

Job Number: JSL0033

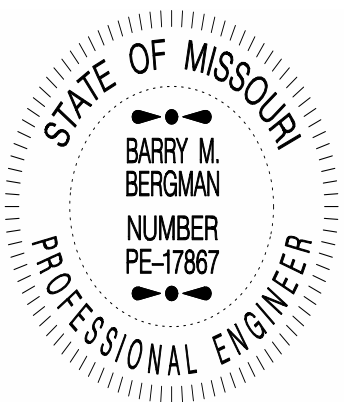
Route: 47

County: Franklin

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

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 <p>THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY.</p>	MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636
	If a seal is present on this sheet, JSP's have been electronically sealed and dated.
	JOB NUMBER: JSL0033 FRANKLIN DATE PREPARED: 2/12/2026
	ADDENDUM DATE:
Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All	

JOB
SPECIAL PROVISION

A. General - Federal JSP-09-02L

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

1.1 This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, Information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at www.modot.org under "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 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 2025 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.

1.1 Subproject Identification. Portions of the Contract are hereby identified as subprojects with the following assignment of Bridge Number, Route, or other location of work. This identification is done for the purpose of setting time limits for completion of each subproject and to allow partial acceptance of the work for maintenance as subprojects are completed.

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 begins 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 20, 2026
Contract Completion Date: July 1, 2027

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
JSL0033	N/A	\$3,200.00

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 **\$750.00** 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.

2.6 Transportation Management Plan. The contractor Work Zone Specialist (WZS) shall review the Transportation Management Plan (TMP), found as an electronic deliverable on MoDOT's Online Plans Room and discuss the TMP with the engineer during the preconstruction conference. Throughout the construction project, the WZS is responsible for updating any changes or modifications to the TMP and getting those changes approved by the engineer a

minimum of two weeks in advance of implementation. The WZS shall participate in the post construction conference and provide recommendations on how future TMPs can be improved.

2.7 Traffic Management Center (TMC) Coordination. The Work Zone Specialist (WZS) or their designee shall contact by phone the MoDOT Traffic Management Center (KC Scout TMC at #816-347-2250 or Gateway Guide TMC at #314-275-1513) within five minutes of a lane or ramp closure beginning and within five minutes of a lane or ramp closure being removed. The WZS shall make this phone call 24 hours a day, 365 days of the year since the MoDOT Traffic Management Centers are always staffed.

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 work on the project may be completed during daytime and nighttime hours. Working hours shall be considered as follows:

Rte. 47 Working Hours

Weekdays

8:30 a.m. – 3:30 p.m. Monday through Friday

8:00 p.m. - 5:00 a.m. Monday through Friday

Saturday & Sunday

To be determined by the Engineer.

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 Troop C Headquarters

891 Technology Drive
Weldon Spring, MO. 63304
636-300-2800
800-525-5555

POLICE

City of Washington 636 390-1050

FIRE / AMBULANCE

City of Washington 636 390-1020

HOSPITALS

Mercy Hospital 636 239-8000
901 E. Fifth Street
Washington, Mo. 63090

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-96-05A

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

Barry Bergman, Project Contact
St. Louis District
1590 Woodlake Drive
Chesterfield, MO 63017
Telephone Number: 314-453-5033
Email: barry.bergman@modot.mo.gov

1.1 All questions concerning the bid document preparation can be directed to the Central Office – Design as listed below.

Telephone Number: (573) 751-2876
Email: BCS@modot.mo.gov

2.0 Upon award and execution of the contract, the successful bidder/contractor shall forward all questions and coordinate the work with the engineer listed below:

Christine Redhage, Resident Engineer
St. Louis District
3595 Plass Road
Festus, Missouri 63028
Telephone Number: 314-453-5018
Email: christine.redhage@modot.mo.gov

F. Supplemental Revisions JSP-18-01KK

- 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.

- **Delete Sec 106.9 in its entirety and substitute the following:**

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 or Steel Products.

The contractor's attention is directed to Title 23 CFR 635.410 *Buy America Requirements*. Where articles, materials or supplies that consist wholly or predominantly of iron or steel or a combination of both 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. Predominantly of iron or steel or a combination of both means that the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. 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 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.

106.9.1.2 "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.

106.9.1.3 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.

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

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

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

106.9.1.4 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.

106.9.2 Buy America Requirements for Construction Materials other than iron or steel products.

Construction materials mean 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

106.9.3 Buy America Requirements for Manufactured Products.

Manufactured products mean articles, materials or supplies that have been processed into a specific form and shape, or combined with other articles, materials or supplies to create a product with different properties than the individual articles, materials or supplies. If an item is classified as an iron or steel product, an excluded material, or other product category as specified by law or in 2 CFR part 184, then it is not a manufactured product. However, an article, material or supply classified as a manufactured product may include components that are iron or steel products, excluded materials, or other product categories as specified by law or in 2 CFR part 184. Mixtures of excluded materials delivered to a work site without final form for incorporation into a project are not a manufactured product.

106.9.3.1 Produced in the United States, in the case of manufactured products, means:

- (A) For projects obligated on or after October 1, 2025, the product was manufactured in the United States; and
- (B) For projects obligated on or after October 1, 2026, the product was manufactured in the United States and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product.

106.9.3.2 (i) With respect to precast concrete products that are classified as manufactured products, components of precast concrete products that consist wholly or predominantly of iron or steel or a combination of both shall meet the requirements of paragraph (b) of this section. The cost of such components shall be included in the applicable calculation for purposes of determining whether the precast concrete product is produced in the United States.

(ii) With respect to intelligent transportation systems and other electronic hardware systems that are installed in the highway right of way or other real property and classified as manufactured products, the cabinets or other enclosures of such systems that consist wholly or predominantly of iron or steel or a combination of both shall meet the requirements of paragraph (b) of this section. The cost of cabinets or other enclosures shall be included in the applicable calculation for purposes of determining whether systems referred to in the preceding sentence are produced in the United States.

106.9.4 Waiver for De Minimis Costs for Manufactured and Construction Materials other

than iron or steel products.

“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.

- 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 ± 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 dynamic 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, material suppliers, and service providers (e.g. hauling) 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).

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. Utilities

1.0 For informational purposes only, the following is a list of names and contact details for the known utility companies in the area of the construction work limits:

<u>Utility Name</u>	<u>Known Required Adjustment</u>	<u>Type</u>
City of Washington Charles Stankovic Phone: (636) 390-1014	None	Water & Sewer

Email: cstankovic@washmo.gov		
Att Distribution Justin Courtosie Phone: (314) 277-4708 Email: Jc660s@att.com	None	Communications
Spectrum Mid-Amereica, LLC Donald Hatfield Phone: (314) 341-4450 Email: Donald.Hatfield@charter.com	None	Communications
Spire Ryan Rzaadca Phone: (314) 575-5087 Email: Ryan.Rzaadca@spireenergy.com	None	Gas
Gateway Fiber Kirk Thaelke Phone: (314) 495-6318 Email: kirk.thaelke@gatewayfiber.com	None	Communications

1.0 The existence and approximate location of utility facilities known to exist, as shown on the plans, are based upon the best information available to the Commission at this time. This information is provided by the Commission "as-is" and the Commission expressly disclaims any representation or warranty as to the completeness, accuracy, or suitability of the information for any use. Reliance upon this information is done at the risk and peril of the user, and the Commission shall not be liable for any damages that may arise from any error in the information. It is, therefore, the responsibility of the contractor to verify the above listing information indicating existence, location, and status of any facility. Such verification includes direct contact with the listed utilities.

2.0 If utility facilities are discovered, the contractor shall contact the MoDOT Area Utility Coordinator (Tim Speidel: 314-406-5232 or Timothy.Speidel@modot.mo.gov). 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.

4.0 Basis of Payment: No direct payment will be made for complying with this provision.

Pot Holing Utility Facilities

1.0 Pot Holing Utility Facilities. The contractor shall notify the utility prior to potholing the utilities marked facility. Some utility companies may want to have a representative on site to observe the contractor's pothole work. The contractor shall be responsible to "pothole" any existing utility facility under the pavement or outside the pavement, to verify the utilities depth and location for all the contractor's needs to construct the project. Core drilling pavement prior to pot holing for utilities may be necessary. Any potholed utility facility determined to be in conflict

with construction of the work for the project, shall be brought immediately to the attention of MoDOT's area utility coordinator and the engineer for the project. The engineer will determine whether relocation of the utility is necessary to accommodate construction of the project or if the proposed work can be adjusted to avoid any utility relocation. The contractor is responsible for the costs to repair any utility facility damaged by the contractors work to pothole the utility.

A utility pothole unit shall be defined for this project as a single continuous excavation effort, by the contractors chosen method, to expose a buried utility at the location marked by the utilities locator and approved by the engineer. The excavation limits of a single pothole unit shall be any excavation taking place within a 2ft radius around the center of the locate mark provided by the utilities locator, to a depth where either the utility has been satisfactorily exposed for the engineer to see or to a depth where the search for the marked utility is terminated by the engineer and the pothole location abandoned without exposing the utility.

2.0 Sign Locations. For this contract, the Contractor shall field verify the location of utilities through the MO One Call utility locate system to determine proximity of utilities in relation to the location of the new signpost locations. When utilities are in proximity of the sign placement it is recommended that the contractor dig test holes-pot hole to physically find the utility prior to placing the sign.

3.0 Basis of Payment. All labor, equipment, materials and restoration necessary to pothole buried utilities shall be paid for under:

	Pay Item Number	Unit
902-99.02	Pot Holing Utility Facilities	5

I. Lump Sum Temporary Traffic Control JSP-22-01B

1.0 Delete Sec 616.11 and insert the following:

616.11 Method of Measurement. Measurement for relocation of post-mounted signs will be made to the nearest square foot of sign area only for the signs designated for payment on the plans. All other sign relocations shall be incidental. Measurement for construction signs will be made to the nearest square foot of sign area. Measurement will be made per each for each of the temporary traffic control items provided in the contract.

616.11.1 Lump Sum Temporary Traffic Control. No measurement will be made for temporary traffic control items grouped and designated to be paid per lump sum. The list of lump sum items provided in the plans or contract is considered an approximation and may be subject to change based on field conditions. This is not a complete list and may exclude quantities for duplicate work zone packages used in simultaneous operations. The contractor shall provide all traffic control devices required to execute the provided traffic control plans for each applicable operation, stage, or phase. No measurement will be made for any additional signs or devices needed except for changes in the traffic control plan directed by the engineer.

2.0 Delete Sec 616.12 and insert the following:

616.12 Basis of Payment. All temporary traffic control devices authorized for installation by the engineer will be paid for at the contract unit price for each of the pay items included in the contract. Whether the devices are paid individually, or per lump sum, no direct payment will be made for the following:

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

616.12.1 Lump Sum Temporary Traffic Control. Traffic control items grouped together in the contract or plans for lump sum payment shall be paid incrementally per Sec 616.12.1.1. Alternately, upon request from the contractor, the engineer will consider a modified payment schedule that more accurately reflects completion of traffic control work. No payment will be made for any additional signs or devices needed except for changes in the traffic control plan directed by the engineer. Additional items directed by the engineer will be paid for in accordance with Sec 109.4. No adjustment to the price will be made for overruns or underruns of other work or for added work that is completed within existing work zones.

616.12.1.1 Partial payments. For purposes of determining partial payments, the original contract amount will be the total dollar value of all original contract line items less the price for Lump Sum Temporary Traffic Control (LSTTC). If the contract includes multiple projects, this determination will be made for each project. Partial payments will be made as follows:

- (a) The first payment will be made when five percent of the original contract amount is earned. The payment will be 50 percent of the price for LSTTC, or five percent of the original contract amount, whichever is less.
- (b) The second payment will be made when 50 percent of the original contract amount is earned. The payment will be 25 percent of the price for LSTTC, or 2.5 percent of the original contract amount, whichever is less.

(c) The third payment will be made when 75 percent of the original contract amount is earned. The payment will be 20 percent of the price for LSTTC, or two percent of the original contract amount, whichever is less.

(d) Payment for the remaining balance due for LSTTC will be made when the contract has been accepted for maintenance or earlier as approved by the engineer.

616.12.1.2 Temporary traffic control will be paid for at the contract lump sum price for Item:

Item No.	Unit	Description
616-99.01	Lump Sum	Misc. (Temporary Traffic Control)

J. 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.

2.1 Work Activity

(a) Replacement of asphalt pavement on Route 47.

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

4.0 Basis of Payment. Delete Sec 612.5.1 and substitute with the following:

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.

K. Coordination with Other Projects

1.0 Description. The contractor shall coordinate traffic management and work between other projects within the same project limits:

None

1.1 The contractor shall be aware that there may be other projects including, but not limited to, utility, County, City, 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 one listed above may impact this project and work to coordinate construction and traffic management efforts between this project and any other project involved.

2.0 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.

L. 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 50 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.

M. Tack Coat

1.0 Description. This work shall consist of preparing and treating an existing bituminous or concrete surface with a low-tracking or non-tracking tack coat material prior to an asphalt overlay in accordance with Section 407, except as revised by this specification.

2.0 Material. The tack coat shall be a hard penetration asphalt emulsion (SS-1vh) with the material properties in accordance with Sec 1015.20.5.4.

3.0 Method of Measurement. Measurement of asphalt emulsion to the nearest gallon shall be made as specified in Sec 1015. The measurement of asphalt emulsion shall be based upon undiluted material.

4.0 Basis of Payment. The accepted quantity of low-tracking or non-tracking tack coat or polymer modified emulsion tack will be paid for at the contract unit price 407-10.07, Tack Coat – Non-Tracking.

N. Video Detection System

1.0 Description. The Contractor shall furnish and install all equipment, materials, software and other miscellaneous items that are required to provide a fully functional Video Detection System for the control of vehicular and pedestrian traffic signals.

2.0 Material. The video detection system shall consist of power supply, hard-wired video cameras, all necessary video and power cabling with end connectors, mounting brackets, surge protection as recommended by the manufacturer, video detection processors/extension modules capable of processing the number of camera and phase combination video sources shown on the project plans. The video detection system will be defined as the complete assembly of all required equipment and components for detection of vehicles. Each video detection system shall consist of the video camera(s), lightning arrester for video cabling, processor unit(s), control device (track ball or keypad; no mouse allowed), software and license for system control via a computer (if applicable), communication components, and a color monitor. All camera views shall be obtainable without requiring the disconnection and reconnection of cables within the system. The video detection systems in the list below are the only systems that are tested, fully functional, and approved for use in the St. Louis District. The contractor may propose the use of a different but equal system in lieu of the systems listed below but before ordering and installing that system, the contractor shall have its use approved by both the Engineer and the Area Traffic Engineer:

1. **Autoscope Vision**
2. **Iteris Vantage Next**
3. **Aldis Gridsmart Smart mount Camera (Performance Module to be included)**

3.0 Installation Requirements. The video detection system shall be installed per the manufacturer's recommendations. The installer shall be certified by the video detection system's manufacturer to install the system. All coaxial cable runs (if used) shall be continuous without splice from the cabinet to the camera. If requested by the engineer, a factory certified representative from the supplier shall be available for on-site assistance for a minimum of one day during installation. The bottom of the video camera shall be mounted a minimum of 30 feet (9.0 m) above the pavement, unless otherwise indicated on the plans or approved by the Engineer.

A separate grounded 120 VAC service outlet shall be provided in the controller cabinet for supplying power to the parts of the video detection system requiring AC power. Use of the grounded service outlet located on the cabinet door will not be permitted. The video detection system must integrate/be compatible with an Advanced Transportation Signal Controller (ATC).

3.1 Detection Zones. The detection zones shall be created by drawing the detection zones on the video image. A graphical user interface shall be built into the video detection system and displayed on a video monitor or computer. It shall be possible to edit previously defined detector configurations to fine-tune detection zone placement. When a vehicle is detected by crossing a detection zone, there shall be a visual change on the video display, such as a flashing symbol or a change in color or intensity to verify proper operation of the video detection system.

3.2 Performance. Overall performance of the video detection system shall be comparable to inductive loops. Using camera optics and in the absence of occlusion, the video detection system shall be able to detect vehicle presence with 98% accuracy under normal day and night conditions with only slight deterioration in performance under adverse weather conditions, including fog, snow and rain. When visibility exceeds the capabilities of the camera, the video detection

system shall default to placing a call on all detectors. Supportive documentation is required to meet this specification and shall be provided to the Engineer before installation.

3.3 Vehicle Counting. In addition to presence detection, the video detection system shall be capable of performing at a minimum the following calculations in real time and store all values for each camera view for any visible lane without the addition of another device:

- a) Speed
- b) Volume
- c) Lane Occupancy
- d) Vehicle Classification
- e) Other available performance measures

For speed calculations thru movements are required. Turning movement measurements are desired but not required. For volume measurements/calculations both mainline thru and all turning movements are required. All values are to be assigned to detector channels within the controller. If this requirement cannot be met all values must be able to be exported thru an excel spreadsheet. Other performance measures must be clearly defined. In all cases all performances measures must be ultimately available in an easily usable, exportable format. The contractor shall provide documentation to the Engineer to confirm the volumes are configured and operational through the video detection system.

3.4 Monitor. The monitor shall be an LCD active matrix with a minimum 7" diagonal screen color monitor, an NTSC-M system and BNC video in-out connections built into the housing. The unit shall be compact and lightweight, securely mounted to the cabinet shelving, have low power consumption, constructed to operate under extreme temperature conditions, and run on AC power. AC adaptor shall be included. The monitor shall be installed to automatically power on when the cabinet door is opened and automatically power off when the cabinet door is closed. A manual on/off switch shall be provided.

3.5 Video Camera and Housing. The camera shall produce a color video image of vehicles during daylight hours, with an optional production of black and white images during nighttime hours. The video shall produce a clear image for scenes with a luminance from a minimum range of 0.18 to 929 foot-candles (2.0 to 10,000 lux). The camera shall provide a minimum resolution of 430 lines horizontal (TVL) and 350 lines vertical under NTSC operation. The camera shall include an electronic shutter or auto iris control based on average scene luminance and shall be equipped with an auto iris lens. sun shield that prevents sunlight from directly entering the lens. The sun shield shall include a provision for water diversion to prevent water from flowing in the camera field of view and shall be able to slide forward and back. The total weight of the enclosure, camera, lens, housing, sun shield and mounting bracket shall be less than 10 pounds.

3.6 Video Detection System Connections. All bus connections in the video detection system shall be corrosion resistant. Serial communications to a computer shall be through an RS-232/RS-422 serial port through a subminiature "D" connector with a computer running supplied system software. The port shall have the capability to access detection system data as well as the real-time imagery needed to show detector actuations. The processor shall have a RJ-45 plug using Ethernet 10/100 protocols. The equipment shall be provided with either a NEMA TS1 or NEMA TS2 interface as shown on the plans.

For TS1 systems, the video detection system shall be equipped with a TS1 detector interface for a minimum of 16 detector outputs, or 32 detector outputs if required based on the design plans. Logic output levels shall be compatible with the TS1. A subminiature "D" connector on the video detection

system shall be used for interfacing to these outputs. For TS2 systems, the video detection system shall be equipped with a TS2 Type 1 detector interface, where detector information is transmitted serially via an RS-485 data path. A 15-pin subminiature "D" connector, meeting the requirements of the TS2 standard, shall be used for the serial detector output. A minimum of 16 detector outputs is required, with the capability of expansion to 32 outputs if required based on the design plans.

The contractor shall be responsible for any changes or additions to either an existing or new cabinet in order to provide a properly functional video detection system and monitor display. This may include, but is not limited to, additional SDLC connectors, an MMU (malfunction management unit), shelf relocation and component reorganization. No direct pay for any changes or additions. All required connections will be considered part of the video detection system installation.

3.7 Technical Support for Video Detection System. The video detection system shall be free of defects in material and workmanship. For two years, technical support from factory certified personnel or factory certified installers shall be available from the supplier. Ongoing software support by the supplier shall include updates for the processor unit and computer software and shall be provided at no cost during this two-year period. The update of the processor unit software to be NTCIP compliant shall be included.

4.0 Construction Requirements. Construction requirements shall conform to Sec 902.

5.0 Documentation and Testing. The contractor shall provide one bound copy and one ped version of the user's manual.

6.0 Method of Measurement. Method of measurement shall conform to Sec 902.

7.0 Basis of Payment. Measurement and payment for work covered by this specification shall include all equipment, tools, labor, programming, and materials necessary to provide a video detection system **per intersection** and shall be paid at the contract unit price as follows:

Item No.	Type	Description
902-99.02	Each	SL District Video Detection System

O. Sign Removal and Relocation

1.0 Description. Existing signs and posts shall be either relocated or reinstalled at various locations as shown in the plans due to grading work.

1.1 The contractor shall exercise reasonable care in the handling of the signs and posts during relocation. Should any sign or post be damaged due to the contractor's negligence, it shall be replaced in kind at the contractor's expense. The engineer shall have the final determination on whether the said sign equipment should be replaced or repaired.

1.0 Basis for Payment. All costs associated with compliance with this special provision for all material, equipment, labor, or any other incidental items shall be completely covered by the contract unit price for:

Item No.	Type	Description
903-99.02	Each	Sign Removal and Relocation

P. Traffic Signal Maintenance and Programming

1.0 Description. Traffic signal maintenance and programming for this project shall be in accordance with Section 902 of the Standard Specifications, and specifically as follows.

2.0 Contractor Maintenance Responsibilities.

2.1 Traffic Signal Maintenance. Once any part of an existing traffic signal within the limits of this project has otherwise been modified and/or adjusted by the contractor or the contractor begins work at an intersection with traffic signals already in operation, then the contractor shall be solely responsible for that traffic signal's maintenance. All traffic signal maintenance shall be the responsibility of the contractor as specified in 902.2 and 902.3, until the Commission accepts the traffic signal for maintenance or as directed by the Engineer.

2.10 If the contractor does decide to forego the signal detection work before paving, they will be responsible for the signals they remove the detection from. Along with the adjacent signals they are in coordination with as their work will be impacting them as well.

Traffic signals to be accepted for maintenance by the contractor are listed in the schedule below:

Commission Traffic Signals to be Maintained by the Contractor:

- MO 47 @ 3rd (Signal #: 8212)
- MO 47 @ 5th
- MO 47 @ 8th
- MO 47 @ Blue Jay – Wash HS
- MO 47 @ 14th – Duncan
- MO 47 @ Heritage Hills
- MO 47 @ MO 100
- MO 47 @ Schnucks – Washington Sq
- MO 47 @ Bieker-Steuterma

2.2 Traffic Signal Controller Programming. If the contractor modifies and/or adjusts an existing traffic signal controller's programming or makes any roadway changes to reduce the traffic capacity through a signalized intersection within the limits of a project or utilizes a project defined detour that utilizes the traffic signals within the below schedule, the contractor shall be solely responsible for those traffic signal controller programs. All controller programming shall be the responsibility of the contractor as specified in 902.2 or until final acceptance of the project or until released from the responsibility by the Engineer. Traffic signal controller programs to be administered by the contractor are listed in the below schedule:

Traffic Signal Controller Programs to be Administered by the Contractor:

- a) Timing Plan 1 all Day Plans
- b) Timing Plan 2 all Day Plans
- c) Timing Plan 3 all Day Plans

2.3 Contractor's Traffic Engineer. If traffic signals are listed in the schedule outlined in section 2.2, the contractor shall have an experienced traffic Engineer with a Professional Engineer's (PE) license in Missouri as well as a Professional Traffic Operations Engineer (PTOE) certification (hereafter referred to as "contractor's traffic Engineer") with the noted experience outlined to section 3.0. MoDOT shall approve the traffic Engineer prior to them being hired.

2.4 Traffic Signal Complaints The contractor shall respond to malfunction complaints or traffic signal timing complaints for those locations detailed in section 2.1 and/or section 2.2 of this provision and as specified in Section 902.21.1. Response time shall be 1 hour for complaints received by the contractor between 6 AM and 6 PM on non-holiday weekdays, and 2 hours for all other times. For cases due to travel times or other extenuating circumstances additional time may be acceptable within reason but must be approved by a Commission Traffic Operations Engineers. These timeframes will replace the '24 hour' response time in Section 105.14 for any traffic signal-related incidents, where the entire cost of the work, if performed by MoDOT personnel or a third party, will be computed as described in Section 108.9 and deducted from the payments due the contractor.

2.5 Traffic Signal Contacts. The contractor must supply to the Engineer and to the Commission's Transportation Management Center (TMC) a contact name and phone number who will be responsible for receiving traffic signal timing complaints for the Engineer. These complaints may be forwarded directly to the contractor by someone other than the Engineer's representative and will not relieve the contractor from properly responding based on the response times of this provision. The contractor shall respond to the Engineer and its representative within 12 hours of the complaint and its remedy. The contractor shall submit to the Engineer's representative a weekly report of complaints received and remedies performed throughout the duration of the project.

2.6 Existing Traffic Signal Controller Programming. The contractor shall request an electronic report from the Engineer on the existing phasing and timing of each traffic signal, which may be the contractor's responsibility to program. The contractor shall give the Engineer 2 weeks' notice to supply the electronic report. The Engineer's representative shall be available to the contractor before any changes are made to a traffic signal or controller to answer any questions about the report. In lieu of the report, the contractor's traffic Engineer may obtain this information from the appropriate agency's central traffic signal control system.

2.7 Traffic Mitigation Plan. The contractor shall notify the Engineer 2 weeks prior to the date of any work impacting the Commission's traffic signals as described in Section 2.1 and/or 2.2. The contractor shall meet with the Engineer's representatives to discuss their traffic mitigation plan at least 1 week before the date of the first impacts and as needed between construction stages. The traffic mitigation plan should at a minimum include:

- a) Proposed Timing Plan changes and any models
- b) Anticipated locations of concern
- c) A map in electronic format displaying the locations and names of the traffic signals and owning agency as detailed in sections 2.1 and/or section 2.2.
- d) Other traffic mitigation efforts

2.8 Notification of Changes to Traffic Signal System. The contractor shall notify the Engineer or representative of the changes no later than 1 working day after changes are programmed if unable to provide advance notice as specified in 902.2.

3.0 Contractor's Traffic Engineer Qualifications.

3.1 Credentials. The contractor shall have an experienced traffic Engineer with a Professional Engineer's (PE) license in Missouri as well as a Professional Traffic Operations Engineer (PTOE) certification.

3.2 Experience. Any proposed contractor traffic Engineer shall be able to demonstrate personal successful previous experience in the following tasks:

3.2.1 Response. The contractor's traffic Engineer shall have the ability to be on site within 1 hour of being requested.

3.2.2 Corridor Management. Time/space diagram manipulation to successfully adjust offsets and splits for rapidly changing traffic demands.

3.2.3 Controller Programming. Ability to program by hand and by software NTCIP-compatible controllers.

3.2.4 Intersection Programming. Implementation of adjusted and/or new timing plans because of changing traffic demand.

3.2.5 Traffic Signal Software. Use and understanding of all traffic signal controllers and central traffic signal control systems utilized by the Commission.

3.3 Proposed Traffic Engineers. The contractor shall submit the names(s) of proposed traffic engineer(s) and the name(s) of all other personnel on their proposed staff along with detailed experience in all tasks outlined in Paragraph 3.2 above. The Engineer reserves the right to reject any contractor traffic engineer, before the start of work, who does not have sufficient experience or, at any point during the project, which does not satisfy the requirements set forth within this Job Special Provision. A list of potential traffic engineers shall be submitted for review to the Project Manager and the Commission's Traffic Engineers prior to bid.

4.0 Contractor's Traffic Engineer Responsibilities.

4.1 VPN Access. The approved contractor's traffic Engineer and any staff assigned to manage the traffic signals during the project are encouraged to apply for VPN (Virtual Private Network) access with the Engineer once the project is awarded. If approved, the Engineer will assign a unique IP address to the contractor's traffic Engineer, which will allow for remote access to the Commission's central traffic signal control systems as appropriate and the ability to interface with the noted traffic signals on this project.

4.2 Traffic Signal Timing Complaints. The contractor's traffic Engineer shall respond to any traffic signal timing complaints regarding signals outlined in section 2.2 of this provision.

4.3 Traffic Signal Coordination. The contractor's traffic Engineer shall be solely responsible for maintaining the coordination at any affected traffic signal to the satisfaction of the Commission's Traffic Operations Engineers or representative until completion of work as set forth in section 2.2 of this provision. Maintenance of coordination may include the synchronization of the affected controller's internal time clocks to the second using an atomic clock, or other means approved by the Commission's Traffic Operations Engineers. If time clock synchronization is used, the contractor shall verify all affected controllers are synchronized at least 1 time per week with a report to the Engineer or representative. This report will be in the form of a documentation record as spelled out in the Work Zone Traffic Management Plan.

4.4 Traffic Signal Controller Programming. The contractor's traffic Engineer shall be responsible for implementing traffic signal controller programming at each intersection listed in section 2.2 for any of the following scenarios:

- a) Intersection Impact
- b) Construction Stage Traffic Switch
- c) Response to Customer Concern
- d) New Intersection Turn-On (along with any subsequent revisions)
- e) Final completion of improvements
- f) As otherwise directed by the Engineer or the Commission's Traffic Operations Engineers

Proposed timing plans should be submitted to the Commission's Traffic Operations Engineers for review prior to field implementation.

4.5 Central Traffic Signal Control System Setup. If a traffic signal cabinet is reconfigured, the contractor's traffic Engineer shall archive the existing controller programming in the Commission's central traffic signal control system. If the signal controller type is changed, the contractor's traffic Engineer shall archive the existing controller programming and convert any new controllers to the proper controller interface type in the Commission's central traffic signal control system. If only signal timing adjustments are made, all database versions shall be clearly labeled and saved separately from the default version, and the final timing program shall be uploaded into the Commission's central traffic signal control system and set as the default database. In addition, the contractor's traffic Engineer shall update any intersection diagrams (i.e., XPL) whose intersection controls were modified during construction.

4.6 Controller Program Test Period. The intersection program shall operate properly with no faults or malfunctions for a period of 15 consecutive days as a condition of being accepted for maintenance by the Commission. Any programming faults shall be corrected by the contractor's traffic Engineer per the response protocols of this provision and the 15 days will start over.

4.7 Cabinet Photos. The contractor's traffic Engineer shall obtain cabinet photos of any new or modified traffic signal cabinet affected by the project. The photos shall be captured of the following perspectives and delivered in the .jpg format electronically and via thumb drive to the Commission's Traffic Operations Engineers.

- a) Power Meter 1 – Away from power meter with meter centered
- b) Power Meter 2 – Close up with power meter number
- c) Cabinet 1 – Away with cabinet centered and door closed
- d) Cabinet 2 – Close up of entire cabinet with door opened
- e) Cabinet 3 – Close up of center cabinet interior
- f) Cabinet 4 – Close up of left cabinet interior
- g) Cabinet 5 – Close up of right cabinet interior
- h) Cabinet 6 – Close up of back panel
- i) Cabinet 7 – Close up of switch
- j) Cabinet 8-Close up of wall interconnect center

4.8 RRFB/PHB Timing. The contractor's traffic Engineer shall calculate the duration of flash time for any new or modified RRFB's (rectangular rapid flashing beacons) affected by the project. The contractor's traffic engineer shall be responsible for calculating phase intervals and programming traffic signal controllers for new/modified PHB's (pedestrian hybrid beacons) affected by the project.

4.9 Detection. The contractor's traffic Engineer shall assist the contractor in setting up detection as per plan and/or SL District Traffic Signal Detection System JSP. The contractor's traffic Engineer shall verify

that all detectors work properly and that each detector input into the traffic signal controller is programmed regarding its intended use. The contractor's traffic Engineer is responsible for optimizing the detector operation by utilizing various detector settings in the traffic signal controller.

4.10 Signal Performance Measures. The contractor's traffic Engineer shall setup traffic signal controllers on the Commission's advanced traffic signal performance measures module unless directed otherwise by the Commission's Traffic Operations Engineers. This includes any work on the Commission's advanced traffic signal performance measures module, traffic signal controller(s), and video detection processor(s). The contractor's traffic Engineer shall provide proof of each traffic signal setup in the module to the Commission's Traffic Operations Engineers. The contractor's traffic Engineer shall setup any traffic signal detectors as system detectors in the Commission's central traffic signal control system.

4.11 Preemption Controller Programming. If preemption is to be provided at a traffic signal, the contractor's traffic Engineer shall program the preemption settings in the traffic signal controller per MoDOT EPG guidelines and at the direction of the Commission's Traffic Operations Engineers. The contractor's traffic Engineer shall test the preempt settings at the traffic signal cabinet to verify proper operation.

5.0 Post Project Report. The contractor shall submit to the Engineer a post project report, four to six weeks after the final traffic signal adjustments have been completed. The report shall include at a minimum an observation report, summary of timing changes and locations, summary of complaints, and any other pertinent information regarding the contractor's efforts for managing these traffic signal corridors in one electronic document.

6.0 Deliverables. All deliverables mentioned in this provision shall be submitted to the Engineer in a timely manner to the satisfaction of the Engineer prior to receiving full compensation for this work. All deliverables must be submitted to the Engineer via USB.

- a) Experience submittal
- b) Preliminary Traffic Mitigation Plan
- c) Notification of Detour Implementation
- d) Time Base Reports, As Needed
- e) Complaint Resolutions
- f) Audible pedestrian signal voice message files
- g) Traffic Signal Database versions (in PDF format)
- h) Traffic signal photos
- i) Notification of Restoration to Normal Operations
- j) Post Project Report

7.0 Construction Requirements. Construction requirements shall conform to Sections 902, 1061 and 1092.

8.0 Method of Measurement. Method of measurement shall conform to Section 902.

9.0 Basis of Payment. Payment will be considered full compensation for all contractor services, installation, and labor to complete the described work:

Item No. Type Description

902-99.01 Lump Sum Traffic Signal Maintenance & Programming

Q. Adjusting Manholes

1.0 Description. This work shall consist of providing new manhole adjusting rings (adapters) as specified in the contract to adjust manholes to grade.

2.0 See Section 604.20.1 Adjusting Drainage Facilities for additional information.

3.0 Basis of Payment. Payment shall be made as noted below.

604-99.02 MISC (Adjusting Manholes) Each

R. Winter Months Requirements JSP-15-07A

1.0 Description. This project contains work which spans the winter months.

2.0 Work to be Completed. When the contractor ceases operations for the winter months, any paving operation performed by the contractor shall not result in a lane height differential between adjacent lanes.

3.0 Maintenance of Pavement Marking. Prior to ceasing operations for winter months, a permanent or temporary stripe shall be provided on any completed length to the point that the original stripe was obliterated or obscured by the contractors' operation. Temporary striped areas shall be re-striped with the remaining route upon performance of the final striping.

4.0 Winter Related Maintenance Activities. The contractor shall have the project in a condition as not to interfere with the plowing of snow. The contractor shall also provide a taper at the end of his paving that will not be damaged by the plowing of snow.

5.0 Basis of Payment. There will be no direct pay for compliance with this provision.