

**STATE OF MISSOURI
HIGHWAYS and TRANSPORTATION COMMISSION**

JEFFERSON CITY, MISSOURI

CONSTRUCTING OR IMPROVING
Contract I.D. 181019-F02

THIS JOB SHALL BE CONSTRUCTED UNDER
FEDERAL PROJECT NUMBER(S): FAF 370-1(10)

J6P2325 - ROUTE 370 - ST. CHARLES 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. 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.

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)

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.

TABLE OF CONTENTS

Notice to Contractors

Proposed Work.....	item (1)
Compliance With Contract Provisions.....	item (2)
Period of Performance.....	item (3)
Liquidated Damages.....	item (4)
Itemized Bid.....	item (5)
Trainees.....	item (6)
DBE Certification*.....	item (7)
Acceptance of Provision for Price Adjustment for Fuel.....	item (8a)
Acceptance of Provision for Asphalt Cement Price Index....	item (8b)
Max. Monetary Value of Awards Accepted this Bid Opening...	item (9)
Combination Bids.....	item (10)
Certification for Federal Jobs.....	item (11a)
Certification for State Jobs.....	item (11b)
Antidiscrimination.....	item (12)
Preference to Missouri Firms in Awarding of Contracts.....	item (13)
Subcontractor Disclosure Form*.....	item (14)
Signature and Identity of Bidder.....	item (15)
Bid Guaranty*.....	item (16)

*These forms are also available on MoDOT's Website, 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 J6P2325 Route 370 ST CHARLES County. Bridge rehabilitation over Route 94, the total length of improvement being 0.113 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 - J6P2325					
0010	2022010	1	LS		
	REMOVAL OF IMPROVEMENTS				
0020	2153000	8.000	100F		
	SHAPING SLOPES, CLASS III				
0030	5041000	854.000	SQYD		
	CONCRETE APPROACH PAVEMENT				
0040	6042020	2.000	EA		
	ADJUSTING BASIN OR INLET				
0050	6091055	260.000	LF		
	CONCRETE CURB AND GUTTER (4 INCH)				
0060	6122014	2.000	EA		
	IMPACT ATTENUATOR 60 MPH (SAND BARRELS)				
0070	6122020	3.000	EA		
	REPLACEMENT SAND BARREL				
0080	6122030	5.000	EA		
	IMPACT ATTENUATOR (RELOCATION)				
0090	6161005	1052.000	SQFT		
	CONSTRUCTION SIGNS				
0100	6161008	48.000	EA		
	ADVANCED WARNING RAIL SYSTEM				
0110	6161009	9.000	EA		
	FLAG ASSEMBLY				
0120	6161025	301.000	EA		
	CHANNELIZER (TRIM LINE)				
0130	6161030	6.000	EA		
	TYPE III MOVEABLE BARRICADE				
0140	6161033	35.000	EA		
	DIRECTIONAL INDICATOR BARRICADE				
0150	6161040	4.000	EA		
	FLASHING ARROW PANEL				
0160	6161099	2.000	EA		
	CHANGEABLE MESSAGE SIGN WITH COMMUNICATION INTERFACE, CONTRACTOR FURNISHED, CONTRACTOR RETAINED				
0170	6173700B	2950.000	LF		
	TEMPORARY TRAFFIC BARRIER ANCHORED, CONTRACTOR FURNISHED / RETAINED				
0180	6175011B	5013.000	LF		
	RELOCATING TEMPORARY TRAFFIC BARRIER ANCHORED				
0190	6181000	1	LS		
	MOBILIZATION				
0200	6205902A	3825.000	LF		
	6 IN. WHITE HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS				
0210	6205903A	4276.000	LF		
	6 IN. YELLOW HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT, TYPE L BEADS				
0220	6207001	35707.000	LF		
	PAVEMENT MARKING REMOVAL				
0230	6209903	6529.000	LF		
	MISC. 9 IN. BLACK HIGH BUILD WATERBORNE PAINT CONTRAST PAVEMENT MARKING				
0240	6209903	19750.000	LF		

MISC. TEMPORARY CONTRAST REMOVABLE MARKING TAPE 6 IN.				
0250	6209903	7580.000	LF	
MISC. TEMPORARY REMOVABLE MARKING TAPE 6 IN., YELLOW				
0260	6274000	1	LS	
CONTRACTOR FURNISHED SURVEYING AND STAKING				
Section 0001 Total				

Section 0002				
Guardrail/Guard Cable Items - J6P2325				
0270	6061060	3375.000	LF	
MGS GUARDRAIL				
0280	6061070	5.000	EA	
MGS VERTICAL CONCRETE BARRIER TRANSITION				
0290	6061080	4.000	EA	
MGS END ANCHOR				
0300	6062303	1.000	EA	
ASYMMETRICAL TRANSITION SECTION, 6.5 FT. POSTS				
0310	6063014	4.000	EA	
TYPE A CRASHWORTHY END TERMINAL (MASH)				
Section 0002 Total				

Section 0003				
ITS Items - J6P2325				
0320	9109903	183.000	LF	
MISC. MODOT ITS IN-GROUND FACILITY RELOCATION				
Section 0003 Total				

Section 0004				
Bridge A4999 Items - J6P2325				
0330	2161000	1427.000	SQYD	
SCARIFICATION OF BRIDGE DECKS				
0340	2161503	129.000	SQFT	
REMOVAL OF EXISTING DECK REPAIR				
0350	2169903	118.000	LF	
MISC. REMOVAL OF APPROACH NOTCH				
0360	2169904	4239.000	SQFT	
MISC. REMOVAL OF EXISTING APPROACH SLAB				
0370	5031010A	244.000	SQYD	
BRIDGE APPROACH SLAB (MAJOR ROAD)				
0380	5052000	1427.000	SQYD	
LATEX MODIFIED CONCRETE WEARING SURFACE				
0390	7034214	4.400	CUYD	
CLASS B-2 CONCRETE				
0400	7040105A	20.000	CUYD	\$600.00000 \$12,000.00
MONOLITHIC DECK REPAIR				
0410	7040109	1427.000	SQYD	
TOTAL SURFACE HYDRO DEMOLITION				

0420	7040113	7.000	SQFT		
	CLEAN AND EPOXY SEAL				
0430	7101000	700.000	LB		
	REINFORCING STEEL (EPOXY COATED)				
0440	7125102	1	LS		
	SURFACE PREPARATION FOR APPLYING EPOXY-MASTIC PRIMER				
0450	7125960	1	LS		
	ALUMINUM EPOXY-MASTIC PRIMER				
0460	7129902	10.000	EA		
	MISC. SLAB DRAIN EXTENSION				
Section 0004 Total					\$12,000.00

Section 0005

Bridge A5109 Items - J6P2325

0470	2161000	4067.000	SQYD		
	SCARIFICATION OF BRIDGE DECKS				
0480	2161503	366.000	SQFT		
	REMOVAL OF EXISTING DECK REPAIR				
0490	2169903	139.000	LF		
	MISC. REMOVAL OF APPROACH NOTCH				
0500	2169904	5400.000	SQFT		
	MISC. REMOVAL OF EXISTING APPROACH SLAB				
0510	5031010A	311.000	SQYD		
	BRIDGE APPROACH SLAB (MAJOR ROAD)				
0520	5052000	4067.000	SQYD		
	LATEX MODIFIED CONCRETE WEARING SURFACE				
0530	7034214	5.200	CUYD		
	CLASS B-2 CONCRETE				
0540	7040105A	45.000	CUYD	\$600.00000	\$27,000.00
	MONOLITHIC DECK REPAIR				
0550	7040109	4067.000	SQYD		
	TOTAL SURFACE HYDRO DEMOLITION				
0560	7040113	448.000	SQFT		
	CLEAN AND EPOXY SEAL				
0570	7101000	850.000	LB		
	REINFORCING STEEL (EPOXY COATED)				
0580	7125102	1	LS		
	SURFACE PREPARATION FOR APPLYING EPOXY-MASTIC PRIMER				
0590	7125960	1	LS		
	ALUMINUM EPOXY-MASTIC PRIMER				
0600	7129902	35.000	EA		
	MISC. SLAB DRAIN EXTENSION				
Section 0005 Total					\$27,000.00

Item Total	\$39,000.00
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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 12.00 % 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 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. 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:

DOLLAR VALUE: \$

CATEGORY OF WORK:

SUBCONTRACTOR NAME:

DOLLAR VALUE: \$

CATEGORY OF WORK:

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DOLLAR VALUE: \$

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:

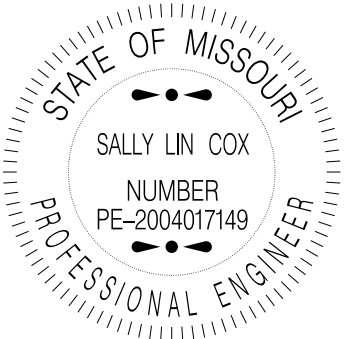
Surety State:

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

JOB SPECIAL PROVISIONS TABLE OF CONTENTS (ROADWAY)

(Job special provisions shall prevail over General Special Provisions whenever in conflict therewith.)

- A. General
- B. Contract Liquidated Damages
- C. Work Zone Traffic Management Plan
- D. Emergency Provisions and Incident Management
- E. Project Contact for Contractor/Bidder Questions
- F. Supplemental Revisions
- G. Pavement Marking
- H. NTCIP Compliant Changeable Message Sign (Contractor Furnished and Retained)
- I. Stormwater Compliance Requirements
- J. Utilities
- K. Concrete Washout
- L. Slurry and Residue Produced During Surface Treatment of PCCP and Bridge Decks
- M. Coordination with ITS Staff and Utility Locates
- N. Construction Requirements
- O. MoDOT ITS Equipment within Project Limits
- P. MoDOT ITS In-Ground Facility Relocation
- Q. Special Provisions for Protection of Norfolk Southern Railway Interest
- R. Pavement Marking Removals
- S. Temporary Striping
- T. Temporary Contrast Striping
- U. Intermittent Pavement Markings Layout
- V. Contrast Pavement Markings
- W. Contractor Quality Control

 <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 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: J6P2325 ST .CHARLES COUNTY, MO DATE PREPARED: 09-06-18
	ADDENDUM DATE:
Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: ALL	

JOB
SPECIAL PROVISIONS

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 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 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: January 7, 2019
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
J6P2325	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 **\$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 Plan

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 **15 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 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 proceeding the holiday until 9:00 a.m. on the first working day subsequent to the holiday unless approved by the Engineer.

Memorial Day
Independence Day (July 4 and July 5)
Festival of the Little Hills (August 17-19)
Labor Day
Thanksgiving
Christmas
New Year's Day

3.2 The contractor shall not perform any construction operation on the (*roadway, roadbed or active lanes*), (*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 15 minutes. Based on this, the contractors operations will be restricted accordingly unless it can be successfully demonstrated the operations can be performed without a 15 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 370 Eastbound:

9:00 a.m. - 5:00 a.m. Monday through Friday
9:00 a.m. - 6:00 a.m. Saturday
9:00 a.m. - 5:00 a.m. Sunday

Route 370 Westbound:

7:00 p.m. - 2:00 p.m. Monday through Friday
6:00 a.m. - 2:00 p.m. Saturday
6:00 a.m. - 3:00 p.m. Sunday

3.4 Any work requiring a reduction in the number of through lanes of traffic shall be completed during nighttime hours. Nighttime hours shall be considered to be 9:00 p.m. to 5:00 a.m. Eastbound Monday through Friday and Sunday, and 9:00 p.m. to 6:00 a.m. Saturday for single lane reductions. Nighttime hours shall be considered to be 10:00 p.m. to 5:00 a.m. Eastbound Monday through Friday and Saturday, and 10:00 p.m. to 6:00 a.m. Saturday for double lane reductions. Nighttime hours shall be considered to be 9:00 p.m. to 5:00 a.m. Westbound Monday through Friday for single lane reductions. Nighttime hours shall be considered to be 10:00 p.m. to 5:00 a.m. Westbound Monday through Friday for double lane reductions for this project.

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 Route 370 & Route 94, and projects which affect MO 370 & MO 94, including all future projects. The contractor shall be aware of the following job:

TAP-7303(615)- City of St. Charles, Missouri- Construction of Shared Use Path on Westbound MO 370 Discovery Bridge

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, St. Charles City/County, 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.

Missouri Highway Patrol: (636) 300-2800 St. Charles County Police Department: (636) 949-3000			
St. Charles County Ambulance District (636) 344-7600	St. Charles Fire Department (636) 949-3380	St. Charles Police Department (636) 949-3300	MoDOT Transportation Management Center (TMC) Hours of Operation: 24/7/365 Dispatch: 314-275-1500 Nextel: 140*2*14100

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

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

Sally Cox, P.E.
Transportation Project Manager
Missouri Department of Transportation
St. Louis District
1590 Woodlake Drive
Chesterfield, MO 63017

E-mail: Sally.Cox@modot.mo.gov

Telephone Number 314-453-1839

Fax Number 573-526-0089 (address cover letter to Sally Cox)

2.0 Documentation of Bidder Questions. The contractor is encouraged to submit all questions in writing by email, fax, or letter. The contractor may call the project contact for general questions; however, the project contact may require any questions to be submitted and answered by email, fax, or letter for clarity and documentation purposes. Contractors should refrain from contacting anyone other than the project contact for questions concerning this project.

3.0 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

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.

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.

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. Pavement Marking

1.0 Pavement marking shall conform to the applicable portions of the Standard Specifications.

The contractor shall contact James (Dusty) Henson, MoDOT Signing and Striping Supervisor, at the following: Office: 314-205-7310 or Cell: 618-340-5666, 10 days prior to beginning paving operations to coordinate final striping layout. No additional pay will be made to the Contractor for compliance with this special provision.

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 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:

Item No.	Type	Description
6161099	Each	NTCIP COMPLIANT CHANGEABLE MESSAGE SIGN (CONTRACTOR FURNISHED AND RETAINED)

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.

I. 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.

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). 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.
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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.

J. Utilities

1.0 For informational purposes only, the following is a list of names, addresses, and telephone numbers of the known utility companies in the area of the construction work for this improvement:

<u>Utility Name</u>	<u>Known Required Adjustment</u>	<u>Type</u>
Ameren Missouri Robert Schnell Telephone: 636.925.3236 Email: rschnell@ameren.com	None	Electric
Spire (Laclede Gas Company) Kent Thaemert 6400 Graham Road St. Louis, MO 63134 Telephone: 314-575-8018 Email: kent.thaemert@spireenergy.com	None	Gas
Centurylink Tim Howe Telephone: 636-445-7055 Email: tim.howe@centurylink.com	None	Communications
Charter Communications Daryl Steffen Cell: 314-713-6378 Email: daryl.steffen@charter.com	None	Communications
City of St. Peters Water and Sewer William Malach One St. Peters Centre Blvd. Telephone: 636.477.6600 Ext. 1301 Email: bmalach@stpetersmo.net	None	Water and Sewer
City of O'Fallon Chris Horvath Public Works Department City of O'Fallon 100 N. Main Street O'Fallon, MO 63366 Office: 636.379.4225 Email: chorvath@ofallon.mo.us	None	Water and Sewer

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 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.

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

K. Concrete Washout

1.0 Description. Concrete washout BMPs shall be established in designated areas for this project if concrete production or delivery is occurring. Washout BMPs can be non-leaking plastic or clay/bentonite lined pits, a straw bale enclosure lined with plastic, a storage tank or prefabricated BMP or other structure approved by the engineer or inspector. Designated washout areas should be located at least 50 feet away from storm drains, ditches, streams or other water bodies. Washouts should be monitored like other BMPs to ensure there are no leaks and that they are operating effectively. They should be cleaned out when they reach 75% of their design capacity. Care should be taken to ensure these structures do not overflow during storm events. Upon completion of concrete washout on the project, the engineer or inspector should ensure proper disposal of washout materials. Washout liquids can be allowed to evaporate or be pumped out and properly disposed of. They cannot be discharged into storm drains, ditches, streams or other bodies of water. Dried concrete can be broken up and used as clean fill on the project, recycled or properly disposed of by other means.

2.0 Basis of Payment. No direct payment will be made to the contractor for installing, maintaining, and removing concrete washout facilities or for properly disposing of materials. The cost of complying with this requirement shall be completely covered in the contract unit price of the concrete pay items included in the contract.

L. 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.

M. 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 MoDOT is a member of MO-One-Call System. Prior to any excavation or work within MoDOT Right-Of-way, the contractor must contact MO-One Call at 1-800-DIG-RITE and request for Utility Locates within noted project limits. 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. 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.

N. 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 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.

3.0 Method of Measurement. No measurement will be made.

4.0 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.

O. MoDOT ITS Equipment Within Project Limits

1.0 Description. MoDOT owned fiber optic cable and conduit, critical MoDOT power supplies and power cables, and pullboxes for fiber and power cabling, are present within the limits of this project. Damage or interruption of these items can cause extensive outages to the MoDOT network.

2.0 Construction Requirements. The contractor shall exercise reasonable care while completing work near these facilities, and shall take steps necessary to protect these facilities from damage for all items that are not specifically identified as being removed and/or relocated in the plans. Should any of the existing wiring or conduit be damaged by the contractor, it shall be replaced at the contractor's expense and the system in full operation within **4** hours of when the damage occurred. If it is mutually agreed upon between the Commission and the Contractor that the repairs will require more than **4** hours to complete, a mutually agreed upon time for repairs to be complete will be determined.

2.1 The contractor shall exercise reasonable care while completing work near these facilities, and shall take steps necessary to protect these facilities from damage for all items that are not specifically identified as being removed and/or relocated in the plans. Should any of the existing wiring or conduit be damaged by the contractor, it shall be replaced at the contractor's expense and the system in full operation within **4** hours of when the damage occurred. If it is mutually agreed upon between the Commission and the Contractor that the repairs will require more than **4** hours to complete, a mutually agreed upon time for repairs to be complete will be determined.

3.0 Liquidated Damages. In the event of damage, if the system is not repaired and in full operation within **4** hours of the damage occurring, or within the timeframe agreed upon, the contractor will be charged with a liquidated damage specified in the amount of \$100.00 per hour for each full hour that the system is not fully operational. This damage will be assessed independently of the liquidated damages specified elsewhere in the contract.

3.1 The MoDOT Engineer will also have the option of issuing a work order for MoDOT's on-call ITS Maintenance contractor to make repairs, if it is the Engineer's opinion that the contractor creating the damage will not be able to make repairs in a timely manner. The ITS Maintenance contractor will then bill the contractor causing the damage directly.

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

P. MoDOT ITS In-Ground Facility Relocation

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

2.0 Materials. The materials used for relocating MoDOT ITS In-Ground 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) for review and approval.

3.0 Construction Requirements. 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 In-Ground 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 In-Ground 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) 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 The contractor shall perform a fiber testing (see below requirements) before and after relocating MoDOT fiber cables at the nearest Node Cabinet at each site as shown on the plans and submit that report to the SLITS Group for review and approval.

3.5.01 Test Procedure. For each fiber link, follow this procedure:

- (a) If the link includes fiber installed by others, use an optical loss test set to measure and record the optical loss over that portion of the link before it is spliced to new fiber.
- (b) Calculate the maximum allowable loss for the completed link, both at 1310 nm and at 1550 nm. Use the following formula:

Maximum link loss = Measured loss over portion installed by others

- + (Fiber length in km) x (0.35 for 1310 nm and 0.25 for 1550 nm)
- + (Number of fusion splices) x (0.05)
- + (Number of mechanical splices [for temp. connection]) x (0.3)
- + (Number of connections) x (0.5)

Provide this calculation to the engineer along with the test results.

- (c) Calibrate an optical loss test set and provide evidence satisfactory to the engineer that the set produces accurate results at both wavelengths. This can be a demonstration that the set correctly measures the loss of a test fiber whose loss is known.
- (d) Use the test set to measure the loss of the link under test. Record the result at both 1310 nm and 1550 nm. Arrange for the engineer or his representative to witness these tests.
- (e) If the measured loss exceeds the calculated maximum, use an optical time domain reflectometer and other test equipment to troubleshoot the link. Take whatever corrective action is required, including cable replacement, to achieve a loss less than the calculated maximum.

3.5.02 Test Result Documentation. Prepare a diagram showing all of the links tested in this project. For the portions installed in this project, show the equipment cabinets, splices, and pigtails. On each line representing a link, show the maximum allowable loss and the actual loss. The actual loss shall be the one measured after all corrective actions have been taken. Submit 5 copies of this diagram to the engineer, along with the calculations for the maximum allowable loss. Submit the diagrams and calculations in an electronic format acceptable to the engineer.

3.5.03 Documentation. Provide the engineer mark-ups of the plans, neat and legible, illustrating as-built versions of the splice and connection diagrams that are contained in the plans.

3.5.04 Certifications. The fiber optic cable shall be factory certified to meet the requirements in this specification. In addition, the manufacturer shall certify that the fiber optic cable has a life expectancy of 20 years.

3.6 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.

3.7 Upon completion of this work, the Contractor shall contact the MoDOT ITS group (via email at 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
910-99.03	L.F.	MoDOT ITS In-Ground Facility Relocation per site

Q. Special Provisions for Protection of Norfolk Southern Railway Interest

Norfolk Southern, St. Louis Subdivision DOT# 483 481D (MP S-22.81)

1.0 Authority of Railroad Engineer and Department Engineer:

1.1 The authorized representative of the Railroad Company, hereinafter referred to as Railroad Engineer, shall have final authority in all matters affecting the safe maintenance of Railroad traffic of his Company including the adequacy of the foundations and structures supporting the Railroad tracks. For Public Projects impacting Norfolk Southern, the Public Projects Engineer will serve as the Railroad Engineer.

1.2 The authorized representative of the Department, hereinafter referred to as the Department Engineer, shall have authority over all other matters as prescribed herein and in the Project Specifications.

2.0 Notice of Starting Work:

2.1 Department’s Prime contractor shall not commence any work on railroad rights-of-way until he has complied with the following conditions:

2.1.1 Signed and received a fully executed copy of the required Norfolk Southern Contractor Right of Entry Agreement obtained through the Illinois Division Office. There is a \$1,250 application review fee.

Illinois Division Office
1735 E. Condit St.
Decatur, IL 62521
Phone: 217-425-2043

2.1.2 Given the Railroad written notice in electronic format to the Railroad Engineer, with copy to the Department Engineer who has been designated to be in charge of the work, at least ten days in advance of the date he proposes to begin work on Railroad rights-of-way.

2.1.3 Obtained written approval from the Railroad of Railroad Protective Liability Insurance coverage as required by paragraph 14 herein. It should be noted that Railroad Company does not accept notation of Railroad Protective insurance on a certificate of liability insurance form or Binders as Railroad Company must have the full original countersigned policy. Further, please note that mere receipt of the policy is not the only issue but review for compliance. Due to the

number of projects system-wide, it typically takes a minimum of 30-45 days for Railroad Company to review.

2.1.4 Obtained Railroad's Flagging Services as required by paragraph 7 herein.

2.1.5 Obtained written authorization from the Railroad to begin work on Railroad rights-of-way, such authorization to include an outline of specific conditions with which he must comply.

2.1.6 Furnished a schedule for all work within the Railroad rights-of-way as required by paragraph 7.2.2.

2.2 The Railroad's written authorization to proceed with the work shall 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.

2.3 Norfolk Southern representative contact information: Jake Watson, Public Projects Engineer, Telephone: 404-529-1225; email Jacob.Watson@nscorp.com.

3.0 . Interference with Railroad Operations:

3.1 The Contractor shall so arrange and conduct his work that there will be no interference with Railroad operations, including train, signal, telephone and telegraphic services, or damage to the property of the Railroad Company or to poles, wires, and other facilities of tenants on the rights-of-way of the Railroad Company. Whenever work is liable to 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 which requires flagging service or inspection service shall be deferred by the Contractor until the flagging service or inspection service required by the Railroad is available at the job site.

3.2 Whenever work within Railroad rights-of-way is of such a nature that impediment to Railroad operations such as use of runaround tracks or necessity for reduced speed is unavoidable, the Contractor shall schedule and conduct his operations so that such impediment is reduced to the absolute minimum.

3.3 Should conditions arising from, or in connection with the work, require that immediate and unusual provisions be made to protect operations and property of the Railroad, the Contractor shall make such provisions. If in the judgment of the Railroad Engineer, or in his absence, the Railroad's Division Engineer, such provisions is insufficient, either may require or provide such provisions as he deems necessary. In any event, such unusual provisions shall be at the Contractor's expense and without cost to the Railroad or the Department.

3.4. "One Call" Services do not locate buried railroad utilities. The contractor shall contact the railroad's representative 2 days in advance of work at those places where excavation, pile driving, or heavy loads may damage railroad underground facilities. Upon request from the contractor or agency, railroad forces will locate and paint mark or flag railroad underground facilities. The contractor shall avoid excavation or other disturbances of these facilities. If disturbance or excavation is required near a buried railroad facility, the contractor shall coordinate with the railroad to have the facility potholed manually with careful hand excavation.

The facility shall be protected by the contractor during the course of the disturbance under the supervision and direction of the railroad representative.

4.0 Track Clearances:

4.1 The minimum track clearances to be maintained by the Contractor during construction are shown on the Project Plans. If temporary clearances are not shown on the project plans, the following criteria shall govern the use of falsework and formwork above or adjacent to operated tracks.

4.1.1 A minimum vertical clearance of 22'-0" above top of highest rail shall be maintained at all times.

4.1.2 A minimum horizontal clearance of 13'-0" from centerline of tangent track or 14'-0" from centerline of curved track shall be maintained at all times. Additional horizontal clearance may be required in special cases to be safe for operating conditions. This additional clearance will be as determined by the Chief Engineer Bridges & Structures

4.1.3 All proposed temporary clearances which are less than those listed above must be submitted to the Chief Engineer Bridges & Structures for approval prior to construction and must also be authorized by the regulatory body of the State if less than the legally prescribed clearances.

4.1.4 The temporary clearance requirements noted above shall also apply to all other physical obstructions including, but not limited to: stockpiled materials, parked equipment, placement or driving of piles, and bracing or other construction supports.

4.2 Before undertaking any work within Railroad right-of-way, and before placing any obstruction over any track, the Contractor shall:

4.2.1 Notify the Railroad's representative at least 72 hours in advance of the work.

4.2.2 Receive assurance from the Railroad's representative that arrangements have been made for flagging service as may be necessary.

4.2.3 Receive permission from the Railroad's representative to proceed with the work.

4.2.4 Ascertain that the Department Engineer has received copies of notice to the Railroad and of the Railroad's response thereto.

5.0 Construction Procedures:

5.1 General:

5.1.1 Construction work and operations by the Contractor on Railroad property shall be:

- a. Subject to the inspection and approval of the Railroad or their designated Construction Engineering Representative.

- b. In accord with the Railroad's written outline of specific conditions.
- c. In accord with the Railroad's general rules, regulations and requirements including those relating to safety, fall protection and personal protective equipment.
- d. In accord with these Special Provisions.

5.1.2 Submittal Requirements

- a. The contractor shall submit all construction related correspondence and submittals electronically to the Railroad Engineer.
- b. The contractor shall allow for 30 days for the Railroad's review and response.
- c. All work in the vicinity of the Railroad's property that has the potential to affect the Railroad's train operations or disturb the Railroad's Property must be submitted and approved by the Railroad prior to work being performed.
- d. All submittals and calculations must be signed and sealed by a registered engineer licensed in the state of the project work.
- e. All submittals shall first be approved by the Department Engineer and the Railroad Engineer, but such approval shall not relieve the Contractor from liability.
- f. For all construction projects, the following submittals, but not limited to those listed below, shall be provided for review and approval when applicable:
 - i. General Means and Methods
 - ii. Construction Excavation & Shoring
 - iii. Pipe, Culvert, & Tunnel Installations
 - iv. Demolition Procedure
 - v. Erection & Hoisting Procedure
 - vi. Debris Shielding or Containment
 - vii. Blasting
 - viii. Roadway Protection
 - ix. Formwork for the bridge deck, diaphragms, overhang brackets, and protective platforms
 - x. Bent Cap Falsework. A lift plan will be required if the contractor want to move the falsework over the tracks.
- g. For Undergrade Bridges (Bridges carrying the Railroad) the following submittals in addition to those listed above shall be provided for review and approval:
 - i. Shop Drawings
 - ii. Bearing Shop Drawings and Material Certifications
 - iii. Concrete Mix Design
 - iv. Structural Steel, Rebar, and/or Strand Certifications
 - v. 28 day Cylinder Test for Concrete Strength
 - vi. Waterproofing Material Certification
 - vii. Test Reports for Fracture Critical Members

viii. Foundation Construction Reports
(Fabrication may not begin until the Railroad has approved the required shop drawings.)

h. The Contractor shall include in all submissions a detailed narrative indicating the progression of work with the anticipated timeframe to complete each task. Work will not be permitted to commence until the Contractor has provided the Railroad with a satisfactory plan that the project will be undertaken without scheduling, performance or safety related issues. Submission shall also provide a listing of the anticipated equipment to be used, the location of all equipment to be used and insure a contingency plan of action is in place should a primary piece of equipment malfunction.

5.2 Track Monitoring

5.2.1 At the direction of the Railroad Engineer, any activity that has the potential to disturb the Railroad track structure may require the contractor to submit a detailed track monitoring program for approval by the Railroad Engineer.

5.2.2 The program shall specify the survey locations, the distance between the location points, and frequency of monitoring before, during, and after construction. Railroad reserves the right to modify the survey locations and monitoring frequency as necessary during the project.

5.2.3 The survey data shall be collected in accordance with the approved frequency and immediately furnished to the Railroad Engineer for analysis.

5.2.4 If any movement has occurred as determined by the Railroad Engineer, the Railroad will be immediately notified. Railroad, at its sole discretion, shall have the right to immediately require all contractor operations to be ceased and determine what corrective action is required. Any corrective action required by the Railroad or performed by the Railroad including the monitoring of corrective action of the contractor will be at project expense.

5.3 Roadway Protection

5.3.1 The Contractor shall submit the proposed roadway protection system detailing the specific filter fabric and anchorage system to be used during construction activities.

5.3.2 The roadway protection is to extend 25' beyond the proposed limit of work and be continuously maintained to prevent all contaminants from entering the ballast section of all tracks for the entire duration of the project.

5.4 Maintenance of Railroad Facilities:

5.4.1 The Contractor will be required to maintain all ditches and drainage structures free of silt or other obstructions which may result from his operations and provide and maintain any erosion control measures as required. The Contractor will promptly repair eroded areas within Railroad rights-of-way and repair any other damage to the property of the Railroad or its tenants.

5.4.2 If, in the course of construction, it may be necessary to block a ditch, pipe or other drainage facility, temporary pipes, ditches or other drainage facilities shall be installed to maintain adequate drainage, as approved by NS. Upon completion of the work, the temporary facilities shall be removed and the permanent facilities restored.

5.4.3 All such maintenance and repair of damages due to the Contractor's operations shall be done at the Contractor's expense.

5.5 Storage of Materials and Equipment:

5.5.1 Materials and equipment shall not be stored where they will interfere with Railroad operations, nor on the rights-of-way of the Railroad Company without first having obtained permission from the Railroad Engineer, and such permission will be with the understanding that the Railroad Company will not be liable for damage to such material and equipment from any cause and that the Railroad Engineer may move or require the Contractor to move, at the Contractor's expense, such material and equipment.

5.5.2 All grading or construction machinery that is left parked near the track unattended by a watchman shall be effectively immobilized so that it cannot be moved by unauthorized persons. The Contractor shall protect, defend, indemnify and save Railroad, and any associated, controlled or affiliated corporation, harmless from and against all losses, costs, expenses, claim or liability for loss or damage to property or the loss of life or personal injury, arising out of or incident to the Contractor's failure to immobilize grading or construction machinery.

5.6 Cleanup:

5.6.1 Upon completion of the work, the Contractor shall remove from within the limits of the Railroad rights-of-way, all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the Contractor, and leave said rights-of-way in a neat condition satisfactory to the Chief Engineer of the Railroad or his authorized representative.

6.0 Damages:

6.1 The Contractor shall assume all liability for any and all damages to his work, employees, servants, equipment and materials caused by Railroad traffic.

6.2 Any cost incurred by the Railroad for repairing damages to its property or to property of its tenants, caused by or resulting from the operations of the Contractor, shall be paid directly to the Railroad by the Contractor.

7.0 Flagging Services:

7.1 Requirements:

7.1.1 If required for the project, Flagging services will not be provided until the contractor's insurance has been reviewed & approved by the Railroad.

7.1.2 Under the terms of the agreement between the Department and the Railroad, the Railroad has sole authority to determine the need for flagging required to protect its 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, 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.

7.1.3 Normally, the Railroad will assign one flagman to a project; but in some cases, more than one may be necessary, such as yard limits where three (3) flagmen may be required. However, if the Contractor works within distances that violate instructions given by the Railroad's authorized representative or performs work that has not been scheduled with the Railroad's authorized representative, a flagman or flagmen may be required full time until the project has been completed.

7.1.4 For projects exceeding 30 days of construction, the Contractor shall provide the flagmen a small work area with a desk/counter and chair within the field/site trailer, including the use of bathroom facilities, where the flagman can check in/out with the Project, as well as to the flagman's home terminal. The work area should provide access to two (2) electrical outlets for recharging radio(s), and a laptop computer; and have the ability to print off needed documentation and orders as needed at the field/site trailer. This should aid in maximizing the flagman's time and efficiency on the Project.

7.2 Scheduling and Notification:

7.2.1 The Contractor's work requiring railroad flagging should be scheduled to limit the presence of a flagman at the site to a maximum of 50 hours per week. The Contractor shall receive Railroad approval of work schedules requiring a flagman's presence in excess of 40 hours per week.

7.2.2 Not later than the time that approval is initially requested to begin work on Railroad right-of-way, Contractor shall furnish to the Railroad and the Department a schedule for all work required to complete the portion of the project within Railroad right-of-way and arrange for a job site meeting between the Contractor, the Department, and the Railroad's authorized representative. Flagman or Flagmen may not be provided until the job site meeting has been conducted and the Contractor's work scheduled.

7.2.3 The Contractor will be required to give the Railroad representative at least 10 working days of advance written notice of intent to begin work within Railroad right-of-way in accordance with this special provision. Once begun, when such work is then suspended at any time, or for any reason, the Contractor will be required to give the Railroad representative at least 3 working days of advance notice before resuming work on Railroad right-of-way. Such notices shall include sufficient details of the proposed work to enable the Railroad representative 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, it shall be confirmed in writing with copy to the Engineer. If flagging is required, no work shall be undertaken until the flagman, or flagmen are present at the job site. It may take up to 30 days to obtain flagging initially from the Railroad. When flagging begins, the flagman 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, it may take up to 30 days to again obtain from the

Railroad. Due to Railroad labor agreements, it is necessary to give 5 working days notice before flagging service may be discontinued and responsibility for payment stopped.

7.2.4 If, after the flagman is assigned to the project site, an emergency arises that requires the flagman's presence elsewhere, then the Contractor shall delay work on Railroad right-of-way until such time as the flagman is again available. Any additional costs resulting from such delay shall be borne by the Contractor and not the Department or Railroad.

7.3 Payment:

7.3.1 The Department will be responsible for paying the Railroad directly for any and all costs of flagging which may be required to accomplish the construction. These costs will be deducted from the contractor's payments.

7.3.2 The estimated cost of flagging is current rate per day based on a 10-hour work day (approximately \$1,000 per day). This cost includes the base pay for the flagman, overhead, and includes a per diem charge for travel expenses, meals and lodging. The charge to the Department 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.

7.3.3 Work by a flagman 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 and 1/2 times the appropriate rate. Work by a flagman in excess of 12 hours per day will result in overtime at 2 times the appropriate rate. If work is performed on a holiday, the flagging rate is 2 and 1/2 times the normal rate.

7.3.4 Railroad work involved in preparing and handling bills will also be charged to the Department. Charges to the Department by the Railroad shall be in accordance with applicable provisions of Subchapter B, Part 140, Subpart I and Subchapter G, Part 646, Subpart B of the Federal-Aid Policy Guide issued by the Federal Highway Administration on December 9, 1991, including all current amendments. Flagging costs are subject to change. The above estimates of flagging costs are provided for information only and are not binding in any way.

7.4 Verification:

7.4.1 Railroad's flagman will electronically enter flagging time via Railroad's electronic billing system. Any complaints concerning flagging must be resolved in a timely manner. If the need for flagging is questioned, please contact Railroad's System Engineer - Public Improvements. All verbal complaints will be confirmed in writing by the Contractor within 5 working days with a copy to the Department's Engineer. Address all written correspondence electronically to Railroad's System Engineer - Public Improvements:

7.4.2 The Railroad flagman assigned to the project will be responsible for notifying the Department 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 he performs such services for each separate period that services are provided. The Department Engineer will document such notification in the project records. When requested, the Department Engineer will also sign the flagman's diary showing daily time spent and activity at the project site.

8.0 Haul Across Railroad:

8.1 Where the plans show or imply that materials of any nature must be hauled across a Railroad, unless the plans clearly show that the Department has included arrangements for such haul in its agreement with the Railroad, the Contractor will be required to make all necessary arrangements with the Railroad regarding means of transporting such materials across the Railroad. The Contractor or Agency will be required to bear all costs incidental to such crossings whether services are performed by his own forces or by Railroad personnel.

8.2 No crossing may be established for use of the Contractor for transporting materials or equipment across the tracks of the Railroad Company unless specific authority for its installation, maintenance, necessary watching and flagging thereof and removal, until a temporary private crossing agreement has been executed between the Contractor and Railroad. The approval process for an agreement normally takes 90-days.

9.0 Work for the Benefit of the Contractor:

9.1 All temporary or permanent changes in wire lines or other facilities which are considered necessary to the project are shown on the plans; included in the force account agreement between the Department and the Railroad or will be covered by appropriate revisions to same which will be initiated and approved by the Department and/or the Railroad.

9.2 Should the Contractor desire any changes in addition to the above, then he shall make separate arrangements with the Railroad for same to be accomplished at the Contractor's expense.

10.0 Cooperation and Delays:

10.1 It shall be the Contractor's responsibility to arrange a schedule with the Railroad for accomplishing stage construction involving work by the Railroad or tenants of the Railroad. In arranging his schedule he shall ascertain, from the Railroad, the lead time required for assembling crews and materials and shall make due allowance therefore.

10.2 No charge or claim of the Contractor against either the Department or the Railroad Company will be allowed for hindrance or delay on account of railway traffic; any work done by the Railway Company or other delay incident to or necessary for safe maintenance of railway traffic or for any delays due to compliance with these special provisions.

11.0 Trainman's Walkways:

11.1 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, extending to a line not less than 10 feet from centerline of track, shall be maintained. 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. If there is any excavation near the walkway, a handrail, with 10'-0" minimum clearance from centerline of track, shall be placed and must conform to AREMA and/or FRA standards.

12.0 Guidelines for Personnel on Railroad Right-Of-Way:

12.1 The Contractor and/or the Agency's personnel authorized to perform work on Norfolk Southern's property as specified in Section 2 above are not required to complete Norfolk Southern Roadway Worker Protection Training; However the Contractor and the Agency's personnel must be familiar with Norfolk Southern's standard operating rules and guidelines, should conduct themselves accordingly, and may be removed from the property for failure to follow these guidelines.

12.2 All persons shall wear hard hats. Appropriate eye and hearing protection must be used. Working in shorts is prohibited. Shirts must cover shoulders, back and abdomen. Working in tennis or jogging shoes, sandals, boots with high heels, cowboy and other slip-on type boots is prohibited. Hard-sole, lace-up footwear, zippered boots or boots cinched up with straps which fit snugly about the ankle are adequate. Wearing of safety boots is strongly recommended. In the vicinity of at-grade crossings, it is strongly recommended that reflective vests be worn.

12.3 No one is allowed within 25' of the centerline of track without specific authorization from the flagman.

12.4 All persons working near track while train is passing are to lookout for dragging bands, chains and protruding or shifted cargo.

12.5 No one is allowed to cross tracks without specific authorization from the flagman.

12.6 All welders and cutting torches working within 25' of track must stop when train is passing.

12.7 No steel tape or chain will be allowed to cross or touch rails without permission from the Railroad.

13.0 Guidelines for Equipment on Railroad Right-Of-Way:

13.1 No crane or boom equipment will be allowed to set up to work or park within boom distance plus 15' of centerline of track without specific permission from railroad official and flagman.

13.2 No crane or boom equipment will be allowed to foul track or lift a load over the track without flag protection and track time.

13.3 All employees will stay with their machines when crane or boom equipment is pointed toward track.

13.4 All cranes and boom equipment under load will stop work while train is passing (including pile driving).

13.5 Swinging loads must be secured to prevent movement while train is passing.

13.6 No loads will be suspended above a moving train.

13.7 No equipment will be allowed within 25' of centerline of track without specific authorization of the flagman.

13.8 Trucks, tractors or any equipment will not touch ballast line without specific permission from railroad official and flagman. Orange construction fencing may be required as directed.

13.9 No equipment or load movement within 25' or above a standing train or railroad equipment without specific authorization of the flagman.

13.10 All operating equipment within 25' of track must halt operations when a train is passing. All other operating equipment may be halted by the flagman if the flagman views the operation to be dangerous to the passing train.

13.11 All equipment, loads and cables are prohibited from touching rails.

13.12 While clearing and grubbing, no vegetation will be removed from railroad embankment with heavy equipment without specific permission from the Railroad Engineer and flagman.

13.13 No equipment or materials will be parked or stored on Railroad's property unless specific authorization is granted from the Railroad Engineer.

13.14 All unattended equipment that is left parked on Railroad property shall be effectively immobilized so that it cannot be moved by unauthorized persons.

13.15 All cranes and boom equipment will be turned away from track after each work day or whenever unattended by an operator.

13.16 Prior to performing any crane operations, the contractor shall establish a single point of contact for the Railroad flagman to remain in communication with at all times. Person must also be in direct contact with the individual(s) directing the crane operation(s).

14.0 Insurance: The amount of work to be performed upon, over or under Railroad's right of way is estimated to be **one percent (1%)** of the contractor's total bid for the project.

14.1 In addition to any other forms of insurance or bonds required under the terms of the contract and specifications, the Prime Contractor will be required to carry insurance of the following kinds and amounts:

14.1.1 Commercial General Liability Insurance having a combined single limit of not less than \$2,000,000 per occurrence for all loss, damage, cost and expense, including attorneys' fees, arising out of bodily injury liability and property damage liability during the policy period. Said policy shall include explosion, collapse, and underground hazard (XCU) coverage, shall be endorsed to name Railroad specified in item 14.1.4.c. below both as the certificate holder and as an additional insured, and shall include a severability of interests provision.

14.1.2 Automobile Liability Insurance with a combined single limit of not less than \$1,000,000 each occurrence for injury to or death of persons and damage to or loss or destruction of property. Said policy or policies shall be endorsed to name Railroad specified in item 14.1.4.c. below both as the certificate holder and as an additional insured and shall include a severability of interests provision.

14.1.3 Railroad Protective Liability Insurance having a combined single limit of not less than \$2,000,000 each occurrence and \$6,000,000 in the aggregate applying separately to each annual period. If the project involves track over which passenger trains operate, the insurance limits required are not less than a combined single limit of \$5,000,000 each occurrence and

\$10,000,000 in the aggregate applying separately to each annual period. Said policy shall provide coverage for all loss, damage or expense arising from bodily injury and property damage liability, and physical damage to property attributed to acts or omissions at the job site.

14.1.4 The standards for the Railroad Protective Liability Insurance are as follows:

- a. The insurer must be rated A- or better by A.M. Best Company, Inc.

Note: NS does not accept from insurers Chartis (AIG or Affiliate Company including Lexington Insurance Company), Hudson Group or Liberty or Affiliated Company.

- b. The policy must be written using one of the following combinations of Insurance Services Office ("ISO") Railroad Protective Liability Insurance Form Numbers:

- i. CG 00 35 01 96 and CG 28 31 10 93; or
- ii. CG 00 35 07 98 and CG 28 31 07 98; or
- iii. CG 00 35 10 01; or
- iv. CG 00 35 12 04; or
- v. CG 00 35 12 07; or
- vi. CG 00 35 04 13.

- c. The named insured shall read:

Norfolk Southern Corporation and Its Subsidiaries
Three Commercial Place
Norfolk, Virginia 23510-2191
Attn: Risk Management

- d. The description of operations must appear on the Declarations, must match the project description in this agreement, and must include the appropriate Department project and contract identification numbers.

- e. The job location must appear on the Declarations and must include the city, state, and appropriate highway name/number. NOTE: Do not include any references to milepost on the insurance policy.

- f. The name and address of the prime contractor must appear on the Declarations.

- g. The name and address of the Department must be identified on the Declarations as the "Involved Governmental Authority or Other Contracting Party."

- h. Endorsements/forms that are required are:

- i. Physical Damage to Property Amendment
- ii. Terrorism Risk Insurance Act (TRIA) coverage must be included

- i. Other endorsements/forms that will be accepted are:

- i. Broad Form Nuclear Exclusion – Form IL 00 21

- ii. 30-day Advance Notice of Non-renewal or cancellation
- iii. Required State Cancellation Endorsement
- iv. Quick Reference or Index Form CL/IL 240

j. Endorsements/forms that are NOT acceptable are:

- i. Any Pollution Exclusion Endorsement except CG 28 31
- ii. Any Punitive or Exemplary Damages Exclusion
- iii. Known injury or Damage Exclusion form CG 00 59
- iv. Any Common Policy Conditions form
- v. Any other endorsement/form not specifically authorized in item no. i above.
- vi. An endorsement that limits or excludes Professional Liability coverage
- vii. A Non-Cumulation of Liability or Pyramiding of Limits Endorsements
- viii. An Endorsement that excludes TRIA coverage
- ix. A sole Agent Endorsement
- x. Any type of deductible endorsement or amendment

14.2 If any part of the work is sublet, similar insurance, and evidence thereof as specified in 14.1 above, shall be provided by or on behalf of the subcontractor to cover its operations on Railroad's right of way.

14.3 Prior to entry on Railroad right-of-way, the original Railroad Protective Liability Insurance Policy shall be submitted by the Prime Contractor to the Department at the address below for its review and transmittal to the Railroad. In addition, certificates of insurance evidencing the Prime Contractor's and any subcontractors' Commercial General Liability Insurance shall be issued to the Railroad and the Department at the addresses below, and forwarded to the Department for its review and transmittal to the Railroad. The certificates of insurance shall state that the insurance coverage will not be suspended, voided, canceled, or reduced in coverage or limits without (30) days advance written notice to Railroad and the Department. No work will be permitted by Railroad on its right-of-way until it has reviewed and approved the evidence of insurance required herein.

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

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

14.4 The insurance required herein shall in no way serve to limit the liability of Department or its Contractors under the terms of this agreement.

14.5 Insurance Submission Procedures

14.5.1 Norfolk Southern will only accept initial insurance submissions via US Mail or Overnight carrier to the address noted in C above. NS will NOT accept initial insurance submissions via email or faxes.

14.5.2 Norfolk Southern requires the following two (2) forms of insurance in the initial insurance submission to be submitted under a cover letter providing details of the project and contact information:

- a. The original or certified true copy of the railroad protective liability insurance policy.
- b. The contractor's commercial general, automobile, and workers' compensation liability insurance certificate of liability insurance evidencing a combined single limit of a minimum of \$2M per occurrence of general and \$1M per occurrence of automobile liability insurance naming Norfolk Southern Railway Company, Three Commercial Place, Norfolk, VA 23510 as the certificate holder and as an additional insured on both the general and automobile liability insurance policy.

14.5.3 Norfolk Southern does not accept notation of Railroad Protective insurance on a certificate of liability insurance form or Binders as Norfolk Southern must have the full original countersigned policy. Norfolk Southern understands that this can typically take a minimum of 30-45 days to receive for review. Please also note that mere receipt is not the only issue but review for compliance, which Norfolk Southern has 10 business days from receipt to respond.

15.0 Failure to Comply:

15.1 In the event the Contractor violates or fails to comply with any of the requirements of these Special Provisions:

15.1.1 The Railroad Engineer may require that the Contractor vacate Railroad property.

15.1.2 The Engineer may withhold all monies due the Contractor on monthly statements.

15.2 Any such orders shall remain in effect until the Contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

16.0 Payment for Cost of Compliance:

16.1 No separate payment will be made for any extra cost incurred on account of compliance with these special provisions. All such costs shall be included in prices bid for other items of the work as specified in the payment items.

17.0 Project Information:

Date: 05/02/2018

NS File No.: _____

NS Milepost: **St. Louis Subdivision: (MP S-22.81) DOT# 483 481D**

Department's Project No.: J6P2325

F.5 – Construction Right of Entry Agreement

The following pages are an example of a typical Construction Right of Entry Agreement drafted by Norfolk Southern. This agreement is required to be signed by any contractor that will be performing work that has the potential to impact Norfolk Southern's right of way. This agreement will be utilized in conjunction with all Construction Agreements with the Project

Sponsor. Please note that this agreement will be modified based on the project conditions.

NORFOLK SOUTHERN
CONSTRUCTION RIGHT OF ENTRY AGREEMENT

WHEREAS, _____ ("Principal") has requested that Norfolk Southern Railway Company ("Company") permit Principal to be on or about Company's premises and/or facilities at or in the vicinity of _____ (the "Premises") for the sole purpose of _____, on behalf of _____ (the "Project Sponsor") during the period _____, 20____, to _____, 20____ (the "Right of Entry").

WHEREAS, Company is willing to grant the Right of Entry subject to the terms and conditions set forth herein.

NOW THEREFORE, in consideration of the foregoing and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the parties hereby agree as follows.

Company hereby grants Principal the Right of Entry. The Right of Entry shall extend to Principal and to subcontractors and other entities affiliated with Principal who are specifically approved for entry by authorized representatives of Company in writing, as well as to the officers and employees of the foregoing (collectively "Licensees"). The Right of Entry shall apply to those portions of the Premises, and to such equipment, machinery, rolling stock and other personal property and fixtures belonging to Company or otherwise located on the Premises, only to the extent specifically designated and approved in writing by authorized representatives of Company (collectively, "Designated Property").

Principal agrees:

(i) that Licensees' access to the Premises shall be limited to the Designated Property and that Principal shall be liable and fully responsible for all actions of Licensees while on the Premises pursuant to the Right of Entry;

(ii) that Licensees shall (a) be subject to Company's direction when upon the Premises, and (b) be subject to Company's removal from the Premises, in Company's sole discretion, due to negligence, misconduct, unsafe actions, breach of this agreement or the failure to act respectfully, responsibly, professionally, and/or in a manner consistent with Company's desire to minimize risk and maintain its property with maximum security and minimum distractions or disruptions or for any other lawful reason;

(iii) that Licensees shall perform all work with such care, diligence and cooperation with Company personnel as to reasonably avoid accidents, damage or harm to persons or property and delays or interference with the operations of any Company's facilities and in accordance with Company's "Special Provisions for Protection of Railway Interest", attached and incorporated herein.

(iv) to give Company's officer signing this agreement, or his or her authorized representative, advance notification of the presence of Licensees on Designated Property in accordance with Company's "Special Provisions for Protection of Railway Interest";

(v) to indemnify and save harmless Company, its officers, agents and employees from and against any and all claims, demands, losses, suits, judgments, costs, expenses (including without limitation reasonable attorney's fees) and liability resulting from (a) injury to or death of any person, including without limitation the Licensees, and damage to or loss of any property, including without limitation that belonging to or in the custody of Licensees (the "Licensee Property"), arising or in any manner growing out of the presence of either the Licensees or the Licensee Property, or both, on or about the Premises, regardless of whether negligence on the part of Company, its officers, agents or employees caused or contributed to said loss of life, personal injury or property loss or damage in whole or in part; (b) any alleged violation of any law, statute, code, ordinance or regulation of the United States or of any state, county or municipal government (including, without limitation, those relating to air, water, noise, solid waste and other forms of environmental protection, contamination or pollution or to discrimination on any basis) that results in whole or in part, directly or indirectly, from the activities of Licensees related in any way to their presence on the Premises or from any other act or omission of Licensees contributing to such violation, regardless of whether such activities, acts or omissions are intentional or negligent, and regardless of any specification by Company without actual knowledge that it might violate any such law, statute, code, ordinance or regulation; (c) any allegation that Company is an employer or joint employer of a Licensee or is liable for related employment benefits or tax withholdings; or (d) any decision by Company to bar or exclude a Licensee from the Premises pursuant to subsection (ii)(b) above;

(vi) to have and keep in effect the appropriate kinds of insurance as listed in the Company's "Special Provisions for Protection of Railway Interest, with insurance companies satisfactory to Company, during the entire time Licensees or Licensee Property, or both, is on the Premises; and to provide certificates of insurance showing the foregoing coverage, as well as any endorsements or other proper documentation showing and any change or cancellations in the coverage to the Company officer signing this agreement or to his or her authorized representative;

(vii) to reimburse Company for any costs not covered under the existing construction agreement between the Company and the Project Sponsor, including any material, labor, supervisory and protective costs (including flagging) and related taxes and overhead expenses required or deemed necessary by Company because of the presence of either Licensees or Licensee Property on the Premises;

(viii) to exercise special care and precautions to protect the Premises and equipment, machinery, rolling stock and other personal property and fixtures belonging to Company or otherwise located on the Premises (whether or not constituting Designated Property) and to avoid interference with Company's operations;

(ix) to not create and not allow drainage conditions which would be adverse to the Premises or any surrounding areas;

(x) to refrain from the disposal or release of any trash, waste, and hazardous, dangerous or toxic waste, materials or substances on or adjacent to the Premises and to clean up or to pay Company for the cleanup of any such released trash, waste, materials or substances; and

(xi) to restore the Premises and surrounding areas to its original condition or to a condition satisfactory to the Company officer signing this agreement or to his or her authorized representative (ordinary wear and tear to rolling stock and equipment excepted) upon termination of Licensees' presence on the Premises.

As a part of the consideration hereof, Principal further hereby agrees that Company shall mean not only Norfolk Southern Railway Company but also Norfolk Southern Corporation and any and all subsidiaries and affiliates of Norfolk Southern Railway Company or Norfolk Southern Corporation, and that all of Principal's indemnity commitments in this agreement in favor of Company also shall extend to and indemnify Norfolk Southern Corporation and any subsidiaries and affiliated companies of Norfolk Southern Railway Company or Norfolk Southern Corporation and its and/or their directors, officers, agents and employees.

It is expressly understood that the indemnification obligations set forth herein cover claims by Principal's employees, agents, independent contractors and other representatives, and Principal expressly waives any defense to or immunity from such indemnification obligations and/or any subrogation rights available under any applicable state constitutional provision, laws, rules or regulations, including, without limitation, the workers' compensation laws of any state. Specifically, (i) in the event that all or a portion of the Premises is located in the State of Ohio, the following provision shall be applicable: "Principal, with respect to the indemnification provisions contained herein, hereby expressly waives any defense or immunity granted or afforded it pursuant to Section 35, Article II of the Ohio Constitution and Section 4123.74 of the Ohio Revised Code"; and (ii) in the event that all or a portion of the Premises is located in the Commonwealth of Pennsylvania, the following provision shall be applicable: "Principal, with respect to the indemnification provisions contained herein, hereby expressly waives any defense or immunity granted or afforded it pursuant to the Pennsylvania Workers' Compensation Act, 77 P.S. 481".

This agreement shall be governed by the internal laws of the Commonwealth of Virginia, without regard to otherwise applicable principles of conflicts of laws. If any of the foregoing provisions is held for any reason to be unlawful or unenforceable, the parties intend that only the specific words found to be unlawful or unenforceable be severed and deleted from this agreement and that the balance of this agreement remain a binding enforceable agreement to the fullest extent permitted by law.

This agreement may be amended only in a writing signed by authorized representatives of the parties.

Name of Principal _____ NORFOLK SOUTHERN RAILWAY COMPANY

By _____ By _____

Title _____ Title _____

Date _____, 20____ Date _____, 20____

R. Pavement Marking Removals

1.0 Description. Pavement Marking Removal shall be in accordance with Section 620.50 and specifically as follows.

2.0 Construction Requirements. Removal of all pavement marking within the project limits shall be as shown on the plans or as approved by the engineer. Pavement marking shall be completely removed to the satisfaction of the engineer with minimal damage to the pavement. The contractor shall use an approved **water blasting method** to remove the pavement marking on concrete surfaces. No more than five percent of the existing marking shall remain. The pavement surface shall not be left scarred with an image that might mislead traffic. Any excess damage or scarring of the pavement shall be repaired at the contractor's expense. It shall be the contractor's responsibility to determine what type of material needs to be removed.

3.0 Method of Measurement. The contractor shall be advised that the first sentence within Section 620.50.3.2 shall be removed and replaced with the following: If the width of the lane marking stripe to be removed is either 4-inches or 6-inches in width, no additional pay factor, based upon 4-inches, shall be included or paid for removals unless the striping width is greater than 6-inches. 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.

4.0 Basis of Payment. The accepted quantity of pavement marking removal including all labor, equipment, and material necessary to remove the existing marking will be paid for at the contract unit price for the following pay item:

Item 620-70.01	Pavement Marking Removal	LF
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S. Temporary Striping

1.0 Description. This work shall consist of furnishing and installing the appropriate 6-inch yellow markings as shown in the plans.

2.0 Material. All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

Item	Section
Preformed Removable Pavement Marking Tape	1048.10

3.0 Construction Requirements.

3.1 All preformed removable pavement marking tape within the project limits shall be maintained by the contractor as the contractor's expense in a manner approved by the engineer. All preformed removable pavement marking tape shall be installed according to the manufacturer's recommendations.

4.0 Basis of Payment. The accepted quantity of preformed removable marking tape will be paid at the contract unit price for each of the pay items included in the contract. All labor, equipment and material cost required to fulfill this requirement shall be included in the unit price for the following pay items:

Item 620-99.03 Preformed Removable Marking Tape, 6" Yellow

LF

T. Temporary Contrast Striping

1.0 Description. This work shall consist of furnishing and installing black preformed removable pavement marking tape under the appropriate 4-inch temporary white markings as shown in the plans.

2.0 Material. All material shall be in accordance with Division 1000, Material Details, and specifically as follows:

Item	Section
Temporary Pavement Marking Materials	1048.10

3.0 Construction Requirements.

3.1 The temporary contrast markings shall be accomplished by placing the 6 inch black nonreflective preformed removable pavement marking on the roadway and then placing the 4 inch white preformed removable marking tape on top according to manufacturer's recommendations.

3.2 The white marking shall be centered within the black marking such that there will be a 1 inch border of black on both sides of the white marking. Tolerances for the width and length of the black and white markings shall be in accordance with Sec 620.20.1.5.

3.3 All preformed removable pavement marking tape within the project limits shall be maintained by the contractor at the contractor's expense in a manner approved by the engineer. All preformed removable pavement marking tape shall be installed according to the manufacturer's recommendations.

4.0 Basis of Payment. The accepted quantity of preformed removable marking tape will be paid at the contract unit price for each of the pay items included in the contract. All labor, equipment and material cost required to fulfill this requirement shall be included in the unit price for the following pay items:

Item 620-99.03 6" Temporary Removable Contrast Marking Tape

LF

U. Intermittent Pavement Markings Layout

1.0 Description. The striping lane lines on sections of roadway with multiple traffic lanes in one direction shall be placed in a manner in which the start and stop points for all intermittent lane lines match and line up even transversely across all traffic lanes. For all installations of intermittent pavement markings care should be taken to align the skips longitudinally to consistently match the spacing of the existing UIP intermittent lane lines at both the start and end points of the improvement section.

2.0 Construction Requirements.

2.1 The contractor shall submit to the Engineer for review and approval a pavement marking installation plan. This plan will include the contractor's proposal for installing the intermittent pavement markings to meet the requirements outlined above.

2.2 Final striping will not begin until the contractor has received approval of the pavement marking installation plan.

3.0 Basis of Payment. All cost and expenses incurred by the Contractor in fulfilling the requirements of the provision shall be considered incidental to pavement marking cost.

V. Contrast Pavement Markings

1.0 Description. This work shall consist of furnishing and installing black contrasting pavement marking for intermittent markings (skips), dotted lines and solid intersection lane lines on concrete surfaces. This work shall be in accordance with Sec 620 and accompanying provisions except as modified herein.

2.0 Material. The black contrast marking shall be compatible with the white pavement marking material specified in the plans.

3.0 Construction Requirements.

3.1 The Contrast markings shall be accomplished by placing the black pavement marking on the pavement with the application of the white pavement marking on top of the black marking after the black marking has cured according to manufacturer's recommendations. **No payment** shall be made to the contractor for the portion of the black stripe placed underneath the intermittent white pavement marking. The black contrast marking and the white skips shall be placed according to the plans.

3.2 The white marking shall be centered within the black marking such that there will be a 1.5 inch border of black on both sides of the white marking. Tolerances for the width and length of the black and white markings shall be in accordance with Sec 620.20.1.5.

3.3 As an alternate to the above, contrast marking shall be accomplished by placing the black pavement marking at the same time as the white pavement marking, and omitting a black pavement marking in the area directly under each of the intermittent white pavement markings. If this alternate is used, the white skip shall be centered between the black skips as shown in the plans. Tolerances for the width and length of the black and white markings shall be in accordance with Sec 620.20.1.5.

3.4 For solid lane line pavement markings, the contrast shall be placed as described above.

4.0 Method of Measurement.

4.1 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.

5.0 Basis of Payment. The accepted quantity of black contrast pavement marking, excluding the length under the white skips, will be paid for at the contract unit price for:

Item 620-99.03 9 in. Black High Build Waterborne Paint Contrast Pavement Marking	Linear Foot
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The white intermittent or white solid markings will be paid for separately at the contract unit price for:

Item 620-59.02A 6 in. White High Build Waterborne Pavement Marking Paint, Type L Beads	Linear Foot
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W. 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).

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.

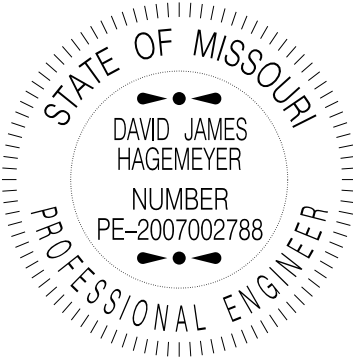
5.0 Quality Assurance Testing and Inspection. MoDOT will perform quality assurance testing and inspection of the work, except as specified herein. The contractor shall utilize the inspection checklists provided in the ITP as a guide to minimize findings by MoDOT inspection staff. Submittal of completed 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.

TABLE OF CONTENTS

- A.** Construction Requirements
- B.** Total Surface Hydro Demolition and Monolithic Deck Repair
- C.** Clean and Epoxy Seal

 <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65101 Phone (888) 275-6636
	If a seal is present on this sheet, JSP's has been electronically sealed and dated.
	JOB NO. J6P2325 St. Charles County, MO Date Prepared: 8/15/2018
	Addendums only, blank otherwise Addendum No. #
Only the following items of the Job Special Provisions (Bridge) are authenticated by this seal: A thru C	

A. CONSTRUCTION REQUIREMENTS

1.0 Description. This provision contains general construction requirements for this project.

Construction Requirements. Plans for the existing structure(s) are included in the contract; in the bridge electronic deliverables zip file for informational purposes only.

2.0 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.

2.3 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.

2.6 Provisions shall be made to prevent any debris and materials from falling 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.

2.7 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.

2.8 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.

B. TOTAL SURFACE HYDRO DEMOLITION AND MONOLITHIC DECK REPAIR

1.0 Description. This provision describes requirements for the hydro demolition process and all other preparatory and repair work associated with the placement of a concrete wearing surface on a bridge deck. Included in this provision are the requirements for scarification of the bridge deck, removal of unsound existing deck repairs, total surface hydro demolition of the deck, preparation of the deck for a concrete wearing surface, and monolithic deck repair.

2.0 Mechanical Scarification of the Bridge Deck.

2.1 Prior to hydro demolition, any existing wearing surface (concrete, asphalt, seal coat, etc.)

shall be removed and the original deck shall be scarified 0.5 inch or to the adjusted depth described in Section 2.4. Scarification shall be done by mechanical means such as cold milling.

2.2 Removal of any existing deck surface, including measurement and payment, shall be in accordance with Sec 216.30. Scarification is included in the cost of the removal of the existing wearing surface.

2.3 For decks that do not have an existing wearing surface, the deck shall be scarified with measurement and payment made in accordance with Sec 216.20, Scarification of Bridge Decks.

2.4 Prior to scarification of the existing deck, the contractor shall verify the depth of the top mat of reinforcing steel within the deck. If the depth of the reinforcing steel is less than 0.5 inch, the cold milling depth shall be reduced to avoid damage to the reinforcing steel. Any reinforcing steel damaged by the milling operation shall be repaired or replaced at the contractor's expense.

3.0 Removal of Unsound Existing Deck Repairs.

3.1 Following scarification of the deck and prior to hydro demolition, the engineer will visually inspect and perform a sounding test on all existing deck repairs. Existing deck repairs are defined as any repairs made to the original deck previous to this project. Existing deck repairs that are loose, partially delaminated, or otherwise unsound, will be measured by the engineer and marked for removal. The contractor shall remove the existing deck repairs per Sec 704.4.1.3. Removal shall not include any unsound original bridge deck concrete. Payment for removal of any loosened existing deck repairs will be made per Section 6.2.

3.2 Following removal of unsound existing deck repairs, all debris shall be removed from the deck prior to hydro demolition, at no additional cost.

4.0 Total Surface Hydro Demolition and Deck Repair.

4.1 Description. This work shall consist of the selective removal of all unsound concrete over the entire top surface of the bridge deck, and establishment of a highly rough and bondable surface, with a single pass of hydro demolition equipment. Unsound concrete is defined as existing bridge deck concrete that is deteriorated, spalled or as determined by the engineer to be unacceptable.

4.2 Material. Water used in the hydro demolition shall be in accordance with Sec1070.

4.3 Environmental Compliance.

4.3.1 Prior to the start of any bridge repair work, the contractor shall submit to the engineer for review an Environmental Compliance Plan (ECP) that ensures compliance with all federal, state, and local environmental laws and regulations. The ECP shall include specific details of the contractor's plan for containment, filtering, and disposal of water, slurry, and other debris,

including all best management practices (BMPs) that the contractor plans to utilize to prevent environmental pollution and protect the waters of the state.

4.3.2 All drains, joints, and other locations where discharge water could exit the deck shall be blocked in order to direct runoff to a central collection and filtering location, as designed by the contractor. When runoff is allowed to be dispersed adjacent to the bridge, BMPs shall be utilized to contain and filter the slurry to prevent the discharge of slurry or other contaminants.

4.3.3 No direct payment will be made for compliance with this ECP, including, but not limited to, containment of the water and slurry, installing, maintaining, and removing the BMPs, filtering, and disposal of all waste materials.

4.4 Equipment.

4.4.1 The hydro demolition process shall consist of a water supply system, a high pressure water pumping system, and a demolition type unit. The demolition unit shall be robotic, computerized, and self-propelled, utilizing a high pressure water jet stream that is capable of removing concrete to the desired depths specified with a single pass of the unit, including the selective removal of all unsound concrete. It shall also be capable of cleaning rust and concrete particles from all exposed reinforcing steel. The resulting concrete surface profile shall be one that is highly rough and bondable.

4.4.2 The hydro demolition equipment shall provide shielding to ensure containment of all dislodged concrete within the removal area in order to protect the traveling public and work crew from flying debris on, adjacent to, and below the work site.

4.4.3 Vacuum equipment shall be utilized for clean-up of hydro demolition debris. This equipment shall be equipped with fugitive dust control devices and shall be capable of removing wet debris and standing water in the same pass.

4.4.4 Calibration. The hydro demolition equipment shall be calibrated on a representative sample of sound deck concrete, as directed by the engineer. The calibration will demonstrate the ability to cut to the desired depth, as indicated on the plans, in a single pass. The minimum allowable water pressure shall be 13,000 psi and the maximum water pressure shall not exceed 20,000 psi. The minimum allowable water usage shall be 20 gallons per minute. The calibration shall accomplish the desired surface roughness, profile, and cutting depth as indicated on the contract plans. The equipment shall then be moved to an area of deteriorated deck, as directed by the engineer, in order to demonstrate the ability to remove all unsound material. The equipment shall selectively remove all unsound concrete, avoid the removal of unnecessary sound concrete, and provide a highly rough and bondable surface.

4.4.4.1 If the equipment does not demonstrate the ability to produce the desired result, as determined by the engineer, the equipment shall be removed from the project and the contractor shall provide other equipment for calibration. No additional contract time or compensation will be allowed for the mobilization of replacement equipment to the work site.

4.4.4.2 After the contractor has calibrated the equipment settings to the satisfaction of the engineer so that the equipment does selectively remove all unsound concrete and provide a highly rough and bondable surface, without removing additional sound concrete, the calibration will be approved by the engineer and the contractor shall record the equipment settings as follows:

Water Pressure Gauge	
Machine Staging Control (Step)	
Nozzle Size	
Nozzle Type	
Nozzle Travel Speed	
Water Usage Rate	

4.5 Hydro Demolition Operation Requirements.

4.5.1 After calibration of the equipment, the contractor shall perform total surface hydro demolition over the entire surface of the bridge deck. The settings shall be maintained throughout the operation, unless the desired results are not being attained, in which case re-calibration shall be performed. Calibration shall be required on each bridge and when different equipment is brought to the site for use. The engineer will periodically verify the calibration settings to ensure the desired results are being attained.

4.5.2 The operator shall minimize the overlap of the individual hydro demolition passes to limit the amount of sound concrete removal.

4.5.3 When the hydro demolition process is taking place above an area of concern, the contractor shall take measures to protect that area from hydro blasting through the deck, falling

debris, water runoff, or any other action that the engineer considers a risk to public safety or a risk of property damage. An area of concern shall include vehicular traffic, boat traffic, pedestrian traffic, parking areas, private property, railroad property or any other area of concern as determined by the engineer.

4.5.4 Only those vehicles directly required to perform the hydro demolition work and clean-up, or corresponding overlay construction equipment, shall be allowed on the bridge deck. Contamination of the deck by construction equipment or any other source shall be prevented.

4.5.5 The contractor shall clean up the slurry and rubble from the hydro demolition operation as soon as possible following the hydro demolition process. This clean-up shall be completed prior to the drying of the slurry on the deck and reinforcing steel. The contractor shall utilize a vacuum collection type system capable of removing wet debris and water in a single operation. Following the cleaning, the surface shall be free of all debris, loose material, slurry, or cement paste.

4.6 Post-Hydro Demolition Concrete Removals.

4.6.1 After the deck has been cleaned and dried, and is free of frost, the engineer will perform a second sounding test of the entire deck and identify any unsound original deck material that remains, as well as any existing deck repairs that may have been loosened during the process.

4.6.2 The contractor shall remove all identified unsound original deck material, as well as any areas on the deck that were inaccessible to the hydro demolition equipment. This removal work shall be included in the cost of the hydro demolition. Payment for removal of any loosened existing deck repairs will be made per Section 6.2.

4.6.3 All post-hydro demolition removals shall be done with pneumatic hammers no heavier than the nominal 35-pound class and operated no more than a 45 degree angle from the horizontal. Use of mechanical equipment for the purpose of chipping shall be kept to the absolute minimum to avoid creating micro-fractures on the surface of the deck.

4.6.4 Reinforcing Steel Repair. The contractor shall take steps necessary to prevent damage to existing reinforcing steel. All equipment shall be operated in a manner that does not damage the deck, reinforcing steel or superstructure components. Any damage caused by the contractors equipment or negligence shall be repaired at the contractors expense.

4.6.4.1 Reinforcing steel that is exposed by the process shall be cleaned and repaired in accordance with Sec 704, except that where the bond between the existing concrete and reinforcing steel has not been compromised, as determined by the engineer, then removal of concrete around the perimeter of the bar, as specified in Sec 704.4.1.7, shall not apply. Partially exposed reinforcing steel that is bonded to the deck concrete is acceptable.

4.6.4.2 Replacement of damaged reinforcing steel may include the removal of additional concrete to adequately anchor reinforcing steel to the appropriate lap splice length in accordance with Sec 706.

4.6.4.3 No direct payment will be made for additional cleaning of reinforcing steel or for removal of loose concrete from the bars. Replacement of reinforcing steel will be made at the fixed unit price in Sec 109.15, except that no payment will be made for replacement of reinforcing steel cut or broken by the contractor.

4.7 Forming for Full Depth Repairs.

4.7.1 Following removal of unsound concrete by hydro demolition and hand chipping, any areas requiring a full depth repair will be identified by the engineer.

4.7.2 If the engineer determines the full depth repair can be made monolithic with the deck overlay, the contractor shall form the bottom of the repair prior to the overlay. No payment will be made for forming the bottom of full depth monolithic repairs, including form removal.

4.7.3 If the engineer determines the full depth repair shall be made prior to the deck overlay, repairs and payment for repairs shall be in accordance with Sec 704. Concrete or qualified repair mortars used for full depth repairs made prior to the deck overlay shall be fully cured prior

to the overlay.

4.8 Preparation of Deck for Concrete Wearing Surface.

4.8.1 All areas of the deck, where further removal of concrete was performed with pneumatic hammering after the hydro demolition, shall be thoroughly sand blasted to remove any loose material and micro-cracking. After completion of sand blasting and associated clean-up of debris, the entire deck surface shall be thoroughly cleaned by high pressure water blasting with sufficient pressure to remove all debris and slurry residue. Water blasting shall continue until the run-off water from cleaning flows clear.

4.8.2 After cleaning, the deck surface shall be thoroughly saturated to the point that the surface does not dry out, and any excess water removed with compressed air. Clean polyethylene sheeting shall then be used to cover the deck completely until such time as the overlay is poured. Just prior to placement of the overlay, the deck shall be brought to a saturated surface dry (SSD) condition and maintained in a SSD condition throughout the pour, with no ponding of water.

4.9 Monolithic Deck Repair.

4.9.1 Monolithic deck repair is defined as providing and placing the deck overlay material necessary to fill all depressions in the deck below the bottom of the planned deck overlay thickness. This material is placed monolithic during the deck overlay process.

Shallow and deep areas, including approved full depth repair areas, shall be filled monolithically with the deck overlay. Deep areas shall be filled in advance during the wearing surface pour so that material stiffens enough that it will not roll back under the paving screed. Any standing water on the deck or in the depressed areas shall be removed prior to placement of concrete overlay material. Hand vibrators shall be used in areas where concrete is being placed around reinforcement, deeper areas within the pour, and along curb lines and construction joints.

4.9.2 The volume of material necessary to fill areas removed by the contractor's negligence, including milling too deep during scarification and excessive overlap of hydro demolition passes, will be deducted from the total quantity of monolithic deck repair.

5.0 Method of Measurement.

5.1 Measurement for Removal of Existing Deck Repairs will be made to the nearest square foot. Measurement will include removal of existing deck repairs made both prior to and following hydro demolition.

5.2 Measurement for Total Surface Hydro Demolition will be per square yard of the bridge deck as specified on the plans or shown in the contract. No final measurement will be made for hydro demolition except for authorized changes during construction or where appreciable errors are found in the contract quantity.

5.3 Measurement for Monolithic Deck Repair will be made to the nearest 0.1 cubic yards. The quantity of monolithic deck repair will be determined by deducting the theoretical volume of material necessary to construct the deck overlay at plan thickness from the total volume of deck overlay material placed on the deck surface. Any volume of material wasted or used to fill depressed areas caused by the contractor's negligence in scarification or concrete removal will not be included in this quantity.

6.0 Basis of Payment

6.1 Payment for removal of an existing wearing surface, when required, and scarification will be as specified in Section 2.0.

6.2 Payment for Removal of Existing Deck Repairs will be made at the contract unitprice.

6.3 Payment for Total Surface Hydro Demolition of the bridge deck will be paid for at the contact unit price. Payment includes all work associated with the hydro demolition process including, but not limited to, ECP, equipment calibration, hand chipping curb areas, removal of remaining unsound concrete, clean-up of debris and slurry, forming for full depth monolithic repairs, and preparation of the deck for concrete wearing surface.

6.4 Payment for Monolithic Deck Repair will be made at the fixed unit price for the type of overlay material specified in the plans. Fixed unit prices shall be: \$600 per cubic yard for Calcium Sulfoaluminate Cement Concrete Wearing Surface, \$600 per cubic yard for Latex Modified Concrete and \$850 per cubic yard for Latex Modified High Early Strength Concrete. Payment for Monolithic Deck Repair includes all material, labor and equipment, and any other incidental items necessary to complete the work. Labor and equipment costs for placing the wearing surface concrete monolithically with the deck repair will be considered completely covered by the contract unit price for the concrete wearing surface.

C. CLEAN AND EPOXY SEAL

1.0 Description. In order to protect the bridge superstructure concrete from deicing chemicals and other contaminants, loose and delaminated concrete shall be removed and an epoxy seal shall be applied to the concrete in the area of curb outlets and the vertical face of the curbs in accordance with the bridge plans and this job special provision.

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 repairs have been performed and the concrete fully cured as required by the epoxy manufacturer's written recommendations, 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 follows:

(a) Approximately 7 SF of the left safety barrier curb at the East end of Bridge A49991.

(b). Approximately 448 SF of the exposed face of the diaphragm and beam at end bent # 6 Bridge A51091.

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 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.