer.

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**3.3** Holes in the new steel plates and angles may be used as a template for drilling the holes in the existing material.

**3.4** A minimum edge distance shall be maintained for all field drilled holes. The minimum edge distance for bolts shall be as shown in table below measured from the centerline of holes.

<b>Bolt Diameter</b>	<b>Minimum Edge Distance</b>
<b>inch (mm)</b>	<b>inch (mm)</b>
3/4 (19.0)	1-1/4 (32)
7/8 (22.2)	1-1/2 (38)
1 (25.4)	1-3/4 (45)

**3.5** The surfaces of existing steel that will become faying surfaces for new connections shall be cleaned according to the manufacturer's recommendation and with a minimum of SSPC-SP-3 surface preparation and coated with one prime coat of Gray Epoxy-Mastic Primer (non-aluminum) in accordance with [Sec 1081](#).

**3.6** Exposed girder areas that are not a faying surfaces or not covered by concrete that are scratched, damaged by the contractor or by field welding operations shall be touched up with Gray Epoxy-Mastic Primer (non-aluminum) in accordance with [Sec 1081](#).

**4.0 Method of Measurement.** No measurement will be made.

**5.0 Basis of Payment.** Payment for the above described work will be considered completely covered by the contract unit price for the structural steel items included in the contract. No payments or adjustments will be made where new members are affected due to any deviation of the dimensions shown on plans or shop drawings.

**E. FRP PILE JACKETING SYSTEM**

**1.0 Description.** This work shall consist of providing and installing a fiber reinforced polymer (FRP) pile jacketing system for all piles at bents 2 and 5 on Bridge No. A40651 in accordance with this specification and the manufacturer's requirements. Denso North America Fiber-Form, Simpson Strong-Tie FX-70 and Five Star PileForm F pile jacketing system are pre-approved. If the contractor wants to propose a non-listed manufacturer that is considered to provide an equivalent level of quality, this manufacturer shall be identified and supporting testimony provided. Acceptance of the manufacturer as a substitute is at the discretion of the engineer. It is our intent that the installation of the pile jacketing system will not require dewatering of the piling.

**2.0 Materials.** All materials for the pile jacket system shall be per the manufacturer's specification. There shall be no mixing of components from different pile jacketing systems. Materials shall be clearly labeled and delivered in factory-sealed containers with the manufacturing dates and shelf lives easily identifiable.

**2.1 Pile Jacket.** Pile jacket shall be made of FRP and be an H shape to minimize the amount of grout usage. The jacket size shall be per the manufacturer's specification for HP 10x42 steel piles. The jacket must provide for water tight sealing of the grout material for long term protection of the repair. The jacket shall use spacers to provide proper spacing and alignment of the jacket to the pile.

**2.2 Fasteners.** All fasteners shall be stainless steel.

**2.3 Grout Material.** The grout filler for the pile jacket system shall be a marine grade epoxy grout that can be placed under water. The grout shall be poured to the top of jacket while displacing any water that may be in the jacket at the time of pouring. Injections ports and pumping may be needed to facilitate grout placement. The grout shall be finished with a bevel that will drain water away from the pile.

**2.4 Epoxy Sealer.** An epoxy sealer shall be applied to the finished grouted surface at the top and bottom (if exposed) of the jacket and pile interface to assure a water tight seal. The sealer shall overlap the jacket and pile. This epoxy sealer shall be in accordance with Sec 1059.20.

**3.0 Construction Requirements.** A representative of the manufacturer shall be present at the time of installation to assure that the surface conditions, materials and installation procedures meet the manufacturer's requirements.

**3.1 Extent of Repair.** The pile jacket shall extend to the same height as the alternate concrete encasement, as detailed in the contract plans.

**3.2 H-Pile Deterioration.** During surface preparation of the pile, the contractor shall report to the engineer any areas where the pile has more than 50% section loss. At that point, all work on that pile shall stop until the engineer has approved a repair method. The repair shall be paid for by force account.

**3.3 Surface Preparation.** The area of the pile to be jacketed shall be cleaned in accordance with Sec 1081.5 including power washing and hand tool cleaning.

**4.0 Method of Measurement.** No measurement will be made.

**5.0 Basis of Payment.** Payment for the above described work, including all material, equipment, labor and any other incidental work necessary, will be considered completely covered by the contract unit price for Pile Encasement.

## **F. RAPID SET CONCRETE PATCHING MATERIAL – VERTICAL AND OVERHEAD REPAIRS**

**1.0 Description.** This specification covers cementitious concrete, polymer-modified concrete and polymer concrete that are suitable for repairing concrete surfaces on bridges or concrete structures, particularly under fast setting or special conditions. The repairs would involve vertical or overhead applications. The work shall consist of removing, furnishing, preparing, and placing materials at locations as shown on the plans or as directed by the engineer.

**2.0 Material.** All materials shall be in accordance with MoDOT specifications and as noted herein.

**2.1 Aggregate For Extending Commercial Mixture.** Coarse and fine aggregates shall be in accordance with [Sec 1005](#), except the requirements for gradation and percent passing the No. 200 sieve shall not apply. Coarse aggregate meeting Gradation E requirements shall be used for repairs greater than one inch (25 mm) in depth. Fine aggregate will be allowed for repairs less than one inch (25 mm). Aggregate specified, bagged, labeled and furnished by the rapid set concrete patching material manufacturer may also be used for mortar extension.

**2.2 Material Applications.** The contractor shall select and use the product most suitable for the work and field conditions in accordance with these specifications.

**2.3 Curing.** Rapid set concrete patching material shall be cured until the minimum compressive strength 1500 psi is attained using standard curing specifications, unless otherwise specified by the manufacturer.

**2.4 Qualification and Project Acceptance.**

**2.4.1 Inspection.** All materials shall be subject to inspection and sampling by MoDOT at the source of manufacture, intermediate shipping terminal or destination. MoDOT will be allowed free access to all facilities and records as required to conduct inspection and sampling.

**2.4.2 Qualification.** Prior to use, rapid set concrete patching materials need to be qualified.

**2.4.2.1 Requested Information.** The manufacturer shall submit with samples of the materials, a written request to Construction and Materials with the following information:

- (a) New Products Evaluation Form
- (b) Brand name of the product.
- (c) Certification that the material meets this specification.
- (d) Certified test results from an independent laboratory showing compliance with this specification.
- (e) Specific preparation instructions of repair area.
- (f) Specific mixing, handling and curing instructions.
- (g) Application type (i.e., vertical or overhead).

**2.4.2.2 Field Evaluation.** Final approval will be granted when the following requirements are met:

- (a) MoDOT report documenting two years of field performance on MoDOT system. The report will contain the placement date, field observations (semi annual), description of field performance and photographs of in-place material.
- (b) A manufacturer's representative shall be present during placement of the material to provide technical expertise.

**2.4.2.2.3 Disqualification.** If during the two year observation period the repair area(s) fails the product will not be added to the qualified list.

**2.5 Qualified List.** The listing of qualified products are available from Construction and Materials or on MoDOT's web site. New certified test results and samples shall be submitted any time the manufacturing process or the material formulation is changed. The material will be subject to removal from the qualified list if there is evidence of unsatisfactory performance or a change in manufacturing process or formulation, or when random sampling and testing of material offered for use indicates nonconformity with any of the requirements herein specified.



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**2.6 Certification.** The contractor shall supply a manufacturer's certification to the engineer for each lot of material furnished. The certification shall include the name of the manufacturer, a manufacturer certification statement that the material supplied is the same as that qualified and listing the date of qualification.

**2.7 Acceptance.** Acceptance of the material will be based on the use of a qualified product, the manufacturer's certification that the material supplied is the same as that approved and upon the results of such tests as may be performed by the engineer.

**3.0 Mixture.** Unless otherwise specified, rapid set concrete patching material shall be approved commercial mixtures meeting [Sections 3.1 – 3.1.3.](#) Rapid set concrete patching materials shall be specifically designed for the application needed.

**3.1 Commercial Mixtures.** Rapid set concrete patching material in its sacked form and mixtures when properly prepared in accordance with the manufacturer's specifications, shall meet the minimum test requirements given in Table 1. Mixtures may be supplied, as required, as a patching mortar or as a patching mortar with aggregate extension. If the material is to be supplied with extender aggregate, this shall also pass the required tests in Table 1 using the maximum allowed amount of extender aggregate.

**3.1.1 Mixture Requirements.** Rapid set concrete patching material shall be single packaged dry mix requiring the addition of water or other liquid component just prior to mixing. The material shall not contain soluble chlorides as an ingredient of manufacture. The material shall be placed in accordance to the manufacturer's recommendations.

<b>Table 1 (English Unit)</b>				
<b>Physical Test Property</b>	<b>Specification</b>	<b>Requirement for cementitious concrete</b>	<b>Requirement for polymer-modified concrete</b>	<b>Requirement for polymer concrete</b>
Bond Strength by Slant Shear	ASTM C882/C928 <sup>2</sup>	min. 1000 psi @ 24hrs. & min. 1500 psi @ 7 days	n/a	min. 1000 psi @ 24hrs. & min. 1500 psi @ 7 days
Linear Coefficient of Thermal Expansion <sup>1</sup> (for bagged mortar only, without extension aggregate)	ASTM C531	n/a	n/a	4 – 8 X 10-6 in/in/deg F
Resistance to Rapid Freezing & Thawing	AASHTO T161 or ASTM C666	80% min. using Procedure B <sup>3</sup> (300 Cycles)	80% min. using Procedure B <sup>3</sup> (300 Cycles)	n/a
Compressive Strength	AASHTO T22 or ASTM C39	1500 psi @ 3 hr & 3000 psi @ 24 hr	1500 psi @ 3 hr & 3000 psi @ 24 hr	n/a
Rapid Chloride Permeability	AASHTO T277 or ASTM C1202	1000 coulombs @ 28 days	1000 coulombs @ 28 days	1000 coulombs @ 28 days
Length Change	AASHTO T 160 or	In water Storage	In water storage	

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Job No J6P3200  
Route 141  
St. Louis County

	ASTM C157	(+0.15) In air storage (-0.15)	(+0.15) In air storage (-0.15)	n/a
Color		gray	gray	gray

<sup>1</sup> Not required for extended mixtures if the mortar passes this requirement.

<sup>2</sup> ASTM C882 shall be performed on non-water based materials. ASTM C928 shall be performed on water-based materials.

<sup>3</sup> Procedure A may be used in lieu of Procedure B

**3.1.2 Construction Requirements.** The manufacturer shall provide with the bagged mixture, specifications for the mixing procedure, amount and kind of liquid to be added, and the amount of aggregate extension allowed, if any. All mixing, handling and curing practices recommended by the manufacturer shall be followed and will be considered a part of these specifications.

**3.1.3 Removal from Qualified List.** All mixtures shall be approved before use. Reoccurring failures of any mixture for any reason will be cause for removal from the qualified list.

**3.2 Vertical Repair..** A qualified rapid set concrete patching material approved for vertical use may be used when specified on the plans and as approved by the engineer. The engineer will make field cylinders to verify the 1500 psi (10 MPa) minimum strength. The material shall adhere to the concrete surface without sagging.

**3.3 Overhead Repair.** A qualified rapid set concrete patching material approved for overhead use may be used when specified on the plans and as approved by the engineer. The material shall be placeable in layers of at least 1 inch on overhead applications without the use of formwork or anchoring devices. The material shall adhere to the concrete surface without sagging. The engineer will make field cylinders to verify the 1500 psi (10 MPa) minimum strength.

#### **4.0 Construction Requirements.**

**4.1 Mixing.** Rapid set concrete patching material shall be mixed and finished according to the manufacturer's recommendation.

**4.2 Preparation of Repair Area.** Deteriorated, damaged or defective concrete as shown on the plans, required by the specifications or as directed by the engineer, shall be removed. All exposed reinforcement shall be thoroughly cleaned as shown on the plans, required by the specifications or as directed by the engineer. Unless otherwise specified by the commercial mixture manufacturer, the existing surface shall be damp and all free water shall be removed prior to placement of the required material.

**4.3 Bonding Agent.** A bonding agent may be used if recommended by the rapid set concrete patching material manufacturer.

**5.0 Method of Measurement.** No measurement will be made for rapid set concrete patching material.

**6.0 Basis of Payment.** Rapid set concrete patching material will be paid for at the contract unit price for other items and will be considered full compensation for all labor, equipment and material to complete the described work.

**G. RAPID SET CONCRETE PATCHING MATERIAL – HORIZONTAL REPAIRS**

**1.0 Description.** This specification covers cementitious concrete, polymer-modified concrete and polymer concrete that are suitable for repairing concrete surfaces on bridges or roadways, particularly under fast setting or special conditions. The repairs would involve horizontal applications. The work shall consist of removing, furnishing, preparing, and placing materials at locations as shown on the plans or as directed by the engineer.

**2.0 Material.** All materials shall be in accordance with MoDOT specifications and as noted herein.

**2.1 Aggregate For Extending Commercial Mixture.** Coarse and fine aggregates shall be in accordance with [Sec 1005](#), except the requirements for gradation and percent passing the No. 200 sieve shall not apply. Coarse aggregate meeting Gradation E requirements shall be used for repairs greater than one inch (25 mm) in depth. Fine aggregate will be allowed for repairs less than one inch (25 mm). Aggregate specified, bagged, labeled and furnished by the rapid set concrete patching material manufacturer may also be used for mortar extension.

**2.2 Material Applications.** The contractor shall select and use the product most suitable for the work and field conditions in accordance with these specifications.

**2.3 Curing.** Rapid set concrete patching material shall be cured until the minimum compressive strength 3200 psi is attained using standard curing specifications, unless otherwise specified by the manufacturer.

**2.4 Qualification and Project Acceptance.**

**2.4.1 Inspection.** All materials shall be subject to inspection and sampling by MoDOT at the source of manufacture, intermediate shipping terminal or destination. MoDOT will be allowed free access to all facilities and records as required to conduct inspection and sampling.

**2.4.2 Qualification.** Prior to use, rapid set concrete patching material shall be qualified. In order to become qualified, a material shall have completed testing through AASHTO's National Transportation Product Evaluation Program (NTPEP). The manufacturer shall contact the AASHTO/NTPEP coordinator to obtain the testing location for the rapid setting concrete patching material.

**2.4.2.1 Requested Information.** The manufacturer shall submit with samples of the materials, a written request to Construction and Materials with the following information:

- (a) Brand name of the product.
- (b) Certification that the material meets this specification.
- (c) NTPEP test results showing compliance with this special provision.
- (d) Specific mixing, handling and curing instructions.
- (e) Application type (i.e., bridge or roadway).

**2.4.2.2 Qualified List.** Upon approval by the engineer, the brand name and manufacturer will be placed on a qualified list of rapid set concrete patching materials. The listing of qualified

materials is available from Construction and Materials or on MoDOT's web site. New certified test results and samples shall be submitted any time the manufacturing process or the material formulation is changed. The material will be subject to removal from the qualified list if there is evidence of unsatisfactory performance or a change in manufacturing process or formulation, or when random sampling and testing of material offered for use indicates nonconformity with any of the requirements herein specified.

**2.4.3 Provisional Approval.** Provisional approval may be granted provided the following requirements have been met:

- (c) New Products Evaluation Form
- (d) Certified test results from an independent laboratory showing compliance with this special provision.
- (e) Documentation prepared by MoDOT covering two years of field performance on MoDOT's system. MoDOT will need to approve the location of the test site. Documentation will contain the placement date, field observations (semi annual), description of field performance and photographs of in-place material.
- (f) During placement the manufacturer's representative shall be present on the project to provide technical expertise.

**2.4.3.1 Disqualification.** If during the two year observation period the repair area(s) fails provisional approval will not be granted. Repair area(s) experiencing any cracking, debonding or spalling will be considered a failure.

**2.4.3.2 Length of Provisional Approval.** Provisional approval will be granted for three years or until NTPEP testing is completed.

**2.5 Certification.** The contractor shall supply a manufacturer's certification to the engineer for each lot of material furnished. The certification shall include the name of the manufacturer, a manufacturer certification statement that the material supplied is the same as that qualified and listing the date of qualification.

**2.6 Acceptance.** Acceptance of the material will be based on the use of a qualified or provisionally approved material, the manufacturer's certification that the material supplied is the same as that approved and upon the results of such tests as may be performed by the engineer.

**3.0 Mixture.** Unless otherwise specified, rapid set concrete patching material shall be approved commercial mixtures meeting [Sections 3.1 – 3.1.3](#) or deck repair cementitious mortar meeting [Section 3.2](#). Rapid set concrete patching materials shall be specifically designed for the application needed.

**3.1 Commercial Mixtures.** Rapid set concrete patching material in its sacked form and mixtures when properly prepared in accordance with the manufacturer's specifications, shall meet the minimum test requirements given in Table 1. Mixtures may be supplied, as required, as a patching mortar or as a patching mortar with aggregate extension. If the material is to be supplied with extender aggregate, this shall also pass the required tests in Table 1 using the maximum allowed amount of extender aggregate.

**3.1.2 Mixture Requirements.** Rapid set concrete patching material shall be single packaged dry mix requiring the addition of water or other liquid component just prior to mixing. The material shall be capable of ½ inch (13 mm) to full depth repair and require no bonding agent. The material shall not contain soluble chlorides as an ingredient of manufacture. The material shall be placed in accordance to the manufacturer's recommendations.

<b>Table 1 (English Unit)</b>				
<b>Physical Test Property</b>	<u>Specification</u>	<b>Requirement for cementitious concrete</b>	<b>Requirement for polymer-modified concrete</b>	<b>Requirement for polymer concrete</b>
Bond Strength by Slant Shear <sup>1</sup>	ASTM C882/C928 <sup>3</sup>	min. 1000 psi @ 24hrs.& min. 1500 psi @ 7 days	n/a	min. 1000 psi @ 24hrs.& min. 1500 psi @ 7 days
Linear Coefficient of Thermal Expansion <sup>1, 2</sup> (for bagged mortar only, without extension aggregate)	ASTM C531	n/a	n/a	4 – 8 X 10-6 in/in/deg F
Resistance to Rapid Freezing & Thawing <sup>1</sup>	AASHTO T161 or ASTM C666	80% min. using Procedure B <sup>5</sup> (300 Cycles)	80% min. using Procedure B <sup>5</sup> (300 Cycles)	n/a
Compressive Strength <sup>1</sup>	AASHTO T22 or ASTM C39	3200 psi @ 3 hr & 4000 psi @ 7 days	3200 psi @ 3 hr & 4000 psi @ 7 days	n/a
Rapid Chloride Permeability <sup>1</sup>	AASHTO T277 or ASTM C1202	Bridge Decks 1000 coulombs @ 28 days Roadway 2000 coulombs @ 28 days	Bridge Deck 1000 coulombs @ 28 days Roadway 2000 coulombs @ 28 days	Bridge Deck 1000 coulombs @ 28 days Roadway 2000 coulombs @ 28 days
Length Change <sup>1,4</sup>	AASHTO T 160 or ASTM C157	In water Storage (+0.15) In air storage (-0.15)	In water storage (+0.15) In air storage (-0.15)	n/a
Color		gray	gray	gray

<sup>1</sup>The commercial mix test values can be located in the AASHTO's National Transportation Product Evaluation Program (NTPEP) reports for Laboratory Evaluations of Rapid Set Concrete Patching Materials. Data for provisionally approved materials is located at the Construction and Materials Division.

<sup>2</sup>Not required for extended mixtures if the mortar passes this requirement.

<sup>3</sup> ASTM C882 shall be performed on non-water based materials. ASTM C928 shall be performed on water-based materials.

<sup>4</sup> As modified by ASTM C928.

<sup>5</sup> Procedure A may be used in lieu of Procedure B

**3.1.2 Construction Requirements.** The manufacturer shall provide with the bagged mixture, specifications for the mixing procedure, amount and kind of liquid to be added, and the amount of aggregate extension allowed, if any. All mixing, handling and curing practices recommended by the manufacturer shall be followed and will be considered a part of these specifications.

**3.1.3 Removal from Qualified List.** All mixtures shall be approved before use. Reoccurring failures of any mixture for any reason will be cause for removal from the qualified list.

**3.2 Deck Repair Concrete.** A qualified rapid set concrete patching material indicated for horizontal use and intended for patching concrete bridge decks may be used when specified on the plans and as approved by the engineer. If this option is selected, the contractor shall provide a trial mix to determine the total cure time needed to achieve a compressive strength of 3200 psi (22 MPa). Compressive specimens shall be prepared in accordance with current MoDOT test methods and cured to simulate actual field conditions. Testing of compressive specimens shall be performed by methods and at facilities acceptable to the engineer. The repaired deck shall not be opened to traffic until at least 4 hours after the last placement of deck repair concrete, the established cure time has elapsed and until such concrete has achieved a compressive strength of 3200 psi (22 MPa). A new trial mix may be required if the engineer determines the field conditions vary substantially from trial mix conditions. The engineer will make field cylinders to verify the 3200 psi (22 MPa) minimum strength.

#### **4.0 Construction Requirements.**

**4.1 Mixing.** Rapid set concrete patching material shall be mixed and finished according to the manufacturer's recommendation.

**4.2 Preparation of Repair Area.** Deteriorated, damaged or defective concrete as shown on the plans, required by the specifications or as directed by the engineer, shall be removed. All exposed reinforcement shall be thoroughly cleaned as shown on the plans, required by the specifications or as directed by the engineer. Unless otherwise specified by the commercial mixture manufacturer, the existing surface shall be damp and all free water shall be removed prior to placement of the required material.

**4.3 Bonding Agent.** A bonding agent may be used if recommended by the rapid set concrete patching material manufacturer.

**5.0 Method of Measurement.** No measurement will be made for rapid set concrete patching material.

**6.0 Basis of Payment.** Rapid set concrete patching material will be paid for at the contract unit price for other items and will be considered full compensation for all labor, equipment and material to complete the described work.