

Job No.: JSR0366

Route: Y


County: Webster

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

(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>	<b>MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION</b> 105 W. CAPITOL AVE. JEFFERSON CITY, MO 65102 Phone 1-888-275-6636
	<b><i>HDR Engineering, Inc,</i></b> <i>1001 Highlands Plaza Drive, Suite 200</i> <i>St. Louis, MO 63110</i>  Certificate of Authority: 000856 Consultant Phone: 314-425-8301
	If a seal is present on this sheet, JSP's have been electronically sealed and dated.
	JOB NUMBER: JSR0366 Route: Y County: WEBSTER, MO DATE PREPARED: 12/15/2025
	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](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 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.

**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.

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Notice to Proceed: March 19, 2026  
Contract Completion Date: December 1, 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
JSR0366	228	\$1,800

**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 **\$1,500** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the 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 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.

### **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.

#### **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.

**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 D (417) 895-6868
Webster County Sheriff (417) 859-2247
Elkland Fire Protection District: (417) 933-5454
Buffalo Rural Fire Department: (417) 345-1977
Conway Volunteer Fire Department: (417) 322-9883

**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.

Bud Sherman, Project Manager  
Southwest District  
3025 E Kearney St  
Springfield, MO 65807

Telephone Number: (417) 895-7690  
Email: [bud.sherman@modot.mo.gov](mailto:bud.sherman@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](mailto: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:

Brad Gripka, Resident Engineer  
Southwest District  
2549 N Mayfair Ave  
Springfield, MO 65807

Telephone Number: (417) 834-6976  
Email: [donald.gripka@modot.mo.gov](mailto:donald.gripka@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  $\pm 2.0$  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 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. Utilities JSP-93-26F

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

<u>Utility Name</u>	<u>Known Required Adjustment</u>	<u>Type</u>
Webster Electric Cooperative Shannon Beeler PO Box 87 120 Vivian Street, Marshfield, MO 65706 Phone: (417) 630-7023 Phone: (417) 988-2385 - cell Email: <a href="mailto:beeler@websterec.com">beeler@websterec.com</a>	None	Power
Brightspeed Kelly Weigle 117 N. Madison Avenue Lebanon, MO 65536 Phone: (417) 733-7866 Email: <a href="mailto:Kelly.Weigle1@Brightspeed.com">Kelly.Weigle1@Brightspeed.com</a>	None	Communications

**2.0** 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.

#### H. Right-of-Way Clearance – Delayed Possession

**1.0 Description.** The right of way for this project has been acquired except for

Parcel 001 - Robert & Lynette M Shockley – (RW)  
Parcel 002 - Philip D & Cynthia A Lovetere – (RW)  
Parcel 003 - Donald & Linda Sartin – (RW)  
Parcel 004 - Christopher Bigley - (RW)

**1.1** The contractor shall inform itself of the location of this tract. No encroachment, storage of equipment and materials or construction on these tracts shall be permitted until notification by the engineer is given that these tracts have been acquired.

**1.2** The contractor shall schedule its work utilizing the available right of way until these tracts are cleared for construction, which is estimated to be January 15, 2026. However, this date expressly is not a warranty by or contractually binding on the Commission as the date the four tracts will be clear for construction. No encroachment, storage of equipment and materials or construction on these tracts shall be permitted until the contractor is notified by the engineer that these tracts have been acquired.

**1.3** The contractor shall have no claim for damage for delay, disruption, interference or otherwise as a result of the unavailability of **Parcels listed above in Item 1.0.** The contractor may be given an extension of time upon proof of actual delay caused by the unavailability of these tracts as approved by the engineer.

I. Early Notice to Proceed

**1.0 Description.** The contractor will be given a Notice to Proceed Date for this project, as stipulated in JSP B - Contract Liquidated Damages. All contracts shall be executed and returned to the Commission by or before the end of the day on the business day prior, in order to commence work on the Notice to Proceed date.

**2.0** The contract will be distributed electronically by the Commission for execution through DocuSign® upon award.

**3.0** As part of the contract execution process, the contractor shall complete and deliver the original documents/forms listed below, immediately following award of the contract.

Contract Bond Form (with associated Power of Attorney Form)  
Contractor Acknowledgement Form  
Workers Eligibility Verification Affidavit

**3.1** These documents will be provided to the contractor through Bid Express®/BidX® correspondence immediately following Commission award. A checklist with instructions on how to complete these documents will be provided with said award correspondence. In order to expedite contract execution, contractors are encouraged to follow the instructions on the checklist. Inquiries related to completing the listed documents may be directed to the following:

Rodney Braman  
Phone: (573) 751-9253  
Email: [Rodney.Braman@modot.mo.gov](mailto:Rodney.Braman@modot.mo.gov)

**4.0** The contractor shall deliver the original documents to the address listed below and notify Rodney Braman at the time the documents are delivered.

**5.0** Potential Bidders without a current MoDOT issued DocuSign® access code shall notify Ryan Martin prior to the bid to determine the necessary steps to establish a Contractor specific access code. If another MoDOT District Office location other than the one listed below is more convenient, please contact Ryan Martin.

CENTRAL OFFICE  
Ryan Martin  
Bidding and Contract Services Engineer  
105 West Capitol  
Jefferson City, MO 65102-0270  
Phone: (573) 526-2923  
Email: [Ryan.Martin@modot.mo.gov](mailto:Ryan.Martin@modot.mo.gov)



J. Liquidated Damages Specified JSP- 93-28A

**1.0 Description.** If both travel lanes of Route Y are not complete and open to traffic on or before August 15<sup>th</sup>, 2026, the Commission, the traveling public, and state and local police and governmental authorities will be damaged in various ways, including but not limited to, increased construction administration cost, potential liability, traffic and traffic flow regulation cost, traffic congestion and motorist delay, with its resulting cost to the traveling public. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of \$1,500 per day for each day, or partial day thereof, that both travel lanes of Route Y are not complete and open to traffic in excess of the limitation as specified elsewhere in this special provision. It shall be the responsibility of the engineer to determine the quantity of excess closure time.

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

K. Contractor Quality Control NSP-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.

L. Environmentally Sensitive Area

**1.0 Description.** The contractor is notified that an environmentally sensitive area is present within the area of construction between Sta.150+14 (right) and Sta. 152+50 (right). This special provision has been written to keep this project in compliance with Federal Law. The intent of this special provision is to eliminate construction impacts to this sensitive area and to preserve it in place within the NEW ROW. Prior to implementation of any exceptions, changes, or modifications to this provision the contractor, the MoDOT Resident Engineer and the MoDOT Archaeologist must mutually agree.

**2.0 Construction Requirements.** Minimization of impacts throughout the site area will require several stages of work. Rutting of the area will not be permitted.

**2.1** The contractor shall notify the Resident Engineer and the MoDOT Archaeologist ten (10) working days prior to beginning the following activities.

**2.2** The contractor shall mow and then spray the area to kill the vegetation. Grubbing will not be allowed within this area.

**2.3** Once the vegetation is killed the contractor shall cover the designated area as specified on the plan and profile sheet.

**2.4** If Class C material, as defined in Sec. 203.2, is used as fill material to protect the environmentally sensitive area, a geogrid, as approved by the engineer, shall be placed under the fill material and meet the same coverage footprint of the fill. If Class A material, as defined in Sec. 203.2, is used as fill material to protect the environmentally sensitive area, a geotextile (per Sec. 1011.3.4) shall be installed underneath 18" of fill.

**2.5 Placement of the fill.** Placement and compaction of the fill shall be conducted during dry ground conditions to avoid rutting. Placement of the fill shall be done in such a manner not to rip or tear the geotextile fabric. The MoDOT Archaeologist shall be present during the placement of the fill.

**3.0 Restrictions.** The environmentally sensitive area extends southeast, beyond NEW ROW on private property. The contractor is prohibited from leaving the ROW between Sta. 150+14 (right) and Sta. 152+50 (right). This Environmentally Sensitive Area is marked as DND (do not disturb) on the project plan and special sheet 1 of 1.

**4.0 Method of Measurement.** This item will not be measured for payment, and the cost shall be included in the quantities of Clearing & Grubbing, Embankment In Place, Compacting Embankment, and Permanent Erosion Control Fabric.

**5.0. Basis of Payment.** The associated items will be paid for at the unit price for each of the appropriate pay items included in the contract. If the contractor fails to comply with this provision, federal funding could be jeopardized, thus forcing MoDOT to suspend the project. No time extensions will be granted due to the contractor's failure to comply with this provision.

M. Tree Clearing Restrictions Following Informal Consultation for Indiana and Tricolored Bats

**1.0 Description-Seasonal Restriction.** The project is within the known range of the federally endangered Indiana bat and proposed endangered tricolored bat. These bats are known to roost in trees with suitable habitat characteristics during summer months.

**1.1** MoDOT has determined that suitable roost trees exist within the project area. Since there will not be tree clearing beyond 100 feet but of an existing transportation improvement, those project impacts May Affect – are Likely to Adversely Affect all three species. Informal range-wide programmatic consultation has been completed with USFWS for Indiana, Northern long-eared, and tricolored bats. The USFWS anticipates that tree removal associated with the project may cause incidental take of Indiana bats. Compensatory mitigation has already been paid for the calculated area of impact by the sponsor/FHWA.

**1.2** To minimize negative impacts to roosting Indiana and northern long-eared bats and their pups, removal of all trees will only be allowed between August 1 and May 14.

**2.0 Reporting the Discovery of Dead or Injured Bats.** This is required in all cases to enable the USFWS to determine whether the level of incidental take is exceeded. Parties finding a dead, injured, or sick specimen of any such endangered or threatened species (report all bats) must promptly report to MoDOT Design (573-526-4778) and USFWS Service (Josh Hundley at 573-234-5037).

**2.1** The FHWA, its State/Local cooperators, and any contractors must take care when handling dead or injured Indiana bats and/or tricolored bats, or any other federally listed species that are found at the Project site to preserve biological material in the best possible condition and to protect the handler from exposure to diseases, such as rabies.

**2.2** Project personnel are responsible for ensuring that any evidence about determining the cause of death or injury is not unnecessarily disturbed.

**3.0 Reinitiation of USFWS Consultation.** In instances where the amount or extent of incidental take is exceeded, project modifications result in new impacts to a listed species, or new listed species or Critical Habitats are identified the project must halt and the MoDOT/FHWA is required to immediately request a reinitiation of USFWS consultation. ANY project modifications after letting must be reported to the Construction Inspector/Resident Engineer who will communicate with MoDOT Design-Environmental to verify if reinitiation is required.

**3.1** The anticipated incidental take is exceeded when the Project removes more than 1.5 acres of trees within 100 feet of an existing transportation improvement.

**3.2** If this amount is or will be exceeded, the contractor must halt all tree clearing and the situation must be reported to MoDOT Design Environmental to reinitiate USFWS consultation on behalf of FHWA.

**3.3** The contractor may not resume tree clearing until released by MoDOT Design-Environmental, after conclusion of follow up USFWS consultation.

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

N. Contractor Furnished Surveying and Staking - SW

In addition to the requirements of Section 627 of the Missouri Standard Specifications for Highway Construction, the following shall apply:

**1.0 Description.** The contractor shall be responsible for all layout required on the project. This responsibility shall include, but not be limited to the following: Construction signing, transition milling, pavement marking, loop detectors, etc.

**1.1** The above list is not all inclusive. The contractor shall have the primary responsibility for these operations. The contractor shall provide the Resident Engineer (RE) with a staking plan layout for approval prior to the installation of signs. The RE will also provide assistance during this layout provided a request is submitted to the RE or Construction Project Manager 48 hours in advance. This will ensure that all permanently mounted traffic control devices remain consistent with District policy and avoid re-staking. If the contractor installs any signs without engineer approval, all costs associated with re-staking and/or relocation will be at the contractor's expense.

**1.2** The intent of this provision is to increase the quality of our work zones and minimize negative impacts to the contractor's schedule that can result from delays in staking.

**1.3** Any adjustments to the plan quantities or line numbers established in the contract shall be approved by the Engineer.

**2.0 Basis of Payment.** No direct payment will be made to cover the costs associated with these additional requirements. All costs will be considered completely covered by the unit bid price submitted for Contractor Furnished Surveying and Staking.

O. Damage to Existing Pavement, Shoulders, Side Roads, and Entrances – SW

**1.0 Description.** This work shall consist of repairing any damage to existing pavement, shoulders, side roads and entrances caused by contractor operations. This shall include, but is not limited to, damage caused by the traffic during contractor operations within the project limits including the work zone signing.

**2.0 Construction Requirements.** Any cracking gouging, or other damage to the existing pavement, shoulders, side roads, or entrances from general construction shall be repaired within

twenty-four (24) hours of the time of damage at the contractor's expense. Repair of the damaged pavement, shoulders, side roads, or entrances shall be as determined by the engineer.

**3.0 Method of Measurement.** No measurement of damaged pavement or shoulder areas or damaged side roads or entrances as described above shall be made.

**4.0 Basis of Payment.** No payment will be made for repairs to existing pavement, shoulders, side roads or entrances damaged by contractor expenses.

P. Removal and Delivery of Existing Signs JSP-12-01C

**1.0 Description.** All Commission-owned signs removed from the project shall be disassembled, stored, transported, and disposed of as specified herein. Sign supports, structures and hardware removed from the project shall become the property of the contractor.

**2.0 Disassembly and Delivery.**

**2.1** All Commission-owned signs, (excluding abandoned billboard signs), designated for removal in the plans, or any other signs designated by the Engineer, shall be removed from the sign supports and structures, disassembled, stored, transported, and delivered by the contractor to the recycling center for destruction.

**2.2** The contractor shall coordinate and make arrangements with the recycling center for delivery of the signs. Sign panels shall be disassembled and/or cut into sizes as required by the recycling center.

**2.3** The contractor shall provide the Engineer with a "Sign Delivery Certification" attesting to completion of delivery of all existing sign material from the project to the recycler. In addition, the contractor shall provide to the Engineer a final "Sign Certification of Destruction" from the recycler that documents the total pounds of scrap sign material received from the project and attests that all such material will not be re-purposed and will be destroyed in a recycling process. The contractor can locate the required certification statements from the Missouri Department of Transportation website:

<https://www.modot.org/forms-contractor-use>

**2.4** Funds received from the disposal of the signs from the recycling center shall be retained by the Contractor.

**3.0 Basis of Payment.** All costs associated with removing, disassembling and/or cutting, storing, transporting, and disposing of signs shall be considered as completely covered by the contract unit price for Item No. 202-20.10, "Removal of Improvements", per lump sum.

Q. Pavement Marking Log

**1.0 Description.** This work shall consist of the Contractor documenting the location of all existing pavement markings prior to coldmilling or resurfacing and installing new pavement markings to match the scheme that was in place prior to the project.

**2.0 Construction Requirements.** Prior to the start of resurfacing work, the Contractor shall document the color, type, and location of the existing pavement markings, including any change in pavement marking (e.g., solid yellow to intermittent yellow on the centerline) and no passing zones. The Contractor shall submit the method of documentation to the Engineer for approval prior to recording the existing pavement marking information.

**2.1** The existing pavement marking documentation provided by the Contractor shall include the location of existing pavement markings by either station or log mile. The Engineer shall reserve the right to make adjustments to the final pavement marking locations. The Engineer will provide the Contractor with any adjusted locations. Under no circumstances shall the Contractor make adjustments to the location of permanent pavement markings without the Engineer's approval.

**2.2** All permanent pavement markings shall be installed in accordance with Sec 620.

**3.0. Temporary Pavement Marking.** The Contractor shall provide temporary pavement marking in accordance with Sec 620 and Standard Plan 620.10. No compensation will be made to the Contractor for temporary pavement marking.

**4.0 Method of Measurement.** Measurement will be made in accordance with Sec 620.

**5.0 Basis of Payment.** No direct compensation will be made to the Contractor for compliance with this provision. All costs associated with the equipment, labor, materials, and time necessary to fulfill the requirements of this provision shall be considered completely covered by the pavement marking (Sec 620) line items in the contract.

R. Seeding and Mulching Requirements JSP-25-03

**1.0 Seeding.** Seeding shall be in accordance with Sec. 805 except as otherwise stated herein. Cool season grasses shall be utilized in accordance with Standard Plan 805.00.

**1.1 Temporary Seeding.** Temporary seeding shall be in accordance with Sec. 806.50 except as otherwise stated herein.

**2.0 Mulching.** Mulching shall be in accordance with Sec. 802 except as otherwise stated herein.

**3.0 Method of Measurement.** No measurement will be made for seeding, temporary seeding or mulching. Seeding and mulching of all disturbed areas, including any additional areas disturbed beyond what is shown on the plans, shall be considered included in the single lump sum item provided.

**4.0 Basis of Payment.** All labor, equipment, and materials necessary to complete all seeding, temporary seeding and mulching shall be completely covered under the lump sum price for item 805-99.01, Seeding and Mulching - Cool Season Grasses, lump sum.

S. Articulating Concrete Block (ACB) System

**1.0 Description.** The contractor shall furnish all labor, materials, equipment, and incidentals required for, and perform all operations in connection with the installation of the Articulating Concrete Block (ACB) system complete with integral and pre-manufactured revetment cables,

termination trench concrete and/or grout, and geotextile filter fabric in accordance with the lines, grades, design and dimensions shown on the Contract Drawings and as specified herein.

**1.1** The grading shown on the plans was calculated for an Articulating Concrete Block (ACB) System of six (6) inches thick. There will be no adjustment of the earthwork quantities due to ACB systems with differing required thickness.

**2.0 Material Requirements.** Manufacturing shall conform to the current version of ASTM D-6684, Standard Specification for Materials and Manufacture of Articulating Concrete Block (ACB) Revetment Systems.

### **2.1 Articulating Concrete Blocks.**

Cementitious Materials - Materials shall conform to the following applicable ASTM specifications:

Portland Cements - Specification C 150, for Portland Cement.

Blended Cements - Specification C 595, for Blended Hydraulic Cements.

Hydrated Lime Types - Specification C 207, for Hydrated Lime Types.

Pozzolans - Specification C 618, for Fly Ash and Raw or Calcined Natural Pozzolans for use in Portland Cement Concrete.

Aggregates – Specification C 33, for Concrete Aggregates, except that grading requirements shall not necessarily apply.

The ACB units shall be produced using a dry cast method. Dry cast units obtain strength more quickly than wet cast blocks and will also achieve a greater uniformity of quality and greater durability. A closed cell block is to be utilized to reduce the amount of open area in the block. At the time of delivery to the work site, the ACB units shall conform to the physical requirements prescribed in Table listed below.

#### PHYSICAL REQUIREMENTS

Compressive Strength Net Area Min. p.s.i (mPa)		Water Absorption Max. lb/ft <sup>3</sup> (kg/m <sup>3</sup> )	
Avg. of 3 units	Individual Unit	Avg. of 3 units	Individual Unit
4,000 (27.6)	3,500 (24.1)	9.1 (160)	11.7 (192)

All units should be sound and free of defects which would interfere with the proper placement of the unit, or which would impair the performance of the system. Surface cracks incidental to the usual methods of manufacture, or surface chipping resulting from customary methods of handling in shipment and delivery, shall not be deemed grounds for rejection. Cracks or chipping resulting in a weight loss exceeding 10% of the average weight of a concrete unit shall be deemed grounds for rejection. Blocks rejected prior to delivery from the point of manufacture shall be replaced. Blocks rejected at the job site shall be repaired with structural grout or replaced upon request at the expense of the contractor.

The Engineer shall be afforded access to the relevant manufacturing facility or facilities, if desired, in order to inspect and/or sample the ACB units from lots ready for delivery prior to release for delivery to the job site. Such inspections are at the sole expense of the requesting entity. The Engineer may request additional testing other than that provided by the manufacturer.

**2.2 Revetment Cables and Fittings.** Revetment cables shall be constructed of high tenacity, low elongating, and continuous filament polyester fibers, preformed galvanized aircraft cable



(GAC), or approved equal, such that the strength is at least five (5) times that required for lifting of the mats and in accordance with ASTM D-6684 paragraph 5.5.2 and per manufacturer's recommendation.

**2.3 Filter Fabric.** The standard for sizing geotextile for these applications is AASHTO M-288, Permanent Erosion Control, Class 2. Either woven monofilament or non-woven geotextile are acceptable; woven slit-film geotextiles are not acceptable. Geotextile shall be sized for the soil subgrade permeability per Section 31 35 19.16 – Geotextile Slope Protection. Under no circumstances shall the filter fabric be permanently affixed or otherwise adhered to the blocks or mats; i.e., the filter fabric shall be independent of the block system. During all periods of shipment and storage, the filter fabric shall be protected from direct sunlight, UV radiation, and temperatures greater than 140°F. To the extent possible, the fabric shall be maintained wrapped in its protective covering. Geotextile exposure to sunlight or UV radiation shall be minimized to the greatest extent possible until the installation process begins.

**2.4 Backfill.** Backfill material shall be crushed rock aggregate that is angular, graded, and sized to produce an interlocking condition in the ACB void spaces and as recommended by the ACB system manufacturer.

**3.0 Construction Requirements.** The installation of the Articulating Concrete Block (ACB) system shall be constructed in accordance with the lines, grades, design and dimensions shown on the Contract Drawings.

**3.1 Subgrade Preparation.** All subgrade preparation shall be performed in accordance with the current version of ASTM D 6884, *Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems*. The slope shall be graded to a smooth plane surface to ensure that intimate contact is achieved between the slope face and the geotextile (filter fabric), and between the geotextile and the entire bottom surface of the individual ACBs and in accordance with the manufacturer's recommendations. Excavation and preparation for all termination trenches shall be done in accordance to the lines, grades and dimensions shown in the Contract Drawings and in accordance with the manufacturer's recommendations.

**3.2 Placement of Geotextile Filter Fabric.** All placement and preparation should be performed in accordance with the current version of ASTM D 6884, *Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems*. Filter Fabric, or filtration geotextile, as specified elsewhere, will be placed within the limits of ACBs shown on the Contract Drawings. The filtration geotextile will be placed directly on the prepared area, in intimate contact with the subgrade, and free of folds or wrinkles. The geotextile will not be walked on or disturbed when the result is a loss of intimate contact between the ACB and the geotextile or between the geotextile and the subgrade. The geotextile filter fabric will be placed so that the upstream strip of fabric overlaps the downstream strip. The longitudinal and transverse joints will be overlapped at least one and a half (1.5) feet. The geotextile will extend at least one (1) foot beyond the top and bottom revetment termination points. All such work is required to be in accordance with the manufacturer's recommendations.

**3.3 Placement of the ACB System.** ACB placement and preparation should be performed in accordance with the current version of ASTM D 6884, *Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems*. ACB mat systems will be constructed according to the lines and grades shown on the Contract Drawings and in accordance with manufacturer recommendations.

Field installation shall be consistent with the way the system was installed in preparation for hydraulic testing pursuant to the current version of ASTM D 7277, Standard Test Method for Performance Testing of Articulating Concrete Block (ACB) Revetment Systems for Hydraulic Stability in Open Channel Flow.

The subgrade shall be prepared in such a manner as to produce a smooth plane surface prior to placement of the ACBs or mats. No individual block within the plane of placed ACBs will protrude more than 0.5 inches. ACBs should be flushed and develop intimate contact with the subgrade section. Proposed hand placing is only to be used in limited areas, specifically identified by the manufacturers' mat layout drawings, as approved by the Owner.

Where placed as large mattresses, the ACB mats will be attached to a spreader bar or other approved device to aid in the lifting and placing of the mats in their proper position by the use of a crane or other approved equipment. The equipment used should have adequate capacity to place the mats without bumping, dragging, tearing or otherwise damaging the underlying fabric. The mats will be placed side-by-side, so that the mats abut each other, and/or end-to-end. Mat seams or openings between mats greater than two (2) inches will be backfilled with 4000 p.s.i. non-shrink grout, concrete or other material approved by the Owner. ACB systems will result in smooth, continuous surface throughout.

Termination trenches will be backfilled and compacted flush with the top of the blocks. The integrity of the trench backfill must be maintained so as to ensure a surface that is flush with the top surface of the ACBs. Termination trenches will be backfilled as shown on the Contract Drawings and according to manufacturer recommendations.

The cells or openings in the ACBs will be backfilled and compacted with suitable material, in accordance with manufacturer's recommendations.

The manufacturer of the ACBs/mats shall provide design and construction advice during the initial installation phases of the project when required or as necessary, at the discretion of the Owner.

**4.0 Submittals.** Manufacturer's data sheets and product information shall be provided on each product to be used, including:

Certification of successful completion of full-scale laboratory testing in accordance with the current version of ASTM D 7277, Standard Test Method for Performance Testing of Articulating Concrete Block (ACB) Revetment Systems for Hydraulic Stability in Open Channel Flow. This certification shall comprise a final test report from the testing facility, or a summary test report from the testing facility providing the test procedure and the obtained Critical Shear Stress parameters of the tested block.

Certified analysis and interpretation of the test data shall conform to the guidance contained in the current version of ASTM D 7276, Standard Guide for Analysis and Interpretation of Test Data for Articulating Concrete Block (ACB) Revetment Systems in Open Channel Flow.

The following information obtained from the above testing, analysis, and interpretation: tested bed slope, maximum discharge attained prior to failure, measured water surface elevation, calculated energy grade line (EGL), plot of the applied shear and velocity by station, an illustration of the selected control volume on a profile of the test slope, calculated design Manning's n, calculated block system coefficient of Lift, characteristic block properties including weight and moment arms, and extrapolation of tested values to thicker block (if required).

Provide documented evidence that the system provided complies with the hydraulic performance characteristics, derived from tests under controlled flow conditions and complies with the U.S. Federal Highway Administration and U.S. Bureau of Reclamation Testing Protocol as documented in "Hydraulic Stability of Articulating Concrete Block Revetment Systems During Overtopping Flow", Report No. FHWA-RD-89-199.

Calculations in support of the proposed ACB system including providing the Owner with a copy of the manufacturer's product instruction and product data sheets for an articulating concrete block system that meets the hydraulic design parameters shown above. The analysis shall be performed based upon the stability of the ACBs due to gravity alone, neglecting any stabilizing forces potentially provided by cabling, mechanical anchorage, contact with adjacent blocks, or other restraints not attributable to gravity alone. The following project specific hydraulic requirements are to be utilized:

Property	Value
Abutment Side Slopes ( H:1V)	2
Roadway Embankment Side Slopes ( H:1V)	3
Design Velocity (ft/s)	10
Design Applied Shear Stress (lb/SF)	5

An appropriate geotextile, selected for the site being protected on the basis of the gradation and permeability of the surface soils.

Manufacturer's certificates of compliance for ACB/mats, revetment cable, geotextile, and any revetment cable fittings and connectors in accordance with the current version of ASTM D 6884, Standard Practice for Installation of Articulating Concrete Block (ACB) Revetment Systems.

Shop Drawings for the layout of the mats, installation, and safety instructions, and any recommendations, if applicable, that are specifically related to the project.

**5.0 Method of Measurement.** Measurement of Articulating Concrete Block (ACB) System shall be determined by the square feet including embedded mat at the "toe down and termination trench" areas.

**6.0 Basis of Payment.** Payment for Articulating Concrete Block (ACB) System at the contract unit bid price is full compensation for all labor, equipment, products, materials, subgrade preparation, permanent geotextile fabric, transport, installation, backfilling, termination trench concrete and/or grout, other incidentals and associated activities needed to furnish and install ACB system.

<u>Item No.</u>	<u>Item Description</u>	<u>Units</u>
611-99.05	Articulating Concrete Block (ACB) System	SQ YD

T. Guardrail Posts in Concrete JSP-22-02B

**1.0 Description.** This work shall consist of the careful removal of any posts, including but not limited to: bridge anchor section and transition section posts, that are embedded in existing concrete (drain basin, Articulating Concrete Block (ACB) Termination Trench, or other concrete surface), the coring of new holes to install posts that fall within the limits of the ACB Termination Trench concrete surface, the repair of the holes left from removal of existing posts, and the backfilling of material in the new locations in accordance with the plans and these provisions.

**2.0 Construction Requirements.** The contractor shall carefully saw cut around the existing guardrail posts embedded in concrete or otherwise remove the posts with minimal damage to the surrounding concrete.

**2.1** Posts for the new bridge anchor section and asymmetrical transition section shall be installed in the ACB Termination Trench concrete per Standard Plan 606.50. The relief slot behind the post shall be filled with coarse Type 1 Aggregate to within two (2) inches of the surface. The top two (2) inches shall be filled with compacted hot mix asphalt or a dense cold asphalt repair mix. The purpose of the capped material is to prevent water intrusion.

**2.2** All voids in the concrete left from the removal of the existing posts shall be filled with concrete or compacted hot mix asphalt to a depth that matches the existing thickness of the concrete surface. Concrete bag mix (5,000 psi or greater) or a commercial mix will be allowable for this purpose.

**3.0 Method of Measurement.** No measurement of Guardrail Posts in Concrete or ACB Termination Trench as described above shall be made.

**4.0 Basis of Payment.** All labor, equipment, and materials necessary for compliance with this provision shall be considered as completely covered by the contract unit price for Item No. 606-10.69, "MGS Bridge Approach Transition Section (Regular/No Curb)" and No. 606-30.14, "Type A Crashworthy End Terminal (MASH)", per each.

U. Reinforced Concrete Elliptical Culverts

**1.0 Description.** This work shall consist of furnishing and installing reinforced concrete elliptical culvert pipe and flared end sections as shown on the plans and in the table below.

**2.0 Construction Requirements.** The Contractor shall use an equivalent elliptical culvert that matches the round culvert size shown in the table below. The Contractor shall use the appropriately sized flared end section (FES) that corresponds to the type of culvert that is used. Reinforced concrete elliptical culvert pipe shall be in accordance with AASHTO M 207 and material shall be in accordance with MoDOT section 1026.

**3.0 Method of Measurement.** Measurements for culverts will be made per Linear Foot. Measurement for Flared End Sections will be paid for by the EA.

**4.0 Basis of Payment.** All costs associated with furnishing and installing the elliptical culverts, flared end sections, and any additional materials, equipment or labor shall be considered completely covered by the contract unit price for the following items: No direct payment will be made for other incidental items required for installation.

Item No.	Equiv. Round Pipe Item No.	Description	Unit
730-99.03	726.10.36	Misc., 24" x 38" Reinforced Concrete Elliptical Culvert, Group A	LF
732-99.02	732.06.36A	Misc., 24" x 38" Group A Flared End Section	EA