

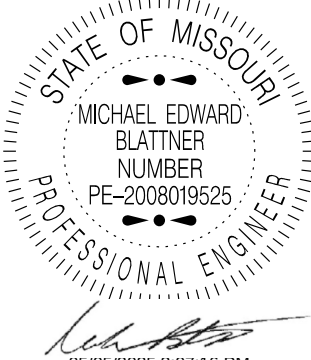
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(Job Special Provisions shall prevail over General Special Provisions whenever in conflict therewith.)

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**1** **REVISED**

Job No.: J6P3649  
Route: 370  
County: St.Charles/St.Louis

|                                                                                                                                                                   |                                                                                                                                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <br>05/05/2025 3:07:16 PM<br>MICHAEL EDWARD BLATTNER - CIVIL<br>MO-PE-2008019525 | <b>MISSOURI HIGHWAYS AND<br/>TRANSPORTATION COMMISSION</b><br>105 W. CAPITOL AVE.<br>JEFFERSON CITY, MO 65102<br>Phone 1-888-275-6636 |
|                                                                                                                                                                   | If a seal is present on this sheet, JSP's<br>have been electronically sealed and<br>dated.                                            |
|                                                                                                                                                                   | JOB NUMBER: J6P3649<br>ST. CHARLES/LOUIS COUNTY, MO<br>DATE PREPARED: 10/28/2024                                                      |
|                                                                                                                                                                   | ADDENDUM DATE:<br><b><u>R001 May 5, 2025</u></b>                                                                                      |
| Only the following items of the Job Special Provisions (Roadway) are<br>authenticated by this seal: All                                                           |                                                                                                                                       |

JOB  
SPECIAL PROVISION

A. General - Federal JSP-09-02K

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

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

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

General Provisions & Supplemental Specifications

Supplemental Plans to July 2024 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 JSP- 13-01D

**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 on all projects 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: July 7, 2025  
Contract Completion Date: October 31, 2026

**2.1 Calendar Days and Completion Dates.** Completion of the project is required as specified herein. The count of calendar days will begin on the date the contractor starts any construction operations on the project.

| Project | Calendar Days | Daily Road User Cost |
|---------|---------------|----------------------|
| J6P3649 | N/A           | \$9,800              |

**3.0 Liquidated Damages for Contract Administrative Costs.** Should the contractor fail to complete the work on or before the contract 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 **\$2000** 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 specified contract 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 contract 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 JSP-02-06N

**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 Deficiencies.** Failure to make corrections on time may result in the engineer suspending work. The suspension will be non-excusable and non-compensable regardless if road user costs are being charged for closures.

**2.0 Traffic Management Schedule.**

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

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

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

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

**2.5 Traffic Congestion.** The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of 10 minutes to prevent congestion from escalating to 15 minute or above threshold. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, 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.

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

**2.5.1.1 Recurring Congestion.** 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 Non-Recurring Congestion.** When traffic queues 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 infrequently, 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** Except for emergency work, as determined by the engineer, and long term lane closures required by project phasing, all lanes shall be scheduled to be open to traffic during the five major holiday periods shown below, from 12:00 noon on the last working day preceding the holiday until

6:00 a.m. on the first working day subsequent to the holiday unless otherwise approved by the engineer.

Memorial Day  
Labor Day  
Thanksgiving  
Christmas  
New Year's Day

**3.1.1 Independence Day.** The lane restrictions specified in Section 3.1 shall also apply to Independence Day, except that the restricted periods shall be as follows:

| When Independence Day falls on: | The Holiday is Observed on: | Halt Lane Closures beginning at: | Allow Lane Closures to resume at: |
|---------------------------------|-----------------------------|----------------------------------|-----------------------------------|
| Sunday                          | Monday                      | Noon on Friday                   | 6:00 a.m. on Tuesday              |
| Monday                          | Monday                      | Noon on Friday                   | 6:00 a.m. on Tuesday              |
| Tuesday                         | Tuesday                     | Noon on Monday                   | 6:00 a.m. on Wednesday            |
| Wednesday                       | Wednesday                   | Noon on Tuesday                  | 6:00 a.m. on Thursday             |
| Thursday                        | Thursday                    | Noon on Wednesday                | 6:00 a.m. on Friday               |
| Friday                          | Friday                      | Noon on Thursday                 | 6:00 a.m. on Monday               |
| Saturday                        | Friday                      | Noon on Thursday                 | 6:00 a.m. on Monday               |

**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 contractor's 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. The contractor may work during the following listed hours:

Route 370 Eastbound:  
Single-lane drop – 9am – 5am  
Double-lane drop – 6pm – 5:30am

Route 370 Westbound:  
Single-lane drop – 6pm – 1pm  
Double-lane drop – 7pm – 5:30am

Route 94 Eastbound and Westbound:  
Single-lane drop – 9pm – 6am

#### **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. If a CMS with Communication Interface is required, then the CMS shall be capable of communication 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 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 JSP-90-11A**

**1.0** The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from law enforcement or other emergency agencies for incident management. In case of traffic accidents or the need for law enforcement to direct or restore traffic flow through the job site, the contractor shall notify law enforcement 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 law enforcement services, the following agencies may also be notified for accident or emergency situation within the project limits.

|                                                                                                                                                                  |                                             |                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Missouri Highway Patrol (636) 300-2800<br>St. Charles County Police Department (636) 949-3000<br>St. Louis County Police Department 314-355-1200 (NoCo Precinct) |                                             |                                                                                                                |
| St. Charles County<br>Ambulance District<br>(636) 344-7600                                                                                                       | Pattonville Fire District<br>(314) 739-3118 | MoDOT Transportation<br>Management Center (TMC)<br>Hours of Operation:<br>24/7/365<br>Dispatch: (314) 275-1500 |
| Robertson Fire Protection<br>District Station 1<br>(314) 291-6671                                                                                                |                                             |                                                                                                                |

**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 law enforcement agency.

**2.2** The contractor shall notify law 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 law 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 JSP-96-05

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

Michael Blattner, P.E.  
Transportation Project Manager  
Missouri Department of Transportation  
St. Louis District  
1590 Woodlake Drive  
Chesterfield, MO 63017  
Office Number: (314) 453-1751  
Cell Number: (636) 893-3882  
Email: [Michael.Blattner@modot.mo.gov](mailto:Michael.Blattner@modot.mo.gov)

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

F. Supplemental Revisions JSP-18-01FF

- Compliance with [2 CFR 200.216 – Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment](#).

The Missouri Highways and Transportation Commission shall not enter into a contract (or extend or renew a contract) using federal funds to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as substantial or as critical technology as part of any system where the video surveillance and telecommunications equipment was produced by Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

- Stormwater Compliance Requirements

**1.0 Description.** This provision requires the contractor to provide a Water Pollution Control Manager (WPCM) for any project that includes land disturbance on the project site and the total area of land disturbance, both on the project site, and all Off-site support areas, is one (1) acre or more. Regardless of the area of Off-site disturbance, if no land disturbance occurs on the project site, these provisions do not apply. When a WPCM is required, all sections within this provision shall be applicable, including assessment of specified Liquidated Damages for failure to correct Stormwater Deficiencies, as specified herein. This provision is in addition to any other stormwater, environmental, and land disturbance requirements specified elsewhere in the contract.

**1.1 Definitions.** The project site is defined as all areas designated on the plans, including temporary and permanent easements. The project site is equivalent to the “permitted site”, as defined in MoDOT’s State Operating Permit. An Off-site area is defined as any location off the project site the contractor utilizes for a dedicated project support function, such as, but not limited to, staging area, plant site, borrow area, or waste area.

**1.2 Reporting of Off-Site Land Disturbance.** If the project includes any planned land disturbance on the project site, prior to the start of work, the contractor shall submit a written report to the engineer that discloses all Off-site support areas where land disturbance is planned, the total acreage of anticipated land disturbance on those sites, and the land disturbance permit number(s). Upon request by the engineer, the contractor shall submit a copy of its land disturbance permit(s) for Off-site locations. Based on the total acreage of land disturbance, both on and Off-site, the engineer shall determine if these Stormwater Compliance Requirements shall apply. The Contractor shall immediately report any changes to the planned area of Off-site land disturbance. The Contractor is responsible for obtaining its own separate land disturbance permit for Off-site areas.

**2.0 Water Pollution Control Manager (WPCM).** The Contractor shall designate a competent person to serve as the Water Pollution Control Manager (WPCM) for projects meeting the description in Section 1.0. The Contractor shall ensure the WPCM completes all duties listed in Section 2.1.

**2.1 Duties of the WPCM:**

- (a) Be familiar with the stormwater requirements including the current MoDOT State Operating Permit for construction stormwater discharges/land disturbance activities; MoDOT’s statewide Stormwater Pollution Prevention Plan (SWPPP); the Corps of Engineers Section 404 Permit, when applicable; the project specific SWPPP, the Project’s Erosion & Sediment Control Plan; all applicable special provisions, specifications, and standard drawings; and this provision;
- (b) Successfully complete the MoDOT Stormwater Training Course within the last 4 years. The MoDOT Stormwater Training is a free online course available at MoDOT.org;
- (c) Attend the Pre-Activity Meeting for Grading and Land Disturbance and all subsequent Weekly Meetings in which grading activities are discussed;
- (d) Oversee and ensure all work is performed in accordance with the Project-specific SWPPP and all updates thereto, or as designated by the engineer;

- (e) Review the project site for compliance with the Project SWPPP, as needed, from the start of any grading operations until final stabilization is achieved, and take necessary actions to correct any known deficiencies to prevent pollution of the waters of the state or adjacent property owners prior to the engineer's weekly inspections;
- (f) Review and acknowledge receipt of each MoDOT Inspection Report (Land Disturbance Inspection Record) for the Project within forty eight (48) hours of receiving the report and ensure that all Stormwater Deficiencies noted on the report are corrected as soon as possible, but no later than stated in Section 5.0.

**3.0 Pre-Activity Meeting for Grading/Land Disturbance and Required Hold Point.** A Pre-Activity meeting for grading/land disturbance shall be held prior to the start of any land disturbance operations. No land disturbance operations shall commence prior to the Pre-Activity meeting except work necessary to install perimeter controls and entrances. 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.

**3.1 Hold Point.** 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.

**4.0 Inspection Reports.** Weekly and post run-off inspections will be performed by the engineer and each Inspection Report (Land Disturbance Inspection Record) will be entered into a web-based Stormwater Compliance database. The WPCM will be granted access to this database and shall promptly review all reports, including any noted deficiencies, and shall acknowledge receipt of the report as required in Section 2.1 (f.).

**5.0 Stormwater Deficiency Corrections.** All stormwater deficiencies identified in the Inspection Report shall be corrected by the contractor within 7 days of the inspection date or any extended period 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.

**5.1 Liquidated Damages.** If the Contractor fails to complete the correction of all Stormwater Deficiencies listed on the MoDOT Inspection Report within the specified time limit, the Commission will be damaged in various ways, including but not limited to, potential liability, required mitigation, environmental clean-up, fines, and penalties. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$2,000 per day for failure to correct one or more of the Stormwater Deficiencies listed on the Inspection Report within the specified time limit. In addition to the stipulated damages, the stoppage of work shall remain in effect until all corrections are complete.

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

**106.9 Buy America Requirements.**

Buy America Requirements are waived if the total amount of Federal financial assistance applied to the project, through awards or subawards, is below \$500,000.

**106.9.1 Buy America Requirements for Iron and Steel.**

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, from the initial melting stage through the application of coatings, in the USA except for "minimal use" as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. Under a general waiver from FHWA 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.

**106.9.1.1 Buy America Requirements for Iron and Steel for Manufactured items.**

A manufactured item will be considered iron and steel if it is "predominantly" iron or steel. Predominantly iron or steel means that the cost of iron or steel content of a product is more than 50 percent of the total cost of all its components.

**106.9.2** Any sources other than the USA as defined will be considered foreign. The required domestic manufacturing process shall include formation of ingots and any subsequent process. Coatings shall include any surface finish that protects or adds value to the product.

**106.9.3** "Minimal use" of foreign steel, iron or coating processes will be permitted, provided the cost of such products does not exceed 1/10 of one percent (0.1 percent) of the total contract cost or \$2,500.00, whichever is greater. If foreign steel, iron, or coating processes are used, invoices to document the cost of the foreign portion, as delivered to the project, shall be provided and the engineer's written approval obtained prior to placing the material in any work.

**106.9.4** Buy America requirements include a step certification for all fabrication processes of all steel or iron materials that are accepted per Sec 1000. The AASHTO Product Evaluation and Audit Solutions compliance program verifies that all steel and iron products fabrication processes conform to 23 CFR 635.410 Buy America Requirements and is an acceptable standard per 23 CFR 635.410(d). AASHTO Product Evaluation and Audit Solutions compliant suppliers will not be required to submit step certification documentation with the shipment for some selected steel and iron materials. The AASHTO Product Evaluation and Audit Solutions compliant supplier shall maintain the step certification documentation on file and shall provide this documentation to the engineer upon request.

**106.9.4.1** 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.

**106.9.4.2** 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.

**106.9.4.3** 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.

**106.9.5** When permitted in the contract, alternate bids may be submitted for foreign steel and iron products. The award of the contract when alternate bids are permitted will be based on the lowest total bid of the contract based on furnishing domestic steel or iron products or 125 percent of the lowest total bid based on furnishing foreign steel or iron products. If foreign steel or iron products are awarded in the contract, domestic steel or iron products may be used; however, payment will be at the contract unit price for foreign steel or iron products.

**106.9.6 Buy America Requirements for Construction Materials other than iron and steel materials.** Construction materials means articles, materials, or supplies that consist of only one of the items listed. Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material. Upon request by the engineer, the contractor shall submit a domestic certification for all construction materials listed that are incorporated into the project.

- (a) Non-ferrous metals
- (b) Plastic and Polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables)
- (c) Glass (including optic glass)
- (d) Fiber optic cable (including drop cable)
- (e) Optical fiber
- (f) Lumber
- (g) Engineered wood
- (h) Drywall

**106.9.6.1 Minimal Use allowance for Construction Materials other than iron or steel.**

"The total value of the non-compliant products is no more than the lesser of \$1,000,000 or 5% of total applicable costs for the project." The contractor shall submit to the engineer any non-domestic materials and their total material cost to the engineer. The contractor and the engineer will both track these totals to assure that the minimal usage allowance is not exceeded.

**106.9.7 Buy America Requirements for Manufactured Products.**

Manufactured products means:

- (a) Articles, materials, or supplies that have been:
  - (i) Processed into a specific form and shape; or
  - (ii) Combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies.
- (b) If an item is classified as an iron or steel product, a construction material, or a section 70917(c) material under § 184.4(e) and the definitions set forth in this section, then it is not a manufactured product. However, an article, material, or supply classified as a manufactured product under § 184.4(e) and paragraph (1) of this definition may include components that are construction materials, iron or steel products, or section 70917(c) materials.

**106.9.7.1** Manufactured products are exempt from Buy America requirements. To qualify as a manufactured product, items that consist of two or more of the listed construction materials that have been combined together through a manufacturing process, and items that include at least one of the listed materials combined with a material that is not listed through a manufacturing process, should be treated as manufactured products, rather than as construction materials.

**106.9.7.2** Manufactured items are covered under a general waiver to exclude them from Buy America Requirements. To qualify for the exemption the components must comprise of 55% of the value of materials in the item. The final assembly must also be performed domestically.

- Pavement Marking Paint Requirements for Standard Waterborne and Temporary

**1.0 Description.** High Build acrylic waterborne pavement marking paint shall be used in lieu of standard acrylic waterborne pavement marking paint for all Standard Waterborne Pavement Marking Paint items and all Temporary Pavement Marking Paint items. Paint thickness, bead type, bead application rate, retroreflectivity requirements, and all other specifications shall remain as stated in the Missouri Standard Specifications for Highway Construction, except as otherwise amended in the contract documents.

**2.0 Material Requirements.** Material requirements for Sec 620.20.2.5 Standard Waterborne Paint, and Sec 620.10.2 Temporary Pavement Marking Paint shall be per Sec 1048.20.1.2 High Build Acrylic Waterborne Pavement Marking Paint.

- Third-Party Test Waiver for Concrete Aggregate

**1.0 Description.** Third party tests may be allowed for determining the durability factor for concrete pavement and concrete masonry aggregate.

**2.0 Material.** All aggregate for concrete shall be in accordance with Sec 1005.

**2.1** MoDOT personnel shall be present at the time of sampling at the quarry. The aggregate sample shall be placed in an approved tamper-evident container (provided by the quarry) for shipment to the third-party testing facility.

**2.2** AASHTO T 161 Method B Resistance of Concrete to Rapid Freezing and Thawing, shall be used to determine the aggregate durability factor. All concrete beams for testing shall be 3-inch wide by 4-inch deep by 16-inch long or 3.5-inch wide by 4.5-inch deep by 16-inch long. All beams for testing shall receive a 35-day wet cure fully immersed in saturated lime water prior to initiating the testing process.

**2.3** Concrete test beams shall be made using a MoDOT approved concrete pavement mix design.

**3.0 Testing Facility Requirements.** All third-party test facilities shall meet the requirements outlined in this provision.

**3.1** The testing facility shall be AASHTO accredited.

**3.1.1** For tests ran after January 1, 2025, accreditation documentation shall be on file with the Construction and Materials Division prior to any tests being performed.

**3.1.2** Construction and Materials Division may consider tests completed prior to January 1, 2025, to be acceptable if all sections of this provision are met, with the exception of 3.1.1. Accreditation documentation shall be provided with the test results for tests completed prior to January 1, 2025. No tests completed prior to September 1, 2024, will be accepted.

**3.2** The testing facility shall provide their testing process, list of equipment, equipment calibration documentation, and testing certifications or qualifications of technicians performing the AASHTO T 161 Procedure B tests. The testing facility shall provide details on their freezing and thawing apparatus including the time and temperature profile of their freeze-thaw chamber. The profile shall include the temperature set points throughout the entirety of the freeze-thaw cycle. The profile shall show the cycle time at which the apparatus drains/fills with water and the cycle time at which the apparatus begins cooling the specimens.

**3.3** Results, no more than five years old, from the third-party test facility shall compare within  $\pm 2.0$  percent of an independent test from another AASHTO accredited test facility or with MoDOT test records, in order to be approved for use (e.g. test facility results in a durability factor of 79, MoDOT's recent durability test factor is 81; this compared within +2 percent). The independent testing facility shall be in accordance with this provision. The comparison test can be from a different sample of the same ledge combination.

**3.4** When there is a dispute between the third party durability test results and MoDOT durability test results, the MoDOT durability test result shall govern.

**3.5** Test results shall be submitted to MoDOT's Construction and Materials division electronically for final approval. Test results shall include raw data for all measurements of relative modulus of elasticity and percent length change for each individual concrete specimen. Raw data shall include initial measurements made at zero cycles and every subsequent measurement of concrete specimens. Raw data shall include the cycle count and date each measurement was

taken. Test results shall also include properties of the concrete mixture as required by AASHTO T 161. This shall include the gradation of the coarse aggregate sample. If AASHTO T 152 is used to measure fresh air content, then the aggregate correction factor for the mix determined in accordance with AASHTO T 152 shall also be included.

**4.0 Method of Measurement.** There is no method of measurement for this provision. The testing requirements and number of specimens shall be in accordance with AASHTO T 161 Procedure B.

**5.0 Basis of Payment.** No direct payment will be made to the contractor or quarry to recover the cost of aggregate samples, sample shipments, testing equipment, labor to prepare samples or test samples, or developing the durability report.

- **Delete paragraph 15.0 of the General Provision Disadvantaged Business Enterprise (DBE) Program Requirements and substitute the following:**

**15.0 Bidder's List Quote Summary.** MoDOT is a recipient of federal funds and is required by 49 CFR 26.11 to provide data about its DBE program. All bidders who seek to work on federally assisted contracts must submit data about all DBE and non-DBEs in accordance with Sec 102.7.9. MoDOT will not compare the submitted Bidder's List Quote Summary to any other documents or submittals, pre or post award. All information will be used by MoDOT in accordance with 49 CFR 26.11 for reporting to USDOT and to aid in overall DBE goal setting.

- **Add Sec 102.7.9 to include the following:**

**102.7.9 Bidder's List Quote Summary.** Each bidder shall submit with each bid a summary of all subcontractors, suppliers, manufacturers, and truckers considered on federally funded projects pursuant to 49 CFR 26.11. The bidder will provide the firm's name, the corresponding North American Industry Classification System (NAICS) code(s) the firm(s) were considered for, and whether or not they were used in the bid. The information submitted should be the most complete information available at the time of bid. The information shall be disclosed on the Bidder's List Quote Summary form provided in the bidding documents and submitted in accordance with Sec 102.10. Failure to disclose this information may result in a bid being declared irregular.

G. Contractor Quality Control NJSP-15-42

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

**2.0 Quality Control Plan.**

- (a) The name and contact information of the person in responsible charge of the QC testing.
- (b) A list of the QC technicians who will perform testing on the project, including the fields in which they are certified to perform testing.

- (c) A proposed independent third party testing firm for dispute resolution, including all contact information.
- (d) A list of Hold Points, when specified by the engineer.
- (e) The MoDOT Standard Inspection and Testing Plan (ITP). This shall be the version that is posted at the time of bid on the MoDOT website ([www.modot.org/quality](http://www.modot.org/quality)).

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

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

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

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

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

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

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

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

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

**4.3 Pre-Activity Meeting.** A pre-activity meeting is required in advance of the start of each new activity, except when waived by the engineer. The purpose of this meeting is to review

construction details of the new activity. At a minimum, the discussion topics shall include: safety precautions, QC testing, traffic impacts, and any required Hold Points. Attendees shall include the engineer, the contractor superintendent and the foreman who will be leading the new activity. Pre-activity meetings may be held in conjunction with the weekly project meeting.

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

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

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

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

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

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

H. DBE Prompt Payment Reporting JSP-24-05B

**1.0 Description.**

**1.1** This provision will only apply to contracts that have a Disadvantaged Business Enterprise (DBE) goal greater than 0% and have at least one DBE subcontractor.

**1.2** MoDOT monitors the payments made by prime contractors and subcontractors to DBEs for compliance with DBE payment monitoring rules as outlined in 49 CFR 26.37. To facilitate this monitoring, MoDOT requires prime contractors to report their remitted payments to DBEs and subcontractors to report their remitted payments to lower-tier DBEs.

**1.3** Tracking of DBE payments are made through the Signet™ application (Signet). Signet is a third-party service, supported by the vendor, for usage by the prime contractor and all subcontractors. Signet is only a reporting tool; it does not process financial transactions. MoDOT does not provide direct technical support for Signet. Information about Signet may be found at <https://signet-help.zendesk.com/hc/en-us>.

**1.4** Upon completion of the first pay estimate on the contract, Signet will automatically send an email to the prime contractor prompting registration. The prime will be required to pay a one-time, fixed fee of \$1,000 for this contract directly to the Signet vendor. Use of Signet to track DBE payments will be available for the life of the contract, regardless of the contract value, contract duration, number of subcontractors, or payments reported. No additional fee will be charged to subcontractors that are required to report payments or DBEs that are required to verify payments through Signet. The contractor may also, at no additional cost, report payments through Signet to subcontractors that are not DBEs.

**1.5** After each estimate, when contractor reporting of payments is complete, the subcontractor will receive an email notifying them of the payment and requesting verification of the reported payment. A subcontractor that has not completed registration with Signet will be prompted to do so at this time.

**1.6** Users will be set up automatically based on information in MoDOT's vendor list. Additional users under each contractor may be added once registration has been completed within Signet. The current vendor list can be found at <https://www.modot.org/bid-opening-info>.

**1.7** For purposes of this requirement, payer is defined as the prime contractor or subcontractor that reports a payment in Signet to a vendor that is either a subcontractor, trucker, manufacturer, regular dealer, or broker. Payee is defined as the vendor that receives notification of payment through Signet from the prime contractor or a higher-tier subcontractor. Payment is defined as issuing an Electronic Funds Transfer (EFT) or mailing a check to a payee.

**2.0 Requirements.** Payers must report remitted payment to DBEs within Signet, for work performed by the DBE subcontractor, DBE trucking, materials supplied from a DBE manufacturer, dealer, or broker, as well as a return of retainage (and/or other amounts withheld), within 15 calendar days.

**2.1** Prime contractors must report remitted payments to DBEs within 15 calendar days of each payment it receives from MoDOT. Prime contractors must also report payments to non-DBE subcontractors if that subcontractor is making payment to a lower tier DBE subcontractor, trucker, manufacturer, regular dealer, or broker.

**2.2** The payer must report the following information within Signet:

- a. The name of the payee.
- b. The dollar amount of the payment to the payee.
- c. The date the payment was made.
- d. Any retainage or other amount withheld (if any) and the reason for the withholding (if other than retainage).
- e. The DBE function performed for this payment (e.g., contracting, trucking, or supplying as a manufacturer, dealer, or broker).
- f. Other information required by Signet.

The payer must report its return of retainage (and/or other amounts withheld) in separate, standalone payment entries (i.e., without being comingled with a payment for work performed or materials supplied).

**2.3** In the event that no work has been completed by a DBE during the estimate period, such that no payment is due to a DBE subcontractor, trucker, manufacturer, regular dealer, or broker, then the prime contractor will mark payment complete within Signet, and no other payments are required to be reported.

**2.4** Each subcontractor making a payment to a lower-tier DBE must report remitted payments within Signet, as detailed in Section 2.2, within 15 days of receipt of each payment from the prime contractor.

**2.5** DBE payees must verify in Signet each payment reported by a payer within 15 calendar days of the payment being reported by the payer. This verification includes whether the payment was received, and if so, whether it was as expected.

**3.0 Basis of Payment.** A fixed cost of \$1,000 will be paid on this contract for the required software to report payments to DBEs through Signet. Regardless of the number of projects in a contract, a single payment will be made under item 108-10.00, SIGNET DBE REPORTING, per lump sum. The engineer reserves the right to underrun this item for any reason. Any additional costs for registration, software, usage, time, labor, or other costs will be considered incidental and no direct payment will be made.

#### I. Pavement Marking

**1.0 Description.** Pavement marking shall be restored to its current configuration after completion of the project. It will be the responsibility of the contractor to document the locations of all pavement markings prior to start of work, and then re-stripe Route Z back to its original layout.

**2.0 Construction Requirements.** Prior to start of work, the contractor shall document the type and location of the existing pavement markings including any change in pavement marking (i.e. solid yellow to intermittent yellow on the centerline). The method of documentation will be determined by the contractor and shall be approved by the engineer.

**2.1** Any documentation of the existing pavement marking provided from the contractor shall include the location of the existing pavement marking by use of either station or log mile.

**2.2** All pavement marking for this project shall be constructed in accordance with Sec 620.

**3.0 Method of Measurement.** Measurement for pavement marking will be made per Sec 620.20.4.

**4.0 Basis of Payment.** No direct payment will be made to the contractor for the above requirements. All costs incurred by the contractor for labor, equipment, and materials in compliance with the above requirements shall be considered incidental to and completely covered by other pay items in the contract.

#### J. Utilities

**1.0 The Contractor shall be aware there are numerous utilities present along the routes in this contract.** Utility locates were not performed during the design phase of the project; therefore,

the extent of conflicts with utilities are unknown. It is the inherent risk of the work under this contract that the contractor may encounter these utilities above and/or below the ground or in the vicinity of any given work item which may interfere with their operations. The contractor expressly acknowledges and assumes this risk even though the nature and extent are unknown to both the contractor and the Commission at the time of bidding and award of the contract. It is, therefore, the responsibility of the contractor to comply with Missouri CSR 319 to get utilities marked and verify the existence, location and status of any marked utility prior to any excavations. Such verification may require direct contact with the listed utilities.

**2.0 If utility facilities are discovered the contractor shall contact the MoDOT Area Utility Coordinator**, Steve Belcher at (314) 624-7382. 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.

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

K. Inlet Top Replacement to new Grade

**1.0 Description.** This work shall consist of removing the existing parallel bar inlet tops, grates and bearing plates and replace them with the same size parallel bar inlet tops, grates and bearing plates at new profile which will be 2" higher than existing.

**2.0 Material.** Steel reinforcing shall be required around the new lid as detailed in Standard Plan 731.10 for Drop Inlet Covers. All other materials shall meet requirements as identified in Section 731 and Division 10000 of the Standard Specifications. No direct pay will be made for steel reinforcing, providing and installing dowel bars or tie bars as noted on the plans or Standard Plans. No direct pay for installing dowel bars or tie bars into existing concrete as indicated in the Standard Plans.

**3.0 Construction Requirements.** The contractor shall field verify the size of the inlet and required grate opening area prior to ordering the corresponding parallel bar grate covers, drop inlet tops, grates, and bearing plates. The contractor shall sawcut the existing pavement or shoulder around the inlet to provide the concrete pad around the inlet top in accordance with the dimensions shown on the plans. If needed, the inlet shall be adjusted to the proper elevation. The contractor shall also repair any damage to the inlet, inlet invert, or pipe connection to the inlet.

**4.0 Basis of Payment.** Payment for compliance with this provision, including all labor, materials, time and equipment, will be considered completely covered by the following contract item:

| Item Number | Unit | Description                        |
|-------------|------|------------------------------------|
| 614-99.02   | EA   | Inlet Top Replacement to New Grade |

L. Type T Inlet Top Replacement to new Grade

**1.0 Description.** This work shall consist of removing the existing inlet top and replace it with the same size Type T inlet top at new profile which will be 2" higher than existing.

**2.0 Material.** Steel reinforcing shall be required around the new lid as detailed in Standard Plan 731.10 for Drop Inlet Covers. All other materials shall meet requirements as identified in Section 731 and Division 10000 of the Standard Specifications. No direct pay will be made for steel reinforcing, providing and installing dowel bars or tie bars as noted on the plans or Standard Plans. No direct pay for installing dowel bars or tie bars into existing concrete as indicated in the Standard Plans.

**3.0 Construction Requirements.** The contractor shall field verify the size of the inlet and required inlet opening area prior to ordering the corresponding inlet top. If needed, the inlet shall be adjusted to the proper elevation. The contractor shall also repair any damage to the inlet, inlet invert, or pipe connection to the inlet.

**4.0 Basis of Payment.** Payment for compliance with this provision, including all labor, materials, time and equipment, will be considered completely covered by the following contract item:

| Item Number | Unit | Description                               |
|-------------|------|-------------------------------------------|
| 614-99.02   | EA   | Type T Inlet Top Replacement to New Grade |

M. Adjust Manhole Top to Grade

**1.0 Description.** This work shall consist of adjusting the existing manhole top to new grade.

**2.0 Material.** Adjusting rings or other like material to raise manhole top to new grade

**3.0 Construction Requirements.** Adjusting manhole shall be in accordance with Sec 604 except as modified herein.

**4.0 Basis of Payment.** All costs associated with compliance with this special provision for a material, equipment, and labor shall be completely covered by the contract unit price for:

| Item Number | Unit | Description                    |
|-------------|------|--------------------------------|
| 614-99.02   | EA   | Adjusting Manhole Top to Grade |

N. Measurement of Bridge Clearances

**1.0 Description.** The contractor shall measure the vertical clearance over all lanes of traffic on all existing or new bridges impacted by this project or as noted within this provision. Impacted bridges shall include bridges rehabbed or reconstructed over state routes, county roads, city streets and railroads. Impacted bridges also include those with vertical clearances potentially modified through resurfacing activities. The contractor shall fill out the Bridge Clearance Report and give the report to the Engineer for processing. The Bridge Clearance Report is available within EPG 760.4.

**1.1** If the new or rehabbed bridge is over a railroad, the contractor shall refer to those provisions provided within this contract regarding coordination with the railroads prior to performing the survey measurement.

**2.0 Construction Requirements.** Per EPG 760.4.3, the contractor shall provide the following:

- A. All measurements shall be taken on the roadway surfaces only and not on the shoulders. Every lane of travel shall be checked and the measurement shall be from the high point within that lane to the lowest point of the structure as determined in the field. Temporary Traffic Control shall be used to take these measurements. LiDAR may be used to take measurements but is not required.
- B. On a bridge over multiple routes, including ramps, the vertical clearance measurement for each route in each direction of travel shall be required.
- C. Measurement shall be made from the bottom of the lowest obstruction (beam, concrete, light fixture, rivet/bolt head, through truss member, etc.) The clearance shall be measured and rounded down to the nearest inch and reported to the Engineer.
- D. The vertical clearance measurements shall be taken and provided to the Engineer within two weeks after all major construction activities have been completed which could impact the measurements. The major construction activities would include any rehab or reconstruction work or pavement improvements including coldmilling and resurfacing under structures.

**3.0 Structures Measured within Job J6P3649.** The following measurements will be needed for this project:

Bridge A7566 (N 5<sup>th</sup> Street) over all 3 Lanes of EB and 4 Lanes of WB Rt 370

Bridge A4919 (Earth City Exp.) over all 3 Lanes of EB Rt 370 & over all 4 Lanes of WB Rt 370

Bridge A7015 (St Louis Mills Blvd) over all 3 lanes of EB Rt 370 & over all 4 lanes of WB Rt 370

Bridge A4920 (Taussig Rd) over all 4 lanes of EB and WB Rt 370

Bridge A4939 (Railroad) over all 4 lanes of EB and WB Rt 370

Bridge A4888 (NB I-270) over off ramp from NB I-270 to WB Rt 370

Bridge A4947 (SB I-270) over off ramp from NB I-270 to WB Rt 370

Bridge A4889 (Rt 370 ramp) over ramp from NB I-270 to WB Rt 370

**4.0 Basis of Payment.** The vertical clearance measurements filled out within the Bridge Clearance Report for each structure will be paid at the contract unit price for the pay item 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 item:

| Item No.  | Type     | Description                              |
|-----------|----------|------------------------------------------|
| 627-40.00 | Lump Sum | Contractor Furnished Surveying & Staking |

 **REVISED** **O. Slip Formed 42" Tall Type C Modified Median Barrier**

**1.0 Description.** This work will consist of modifying the existing concrete traffic barrier as shown in the plans or as directed by the engineer.

**2.0 Material.** All reinforcing steel shall be Grade 60 deformed bars and shall be epoxy coated. All material shall be in accordance with Division 1000, Materials Details, and specifically as follows:

| Item                                     | Section/Specification |
|------------------------------------------|-----------------------|
| Reinforcing Steel for Concrete           | 1036                  |
| Resin Anchor System                      | 1039                  |
| Concrete Sealer                          | 1053                  |
| Concrete Curing Material                 | 1055                  |
| Preformed Fiber Expansion Joint Material | 1057                  |
| Joint Sealer                             | 1057                  |

**3.0 Construction Requirements.** Modifications to the existing concrete traffic barrier shall be constructed of Class B-1 concrete. Concrete shall be air-entrained with 28-day compressive strength of 4,000 psi. Material proportioning, air-entraining, mixing, slump and transporting shall be in accordance with Sec 501. Concrete shall be placed and finished in accordance with Sec 703 and shall be cured in accordance with Sec 502.

**3.1 Shrinkage Reducing.** A shrinkage reducing admixture may be used to reduce the amount of dry shrinkage in concrete. The shrinkage reducing admixture shall be in accordance with ASTM C494, Type S. Alternative methods such as internal curing may be used, if approved by the engineer.

**3.2 Fibers.** Synthetic macro fiber reinforcement shall be added at a rate of 5 lbs. per cubic yard to provide impact resistance and enhanced fatigue strength. Synthetic macro fibers shall meet ASTM C1116 and consist of non-fibrillated fibers made from virgin polypropylene or polypropylene and polyethylene blend. Fibers shall be between 1.25 inches to 2.25 inches in length and be alkali, acid and salt resistant. Fibers shall have a minimum tensile strength of 70 ksi and a minimum modulus of elasticity of 1000 ksi. Fibers may be measured in bags, boxes or like containers with approval from the engineer. The containers shall be sealed by the fiber manufacturer, and shall have the weight contained therein clearly marked by the manufacturer. No fraction of container delivered unsealed or left over from previous work shall be used unless weighed. Fibers shall be added to the concrete mix and mixed according to the fiber manufacturer's recommendations.

**3.3 Removal Requirements.** All loose, deteriorated concrete, paint, dirt and other loose material on the existing traffic barrier shall be removed by conventional hand/mechanical, sand or hydro blasted, or other approved equipment as directed by the engineer.



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**3.4 Preparation Requirements.** The area to come in contact with new concrete shall be cleaned as stated above and painted with a concrete bonding compound in accordance with Sec 623 prior to the placement of the new concrete. In lieu of the concrete bonding compound the contractor has the option to use additional reinforcing bars as shown on Plan (Special) Sheet 44.

**3.5** Modified concrete traffic barrier shall be constructed using an extrusion machine. Any modified traffic barrier sections that do not exhibit a consistent surface shall be corrected to the satisfaction of the engineer.

**3.6** Resin anchor system shall be in accordance with Sec 1039.

**3.7** The contractor shall not install any reinforcing steel that will not be enclosed by the modified traffic barrier within the same day.

**3.8** All drain markers shall be removed prior to working beginning and shall be reinstalled once the modified traffic barrier is completed.

**3.9** If the contractor elects to place the asphalt prior to work on the concrete traffic barrier the contractor shall be responsible for protecting the asphalt surface and pavement markings from damage and will be responsible for correcting any damaged areas to the satisfaction of the engineer.

**4.0 Existing Conditions.** The contractor shall be aware that existing standard Type A barrier, existing non standard barrier, and existing Type A stepped barrier have been identified within the limits of this project. The contractor shall field verify the barrier locations with the engineer prior to beginning any work.

**4.0.1** Quantities have been provided for slip forming a modified traffic barrier over the existing standard Type A barrier. Quantities have also been provided for removing the existing barrier and replacing with new Type C barrier for the existing non standard barrier, as well as sections of Type A barrier that have significantly deteriorated. The contractor shall be responsible for providing a smooth transition of no less than 1-inch per foot between the varying barrier widths.

**4.0.2** Existing Type A stepped barrier has been identified for removal and replacement with Type C barrier; all work and material need to provide a stepped Type C barrier due to the elevation difference of the existing pavements shall be incidental and included in the price of the new Type C barrier. The contractor shall be responsible for providing a smooth transition of no less than 1-inch per foot between the varying barrier widths.

**4.1 Existing Drains.** The contractor shall be aware that some of the existing drain inlets are immediately adjacent to the traffic barrier, with some drainage blockouts in existence. The contractor shall be responsible for creating new blockouts within new sections of barrier to allow for drainage to the inlets. This shall be incidental to the cost of the barrier.

**5.0 Method of Measurement.** Final measurement will not be made except for authorized changes during construction, or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity. Where required measurement will be to the nearest ½ linear foot and totaled to the nearest linear foot.

**6.0 Basis of Payment.** Accepted slip formed modified traffic barrier will be paid for under pay item 617-99.03, "Slip Formed 42" Tall Type C Modified Median Barrier" and shall completely cover the cost of furnishing, placing, material, equipment, labor and time required to fulfill the above provisions.

**P. Modified Bonded Asphaltic Concrete Pavement NJSP-15-11C**

**1.0 Description.** This work shall consist of the placement of a Polymer Modified Emulsion Membrane (PEM) or Cationic Modified Emulsion Membrane (CPEM) prior to a bituminous overlay of hot asphaltic concrete pavement. At the contractor's option, the contractor may replace the PEM/CPEM with a Performance Graded (PG) Asphalt Binder prior to a bituminous overlay of hot asphaltic concrete pavement. The PEM/CPEM or PG Asphalt Binder shall be spray applied prior to the application of the hot asphaltic concrete pavement so as to produce a homogeneous surface in accordance with Secs 401, 402, or 403.

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

| Item                                             | Section     |
|--------------------------------------------------|-------------|
| Polymer Modified Emulsion Membrane (PEM or CPEM) | 1015.20.6.2 |
| Performance Graded (PG) Asphalt Binder           | 1015.10     |

The PG Asphalt Binder shall be modified to meet the following performance parameters. The test results shall be submitted to the engineer for approval at least 30 days prior to use. The PG binder component shall account for at least 95% of the total product composition by volume.

| Parameters*                             | Test Method                     | Min | Max |
|-----------------------------------------|---------------------------------|-----|-----|
| No-Pick-Up Time for Tack Coats; minutes | MoDOT TM 87                     | -   | 5   |
| Average Bond Strength; psi              | MoDOT TM 88 or alternate method | 75  | -   |
| Elastic Recovery, percent               | AASHTO T 301                    | 60  | -   |

\*The PG Asphalt Binder product shall exhibit a laboratory "no-pick-up" time of 5 minutes or less per MoDOT TM-87. The PG Asphalt Binder product shall exhibit laboratory bond pull-off strengths (average of three test specimens) of a minimum of 75 psi in accordance with MoDOT TM-88 method or other approved research test methods at the target application rate prescribed within this specification. The elastic recovery may be waived if the product has proven performance in cold weather climates with freeze/thaw conditions.

**3.0 Construction Requirements.** The PEM/CPEM or PG Asphalt Binder shall be applied in accordance with Sec 407 except as modified herein.

**3.1 Coldmilled Surfaces.** All coldmilled surfaces shall be thoroughly cleaned with air blowing, air vacuuming, or other approved methods resulting in a cleaned surface free of all dust, loose material, grease, or other foreign material at the time the tack is applied to the satisfaction of the engineer. Historically, conventional sweeping equipment has not produced satisfactory results and will not be acceptable as the sole operation. .

**3.2 Requirements of Polymer Modified Emulsion Membrane (PEM or CPEM).**

**3.2.1 Equipment.** No wheel, track or other part of the paving machine or any hauling equipment shall come in contact with the PEM/CPEM before the asphaltic concrete pavement mixture is applied.

**3.2.2 Application.** The target application rate of the PEM/CPEM shall be 0.20 gallons per square yard. The application rate shall be within +/- 0.02 gallons per square yard of the target application rate during construction. The average application rate used within the entire areas of the job limits shall be within +/- 1% of the target application rate. The PEM/CPEM shall be sprayed at a temperature of 120 - 180°F. The sprayer shall accurately and continuously monitor the application rate and provide a uniform coverage across the entire width to be overlaid.

**3.2.2.1** The application rate of the PEM/CPEM shall be verified by dividing the volume (of PEM/CPEM used) by the area of paving for that day.

**3.2.2.2** No water shall be added to the PEM/CPEM.

### **3.3 Requirements of Performance Graded (PG) Asphalt Binder**

**3.3.1 Equipment.** The PG Asphalt Binder product shall be applied with an asphalt distributor that has been properly cleaned and set-up specifically for use of hot applied PG Asphalt Binder products. The distributor shall have the full circulating and heating capabilities in the tank and a heated spray bar.

**3.3.2 Application.** The target application rate of the PG Asphalt Binder shall be 0.15 gallons per square yard. The application rate shall be within +/- 0.02 gallons per square yard of the target application rate during construction. The average application rate used within the entire area of the job limits shall be within +/- 1% of the target application rate.

**3.3.3 Non-Tracking.** The PG Asphalt Binder shall be modified to be non-tracking that does not stick to the tires, tracks or other parts of paving equipment or vehicles such that the surface to be overlaid becomes visible or void of tack prior to the placement of the asphaltic concrete pavement mixture. A test strip using the PG Asphalt Binder product of 200 feet long (maximum) shall be applied to the roadway. After application, the PG Asphalt Binder shall be non-tracking within 10 minutes or less. If the test strip exhibits unacceptable tracking, then work shall cease until the PG Asphalt Binder product is either reformulated, switched to a different PG Asphalt product, or a spray paver application method is utilized. The test strip shall be conducted until satisfactory results are achieved.

**3.3.4 Safety.** Proper storage, handling, and application guidelines shall be followed carefully in accordance with the product manufacturer. A copy of this information shall be provided to the engineer. The information shall include the application temperature range, maximum allowable temperature for the product, and the particle charge.

**3.3.4.1** Safety procedures of all products shall be addressed in the contractor's safety plan and a pre-construction meeting shall be held with the employees involved with the construction of the asphalt overlay to address all safety procedures, protocols, and personal protective equipment (PPE) of hot applied PG Asphalt Binder prior to application.

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

required, measurement for coldmilling existing asphalt materials and cleaning the underlying pavement will be computed to the nearest square yard.

**5.0 Basis of Payment.** The accepted quantity of Polymer Modified Emulsion Membrane (PEM/CPEM) or PG Asphalt Binder shall be paid for at the contract unit price for 407-99.12, Misc. Modified Bonded Asphaltic Concrete Pavement, per gallon.

Q. Partial Depth Concrete Pavement Repair Using Flexible, Hot Polymer Modified Repair Material NJSP-19-01B

**1.0 Description.** This work shall consist of removal, furnishing, and placing material to repair existing concrete pavement by performing partial depth concrete pavement repairs as specified in plans or as approved by the engineer. All work shall be in accordance with Section 613 except as herein modified.

**2.0 Construction Requirements.**

**2.1** Individual repair areas shall be limited to approximately 24 square feet in area. Repair areas larger than 24 square feet shall be patched with a cementitious based material in accordance with Section 613.

**2.2** Removal of the existing patched, spalled, delaminated, or otherwise deteriorated concrete surface shall be limited to 1/3 (one third) of the pavement thickness or 4 inches, whichever is less. Removal of concrete shall be accomplished with light jack hammers and/or a mill head designed for concrete milling. All loose materials, including milled or broken concrete or asphalt, crack seal materials, oil, sand, dust, grit, or other contaminants, shall be completely removed. Removal of material shall be in accordance with Sec 202.2.

**2.3** All surfaces shall be cleaned with compressed air at a minimum of 100 psi.

**2.4** Partially exposed reinforcing steel mesh shall be sandblasted clean or removed before placing patch materials. If sandblasting is used, all surfaces shall be cleaned of loose sandblasting grit with compressed air.

**2.5** All surfaces of the repair area shall be primed using a primer and procedure recommended and approved by the manufacturer. Any costs related to primer shall be included in the unit cost. No direct payment will be made for the priming of the repair areas.

**2.6** Material shall be placed in 1inch lifts until the repair is level with the existing pavement. Each lift shall be adequately cooled, based on manufacturer recommendations, prior to subsequent lift placement.

**2.7** Repairs that are greater than 1 inch in depth require the addition of bulking aggregate 20% to 50% by volume, as recommended by the manufacturer. The bulking stone shall be double washed, dust-free 5/8 inch to 1 inch sized granite. The bulking aggregate shall be adequately heated and dried prior to placement. No direct payment will be made for costs associated with bulking stone placement.

**2.8** Topping stone shall be placed on the surface of the patch to improve surface friction using a procedure recommended by the manufacturer. The topping stone shall be double washed, dust-free, angular, hard aggregate. The topping stone shall be adequately heated and dried prior to placement. No direct payment will be made for costs associated with topping stone placement.

**2.9** Traffic shall not be allowed on the repair area until the patching material has adequately cooled and gained strength, as recommend by the manufacturer.

**2.10** Repair areas in the roadway and shoulders shall be swept clean of all loose debris before opening to traffic.

**2.11** Any patches that vary by more than ¼ inch from the existing profile of the roadway or of poor workmanship shall be removed and replaced by the contactor at the contractor's expense.

### **3.0 Material Requirements.**

**3.1** The contractor shall submit the manufacturer's specifications for the material for patching and repair to the engineer for approval. The contractor shall follow manufacturer's specifications for material preparation and placement.

**3.2** Material shall be hot pour, polymer modified, resin-based concrete repair material, flexible and grey or black in color. Material shall provide an impermeable, voidless mass at ambient temperatures. Material is to be mixed and heated on site as recommended by the product manufacturer. The repair material shall be factory blended and in meltable bags.

**4.0 Additional or Reduced Work.** If additional repair work is necessary beyond what is specified in the work order or the required repair is not as extensive as originally viewed, the contractor shall contact the engineer for authorization to proceed with the additional or reduced work. The contractor shall note that with this authorization to proceed with additional or reduced work may change which unit bid item is used to calculate final payment depending on final repair quantities. Any work performed without authorization of the engineer shall be at the contractor's expense.

**5.0 Method of Measurement.** Measurement shall be made to the nearest pound based on the actual material used with an acceptable form of package documentation.

**6.0 Basis of Payment.** Payment shall be paid by the pound and shall be full compensation for all repair work including removal of loose materials, cleaning of concrete surface, and furnishing and placing material for Partial Depth Pavement Repair using flexible, hot polymer-modified repair material. All cost for the repair work, including labor, equipment, materials, and containment and disposal of material shall be included in Item 613-99.11, Misc. Partial Depth Concrete Pavement Repair Using Flexible, Hot Polymer Modified Repair Material, per pound.

## **R. Permanent Aggregate Edge Treatment NJSP-15-40B**

**1.0 Description.** This work shall consist of furnishing and installing a permanent aggregate edge treatment along the edge of shoulder or pavement as shown on the plans or as directed by the engineer.

**2.0 Construction Requirements.** Aggregate shall be simultaneously deposited and spread on the sub-grade and shall not be deposited on the pavement or shoulder and bladed into place. Aggregate material shall be shaped according to the typical section and compacted until there is no visible evidence of further consolidation.

**2.1** Bituminous fog seal shall be applied to sections of the edge treatment shown in the plans or designated by the engineer. Bituminous fog seal will be paid for separately.

**3.0 Material Requirements.** Material used for the aggregate edge treatment shall be Type 1, 5, or 7 Aggregate in accordance with Sec 1007 or an allowable substitute approved by the engineer. Bituminous cold millings meeting the gradation for Type 1, 5 or 7 Aggregate may be used in lieu of aggregate. Limestone screenings or other material with excessive fines will not be allowed. Material will be accepted based on certification in lieu of testing contingent upon satisfactory results being obtained in the field.

**4.0 Measurement by Weight.** Measurement of the aggregate edge treatment material shall be per ton and in accordance with Sec 310.5.3.

**5.0 Basis of Payment.** The accepted quantities of aggregate edge treatment will be paid for at the contract unit price for 304-99.10, Permanent Aggregate Edge Treatment, per ton and will be full compensation for all labor, equipment and material to complete the described work. No fuel adjustment will be made for Permanent Aggregate Edge Treatment.

S. Concrete Traffic Barrier, Type C (Modified)

**1.0 Description.** This work shall consist of constructing modified Type C concrete traffic barrier as shown on the plans or as directed by the engineer.

**2.0 Material.** Material shall be as specified in Sec. 617.10.2.

**3.0 Construction Requirements.** The modified Type C concrete traffic barrier shall be constructed as detailed in the plans and in accordance with Sec 617.10.3.

**4.0 Method of Measurement.** Final measurement will not be made except for authorized changes during construction or where appreciable errors are found in the contract quantity. The revision or correction will be computed and added to or deducted from the contract quantity. Where required, measurement for modified Type C concrete traffic barrier will be made to the nearest ½ linear foot for each continuous length and totaled to the nearest linear foot for the sum of the lengths.

**5.0 Basis of Payment.** Accepted Concrete Traffic Barrier, Type C (Modified) will be paid for at the contract unit price per linear foot. No direct payment will be made for reinforcing steel, dowels, joint filler material and sawed joints.

| Item No.  | Units | Description                                 |
|-----------|-------|---------------------------------------------|
| 617-99.03 | L.F.  | Concrete Traffic Barrier, Type C (Modified) |

T. Coordination with Other Projects

**1.0 Description.** The contractor shall coordinate traffic management between this project and any other projects on Rte 370, and projects which affect Rte 370, including future projects. Each Contractor shall conduct their work so as not to interfere with or hinder the progress or completion of the work being performed by other Contractors. In case of dispute, the Engineer shall be the referee and the Engineer's decision shall be final and binding on all.

**2.0 Coordination.** The Contractor shall coordinate all limits of the project with the Missouri Department of Transportation related to the following projects:

- Bridge Rehabilitation Project on Rte 370 (Discovery Bridge) over Missouri River in St.Charles/Louis Counties. (Job No. J6P3554)
- Bridge Rehabilitaiaon Project on Rte 370 over Rte 94 in St.Charles County (Job No. JSL0248)

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 and St. Louis Counties, 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.

**3.0 Site Construction.** The Contractor shall arrange the work and shall place and dispose of the materials being used so as not to interfere with the operations of the other contractor.

**4.0 Basis of Payment.** No direct payment will be made to the contractor to recover the cost of the equipment, labor, materials, or time required to for this coordination with other projects.

U. Alternate for Undersealing

**1.0 Description.** This work shall consist of Undersealing an existing pavement with either Asphalt Cement or High Density Polyurethane in accordance with the Plans and Special Provisions in this contract or as directed by the engineer.

**2.0 Alternates.** 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 blank in the contract unit price column for any pay item listed for the other alternate. If the bidder leaves any value in the unit price column for another alternate other than the one they are bidding, the bid will be rejected.

**5.0 Basis of Payment.** The accepted quantity of the chosen alternate and other associated items will be paid for at the unit price for each of the appropriate pay items included in the contract.

V. Airport Requirements JSP-15-09

**1.0 Description.** The project is located near a public use airport or heliport or is more than 200 feet above existing ground level, which requires adherence to Federal Aviation Regulation Part 77 (FAA Reg Part 77). “Near” to a public use airport or heliport is defined as follows:

20,000 feet (4 miles) from an airport with a runway length of at least 3,200 feet  
10,000 feet (2 miles) from an airport with runway length less than 3,200 feet  
5,000 feet (1 mile) from a public use heliport

**2.0** The maximum height of the improvement and the equipment operating while performing the improvements was assumed to be 20.0 feet above the current travelway during the process of evaluating the project for compliance with FAA Reg Part 77.

**2.1** If the contractor’s height of equipment or if the improvement itself is beyond the assumed height as indicated in Sec 2.0, the contractor will work with the resident engineer to fill out the Form 7460-1, or revise the original Form 7460-1 based upon the proposed height and resubmit, if necessary, for a determination by FAA on compliance with FAA Reg Part 77. Further information can be found in MoDOT’s Engineering Policy Guide 235.8 Airports. If the Form 7460-1 must be filed, the associated work shall not be performed prior to the FAA determination, which could take up to 45 days.

**2.2** If the contractor’s height of equipment and the improvement itself is below the assumed height as indicated in Sec 2.0, no further action is necessary to fulfill the requirements set forth in FAA Reg Part 77.

**3.0 Basis of Payment.** There will be no direct payment for any work associated with this provision. Contract time extension will be given for the time necessary to obtain or revise the FAA permit. Any delays or costs incurred in obtaining the revised permit will be noncompensable.

W. MoDOT ITS ASSETS RELOCATION

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

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

**3.0 Construction Requirements.** The Contractor shall 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 Assets. 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 Assets, the Contractor is responsible for relocation to the satisfaction of the Engineer prior to any in-ground work.

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

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

**3.6** 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.

**3.6.01 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:

$$\begin{aligned} \text{Maximum link loss} = & \text{Measured loss over portion installed by others} \\ & + (\text{Fiber length in km}) \times (0.35 \text{ for } 1310 \text{ nm and } 0.25 \text{ for } 1550 \text{ nm}) \\ & + (\text{Number of fusion splices}) \times (0.05) \\ & + (\text{Number of mechanical splices [for temp. connection]}) \times (0.3) \\ & + (\text{Number of connections}) \times (0.5) \end{aligned}$$

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.

**3.6.02 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.

**3.6.03 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.

**3.6.04 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.

**3.7** 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.

**3.8** Upon completion of this work, the Contractor shall contact the MoDOT ITS group (via email at [slits@modot.mo.gov](mailto:slits@modot.mo.gov)) 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.

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

**4.0 Basis of Payment.** Payment for "MoDOT ITS Assets Relocation" shall be paid as Linear Feet and shall include the trenching, conduit installation, conduit coupling, pull boxes, sealing materials, cable relocation, needed fiber testing, restoration of all disturbed area, all labor and work incidental thereto, and shall be considered to be completely covered by the contract unit price for the following pay item:

| Item No.  | Unit        | Description                 |
|-----------|-------------|-----------------------------|
| 910-99.03 | Linear Feet | MoDOT ITS Assets Relocation |

X. PROTECTION OF THE NORFOLK SOUTHERN RAILROAD INTERESTS

**1.0** This project requires the Contractor to go through the Non-Environmental Right of Entry Process to secure protective services for Norfolk Southern Railroad's Property. The

link to the website is as follows: <https://www.norfolksouthern.com/en/rail-development-property/ns-property/projects-on-ns-property/access-ns-property>

**1.1** Once on the website use the non-Environmental Right of Entry link to download the Non-Environmental Right of Entry Instructions and obtain the correct access to RailPros for NS.

**2.0** Should the contactor damage Norfolk Southern property or violate the Non-Environmental Right of Entry they shall be responsible for all damages or lost time incurred from that damage or violation.

Y. Truck Mounted Attenuator (TMA) for Stationary Activities JSP-23-04

**1.0 Description.** Provide and maintain Truck Mounted Attenuators (TMA) in accordance with Sec 612 and as specified herein.

**2.0 Construction Requirements.** Truck Mounted Attenuators (TMA) shall be used for the work activities indicated in the plans or specified herein.

**2.2 Pavement Repair Work** – At Full Depth Concrete Pavement Repair and Partial Depth Pavement Repairs that use the Hot Polymer Modified Repair Material as noted in plan quantities on both St.Charles County and St.Louis County sides of project.

**2.3 Undersealing Material Work** – At Undersealing Material as noted in plan quantities on both St.Charles County and St.Louis County sides of project.

**3.0 Method of Measurement.** No measurement will be made for Truck Mounted Attenuators (TMA).

**4.0 Basis of Payment.**

**612.5.1** No payment will be made for truck mounted attenuators (TMAs) used in mobile operations or for any TMAs designated as optional.

**612.5.1.1** Payment for TMAs required for stationary work activities will be paid for at the contract unit bid price for Item 612-30.01, Truck Mounted Attenuator (TMA), per lump sum. The lump sum payment includes all work activities that require a TMA, regardless of the number of deployments, relocations, or length of time utilized. No payment will be made for repair or replacement of damaged TMAs.